

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Pennichuck East Utility, Inc.
Petition for Authority to Issue Long Term Debt
State Revolving Loan Fund
Locke Lake Water System Main Improvements
DW 15-__

DIRECT PREFILED TESTIMONY OF JOHN J. BOISVERT

February 2, 2015

1 **Professional and Educational Background**

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

4 A. My name is John J. Boisvert. I am the Chief Engineer of Pennichuck Water
5 Works, Inc. (“PWW”), which provides services to Pennichuck East Utility, Inc.
6 (“PEU” or the “Company”) pursuant to a management allocation agreement. I
7 have worked for PWW since February 1, 2006. I am a licensed professional
8 engineer in New Hampshire and Maine.

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

10 A. I have a Bachelor of Science degree and a Master of Science degree in Civil
11 Engineering from the University of New Hampshire in Durham, New Hampshire.
12 I also have a Master’s degree in Environmental Law and Policy from Vermont
13 Law School in South Royalton, Vermont.

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

15 A. Prior to joining PWW, I served as a Team Leader for Weston & Sampson
16 Engineers of Portsmouth, New Hampshire in their Water Practices Group from
17 2000 to 2006. Prior to Weston & Sampson I was employed by the Layne
18 Christensen Company of Shawnee Mission, Kansas as Regional Manager for their
19 Geosciences Division in Dracut, Massachusetts from 1994 to 2000. I completed
20 graduate school in 1992 and was employed by Hoyle, Tanner, & Associates of
21 Manchester, New Hampshire as a Project Engineer from 1992 to 1994. Prior to
22 entering full time graduate programs at the University of New Hampshire and
23 Vermont Law School I was employed by Civil Consultants of South Berwick,

1 Maine as a Project Engineer from 1986 to 1989 and by Underwood Engineers of
2 Portsmouth, New Hampshire as a project Engineer from 1985 to 1986.

3 **Q. What are your responsibilities as Chief Engineer of the Company?**

4 A. As Chief Engineer, I am responsible for the planning, design, permitting,
5 construction, and startup of major capital projects, including pipelines,
6 reservoirs/dams, building structures, pumping facilities, treatment facilities, and
7 groundwater supplies. I provide regular technical assistance to PWW's Water
8 Supply Department, Operations Department, Customer Service Department, and
9 Senior Management.

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

11 A. I will be describing the proposed Company project to replace approximately 4,000
12 linear feet ("LF") of small diameter PVC water main and 35 service connections
13 in the second Phase of main replacement for the Winwood/Monroe section of the
14 Locke Lake Water System located in Barnstead, New Hampshire (hereinafter
15 referred to as the "Locke Lake" project). The Company is seeking approval to
16 finance the Locke Lake project with the proceeds of a loan issued by the New
17 Hampshire Department of Environmental Services ("NHDES") through the State
18 Revolving Fund ("SRF"). Please see Exhibit JJB-1 for the NHDES letter offering
19 SRF Loan funds for this project.

20 **Q. Could you please describe why the Company believes it needs to replace**
21 **water main in the Locke Lake Water System given the piping in question is**
22 **less than 40 years old?**

1 A. Approximately 79,000 LF of the original 104,000 LF of water main remains in the
2 Locke Lake Water System. There is approximately 37,000 LF of 4" and 3"
3 schedule 40 glued joint PVC electrical conduit and approximately 41,000 LF of
4 2" 160 PSI IPS HDPE with nylon stab fittings or 2" SDR21 PVC with glued
5 joints. Neither type of pipe meets the AWWA standard for water mains. The
6 schedule 40 glued joint PVC (all sizes) is consistently failing at the joints while
7 the 2" HDPE consistently fails at the nylon stab fittings. Over the past five years
8 (2010 -2014) the Company has repaired 73 leaks in the Locke Lake Water
9 System; 32 have been water main breaks, with the remaining 41 leaks occurring
10 on the main-to-stop portion of a service.

11 When the system was acquired in 2006, unaccounted for water in the Locke Lake
12 Water system constantly exceeded 60 gpm, or about 125% unaccounted for water.
13 Unaccounted for water currently averages about 28 gpm, or about 60%
14 unaccounted for water due to the fact that as soon as one leak is found and
15 repaired another leak develops. The Company believes that the only way to
16 eliminate the constant leakage is to replace all the water mains and water services
17 (main-to-stop) in the Locke Lake system that fail to meet AWWA standards for
18 water main. The current main replacement program along with a diligent effort at
19 leak detection is responsible for the reduction in unaccounted for water from over
20 125% to slightly over 60%.

21 **Q. How much has the Company spent on repairs during the past several years**
22 **at Locke Lake?**

1 A. The Company has spent an average of about \$50,000 per year over the past five
2 years in water main and water service repairs.

