

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

Re: Pennichuck East Utility, Inc.

SRF Financing of the Locke Lake Water System Water Main Replacement

DW 11-

DIRECT PRE-FILED TESTIMONY OF DONALD L. WARE

December 2, 2011

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 President of Pennichuck East Utility, Inc.
5 (the “Company”). I have worked for the Company since 1995. I am a licensed
6 professional engineer in New Hampshire, Massachusetts and Maine.

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

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

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

14 A. Prior to joining Pennichuck , I served as the General Manager of the Augusta
15 Water District in Augusta, Maine from 1986 to 1995. I served as the District’s
16 engineer between 1982 and 1986. Prior to my engagement with the District, I
17 served as a design engineer for the State of Maine Department of Transportation
18 for six months and before that as a design engineer for Buchar-Horn Consulting
19 Engineers from 1979 to 1982.

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

2 A. As President, I am responsible for the overall operations of the Company,
3 including water quality and supply, distribution, engineering and water system
4 capital improvements. With regard to capital improvements overseen by the
5 Company's Engineering Department, I work closely with the Department and the
6 Company's Chief Engineer regarding project selection, project design, project
7 management and construction management.

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

9 A. I will be describing the Company's project to replace approximately 8,500 LF of
10 small diameter PVC water main in the Locke Lake Water System located in
11 Barnstead, New Hampshire for which the Company seeks approval to finance
12 with loan funds issued by the New Hampshire Department of Environmental
13 Services (NHDES) through the State Revolving Loan Fund (SRF). Please see
14 schedule DW-1 for the NHDES final 2011 DWSRF project priority ranking,
15 which indicates that this project is ranked #1 on the on the NHDES's list of
16 eligible green projects.

17 **Q. What are the terms of the SRF loan?**

18 A. The SRF loan will be for \$525,000 and will have a 20 year term with a level total
19 payment and a maximum interest rate of 3.104%. Due to the current level of
20 water rates in relation to Median Household Income in this community, the loan
21 will have 30% principal forgiveness meaning that \$157,500 of the principal due
22 will be forgiven over the life of the loan (\$7,875 per year).

1 **Q. Could you please describe why the Company believes it needs to replace**
2 **water main in the Locke Lake Water System since the piping in question is**
3 **less than 40 years old?**

4 A. The existing water main in the Locke Lake Water System (exclusive of the 8,700
5 LF +/- of 4" and 2" water main being replaced in 2011) consists of over 39,000
6 LF of 4" and 3" schedule 40 glued joint PVC electrical conduit and in excess of
7 53,000 LF of 2" 160 PSI IPS HDPE with nylon stab fittings or 2" SDR21 PVC
8 with glued joints. Neither type of pipe meets the AWWA standard for water
9 mains. The schedule 40 glued joint PVC (all sizes) is consistently failing at the
10 joints while the 2" HDPE consistently fails at the nylon stab fittings. Over the
11 past three years (2009, 2010 and 2011) the Company repaired 57 leaks in the
12 Locke Lake Water System, 23 of which have been water main breaks with the
13 remaining 34 leaks occurring on the main-to-stop portion of a service.
14 Unaccounted for water in the Locke Lake Water system consistently exceeds 20%
15 due to the fact that as soon as one leak is found and repaired, another leak seems
16 to develop. The Company believes that the only way to eliminate the constant
17 leakage is to replace all the water mains and water services (main-to-stop) in the
18 Locke Lake system that do not meet AWWA standards for water main.

19 **Q. How much has the Company spent on repairs during the past several years?**

20 The Company has spent an average of about \$100,000 per year over the past
21 several years in water main and water service repairs.

