

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

RE: PENNICHUCK WATER WORKS, INC.

DW 12- ____

**2012 WATER INFRASTRUCTURE
AND CONSERVATION ADJUSTMENT FILING**

DIRECT TESTIMONY

OF

DONALD L. WARE

DECEMBER 19, 2012

1 **Professional and Educational Background**

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

4 **A.** My name is Donald L. Ware. I am the Chief Operating Officer of Pennichuck
5 Water Works, Inc. (the "Company"). I have been employed with the Company
6 since April 1995. I am a licensed professional engineer in New Hampshire,
7 Massachusetts and Maine.

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

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

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

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

16 **Q. What are your responsibilities as President of the Company?**

17 **A.** As the Chief Operating Officer of the Company, I am responsible for the overall
18 operations of the Company, including water quality and supply, distribution,
19 engineering and customer service.

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

21 **A.** I will be providing details of the Company's initial Water Infrastructure and
22 Conservation Adjustment (WICA) filing. This filing will detail the proposed WICA
23 projects to be completed between the beginning of 2013 through the end of 2015.

1 I will also describe the WICA surcharge calculations and the projected rate impact
2 for these projects.

3 **Q. What is the basis for the Company's filing?**

4 A. The Commission's Order No. 25,230 in the Company's last rate case, DW 10-091
5 (the "Order"), approved the establishment of a WICA program as detailed in the
6 Order to recover significant ongoing costs of replacing aging infrastructure. The
7 program is initiated by the Company filing a budget of proposed projects on or
8 before December 31 in each year. Specifically, the Order provides:

9 [The Company] agrees to file a three-year budget no later than December
10 31 of each year and the budget shall show projects broken down into three
11 years. Year 1 projects would be those proposed to be constructed in the
12 succeeding 12 months and would be provided for final review and
13 informational purposes. Year 2 projects would involve construction in the
14 next 12 months and would be provided for review and approval by the
15 Commission. Year 3 projects would be constructed in the 12 months
16 following Year 2 and would be provided for advisory purposes and
17 discussion. Order, p. 9.

18 This filing initiates the WICA program.

19 **Q. The Order authorized the Company to initiate the WICA program in 2011.
20 Why did the Company determine not to do so?**

21 A. In 2011, the Company and its affiliates were thoroughly involved in finally
22 resolving the acquisition of the Company's parent, Pennichuck Corporation, by the
23 City of Nashua (the "City") following years of highly contentious regulatory and

1 court proceedings. The efforts required to resolve these proceedings and
2 complete the acquisition were intense. This was a time of great change for the
3 Company and potentially a time of uncertainty for the Company's customers. A
4 WICA filing would have added a further complexity for the Company and its
5 customers. Additionally, the approved settlement agreement relating to the
6 acquisition in the proceedings before this Commission in Docket DW 11-026
7 provided for the Company to file a permanent rate case on or before June 1, 2013
8 using the calendar year 2012 as the test year. As a result, the 2012 investments
9 in water main and service replacements would be included in the test year rate
10 base and dealt with as part of the rate filing. Therefore, the Company deferred
11 the initiation of the WICA program for a year and is requesting that the
12 Commission consider this WICA filing as the initial filing.

13 **Q. Did the Company provide notice to its customers at least thirty (30) days in**
14 **advance of its WICA filing?**

15 **A.** Yes. From October 18th through November 8th 2012, the Company inserted a
16 newsletter with the customer monthly bills. The newsletter included a WICA article
17 that described the purpose and benefits of the WICA and the Company's intent to
18 make its initial WICA filing by the end of this year for a WICA surcharge in 2014.
19 A copy of the newsletter is attached to this testimony as Attachment A.

20 **Q. What is the nature of the WICA eligible projects being submitted by the**
21 **Company?**

22 **A.** In accordance with the Order, the Company's proposed WICA projects are limited
23 to the replacement or rehabilitation of water mains, services, gate valves, and

1 hydrants in the Company's "Core" system. Attachment B to this testimony
2 summarizes the projects by asset types and amounts.

3 **Q. Please describe the details of the Company's WICA plan.**

4 **A.** The Company has about 270,000 LF of unlined cast iron water main, about
5 27,000 LF of steel water main and about 221,600 LF of Asbestos-Cement "A-C"
6 water main in its Core distribution system. The Company also has about 1,130
7 steel water services. The Company has developed a plan to replace or
8 rehabilitate water mains over the next thirty-five to fifty years, or approximately
9 10,000 to 15,000 LF per year. The Company plans to replace the steel services
10 at a rate of 25 to 30 services per year. Attachment B provides the proposed
11 project list for the years 2013 through 2015.

