

Statement of Qualifications for Douglas W Brogan

I received a BSCE degree from MIT in 1975.

My early work experience included employment with a consulting firm performing flood studies; with the NH Water Resources Board working in dam safety and related programs; two and a half years with the NH Water Supply and Pollution Control Commission performing construction inspection and other functions involving sanitary collection, treatment and training facilities; three years at the Portsmouth Naval Shipyard specifying radiological controls for submarine overhauls; and five years with a consulting firm as project engineer involved with design and construction of water distribution and storage facilities, water system studies and subdivision reviews.

My more recent experience includes 23 years (1989 - 2012) at the NH Public Utilities Commission, the last 20 as water/sewer engineer. From 2013 to 2017, and again from 2019 to present, I have provided engineering consulting services to the Commission (now Department of Energy) on water and sewer dockets. From 2018 to present I have also provided engineering consulting services to Omni Mount Washington on several dockets involving Omni at the Commission.

My responsibilities since 1991 in all of the above have generally involved review of physical facilities and operations, system improvements, and quality of service issues relating to regulated water and sewer systems.

I am a licensed Professional Engineer in New Hampshire.



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

October 25, 2019

NHPUC 30OCT'19AM10:59

Debra A. Howland, Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

**Re: DW-19-147 Hampstead Area Water Company Southern New Hampshire
Regional Water Project**

Dear Ms. Howland:

The New Hampshire Department of Environmental Services (NHDES) is writing this letter of support for the Hampstead Area Water Company's (HAWC) Petition for approval of financing for costs directly related to and necessitated by the Southern New Hampshire Regional Water Project.

The Southern New Hampshire Regional Water Project (SNHRWP) seeks to use Manchester Water Works as a supplemental source of supply for water systems serving the Towns of Windham, Salem, Atkinson, Hampstead and Plaistow. HAWC water users and rate payers will realize the following benefits as a result of the additional supply capacity provided by the SNHRWP.

1. Increased reliability of water supply. Some existing wells are experiencing declining yields.
2. Improved water quality by allowing HAWC to prioritize higher quality wells. Some wells have experienced increasing concentrations of regulated contaminants such as arsenic, radium, and alpha particles. HAWC will be able to serve a safer product to customers by taking their lowest quality wells offline and blending in regional water.
3. Reduction in system complexity by allowing HAWC to take up to ten of its existing 19 wells offline.
4. Ability to expand to address contamination and/or loss of water in private wells.

HAWC's participation in the SNHRWP is critical because the regional water supply must be wheeled through the HAWC water system in order to serve the Town of Plaistow. The Town of Plaistow has no alternative source of water supply.

Please note that the New Hampshire Drinking Water and Ground Water Trust Fund (the Trust Fund) is providing a grant for HAWC's construction costs necessitated by and solely related to the SNHRWP. In addition, costs HAWC will incur as a result of the SNHRWP, including but not limited to, operation and maintenance, bulk water purchase and tax liabilities will be offset in part by wholesale water sales to the Town of Plaistow. In view of the foregoing, NHDES believes that

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Debra A. Howland
October 25, 2019
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Page 2 of 2

HAWC's Petition is in the best interests of its customers as it will enable the company to continue to provide safe and reliable service at just and reasonable rates, and to play a critical role in the SNHRWP.

In summary, NHDES supports HAWC's request for financing for costs directly related to and necessitated by the Southern New Hampshire Regional Water Project.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert R. Scott", written in a cursive style.

Robert R. Scott

cc: Charlie Lanza, General Manager, HAWC

Hampstead Area Water Company
DW 20-117

Date Request Received: 1/5/2022
Request No. DOE 1-6

Date of Response: 1/21/2022
Witness: Karen Steele

REQUEST:

Re: Page 8, lines 12-15

The pipeline project determined that Plaistow needed both a 400,000 gallon tank in Plaistow and a 500,000 gallon tank in Atkinson. Both these tanks were paid for with funds from the state. But then HAWC made the decision to increase the Atkinson tank from 500,000 gallons to 1 million gallons and took on the additional expense of \$1 million.

- a. Please describe your general understanding of how the decision to build a larger tank in Atkinson, half of which would serve Plaistow, was made; and
- b. Your general understanding of how the decisions about who would bear any associated costs were made; and
- c. Your source(s) of information in these regards.

RESPONSE:

I've not seen a cost/benefit analysis or anything quantitative to demonstrate or justify how the decision was made to increase the tank from 500,000 gallons to 1 million gallons and to justify the additional ~\$1 million in spend. Benefits quoted by HAWC appear qualitative and not quantitative. HAWC's response to Atkinson 5-26 referenced responses to Staff 2-32c & Staff 3-27a. Even in these responses, there is no quantitative justification or cost/benefit analysis. In fact in the "tank email" referenced in the response to Staff 3-27a, Thomas Page of Underwood Engineering appear to be recommending a smaller tank in Atkinson:
"We're considering if the Atkinson tank could or should be smaller and would like to discuss."

For historical perspective, in the November 4, 2008 hearing for the Atkinson-Hampstead Interconnection (docket DW 08-088), there was no cost/benefit analysis despite repeated questioning of Harold Morse, HAWC President, by intervenors. Please see attached doc called "DOE 1-6 -- Interconnection" for snippets of the testimony as well as the actual testimony doc attached (DOE 1-6 -- 08-088 2008-11-20 TRANSCRIPT of 11-04-08 HEARING). Mr. Morse confirmed there was no dollar value for the benefits of the interconnection. When asked "How would you then justify spending \$1.1 million to obtain benefits that might not be worth \$10?" Mr. Morse replied with "From years of experience in operating a water system."

