Abenaki Water Company

DW 21-061

Revised Petition for Approval of Financing for Rosebrook
Pressure Reduction Project

Aquarion Water Company's Responses to DOE Data Requests—Set 1

Data Request Received: February 16, 2023 Date of Response: February 22, 2023
Request No.: DOE 1-1 Witness: John Walsh

REQUEST: **Re: Testimony of Walsh/Smiarowski, Page 6 of 24 (Bates 14), Footnote 1**:

Please provide a copy of the referenced amended LOD of October 20, 2021.

RESPONSE: Please refer to DOE 1-1 Attachment 1 for a copy of the referenced amended LOD of October 20, 2021.

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

October 20, 2021

AMENDED
LETTER OF DEFICIENCY #DWGB 20-032
Certified Mail #7017 3040 0000 7493 1475

Donald Vaughan
Abenaki Water Co
32 Artisan Ct, Ut 2
Gilford, NH 03249
Also via email: dvaughan@newenglandservicecompany.com

Subject: Carroll - Public Water System: Rosebrook Water (PWS ID: 0382010)

Dear Mr. Vaughan.:

On December 1, 2020, the Department of Environmental Services ("DES") issued Letter of Deficiency ("LOD") #DWGB 20-032 to you, on behalf of Abenaki Water Co., regarding unresolved significant deficiencies for the Rosebrook Water public water system. In the LOD, DES noted the three deficiencies identified and documented by DES during a sanitary survey inspection on March 29, 2019. In the LOD, DES explained the failure to correct the deficiencies within 120 days of being notified of the deficiencies, or compliance with an approved Corrective Action Plan ("CAP"), resulted in the Water System incurring a treatment technique violation, in accordance with Env-Dw 717.22(d) and Env-Dw 720.14(a)(1).

The three significant deficiencies identified during the March 29, 2019 Sanitary Survey are as follows;

Significant Distribution Deficiency
The Water System's pressure exceeds the regulatory limit specified in Env-Dw 404.01(a), *Design Standards for Large Public Water Systems*. More specifically, regulations outlined in the *Recommended Standards for Water Works* requires the normal working pressure to be approximately 60 to 80 psi, with a maximum of 100 psi and minimum of 35.

Significant Treatment Deficiency
During the inspection, there was no chemical containment at the well station for the storage of chemicals or at the bulk mixing tank. Chemical containment is required for operator safety and for preventing potential groundwater contamination should a spill occur. *The Recommended Standards for Water Works*, as referenced in Env-Dw 404.01(a), requires that chemical containment be provided for 100% of the volume of the largest container.

Operation and Maintenance Inadequate
Both of the chemicals used for treatment at the Water System, soda ash and NaOCl, are mixed in the same tank. Due to the chemical mixing, the recording of the daily quantities for NaOCl, required per Env-Dw 503.10, *Public Water System Operational Requirements*, are more of an estimate than an accurate quantity. Additionally, the mixing tank makes it difficult to hold a consistent chlorine residual.

On September 24, 2021, a conference call was held between representatives from DES, Abenaki Water Co., Aquarion Water Company, and New England Service Co., to discuss the intended phases and schedule of a water infrastructure improvement project, to correct the deficiencies.

In light of the project scope and schedule discussed and approved amongst the parties on September 24, 2021, DES hereby amends the LOD according to the actions and deadlines as follows:

DEADLINE	ACTION
January 7, 2022	Provide **repeat** public notice to consumers for the failure to correct the noted significant deficiencies within 120 days and provide proof of public notice to NHDES, per the instructions on the downloadable template *here*. Should you receive this letter in paper form, please call and we can assist you in locating the form on our website. **The deadline is based on receipt of repeat public notice on October 7, 2021.**
Continue to perform public notice every 3 months for as long as the deficiencies are unresolved and submit proof of public notice to NHDES, in accordance with the instructions provided on the public notice template available as indicated above.	
December 15, 2021	Submit to DES, in writing, confirmation of the project scope including a description of the anticipated improvements for correction of the three significant deficiencies.
March 15, 2022	Submit to DES a Basis of Design ("BOD") report for the selected solution, including design criteria and permitting requirements.
July 15, 2022	Submit to DES design plans and specifications for the selected solution. If a phased solution is selected, the plans and specifications will include only the Phase 1 elements.
By the DES-approved correction date(s)	Complete the actions as approved by DES and submit documentation upon correction of each significant deficiency.