1 **Q. If system leakage is a problem why doesn't the Company replace the**
2 **remaining 92,000 LF of the substandard water main in the Locke Lake**
3 **Water System as opposed to the proposed 8,500 LF?**

4 A. As the Commission is aware, the rates at Locke Lake are already very high.
5 Replacing all the of the remaining water main at once would cost over \$5 million
6 dollars and would have a significant impact on the water rates of all PEU
7 customers. The return on investment, depreciation expenses and property taxes
8 on \$5 million dollars (estimated in excess of \$300,000 per year) would not be
9 offset by the annual savings in operating expenses associated with repairing the
10 leaking water mains and services and treating the lost water. In an effort to
11 mitigate rate increases associated with the water main replacement, the Company
12 plans to balance the cost of investing in new water main against the cost and risk
13 of water main leaks. The Company is targeting its total investment per year, after
14 principle forgiveness, to result in an investment per Locke Lake Customer that is
15 approximately equal the amount invested per non Locke Lake customers in the
16 remainder of PEU's service area. The estimated investment amount per non
17 Locke Lake PEU customers in 2012 is approximately \$400 per customer (based
18 on 5988 non Locke Lake PEU customers and projected 2012 non Locke Lake
19 capital expenditures of about \$2.4 million). This level of per customer investment
20 would allow an approximate investment in Locke Lake of about \$480,000 (based
21 on principle forgiveness on the proposed SRF loan at 30% and 848 customers in
22 Locke Lake)

1 **Q. If the estimated amount of investment in Locke Lake of \$480,000 is the**
2 **amount that results in a roughly equivalent investment in the rest of PEU**
3 **why is the project proposed at \$525,000?**

4 A. The proposed project needs to be completed in an orderly fashion and requires in
5 most cases that once a street is started it should be completed. The proposed
6 project is based on tackling the next section of water main in the Locke Lake
7 system that is closest to the Peachum Road treatment plant with the goal of
8 replacing the water main in an orderly fashion beginning at the treatment works
9 and progressing around the Lake.

10 **Q. In the last financing petition for approval of SRF loan funds to replace a**
11 **portion of the Locke Lake System you set a target replacement rate of 3,000**
12 **LF. Why are you proposing to do 8,700 LF of water main replacement for**
13 **the next project phase?**

14 A. The Company based its target of 3,000 LF on estimated water main replacement
15 costs (including service replacements) of approximately \$100 per foot and a target
16 investment of about \$300,000 (based on the SRF loan fund availability). The bids
17 for the 2011 Locke Lake water main replacement project came in at about \$52 per
18 foot due to aggressive bidding by contractors seeking work in the down economy.
19 The targeted replacement amount of about 8,500 LF is based on a \$60 per LF
20 estimate on water main replacement costs, available SRF funds of \$525,000 and
21 an effort to balance investment in Locke Lake with investment in the rest of
22 PEU's service area.

- 1 **Q. Will the Company replace the main-to-stop portion of the services as it**
2 **replaces the water mains?**
- 3 A. Yes. The existing services consist of one ¾” IPS HDPE service (main-to-stop)
4 for every two homes. The small diameter of the service creates pressure problems
5 for homeowners when both homes which receive water from the common service
6 are occupied and using water simultaneously. The Company will replace each
7 single ¾” IPS HDPE service with two 1” copper services. It is essential that
8 services be replaced since about one half of the system leaks each year occur on
9 the main-to-stop portion of the service.
- 10 **Q. When does the Company need approval of this financing request?**
- 11 A, The NHDES would like to finalize the loan documents associated with this loan
12 by April 1, 2012. The NHDES can not finalize the loan documents without the
13 NHPUC approving the proposed financing for this project. The NHDES has
14 indicated that they would like the Company to have NHPUC approval of the
15 proposed financing by March 1, 2012.
- 16 **Q. What is the timeline for this project?**
- 17 A. The list below provides an estimated timeline for the proposed 2012 Lock Lake
18 Water Main Replacement Project:
- 19 1. File financing petition with Commission– December 2, 2011
20 2. Company Board Resolution approving SRF loan (vote by consent)
21 – December 23, 2011
22 3. NHPUC approval of Financing – March 1, 2012

- 1 4. Complete Engineering Design for replacement water mains –
2 March 1, 2012.
- 3 5. NHDES approval of proposed design – April 1, 2012
- 4 6. Bid water main replacement project – April 1, 2012
- 5 7. Sign SRF Loan Documents – April 1, 2012
- 6 8. Open Bids for water main replacement project – May 1, 2012
- 7 9. Complete Company, NHDES bid review and award contract –
8 May 15, 2012.
- 9 11. Contractor begin construction – June 15, 2012
- 10 12. Project substantial completion – November 1, 2012.
- 11 **Q. Does this complete your testimony?**
- 12 A. Yes.