12 **Q. The Company's discussion of water main replacements and listing of**
13 **illustrative projects in its WICA presentation in Docket DW 10-091 did not**
14 **include the replacement of A-C water main. Why is the replacement of A-C**
15 **water main considered a priority along with unlined cast iron and steel water**
16 **main?**

17 **A.** A-C water main is structurally sound and generally does not yield the water quality
18 problems that unlined cast iron and steel water mains do. The problem with A-C
19 water main is that when it is disturbed it fractures easily resulting in leaks and in
20 the disruption of service. Additionally, the exterior of A-C water main deteriorates
21 as it ages and starts to peel apart resulting in more frequent water main breaks
22 than similarly aged lined cast iron water main. Therefore, the Company believes
23 that coordinating the replacement of this type of water main with municipal road or

1 sewer construction projects makes good sense because of the cost savings
2 associated with joint construction projects and the benefit of avoiding the risk of a
3 water main failure under newly reconstructed streets.

4 **How did the Company establish the selection of streets included in the 2013**
5 **through 2015 WICA list?**

6 The Company's 2013 list is based on the coordination of the Company's Core
7 system replacement work with road and sewer projects of the City and the Town
8 of Amherst (the "Town"). The water mains listed for the years 2014 and 2015
9 were evaluated using the following considerations:

- 10 1. Water main break history;
- 11 2. Water quality problems;
- 12 3. Fire protection flows;
- 13 4. Key customers; and
- 14 5. Geographical proximity of mains to be replaced/rehabilitated.

15 The Company developed a rating system regarding the first four items in order to
16 establish the highest priority water mains and then included geographic area
17 considerations for unlined cast iron, steel or A-C water mains in proximity to the
18 highest rated mains. Completing rehabilitation or replacement work in the same
19 geographic area helps minimize community disruption and the cost of mobilizing
20 and demobilizing equipment to different parts of the Core system area.

21 **Q. Can you please explain the rating system?**

22 **A.** Yes. The rating system is as follows:

- 1 1. Water Main Break History. One point is assigned for each break that has
2 happened during the past 20 years up to a maximum of 5 points.
- 3 2. Water Quality Problems. Based on a review of the history of colored water
4 complaints on the streets over the past 10 years, 1 point is assigned for each
5 incidence of water quality complaints during the past 10 years up to a maximum of
6 5 points.
- 7 3. Fire Protection Flows. One point is assigned for every 500 gallons per minute
8 that the current fire flows are below the ISO required fire flows, up to a maximum
9 of 5 points.
- 10 4. Key Customers. If there is a key customer (medical facility, major industry,
11 school, etc.) fed from a single water main, 3 points are assigned. If there is a key
12 customer fed from two water mains - 1 point is assigned.
- 13 5. Geographical Proximity. If the street is connected to a highly rated street,
14 based on points assigned in other categories, it is awarded 3 points. If the street
15 is within 5 blocks of a highly rated street it is awarded 2 points.

16 **Q. Is it important when the City or Town is working on a street where**
17 **Pennichuck has an unlined cast iron, steel or A-C water main for the**
18 **Company to replace the water main even though it is not highly rated?**

19 **A. Yes, because:**

- 20 1. There are significant cost savings associated with completing joint projects
21 with the City or Town.
- 22 2. It is rare that the City or Town can replace sewers or storm drains and not
23 undercut the existing water main. Often, the water main is located in the same

1 trench as the sewer main with the sewer main being installed first and the water
2 main laid higher in the trench. This generally makes it impossible to replace the
3 sewer main without replacing the water main. Unlined cast iron, steel and A-C
4 water main usually cannot survive loss of soil support or the vibration of heavy
5 construction equipment without experiencing high levels of breakage.

6 **Q. What action does the Company propose if the level of work by the City or the**
7 **Town does not result in the Company hitting its desired target replacement**
8 **levels of 10,000 to 15,000 LF of rehabilitation/replacement of targeted water**
9 **main?**

10 **A.** The Company needs to be careful as it considers the replacement of its water
11 main ahead of City or Town rehabilitation of sewer and storm drain lines. Any
12 replacement needs to be located where it will not be in the way of the future sewer
13 or storm drain replacement work. For the present, the Company plans to match
14 its level of replacement work with that of the City and the Town. If the level of City
15 and Town work diminishes or is stopped, the Company will then add to its
16 evaluation list water mains to be rehabilitated or replaced that can be safely
17 accomplished without being an obstruction to future sewer or storm drain
18 replacement.

