

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

Pittsfield Aqueduct Company, Inc.

DW 13-128

**DIRECT PREFILED TESTIMONY OF JOHN J. BOISVERT
IN SUPPORT OF PERMANENT RATES**

May, 2013

1 **Professional and Educational Background**

2 **Q. What is your name and what is your position with the Pittsfield**
3 **Aqueduct Company?**

4 A. My name is John J. Boisvert. I am the Chief Engineer of Pennichuck Water
5 Works, Inc. which provides services to Pittsfield Aqueduct Company ("PAC"
6 or the "Company") pursuant to a management allocation agreement. I have
7 worked for Pennichuck Water works, Inc. since February 1, 2006. I am a
8 licensed professional 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
12 Hampshire. I also have a Master's degree in Environmental Law and Policy
13 from Vermont Law School in South Royalton, Vermont.

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

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

1 Law School I was employed by Civil Consultants of South Berwick, Maine as
2 a Project Engineer from 1986 to 1989 and by Underwood Engineers of
3 Portsmouth, New Hampshire as a project Engineer from 1985 to 1986.

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

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

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

12 **A.** I will be providing details of the Company's major capital expenditures in
13 regard to the water system located in Pittsfield, New Hampshire (the
14 "Pittsfield water system").

15 **Q. How much did the Company spend, in total, for capital expenditures**
16 **during the period covered in this filing?**

17 **A.** The Company added \$2.6 million in new assets from January 1, 2010 through
18 December 31, 2012, most of which were non-revenue producing assets.

19 **Q. What do you mean by non-revenue producing assets?**

20 **A.** Non-revenue producing assets are related to projects that do not result in new
21 customers or additional revenues to the Company. Examples of typical non-
22 revenue producing assets are projects that are the result of government
23 regulations such as the Safe Drinking Water Act (SDWA), local and State

1 highway projects, water conservation and efficiency projects, and other State
2 or Federal mandates. Capital expenditures to enhance customer service or
3 replacements of aging infrastructure are also examples of non-revenue
4 producing assets.

5 **Q. What were the significant capital improvements to the Pittsfield water**
6 **system completed by the Company over the past three years (since the**
7 **last rate case test year of 2009)?**

8 **A. Yes.**

9 Water Treatment Facility Emergency Generator

10 An emergency generator was added to power the treatment facility during a
11 power outage at a total cost of \$55,407 including the generator, the propane
12 fuel system and the electrical system additions which automatically power the
13 facility.

14 Water Meter Testing and Replacement

15 The Company continues to replace meters as necessary as part of its meter
16 testing program and in accordance with the NHPUC requirements.

17 Water Treatment Plant updates

18 A new clear well level sensor and a new spectrophotometer were purchased
19 for the laboratory at a cost of \$11,184. One of the treatment facility's two 5
20 HP backwash pumps failed and was replaced at a cost of \$2,798.

21 Berry Brook Reservoir Dam

22 In 2008, the Company received a letter of deficiency from the New Hampshire
23 Department of Environmental Services ("NHDES") that identified certain

1 structural and maintenance deficiencies with respect to the dam. An
2 engineering analysis was required to assess the hydraulic capacity of the
3 dam's spillway and plans were developed to address the safety concerns
4 identified by the NHDES. The estimated cost to complete the dam repairs is
5 in excess of \$175,000. With the addition of a raw water transmission main
6 from Berry Pond directly into the treatment facility in 2007, the Berry Brook
7 Dam and Reservoir were no longer needed. The Company commissioned a
8 study of the feasibility of removing the dam to forego future maintenance and
9 liability. The study showed that the cost of removal would be less than the
10 cost of repair. The Company elected to proceed with the removal option.
11 The study was completed in 2011 at a cost \$21,797. Removal began in
12 February of 2013.

