

**State of New Hampshire
Public Utilities Commission**

Direct Testimony Donald J.E. Vaughan

Q Mr. Vaughan, please state your full name and business address.

A My name is Donald J.E. Vaughan. My business address is 37 Northwest Drive, Plainville, Connecticut 06062

Q By whom are you employed and in what capacity?

A I am Vice President of Operations at New England Service Company, Inc. (NESC). In that capacity, I am responsible for management oversight of all aspects of the operations of its subsidiaries, namely; Valley Water Systems in Connecticut and Colonial Water Company in Massachusetts, Mountain Water Systems in Massachusetts and Abenaki Water Company in New Hampshire.

Q Please describe your educational background and professional experience.

A I have a Bachelor of Science degree in Civil Engineering from Northeastern University and a Master of Business Administration from Nichols College. From 1976 to 1980, I served as the Director of Water Operations for the City of Worcester. In that capacity, I was involved in all phases of supply and distribution activities. Subsequently, I was employed by Citizen's Utilities as Assistant General Manager for California Water Properties. I also served as President and General Manager of Southbridge Water Supply and as the Superintendent of Supply Operations for Aquarion Water Company with responsibilities primarily in Connecticut. In 1992, I joined Plainville Water Company (now Valley Water Systems, Inc.). In 1996, I managed the formation of New England Service Company which now holds the subsidiaries mentioned.

Q Have you testified before the commission with respect to earlier dockets?

A Yes

Q Please describe the purpose of your testimony.

A My testimony is to provide an overview and explanation that will assist understanding of why Abenaki Water Company is seeking Commission approval of its proposed \$2.52 MM borrowing, the specifics of which are contained in this petition. If approved, the funding from this borrowing will be used to remedy the excessive pressure condition and a related treatment facility deficiency both of which are identified in the attached exhibit.

Q Please provide an explanation of what is meant by excessive pressure at Rosebrook and what are the implications and consequences.

A Rosebrook's operating pressure exceeds the regulatory limit as specified in Env-Dw 404.01(a) which requires a water system's maximum static pressure to be at or under 100 pounds per square inch (psi) and more than 35. Under past and current operating conditions, Rosebrook's pressure approaches 190 psi and in certain situations exceeds this level. The

implications and consequences of this condition are many and are indicated further in this testimony. Importantly, operational safety is compromised at these pressure levels as well as wear, tear, and the high potential for significant damage to the Company and customer property.

Q Please advise why this excessive pressure condition exists?

A Excessive pressure has been a long standing situation at the Rosebrook system. To understand why it is so, it is necessary to know that the system, which serves slightly over 400 customers consisting of ski resort residences and OMNI Mt. Washington Hotel properties at Bretton Woods, operates on one pressure zone. This zone spans significant terrain elevation differentials and steep grades and was presumably constructed this way to avoid the cost of installing intermediate pumping stations. That said, the placement of the 650,000 gallon storage tank that serves all customers, controls system pressure which exerts pressures of 190 pounds per square inch and more at the lower elevations. Pressure of this magnitude far exceeds what is allowable.

The existence of the tank, which controls system pressure, goes back to around the 1980's. Therefore, this is not a new problem, but one Abenaki has intended to solve since acquiring the system a few years ago. Furthermore, as per Exhibit 1, the DES has ordered the Company to comply with the two significant deficiencies; namely a distribution and treatment condition.

Q Please explain the deficiency related to the well/treatment station.

A The treatment station houses a well, chemicals, metering pumps, a holding tank and other related water works equipment. It is a relatively small building considering its use and the functions involved. The station has a historical record of treating for pH control and disinfection using chlorine. Recently a corrosion control additive has been introduced in the treatment process.

Presently soda ash and chlorine are combined in one tank for injection into the system. This combination places the system out of compliance. In addition, the chemical holding tank lacks containment which would prevent a contamination or safety problem from occurring. These conditions must be remedied to place the system in compliance.

Q Who have you selected to do the engineering and prepare the plans and specifications to eliminate the excessive pressure?

A The company has selected Horizons Engineering to do this work. In addition to the engineering, plans and specifications, they will also take the lead on obtaining permits, applications, participate in hearings, facilitate homeowner association meetings, and have interaction with NHDES and DOT. To this point, the company has included a copy of the executed contract with Horizons amounting to \$128,400, and denoted as Exhibit 2. A Form E-22 (which covers the design engineering aspect of this project) has already been

submitted to the Commission.

Q Why was Horizons selected for the engineering?

A Horizons is intimately familiar with Bretton Woods geography, facilities, utilities, construction conditions, and the Rosebrook community. They further have a significant amount of time invested in this project which goes back about 5 years. Somewhat related to this project, they have prepared a hydraulic model of the system, done a water hammer study, and other engineering projects not only on water but also the waste water systems located there. Rather than introduce other consulting engineers to the project and considering the necessary learning curve implications, the company believed that most cost effective choice was Horizons.

Q When is the Company requiring the engineering to be complete?

A The engineering including the plans and all related technical information pertaining to the pressure reduction must be complete and submitted to the NHDES by 8/2/21. This is in accordance with Exhibit 1.

Q What are the Company's next steps assuming approval of this financing?

A Provided that the commission, DES and all other agencies having jurisdiction have approved the plans and specifications, the company would like to solicit bids for construction of the entire project by 8/20/21 and receive contractor responses 4-6 weeks later. The Company would then plan to award the contract to construct sometime in October.

As the Company believes that the construction and project can be completed by the Fall of 2022, barring unforeseen circumstances, award of the project this year will provide contractor opportunity to order certain materials and equipment requiring lead time during the Winter period.

Q What is the anticipated cost for the project construction?

A While actual costs will not be known until bids are received, the company is estimating a project cost of about \$2.9MM. At this point in time, it is difficult to determine what impact the final engineering will have on pricing the project, although both the Company and Horizons will be continuously seeking the most cost effective ultimate design. Factors having an influence on the construction costs include the amount of construction work in the region at that given time, the availability of materials and equipment, inflation, unforeseen construction challenges not identified in the plans and specifications, and labor costs just to name a few.

Q If the financing is approved, how will the Company manage the funds during the construction period?

A The Company anticipates that in accordance with loan terms, it will have interest only funds for construction payments until the project is completed, which as mentioned earlier, is not expected until late 2022. At that time, the term loan requiring interest and principal payments will go into effect. Importantly, the company requests review and approval of this petition as early as practical to then be able to lock in the offered rates.

Q Why is this project in the public good?

A First of all, the completed project will put to rest a long standing excessive pressure situation on the Rosebrook system. Over the years it has been the cause and therefore the reason why studies and reports have been prepared regarding water hammer and surges as well as expenses that have occurred directly related to plumbing and fire line issues (repairs).

Secondly, it will greatly relieve an operator (or anyone who is working on the system) safety issue that also extends to distribution main maintenance such as valve exercising and repairs.

Thirdly, it will greatly reduce the wear, tear, and strain on the system and have beneficial effects on power consumption, longevity of pressure sensitive equipment and reduction of water losses otherwise known as unaccounted for water.

Finally, the completed project, lowering working pressure, will place the system in regulatory compliance and make for a reliable and safer system all for the benefit of commercial and residential customers as well as those who use the system regularly including operators and firefighters.

As a last point, this is a rare opportunity for all customers to benefit from financing at extremely favorable rates.

Q Does this conclude your testimony?

A Yes