

**STATE OF NEW HAMPSHIRE  
BEFORE THE  
PUBLIC UTILITIES COMMISSION**

**Pennichuck Water Works, Inc.  
Petition for Approval of Special Contract for Service to Pennichuck East  
Utility Inc.**

**DW 17-\_\_\_\_\_**

**Direct Testimony of Donald L. Ware**

**April 24, 2017**

**Professional and Educational Background**

2

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

5 **A.** My name is Donald L. Ware. I am the Chief Operating Officer of  
6 Pennichuck Water Works, Inc. (“PWW” or “Company”). I have worked for  
7 the Company since 1995.

8 **Q. Please describe your educational background.**

9 **A.** I have a Bachelor in Science degree in Civil Engineering from Bucknell  
10 University in Lewisburg, Pennsylvania. I have a Master’s in Business  
11 Administration from the Whittemore Business School at the University of  
12 New Hampshire.

13 **Q. Please describe your professional background.**

14 **A.** Prior to joining PWW, I served as the General Manager of the Augusta  
15 Water District in Augusta, Maine from 1986 to 1995. I served as the  
16 District’s engineer between 1982 and 1986.

17 **Q. What are your responsibilities as Chief Operating Officer of the**  
18 **Company?**

19 **A.** As the Chief Operating Officer I am responsible for the overall operations  
20 of the Company, including water quality and supply, distribution,  
21 engineering, customer service, and water system capital improvements.

22 **Relationship of PWW, PEU, and Town of Hudson**

23 **Q. What is the purpose of your testimony?**

24 **A.** The purpose of my testimony is to describe why PWW is seeking approval

2 from the New Hampshire Public Utilities Commission (“NHPUC”) to enter  
3 a special contract to provide wholesale water service to Pennichuck East  
4 Utility, Inc. (“PEU”). The water being purchased by PEU from PWW will  
5 be used to provide retail service to PEU’s customer’s in the Town of  
6 Litchfield and a portion of PEU’s customers in the Towns of Londonderry,  
7 Pelham, and Windham. This testimony will describe the special  
8 circumstances that detail why the Company selling water to PEU at a  
9 wholesale rate lower than its general tariffed rates is just and consistent  
10 with the public interest.

11 **Q. Please describe the relationship of PWW’s water service to PEU.**

12 **A.** PWW and PEU are both regulated subsidiaries of Pennichuck  
13 Corporation. PWW provides water service in a limited area within the  
14 Town of Merrimack. PEU’s service territory in the Town of Litchfield is  
15 across the Merrimack River from PWW’s service territory. The companies  
16 share employees in that employees of PWW perform the operations and  
17 maintenance on PEU’s assets on a work order basis. PEU acquires its  
18 water for its customers through both purchased water agreements and  
19 PEU-owned groundwater wells, depending on the location of the service  
20 territory. The portions of PEU’s service territory that are proposed to  
21 purchase water from PWW for their source of supply are in Litchfield,  
22 Londonderry, Pelham, and Windham. This portion of PEU’s service  
23 territory currently purchases all of its source water from the Town of  
24 Hudson (“Hudson”). As described below, water obtained from the Hudson

2 is insufficient to meet PEU's calculated maximum daily demand. Another  
3 source of water supply is necessary. An interconnection with PWW at  
4 PWW's pump station in the Town of Merrimack has been proposed to  
5 address PEU's water supply needs.

6 **Q. What are the terms of PEU's current purchased water agreement with**  
7 **the Town of Hudson?**

8 **A.** The terms of PEU's purchased water from Hudson are set by two  
9 NHPUC-approved agreements:

- 10 1. A Water Supply and Transmission Agreement between Pennichuck  
11 Corporation and the Town of Hudson. See, Docket No. DE 96-227,  
12 Order No. 22,791, (November 21, 1997) and Order No. 22,893  
13 (April 6, 1998).
- 14 2. A Wholesale Water Supply contract between PWW and the Town of  
15 Hudson. See, Docket No. DW 05-143, Order No. 24,611 (March  
16 31, 2006).

17 The terms set forth in these agreements allow PEU to purchase:

- 18 1. 15% of the water produced from the three Hudson wells (which are  
19 located in Litchfield) at the variable cost of production from the  
20 wells. The variable costs for these wells include the chemicals and  
21 power used to produce water from these wells. During the 2016  
22 Contract Year (July 1, 2015 to June 30, 2016) this translated to a  
23 cost of \$0.1898 per hundred cubic feet ("CCF") for 234,967 gallons  
24 per day ("GPD").