Please note that NHDES may initiate formal action for this violation, including issuing an order requiring the deficiencies to be corrected, proposing an administrative fine of up to $4,000 per violation, and/or referring the matter to the NH Department of Justice for imposition of appropriate penalties.

All information requested above should be addressed or emailed as follows:

Emily Jones, Enforcement Supervisor
NH DES Drinking Water and Groundwater Bureau
PO Box 95, Concord, NH 03302-0095
Email: Emily.M.Jones@des.nh.gov

DES records indicate that the Water System currently holds an SOC chemical monitoring waiver, which expires December 31, 2021. Please note that systems with unresolved significant deficiencies identified by DES may be denied requests for an SOC monitoring waiver, per Env-Dw 712.20(c). For water system's with open deficiencies or violations, renewal of a waiver application is based on the system's specific compliance status at the time of renewal.

Please contact Randy Suozzo at (603) 271-1746 or by email at *randal.a.suozzo@des.nh.gov*, if you have any questions regarding the deficiencies or water system project. If you have any other questions regarding this letter, please contact Emily Jones by email at *Emily.M.Jones@des.nh.gov*, or by phone at (603) 271-4109.

Sincerely,

Brandon Kernen, P.G., Administrator
Drinking Water and Groundwater Bureau

cc: NHDES Legal Unit
File

ec: Taylor Deogburn, Primary Operator, *tdeogburn@newenglandservicecompany.com*
Health Officer, Town of Carroll, *twinmountainfireambulance@gmail.com*
Randy Suozzo, P.E., DES/DWGB, Engineering and Survey Section
EPA, Region 1

Abenaki Water Company

DW 21-061

Revised Petition for Approval of Financing for Rosebrook
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Aquarion Water Company's Responses to DOE Data Requests—Set 1

Data Request Received: February 16, 2023 Date of Response: February 22, 2023
Request No.: DOE 1-2 Witness: John Walsh

REQUEST: **Re: Testimony of Walsh/Smiarowski, Page 18 of 24 (Bates 26), Lines 8 - 10**:
a) Please indicate the current status of the DES approval of the referenced detailed plans and specifications that were submitted on December 30, 2022.
b) If final approval of these plans and specifications has not yet been approved by DES, please indicate when final approval is anticipated.

RESPONSE: a) Please refer to DOE 1-2 Attachment 1 for the current DES approval status. This attachment was provided to DOE on February 13, and filed to the docket as Attachment JPW-9.
b) As referenced in the above attachment, the New Hampshire Department of Environmental Services Drinking Water and Groundwater Bureau (DWGB) has conditionally approved the project for bidding. Please refer to the attachment for the conditions.

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

January 30, 2023

Amanda Keyes, PE
Tighe & Bond
177 Corporate Drive
Portsmouth, NH 03801
via email: apkeyes@tighebond.com

Subject: Rosebrook Water Company PWS 0382010
Wellfield Improvements (Phase 1 of the Pressure Reduction Project)
(Final) Design Review #170093

Dear Ms. Keyes:

The New Hampshire Department of Environmental Services Drinking Water and Groundwater Bureau (DWGB) has reviewed the final design documents dated December 2022 for the subject project. I performed a review of the project in accordance with the design standards for large public water systems listed under Env-Dw 400 and referencing the Recommended Standard for Water Works. DWGB conditionally approves this project for bidding with the following conditions:

1. Include the DWGTF project number on the cover of both the plans and specifications, as well as included on the project sing. DWGT-68 is the DES project number.
2. Include DES as an additional insured in the Supplemental Conditions, SC-27 Insurance Requirements for the purposes of onsite inspections.
3. The NHDES website has been updated more recently than the links included in the specifications, which no longer work. Update electronic links found in the specifications, e.g. 01570 – Selective Demolition forms.
4. Schedule 09900-C – Colors in the specifications need to be edited to differentiate the three chemicals being used. For reference, color guidelines are included in the Recommended Standards for Water Works.
5. There is no indication of a hi chlorine alarm to shut down the station. This should be added to the sequence of operations.
6. The flow rate from one of the wells exceeds the flow rates of the booster pumps if one were offline. All pumps are VFD operated, but there are no automatic control adjustments to the well pumps if a booster pump is offline for maintenance. Instead, the control must be manually set by the operator or a high-level switch in the clearwell tanks will shut down the wells if contacted. With only two booster pumps, shutdown would occur less than every 20 minutes in this scenario. Preferably, larger booster pumps would be installed so two pumps could match the flow of the largest well pump. Alternatively, field training for this scenario should be included during startup and sequencing written in the O&M manual.
7. Prepare a final **O&M Manual** and maintain a copy on file with the water system owner. Water system copies of the O&M manual and Record Drawings shall be available for review during NHDES site inspections, when requested.

8. Submit electronic copies (PDF) of final **Record Drawings** to this department and maintain copies on file with the water system owner.

In addition to the above comments, the following general comments are offered:

1. The Energy Chart on A-002 indicates an asphalt roof, but A-101 shows a metal roof.
2. There is no cut or callout to show transition from 4-inch piping at existing well station to 6-inch piping to new facility.
3. There is no cut to show vertical orientation of the mechanical piping. At what height does the well water enter into the 1,050 gallon tanks? Is there a benefit to not entering through the top of the tanks?
4. NH design rules require a minimum containment of 100% of the largest chemical tank. Containment shown is in excess of this amount. No change is required.
5. There was no drawing M-301 provided in the final plan set. Comments from the previous submittal on this drawing are:
   a. Water recycled from the analyzers would be better protected from contamination without an air gap. Consider hard-piping.
   b. How will the calibration column be filled if it is located above the tank? Recommend alternate piping for calibration checks.
6. Table 1 is included at the end of this letter for informational purposes. Please provide comment if discrepancies are found.

<u>NHDES DWSRF and DWGT Funding Conditions</u>

In addition to responses to the comments above, we will require submission of the following materials prior to our written authorization to award the construction contract:

A. An estimate of eligible project costs, with monthly cash flow projections, including construction engineering and other costs.
B. Evidence of advertisement for bids.
C. A tabulation of all bids which were received.
D. A letter signed by the water system's Authorized Representative, indicating the name of the bidder to whom a contract will be awarded.
E. The bid proposal of the bidder to whom a contract will be awarded
F. Certification that all necessary permits, land acquisitions and easements have been secured.
G. Certification that all conditions of a completed Environmental Review have been incorporated into the contract documents.

Please contact me with any questions or comments at 603-271-1746 or Randal.A.Suozzo@des.nh.gov.

Sincerely,

Randal A. Suozzo, P.E.
Drinking Water and Groundwater Bureau

ec: Robert Gallo, John Walsh, Carl McMorran, Daniel Lawrence; Aquarion Water Company
Peter Galant; Tighe & Bond

Enclosure

Table 1 – Design Summary of Well Station

Design Flow

Source	HP	TDH (feet)	Flow (gpm)
GPW-1	7.5	52	300
GPW-2	10	65	350
BP 1-3	25	440	125

Chemical Treatment Description

Chemical Name	Bulk Storage	Day Tanks	Chemical Injection	
		(gal)	Pump (gph)	Use (gph)
36% Ortho-PO_4	Liquid Drums	30	0.0002-33.3	0.02-34
12.5% NaOCl	Liquid Drums	30	0.0002-33.3	0.05-25
Na_2CO_3	Dry Bags	495	0.0028-158.5	4.5-93

Storage

Source	Type	Volume (gal)	Number
Clearwell	FRP Tank	1,050	2

Waste Disposal

1,000 gallon tight tank

Safety Equipment

Spill containment, emergency shower, and eyewash station.