13
14 **Q. Did the Company perform any water main replacement over the past two**
15 **years?**

16 **A.** Yes. The company replaced approximately 2,000 linear feet of 8-inch and 6-
17 inch diameter unlined cast iron and steel ("stove pipe") water main in Joy
18 Street. The Joy Street water main completes a critical pipe loop to support
19 flow to the downtown area of Pittsfield. A water main break at the intersection
20 of Main Street and Joy Street in 2010 revealed the existence of stove (tin and
21 cement) pipe in Joy Street. The Company was unaware that this stove pipe
22 existed, as it was not in the former owner's pipe inventory. As with the other
23 stove pipe replaced in the Pittsfield system, this pipe was in very poor

1 condition. The repair prompted significant road repairs and, due to the high
2 risk for this type of failure to occur again, the Company carried out an
3 investigation that determined that it was likely that stove pipe existed on Joy
4 Street from Main Street to Warren Avenue. A past repair at Joy Street and
5 Warren Street identified stove pipe transitioning to unlined cast iron pipe.
6 The Company determined that to replace this section of water main,
7 approximately 500 linear feet, rather than risk another break of the tin pipe as
8 winter approached. A significant break on Joy Street between Warren
9 Avenue and Blake Street in 2011 revealed another undocumented section of
10 tin pipe that was in extremely poor condition. Based on the leak repairs and
11 other information it was concluded that tin pipe and unlined cast iron were
12 likely inter-mixed along Joy Street between Warren Avenue and Blake Street.
13 The Company determined that the remaining 1,500 linear feet of pipeline
14 between Warren Avenue and Blake Street consisting of unlined cast iron pipe
15 required replacement. The total cost of this effort was \$338,908.

16 **Q. Does the Company believe there is any other tin water main in the**
17 **Pittsfield Water System?**

18 **A.** The Company is not aware of any other tin water main in the Pittsfield water
19 system. Based on the previous owner's records the Company had replaced
20 all of the tin water main prior to the discovery of additional tin water main on
21 Joy Street.

22 **Q. What is the Company doing to replace or rehabilitate unlined cast iron**
23 **water main that exists in the Pittsfield water system.**

1 A. The Pittsfield water system still has approximately 11,650 lineal feet of
2 unlined cast iron water main in the system. The condition of this pipe
3 generally restricts fire flows and may impact water quality by releasing iron
4 into the water during high flows, resulting in colored water and potentially
5 allowing for bacterial regrowth. In 2012, Pennichuck Corporation initiated an
6 Asset Management Initiative to assess and establish the conditions, the
7 criticality, and risk of failure of assets across all three regulated utilities
8 including the Company, Pennichuck Water Works, Inc., and Pennichuck East
9 Utility, Inc. The Asset Management Initiative is expected to be implemented
10 over a five-year period. The Asset Management Initiative will result in a
11 rehabilitation and replacement plan for Company's critical assets, including
12 water main that will identify the appropriate level of reinvestment based on
13 asset condition, risk of failure, and cost.

14 **Q. Does the Company foresee the need to make any improvements to the**
15 **Pittsfield Water System in the next five to ten years?**

16 A. As mentioned previously, removal of the Berry Brook Reservoir Dam was
17 delayed in 2012 due to a lengthy permitting process. Work began to remove
18 the dam on or about February 1, 2013. The work is expected to be complete
19 by July 1, 2013. The cost of this project is \$140,000 including design,
20 construction (demolition), inspection, and environmental and historic
21 oversight. Additionally, because of the onset of winter, final pavement
22 restoration could not be completed on Joy Street in 2012. The estimated

1 construction cost for this work is \$25,000 based on the contractor's unit price
2 in their bid. This work will be complete in May or June of 2013

3 The Company is currently not aware of any changes in the Safe Drinking
4 Water Act standards that could necessitate a further update or require an
5 addition to the Pittsfield water treatment plant. Location samples for
6 disinfection byproducts taken from the Pittsfield distribution system, as
7 required by the Stage 2 Disinfection/Disinfection Byproducts Rule, meet the
8 standards but they are elevated. Company staff have assessed factors
9 regarding raw water quality (total and dissolved organic carbon and specific
10 UV absorbance [SUVA]) to ensure that the treatment process is being
11 optimized to minimize D/DBP formation following disinfection.

12 **Q** Are there any projects underway for which the Company will seek rate
13 relief?

14 No.

15 **Q.** What other types of capital expenditures has the company undertaken
16 to maintain and enhance service?

17 **A.** There have been other efforts classified as capital projects that fall into this
18 general category. These projects are predominantly major upgrades and
19 replacements of plant and equipment as well as technology upgrades that
20 improve operational efficiency. Examples of these projects includes, booster
21 pump replacement, well pump replacement, treatment equipment upgrades
22 and replacement, filter media change out, improvements to buildings and

1 grounds (roofs, painting, road repair and resurfacing), electrical system
2 upgrades, SCADA and communications additions and enhancements.

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

4 **A. Yes.**