2           2. All remaining water purchased from Hudson is purchased from  
3           Hudson at its wholesale purchase water rate from PWW plus 20%.  
4           During the 2016 contract year, this translated to 130,921 CCF for  
5           the year at a cost of \$2.5617 per CCF.

6    **Reasons for the Special Contract**

7    **Q.    Why is PEU seeking to purchase water directly from PWW as**  
8           **opposed to its current purchased water arrangement with the Town**  
9           **of Hudson?**

10   **A.**    The primary reasons why PEU is seeking to purchase water directly from  
11           PWW are:

- 12           1. The Hudson well supply has decreased from an allowable  
13           production of 1,790,000 GPD to 1,605,000 GPD. This was due to  
14           new permitting requirements imposed by the New Hampshire  
15           Department of Environmental Services (“NHDES”) on the Hudson  
16           wells. The primary change was that Hudson’s Weinstein well  
17           capacity was reduced from 1.0 MGD to 0.8 MGD as a result of well  
18           redevelopment and testing that occurred in 2016.
- 19           2. PEU is adding over 400 new customers in Litchfield as a result of  
20           the Perfluorinated Octanoic Acid (“PFOA”) contamination. This will  
21           result in about a 25% increase in Litchfield’s customer base  
22           resulting in an estimated 16% increase in water supply within the  
23           year for Litchfield. PEU’s additional water supply demand will  
24           exceed its existing water sources (Hudson Wells and the PWW-

2 Hudson interconnection via the Taylor Falls pumping station) and  
3 PEU will not be able to meet its calculated maximum daily demand.  
4 This calculation is made with the water system's largest source of  
5 supply out of service. The projected average day demand for the  
6 combined Hudson/PEU systems will be between 1.60 and 1.75  
7 million gallons per day ("MGD") whereas, as stated above, the  
8 available permitted supply from the Hudson wells is only 1.605  
9 MGD. Adding the PWW-PEU interconnection at PWW's pump  
10 station in Merrimack will allow PEU to comply with NHDES water  
11 supply requirements for the addition of the new Litchfield  
12 customers. It will also help PEU meet its expected customer  
13 growth within Litchfield and Hudson.

- 14 3. The proposed PWW to PEU interconnection will be year-round.  
15 The existing PWW to Hudson to PEU interconnection is seasonal.  
16 If one of Hudson's three wells fail during the winter months, the  
17 remaining supply would be insufficient to meet the water supply  
18 needs of Hudson and PEU. The water supply shortage would  
19 require the emergency operation of the Taylor Falls Booster  
20 seasonal connection. The proposed PWW to PEU interconnection  
21 will eliminate this risk as well as provide a second feed during the  
22 summer months should the Taylor Falls connection be  
23 compromised.

2 **Cost to Serve PEU**

3 **Q. Has PWW conducted a Cost of Service Study (“COSS”)?**

4 **A.** Yes. David Fox of Raftelis Financial Consultants, Inc. completed a COSS  
5 for PWW. A copy of the COSS is attached to this testimony as  
6 Attachment DLW-1. The COSS indicates that PWW could offer PEU a  
7 special contract rate of \$1.2635 per CCF plus a fixed annual fee of  
8 \$121,213. The proposed special contract rate, based on the COSS  
9 provides for the recovery of all of PWW’s costs of serving PEU. The  
10 COSS is based on PEU purchasing a guaranteed minimum of 146,390  
11 CCF per year (which calculates to 300,000 GPD) with a maximum daily  
12 demand amount of 700,000 GPD and a maximum peak demand of 625  
13 gallons per minute (or 900,000 GPD). The COSS follows the American  
14 Water Works Association (“AWWA”) recommended allocation  
15 methodology as detailed in the AWWA Water Rates Manual and then is  
16 adjusted to reflect the ratemaking treatment being sought by PWW in its  
17 rate case, Docket No. DW 16-806. That ratemaking treatment concerns  
18 the City Bond Fixed Revenue Requirement (“CBFRR”), operating and  
19 maintenance expenses, and principal and interest recovery. The COSS  
20 also reflects the projected *pro forma* adjustments to PWW’s rates based  
21 on the 2016 step increase proposed in the rate case.