19 **Q. With regard to the choice of rehabilitating versus replacing a water main,**
20 **over the past three years the Company has not rehabilitated any water main**
21 **but instead has replaced all of its aging water main. Why hasn't the**
22 **Company rehabilitated any water main?**

1 **A.** A cast iron water main will not stand up to being undermined. If the cast iron
2 water main to be rehabilitated or replaced is within 5 feet of the sewer or storm
3 drain that is being replaced, the bedding under the cast iron water main will likely
4 be compromised and result in numerous failures of the cast iron water main. The
5 common practice up to 1940 was to dig one trench and place the sewer first and
6 the water main second. This pre-1940's construction practice eliminates the
7 feasibility of rehabilitating the majority of the Company's cast iron water mains.

8 **Q. Why did the Company include a 25% contingency on its WICA list?**

9 **A.** The City and Town fiscal years run 6 months behind the Company's calendar
10 year. The City and Town will be establishing their budgets for sewer and storm
11 drain replacement work in the late spring of 2013 for work to be completed in
12 2014. The Company will get the approved list of streets in the City and Town
13 Budgets for 2014 (July 2013 to June 2014) in the spring of 2013. As of the time of
14 this initial WICA filing, the Company does not know what streets in the City and
15 Town will be the subject of sewer and storm drain replacement work in 2014.
16 Additionally, the City is still evaluating the list of streets that it will be completing in
17 spring of 2013. The Town has finalized its street work list for spring of 2013. The
18 scope of the City sewer replacement work for the majority of 2013 is reflected in
19 the Company's 2013 WICA list. The City has historically added additional streets
20 to its sewer replacement work in the second half the calendar year, which is a new
21 fiscal year for the City. The Company has a contingency in its WICA budget to
22 allow it to react to additional sewer replacement the City might complete which will
23 result in additional water main replacement.

1 Q. **Please explain any factors that will contribute to changes in the list of WICA**
2 **projects proposed in this filing.**

3 A. Several factors will change in priority over time as follows:

4 1. Schedule Coordination. The scheduling of City and Town sewer and
5 storm drain replacement projects affects our project priorities and schedule for
6 the reasons previously discussed.

7 2. Main Breaks. The frequency of breaks on any given segment of pipe may
8 increase in coming years, which will increase the score for that water main. Also,
9 the specific locations of some main breaks create more problems when
10 compared to others such that the Company's top choices for main replacements
11 may not be based strictly on score.

12 3. Criticality. Other system improvements may reduce the relative importance
13 of a particular pipe segment. For example, a loop project may create redundancy
14 and/or eliminate a bottleneck resulting in a lower criticality score.

15 4. Water Quality Problems. The frequency and nature of water quality issues
16 may change over time, due to factors such as adjustments in treatment or other
17 operating conditions, which could increase or decrease the score for any
18 particular pipe segment.

19 5. Staff Input. The experience and field knowledge of the Company's staff
20 with distribution mains change over time through ongoing operating and
21 maintenance activities. Staff opinion regarding the relative priorities of different
22 main replacement projects changes in response to day-by-day working
23 experience with the system.

1 6. Capital Budget Constraints. Main replacements cannot be scheduled in
2 strict order of their priority scores because the estimated project costs exceed
3 available capital funds in some years. Projects must be shifted from year to year
4 depending on what other projects, both WICA and non-WICA, are also being
5 considered by the Company.

6 **Q. The Company's proposed WICA plan details a replacement of between about**
7 **6,400 LF to 7,200 LF of main per year versus your stated goal of between**
8 **10,000 and 15,000 LF. Why are you doing less replacement/rehabilitation**
9 **work than you projected you would do in your initial WICA testimony?**

10 **A.** There are three primary reasons for less water main replacement occurring than
11 we previously estimated:

12 1. We have reserved a 25% contingency for new City or Town work
13 developing during the year that we did not budget for. This could result in the
14 Company completing between 8,000 and 9,000 LF of water main replacement.