Emergency Power

An existing standby generator connected to a 500-gallon above-ground propane tank.

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Data Request Received: February 16, 2023 Date of Response: February 22, 2023
Request No.: DOE 1-3 Witness: DJ Smiarowski

REQUEST: **Re: Testimony of Walsh/Smiarowski, Page 21 of 24 (Bates 29), Lines 12 - 13**: The testimony references, in part, ". . . the proposed financing from the **PFAS Loan Fund** in an aggregate principal amount of $2,520,000 and the zero issuance costs." (Emphasis added) Please explain this reference to the "PFAS Loan Fund".

RESPONSE: The amounts are correct however, the reference to PFAS Loan Fund is incorrect. The funding will be provided by the New Hampshire Drinking Water and Ground Water Trust Fund (DWGTF). The reference should be to Attachment DJS-1 Balance Sheet (as of December 31, 2022, Actual and Pro Forma) as stated in **Testimony of Walsh/Smiarowski, Page 20 of 24 (Bates 29), Line 10.**

Abenaki Water Company

DW 21-061

Revised Petition for Approval of Financing for Rosebrook
Pressure Reduction Project

Aquarion Water Company's Responses to DOE Data Requests—Set 1

Data Request Received: February 16, 2023 Date of Response: February 22, 2023
Request No.: DOE 1-4 Witness: DJ Smiarowski

REQUEST: **Re: Testimony of Walsh/Smiarowski, Page 22 of 24 (Bates 30), Lines 10 – 13 and Attachment DJS-3 (Bates 89)**: Please discuss any actions the Company may currently be considering towards possibly mitigating the projected heavily-weighted debt position that the Company is anticipating will result from the proposed financing.

RESPONSE: The Company's parent, Eversource Energy, plans to make capital contributions into the Company to help finance the project with an appropriate capital structure. In addition, the cost of the indebtedeness through the New Hampshire Drinking Water and Ground Water Trust Fundis most likely to be provided at very favorable financing rates.

Abenaki Water Company

DW 21-061

Revised Petition for Approval of Financing for Rosebrook
Pressure Reduction Project

Aquarion Water Company's Responses to DOE Data Requests—Set 1

Data Request Received: February 16, 2023 Date of Response: February 22, 2023
Request No.: DOE 1-5 Witness: John Walsh

REQUEST: **Re: Attachment JPW-4 (Bates 81)**: Please provide an analysis of the projected rate impact the proposed financing is anticipated to have on an average single-family residential customer of the Rosebrook system.

RESPONSE: There is no rate impact in the absence of a rate case. The current authorized rates will continue to be in effect. As such, Aquarion has presented in the table below, for illustrative purposes only, the rate impact the proposed project could have on an average single family residential customer of the Rosebrook system based on the following assumptions:

- current authorized rates;
- impact of the Phase I investment on Abenaki's revenue requirement, all else equal, as reported in Attachment JPW-4 applied evenly to the residential and commercial rates; and
- average annual residential consumption of 15,500 gallons based on 2022 consumption data.