22 **Q. What were the primary considerations of the COSS?**

23 **A.** The COSS allocates to PEU a prorated share of the following expenses:

24 1. Principal and interest associated with PWW’s investment in source

2 of supply facilities.

3 2. Principal and interest associated with PWW's investment in PWW's  
4 core water treatment plant facilities.

5 3. Principal and interest associated with PWW's investment in the  
6 portion of transmission mains heading north from PWW's water  
7 treatment plant to the Merrimack Wastewater Treatment Plant.

8 4. Expenses associated with operating and maintaining PWW's  
9 source of supply facilities.

10 5. Expenses associated with operating and maintaining PWW's Core  
11 water treatment plant facilities, exclusive of PWW's Snow Station  
12 which is used to deliver water only into PWW's Northwest High  
13 Pressure system.

14 6. Expenses associated with operating and maintaining PWW's  
15 transmission mains heading north from PWW's water treatment  
16 plant to the vicinity of the Town of Merrimack Wastewater  
17 Treatment Plant.

18 7. Expenses associated with the general and administrative costs  
19 associated with operating PWW.

20 8. Property tax expenses associated with PWW facilities required to  
21 provide service to PEU

22 9. PWW's CBFRR and proposed step increase.

23 **Q. Why aren't any of PWW's investment and the operating and**  
24 **maintenance expenses associated with the Nashua low pressure**



2 **transmission, distribution, and storage tanks allocated to PEU?**

3 **A.** PEU has its own storage facilities. It has a secondary source of supply  
4 that is independent from the PWW core system. The fact that PEU has its  
5 own storage facilities and an alternate source of supply means that PEU  
6 can survive on its own without PWW's low pressure mains and tanks.  
7 Because PEU has its own storage and does not use these PWW facilities,  
8 it was reasonable to not allocate these costs to PEU. To do otherwise  
9 would mean PEU would incur duplicate costs for storage.

10 **Q. What is the basis for the impacted facility investment level and**  
11 **operating and maintenance expenses?**

12 **A.** The basis for the investment and expenses are the *pro forma* expenses  
13 and return on investment associated with the step increase proposed in  
14 PWW's rate case, using the modified rate methodology with a 1.1  
15 multiplier on principal and interest payments.

16 **Terms of the Special Contract**

17 **Q. Please summarize the key terms of the proposed PWW-PEU**  
18 **Wholesale Water Supply contract.**

19 **A.** The key terms are as follows and are contingent on NHPUC approval:

- 20 1. PEU will pay for all the costs associated with the interconnection.  
21 These costs are estimated at about \$2,700,000 and include 50% of the  
22 cost to replace about 650 lineal feet of 8" asbestos cement ("AC")  
23 water main on Mast Road that will continue to be owned and operated  
24 by PWW.

- 2           2. PEU will buy the existing, unused Merrimack River Intake chlorination  
3           station from PWW for \$15,000 (estimated net book value for this PWW  
4           asset). PEU will use this building for the pumping station required for  
5           the interconnection. PEU will own, operate, and maintain this building.
- 6           3. PEU will pay 100% of the costs of the COSS which was required to  
7           develop the special contract, estimated at \$5,000.
- 8           4. PEU will pay 100% of the legal costs associated with obtaining  
9           regulatory approval of the Wholesale Water Supply Contract,  
10          estimated at \$7,500.
- 11          5. Subject to the credit provisions of paragraph 11 below, PEU will  
12          guarantee the purchase of a minimum of 146,390 CCF (or 300,000  
13          GPD) from PWW over the course of a calendar year. PEU will pay  
14          PWW a volumetric rate of \$1.2635 per CCF for 300,000 GPD even if  
15          PEU uses less than 300,000 GPD. In addition, PEU will pay a Base  
16          Monthly Fixed Fee ("BMFF") of \$10,101.
- 17          6. PEU will pay a volumetric rate of \$1.2635 per CCF of water used over  
18          300,000 GPD.
- 19          7. PEU will pay a fixed monthly meter charge of \$38.75 to cover the cost  
20          of reading, processing of monthly bill, and testing the meter on an  
21          annual basis.
- 22          8. PEU will buy the 6" turbine meter required to meter the water sold from  
23          PWW to PEU and contribute it to PWW.
- 24          9. The PEU volumetric rate will be adjusted by the same percentage and

2 at the same time as any future change in the volumetric rates for  
3 PWW's general metered service, as adjudicated by the NHPUC, which  
4 PWW charges to its core system customers in the City of Nashua.