3 **Q. If system leakage is a problem why doesn't the Company replace the**
4 **remaining 79,000 LF of the substandard water main in the Locke Lake**
5 **Water System as opposed to the proposed (estimated) 4,000 LF?**

6 A. As the Commission is aware, the rates at Locke Lake are already high. Based on
7 an average of the 2011 through 2014 construction costs, the Company is replacing
8 water main for about \$72 per LF (including services). Replacing all of the
9 remaining water main at once would cost just under \$5.7 million dollars and
10 would have a large impact on the water rates of all PEU's customers. The ROI
11 (3.392%), depreciation expenses (1.67%) and local and State property taxes
12 (2.75%) on \$5.7 million dollars of approximately \$445,000 per year will not be
13 offset by the annual reduction in operating expenses associated with repairing the
14 leaking water mains and services and treating the lost water.

15 In an effort to mitigate rate increases associated with the water main replacement
16 in Locke Lake the Company's plan is to balance the cost of investing in new
17 water main against the cost and risks of water main leaks. Over the past three
18 years the Company targeted its total investment per customer in Locke Lake to
19 approximately equal the amount it invested per non-Locke Lake customer in PEU.
20 The investment amount per non-Locke Lake PEU customers in 2014 is projected
21 to be about \$400 per customer (based on 6,169 non-Locke Lake PEU customers
22 and projected 2014 non-Locke Lake capital expenditures of about \$2.45 million).

1 This level of per customer investment would result in an approximate investment
2 in Locke Lake of about \$343,000.

3 **Q. If the target amount of investment in Locke Lake is \$343,000 why is PEU**
4 **proposing to spend \$400,000?**

5 A. The Company is balancing the impact of completing the replacement of all the
6 substandard water main in Locke Lake against the cost of continued leakage and
7 the associated rate impact, in addition to completing large enough sections of
8 project to help minimize the impact of mobilization and demobilization costs.
9 Additionally, the Company believes that the unique low interest rate climate and
10 aggressive bidding environment justify an investment level of \$400,000 versus a
11 target of \$343,000. Investing about \$57,000 more than the target amount will
12 allow for the replacement of about an additional 800 LF more water main.

13 **Q. What is the annual additional cost to PEU's ratepayers of completing an**
14 **additional \$57,000 of replacement work at Locke Lake?**

15 A. The estimated annual additional cost would be about \$4,500, or about \$0.64 per
16 customer per year based on an interest rate of 3.392%, an average depreciation
17 rate of 1.67%, local property taxes with a mil rate of 20.87 per \$1,000 and the
18 State Wide Utility Tax rate of \$6.60 per \$1,000.

19 **Q. Will the Company replace the main-to-stop portion of the services as it**
20 **replaces the water mains at Locke Lake?**

21 A. Yes. The existing services consist of one ¾" IPS HDPE service (main-to-stop)
22 for every two homes. The small diameter of the services creates pressure
23 problems for homeowners when both homes receive water. The Company will

1 replace each single ¾” IPS HDPE service with two 1” copper services. It is
2 essential that services be replaced since about one half of the system leaks each
3 year occur on the main to stop portion of the service. In addition, much of the
4 existing water main in this section of Locke Lake is behind houses. The new
5 main will be installed in the public streets to facilitate future access. Many
6 customer services will require main replacement from the curb stop into the
7 customer home. This will eliminate the need to work on private property in the
8 future.

9 **Q. What is the estimated cost of removal for the Locke Lake project?**

10 A. The cost of removal to abandon the existing 2-inch plastic main in Locke Lake is
11 estimated at 10% of the project or about \$40,000.

12 **Q. Does the Company intend to complete the Locke Lake Project in 2015?**

13 A. Yes, with respect to the amount of financing requested in this petition. The work
14 at Locke Lake will continue for more than a decade and be completed in similar
15 sized projects each year. The ability to complete the project during 2015 is
16 dependent upon getting the project construction underway in late spring or early
17 summer. To accomplish this, the NHDES and the Company need to close on these
18 loans in early May.

19 **Q. Please describe the estimated timeline required to complete the two projects**
20 **in 2015.**

21 A. The NHDES would like to finalize the loan documents associated with this loan
22 on or before May 1, 2015. The NHDES cannot finalize the loan documents

1 without the NHPUC approving the proposed financing for this project. The list
2 below provides an estimated timeline for the three projects:

3 Regulatory Approvals and Permits with Estimated Dates

- 4 1. Company Board Resolution approving SRF loan– January 23, 2015.
5 (COMPLETED)
- 6 2. File financing petition with Commission – February 2, 2015.
- 7 3. File for Shareholder approval of financing – request for approval filed
8 with City of Nashua – February 2, 2015.
- 9 3. NHPUC approval of Financing – request for order approving financing, on
10 or before April 18, 2015.
- 11 4. Sign SRF Loan Documents for all Projects – on or before May 15, 2015.

12 Locke Lake Project Design and Construction with Estimated Dates

- 13 1. Complete Engineering Design – March 30, 2015.
- 14 2. NHDES approval of proposed design – April 15, 2015 for Locke Lake.
- 15 3. Bid Locke Lake water main replacement project – April 15, 2015.
- 16 4. Open bids for Locke Lake water main replacement project – May 20,
17 2015.
- 18 5. Construction begins on Locke Lake project – June 15, 2015.
- 19 6. Locke Lake project substantial completion – November 30, 2015.

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

21 A. Yes.