Annual Residential Bill Impact @ 15,500 Gallons

Line				Current
1	Service Charge		$	180.00
2				
3	Usage Charge			
4	Rate per TG		$	6.270
5	Usage in TG			15.5
6	Total usage charge	[Line 4 x Line 5]	$	97.19
7	Total annual bill	[Line 1 + Line 6]	$	277.19
8	Bill impact of Phase I	JPW-4		77.47%
9		[Line 7 x Line 8]	$	214.73
10				
11	Proforma annual bill	[Line 7 + Line 9]	$	491.92

STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENERGY

Inter-Department Communication

DATE: February 21, 2023

FROM: Joseph M. Vercellotti, P.E.
Utility Engineer
NHDOE Enforcement Division

SUBJECT: Docket No. DW 21-061
Revised Petition to Approve New Hampshire Drinking Water and Groundwater Trust Fund Financing for the Rosebrook Pressure Reduction Project
Aquarion Water Company of New Hampshire o/b/o Abenaki Water Company in Carrol NH

TO: Jayson Laflamme, Director NHDOE Water Group, Regulatory Support Division
Suzanne Amidon, Hearings Examiner NHDOE Regulatory Support Division
Robyn Descoteau, Utility Analyst NHDOE Regulatory Support Division
Paul Kasper, Director NHDOE Enforcement Division

Introduction

In response to a November 1, 2022 NH Public Utilities Commission (PUC) procedural order Aquarion Water Company of New Hampshire (Aquarian) provided a January 31,2023 revised and updated petition with corresponding and supporting testimony on behalf of Abenaki Water Company, Rosebrook Water System for the PUC's review and approval of the subject financing in this docket. The revised petition requests the PUC authorize Abenaki to receive financing in the amount of a $2,520,000 loan at 3.17 percent interest and a $280,000 grant from the Drinking Water and Groundwater Trust Fund ("DWGTF") administered by the Department of Environmental Services ("DES"). The funding requested by Aquarian will apply to Phase 1 of a two-phase plan for water system improvements to comply with a December 1, 2020 New Hampshire Department of Environmental Services (DES) Letter of Deficiency (LOD).

Aquarion retained the engineering consultant Tighe & Bond (T&B) of Portsmouth to prepare a June 22, 2022 technical memorandum which presented a summary of options for reducing distribution system pressure. The evaluation included thirteen improvement options, each with preliminary cost estimates. A hydraulic model was developed and utilized to compare system pressures and available fire flow for the two most feasible options.

Aquarion indicated Phase 1 addresses issues at the wellhouse, including treatment deficiencies and well house pipeline pressure issues. Phase 2 is proposed as part of the settlement agreement in Docket No. DW 21-090 to address the high distribution system water pressure issues. Design plans for Phase 2 of the project will be submitted to DES for review and approval at a later date. Both phases are required to be completed to fully resolve the issues in the NHDES LOD.

Phase 1 Project Review

This review pertains to the assessment of the engineering and operational aspects of the proposed Phase 1 water system improvements. Staff reviewed the January 31,2023 revised petition and testimony submitted as part of the Docket DW 21-061 including supplemental available information provided by Aquarion. Phase 1 will address treatment deficiencies identified in the LOD which include renovating the existing pump station to provide separate disinfection and pH stabilization chemical containment areas and reconfiguration of the system pumps and piping to reduce the required chemical injection pressures to improve operator safety and reliability of treatment system performance. The Phase 1 design plans received conditional DES approval in January 30, 2023 correspondence. Phase 1 includes the following system improvements:

- Pump and Treatment Building
- Site Work and Gravel Driveway
- Electrical Service Wiring and HVAC/Mechanical Work
- Control Equipment & Integration
- Pumping Equipment,
- Station Piping & Valves
- Chemical Feed Equipment/Piping
- Water Main Connections, Hydrants and Valves

As previously stated, the DWGTF completed their review of the Special Projects Assistance Program funding application and authorized up to $2,520,000 and $280,000 in loan and grant funds, respectively. The financing is subject to PUC and subsequent G&C approval.

Conclusion

Based on the assessment of the engineering and operational aspects of the proposed Phase1 water system improvements described in the January 31, 2023 revised petition, testimony, January 30, 2023 DES Phase 1 design conditional approval and recent data request, the company's proposed Phase 1 project and estimated costs appear to be prudent and as such, I support approval of the company's petition. Please let me know if you need anything further in this regard.