5 10. PEU will limit its maximum daily demand to 700,000 GPD and its  
6 maximum peak demand to 625 gallons per minute (or 900,000 GPD),  
7 provided, however, that water taken for non-training firefighting  
8 purposes and other declared emergencies shall not be counted toward  
9 such maximum quantity.

10 11. The contract year runs a calendar year from January 1<sup>st</sup> to December  
11 31<sup>st</sup>. In the event that PEU does not use the allotted base volume of  
12 300,000 GPD or 109,500,000 gallons per year (146,390 CCF per year)  
13 over the course of the contract year, then PEU will be required to make  
14 a payment within 45 days of the end of the contract year for the  
15 shortage in usage between the minimum required usage of 146,390  
16 CCF and the actual usage for that contract year.

17 A copy of the proposed PWW-PEU Wholesale Water Supply Contract  
18 with PEU is attached as Attachment DLW-2 to this testimony.

19 **Q. What is the proposed effective date of the special contract?**

20 **A.** PEU is not expected to take service until after the water main across the  
21 Merrimack River is completed. PEU has filed a request for a license to  
22 cross the Merrimack River and the NHPUC has docketed the matter as  
23 Docket No. DW 17-036. That project is expected to be completed and in  
24 service no later than December 31, 2017. Because PWW also has an

2 active rate case before the NHPUC in Docket No. DW 16-806, PWW  
3 expects that the NHPUC should be able to approve the special contract  
4 soon after the conclusion of that rate case, or in the alternative, no later  
5 than October 1, 2017.

6 **Q. Please explain how the terms of the proposed PWW-PEU wholesale**  
7 **water contract comport with the recommendations of the Cost of**  
8 **Service Study.**

9 **A.** The BFMM and volumetric charges match those detailed in the COSS  
10 based on the PEU's contractual usage rates of 146,390 CCF per calendar  
11 year (or 300,000 GPD); 700,000 GPD maximum daily demand; and  
12 900,000 GPD maximum peak demand.

13 The monthly meter charge provides PWW with the vehicle to collect the  
14 customer-related charges associated with the meter charge that are not  
15 collected elsewhere in the PEU charges.

16 The BMFF charge insures that that PEU will pay its share of the expenses  
17 associated with the source of supply and water treatment plant facilities  
18 that provide service to PEU as well as recovering the variable costs  
19 (power, chemicals, sludge disposal, etc.) associated with treating and  
20 delivering a minimum of 300,000 GPD. Additionally, the BMFF charge will  
21 provide a prorated contribution from PEU toward PWW's administrative  
22 and management costs.

23 **Public Interest Considerations**

24 **Q. Why should PEU have a special contract? Please explain how PEU**

2           **is different from PWW's other retail customers.**

3       **A.**    As explained in the Statement of Special Circumstances attached as  
4           Attachment DLW-3, PEU is different from other PWW customers for the  
5           following reasons:

6                   1. PEU will be PWW's second largest user at a guaranteed  
7                   purchased water amount of 300,000 GPD or a minimum of  
8                   109,500,000 gallons per year. PWW's largest user is Anheuser-  
9                   Busch. PWW's existing second largest user is the Town of  
10                  Hudson which used 202,312,308 gallons in 2016. The Town of  
11                  Hudson's use equate to 92,812,308 gallons if PEU buys its  
12                  water directly from PWW through the instant special contract  
13                  rather than indirectly from PWW via Hudson. PWW provides  
14                  service to Anheuser-Busch and the Town of Hudson pursuant to  
15                  special contracts. Because the magnitude of water usage of  
16                  PEU is similar to PWW's other special contract customers  
17                  (Anheuser-Busch and Town of Hudson), it is reasonable for  
18                  PWW to also provide service to PEU pursuant to a special  
19                  contract.

20                  2. PEU has its own storage and therefore does not create the high  
21                  peaking factor on its usage that most customers create. In  
22                  other words, PEU's does not need PWW to deliver water to  
23                  meet PEU's instantaneous peak demands.

24                  3. The proposed PEU wholesale water rate was arrived at using a

2 cost of service approach which is appropriate under the  
3 circumstances because it more closely reflects the cost to serve  
4 PEU than PWW's general tariff rates.