15 2. All of the water main work being completed is replacement work versus
16 rehabilitation work. The initial WICA filing estimated that about 40% of the work
17 would be accomplished via clean and lining at a price per foot about 65% that of
18 replacing the water main. The increased cost associated with replacing all the
19 water main has reduced the amount of water main that can be addressed each
20 year.

21 3. The Company has put a limit on the amount of water main it will replace in
22 the next three years via the WICA program due to several other large capital
23 expenditure projects, including the potential reconstruction of Harris Dam and the

1 potential replacement of the Will Street Distribution facility. The Company's
2 capping of capital expenditures is a balance of completing required work and an
3 effort to control rate increases.

4 **Q. What are the estimated rate impacts associated with the respective year's**
5 **projects contained in the Company's filing.**

6 **A.** Under the approved WICA program, WICA surcharges are limited to a 2%
7 increase in rates in any one year with a maximum increase in rates of 7.5%
8 between full rate cases. Attachment C to this testimony summarizes the WICA
9 surcharge percentages and amounts and the impact on a typical annual
10 residential customer bill.

11 **Q. Mr. Ware, please summarize the surcharge projected for 2014 related to 2013**
12 **projects?**

13 **A.** The 2013 projects summarized in Attachment C produce an estimated surcharge
14 of 0.85% to be applied to customers' existing water service billings. The
15 surcharge will be applied equiproportionally to all classes of customers on a
16 service rendered basis

17 **Q. What is the impact to the average residential customer for 2013 projects?**

18 **A.** The typical residential customer using 7.88 CCF per year currently pays \$46.34
19 monthly under existing rates. The proposed WICA surcharge, if approved and
20 implemented in April 2014, would increase the bill of such a customer by \$0.39
21 per month, or \$4.68 annually.

22 **Q. How will the WICA surcharge be displayed on the customer's bill?**

1 A. The WICA will be reflected on the customers' bills as a WICA Surcharge Amount.
2 The charge would be expressed as a percentage and applied to the effective
3 portion of the total amount billed to each customer under the Company's approved
4 tariff rate and charges with the exception of miscellaneous charges. A sample
5 customer bill is attached to this testimony as Attachment D.

6 **Q. Has the Company developed proposed tariff language for the WICA**
7 **surcharge?**

8 A. Yes. Proposed tariff pages are attached to this testimony as Attachment E. The
9 Company plans to submit the tariff for approval in its 2013 WICA filing when the
10 2013 projects will have been completed and, subject to Commission's approval,
11 will determine the amount of the first surcharge to the customer bills on April 1,
12 2014.

13 **Q. How does the Company intend to finance the WICA improvements?**

14 A. The Company will fund WICA projects with debt. Initial debt would come from the
15 Company's short term line of credit. Once a sufficient amount of short term debt
16 has been incurred, the Company will propose refinancing with long term debt and
17 will petition the Commission for approval of the new debt at that time.

18 **Q. What action is the Company requesting with regard to the projects shown**
19 **on Attachment B?**

20 A. With regard to the planned projects for 2013, the Company is requesting that the
21 Commission approve these projects for inclusion in the initial WICA surcharge to
22 be effective as of April 2014, subject to a prudence review of the final costs. With
23 regard to the planned projects for 2014, the Company is requesting that the

1 Commission preliminarily approve the projects as WICA eligible projects, subject
2 to the Commission's final review next year. Finally, with regard to the planned
3 projects for 2015, the Company is not requesting any action and is providing the
4 project listing for informational purposes only.

5 **Q: Has the company compared the amount of the estimated WICA surcharge**
6 **against the charge that would have resulted from the same improvements if**
7 **the acquisition of Pennichuck Corporation by the City had not occurred?**

8 A: Yes we have, and the amount requested is lower due to the completion of the
9 acquisition. The primary driver of the lower estimated surcharge is the lower cost
10 of capital of the Company after the acquisition. Prior to the acquisition, the overall
11 cost of capital approved for the Company in its last rate case was 11.33%. Using
12 the cost of capital prescribed in the settlement agreement approved in Docket No.
13 DW 11-026, the Company's current cost of capital is 6.04%. If the pre-acquisition
14 cost of capital were applied to the proposed 2013 WICA investments, the resulting
15 WICA surcharge would be \$0.60 per month, rather than the \$0.40 per month that I
16 have estimated above.

17 **Q. Does this complete your testimony?**

18 **A.** Yes.