- 5 4. The proposed form of the wholesale water agreement is similar  
6 to PWW's wholesale agreements with the Towns of Hudson,  
7 Milford, and Tyngsborough Water District. In all three cases,  
8 the fee structure includes a base fee that is substantially greater  
9 than PWW's tarified monthly meter charge, a volumetric charge,  
10 and limits on the maximum amount of usage on a daily and  
11 hourly basis. The other similarity to PEU is that Hudson,  
12 Milford, and Tyngsborough all have their own water storage  
13 facilities.

14 **Q. Please identify the benefits to the Company as a result of the**  
15 **proposed contract.**

16 **A.** 1. PWW's revenues will increase by about \$35,745 per year as a result of  
17 selling water directly to PEU. For example, in the 2015/2016 contract year  
18 PWW sold 148,141 CCF indirectly to PEU via Hudson and the Taylor Falls  
19 Booster Station. Using a projected rate of \$2.3164 (based on projected  
20 PWW to Hudson rate increase including 2016 step increase) water sales  
21 to PEU will result in revenues of \$343,154.

22 2. After the interconnection is completed, PWW is projected to sell PEU  
23 203,946 CCF (existing seasonal sales of 148,141 CCF; plus winter sales  
24 of 20,838 CCF; plus additional PFOA PEU customer sales of 34,967 CCF)

2 at \$1.2635 per CCF plus the BMFF of \$121,212 resulting in PWW  
3 revenues of \$378,899.

4 3. PWW will receive about \$40,400 in contributed capital from PEU that  
5 will be booked as Contributions in Aid of Construction ("CIAC"). This  
6 payment is to replace an 8" AC water main that PWW would otherwise  
7 need to replace in the near future on its own. That contribution will reduce  
8 PWW's debt service by about \$2,800 per year.

9 4. PEU will purchase PWW's existing Merrimack River Intake Chlorination  
10 Station for \$15,000 which will decrease PWW's revenue requirement by  
11 \$1,000.

12 The net impact of these changes will be an overall increase in PWW's net  
13 income of about \$39,545 per year when compared to existing conditions.

14 **Q. Please identify the public benefits of the proposed contract.**

15 **A.** The special contract will benefit the public because without the  
16 interconnection, no additional PEU customers could be added in PEU off  
17 of the existing Hudson system. The interconnection and associated  
18 special contract will allow for the addition of the 400+ PFOA customers in  
19 Litchfield.

20 **Q. Please identify the benefits to PEU as a result of the proposed**  
21 **contract.**

22 **A.** 1. PEU will obtain an additional source of supply which will enable it to  
23 meet its maximum daily demand requirements.

24 2. The additional source of supply for PEU will be cost-effective for PEU's

2 customers.

3 3. PEU's ability to add the PFOA customers as a result of the  
4 interconnection and special contract will add revenues that will lessen  
5 the impact of the interconnection on its existing customers by about  
6 \$20,400 per year.

7 4. If PEU were able to purchased its projected consumption of about  
8 210,400,000 gallons of water per year all from Hudson, in accordance  
9 with its existing Hudson contract rates, it would pay an annual fee of  
10 \$496,427 based on a volumetric charge of \$2.7796 per CCF and a  
11 monthly meter charge for a 4" water meter of \$503.37 per month. If  
12 PEU buys its 15% allotment of the Hudson Well water from Hudson  
13 and the remainder of its water from PWW at a cost that would  
14 include of \$1.2635 per CCF and a monthly meter charge of \$38.75,  
15 then PEU's annual purchased water cost would be \$622,880 per  
16 year. The net annual increase in cost to PEU will be about  
17 \$126,453. The calculations supporting these expenses are detailed in  
18 the attached COSS, Attachment DLW-1, Exhibit 2. This increase in  
19 cost is cheaper than other water supply alternatives considered by  
20 PEU.

21 5. PEU's customers and future customers will benefit from a more reliable  
22 water supply at a reduced annual cost.

23 **Q. Does PWW have the capacity to serve PEU under the proposed**  
24 **contract?**



2 **A.** Yes. PWW's Nashua water treatment plant has excess peak day  
3 production capacity of almost 10 MGD.

4 **Q. Do you have an opinion as to whether the proposed special contract**  
5 **with PEU is in the public interest?**

6 **A.** Yes. I believe that the proposed PWW-PEU wholesale water contract is  
7 just and reasonable for both PEU and all of PWW's customers. In sum,  
8 PWW believes that the proposed wholesale water contract with PEU is  
9 just and consistent with the public interest.

10 **Q. Does that complete your testimony?**

11 **A.** Yes.