This appears to be how the decision was made to increase the Atkinson tank from 500,000 to 1 million gallons "From years of experience in operating a water system" as I am unable to find any documentation quantifying the benefit justifying the spend.

HAWC appears to have a much bigger vision and plan that is not always shared. For example, in Docket DW 19-031, for the purpose of supplying water to the Kelly Green condo development in Sandown, HAWC requested a much larger franchise area which included significant portion of the Hampstead/Sandown border. This was around the time of the Large Groundwater Withdrawal permitting process for Angle Pond Well #3 in Hampstead, very near the Sandown border. Hampstead folks were questioning why so much water was being requested to be pumped at Angle Pond, 230,000 gallons/day which was roughly the same amount of all HAWC's Hampstead water consumption at the time. I cautioned my Hampstead friends that if the large franchise request in Sandown were approved, the next request would be for an interconnection between Hampstead and Sandown and Hampstead water could possibly be flowing to Sandown. This was a very sensitive topic as Kent Farm Wellfield over pumping was already impacting private wells of Hampstead residents. When the PUC rejected HAWC's larger franchise request and only granted the area around the condo project, HAWC appealed to the PUC to reconsider as "this proposed franchise expansion allows HAWC to connect its Hampstead and Sandown franchises should a regional connection be necessary." Please see the documents attached called "DOE 1-6 -- Sandown" and the DW 19-031 response.

Another example where quantitative data, calculations or HAWC's "plan" is not shared is the source of water for the Sawmill Ridge development. When Lewis Builders proposed this development on January 21, 2015, they indicated that "Hampstead Area Water Co. will provide the water service. There are no proposed wells." This was the narrative until 14 months later when an abutter asked about the 2 wells HAWC drilled at Sawmill Ridge. On April 20, 2016, "Mr. Manning also explained that the applicant has drilled two wells for the Sawmill Ridge project and neither can produce a significant amount of water." It's very concerning that these 2 wells could not produce a significant amount of water as they are 2 of the deepest wells ever drilled in Atkinson -- 1,000 and 1,100 feet deep (DOE 1-6 -- Sawmill Ridge). Perhaps if the wells at Sawmill Ridge produced more water, the pumping volume at Kent Farm Wellfield would not have increased so significantly, impacting private homeowners' wells?

- a) Decision appears to be made based on their years of experience managing a water company as I'm unable to find quantitative justification.
- b) Decision appears to be made based on their years of experience managing a water company as I'm unable to find quantitative justification.
- c) My inability to find quantitative justification and historical HAWC dockets and activity.

RE: SNHRWP and HAWC

1 message

Unger, Michael <Michael.C.Unger@des.nh.gov>
To: Doug B <douglas.brogan@gmail.com>
Cc: "Laflamme, Jayson" <Jayson.P.Laflamme@energy.nh.gov>, "Tuomala, Christopher" <Christopher.R.Tuomala@energy.nh.gov>, "Holmes, Erin" <Erin.L.Holmes@des.nh.gov>

Mon, Feb 21, 2022 at 9:01 AM

Doug,

The following additional memos and emails (attached) should help fill in some of the gaps in the evolution of tank sizing. Answers to your specific questions are in red italics below.

- 12/22/17 "Hydraulics and Alternatives Analysis – East Derry Route – Plaistow Water Feasibility Study" memo by Underwood Engineers. Assumed a 2.0 MG tank in Atkinson based on 1.0 MG storage for HAWC per their request and 1.0 MG for Plaistow per an Underwood report dated February 18, 2016.
- 2/20/2018 "Water Supply Option from Haverhill – Plaistow Water Feasibility Study" draft memo by Underwood Engineers. Recommended 0.8 MG if all storage in Plaistow.
- 2/27/2018 email from HAWC to Weston & Sampson forwarded to NHDES stating HAWC had an immediate need for the proposed 1 MG tank in Atkinson.
- 5/10/2018 NHDES meeting with HAWC. Notes reference discussion of cost sharing for Atkinson tank because "HAWC is getting a more robust system to satisfy their needs. That's why they would be contributing also."
- 6/10/18 Letter from NHDES to HAWC. References a 1.0MG tank in Atkinson.
- 10/24/18 "Town of Plaistow, NH – Proposed Potable Water System Basis of Design for Appropriation Budgeting" memo by Weston & Sampson. Proposed 0.4MG tank in Plaistow.
- 10/22/18 "Peer Review – Plaistow Regional Water Improvements" memo by Underwood Engineers. Concurred the proposed tank volume of 0.4 MGD is acceptable assuming additional storage available in Atkinson.

Please let me know if you have any other questions.

Mike

Michael C. Unger, PE

Water Engineer | Drinking Water and Groundwater Bureau | New Hampshire Department of Environmental Services

603-271-0779 | michael.unger@des.nh.gov

Learn more: <https://www4.des.state.nh.us/nh-dwg-trust/> and www.des.nh.gov

From: Doug B <douglas.brogan@gmail.com>
Sent: Tuesday, February 8, 2022 8:17 AM
To: Unger, Michael <Michael.C.Unger@des.nh.gov>
Cc: Laflamme, Jayson <Jayson.P.Laflamme@energy.nh.gov>; Tuomala, Christopher <Christopher.R.Tuomala@energy.nh.gov>
Subject: SNHRWP and HAWC

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

I'm doing engineering consulting for the NH Department of Energy in relation to water cases before the Public Utilities Commission (for background, I worked at the PUC for over 20 years before retiring in 2012). Hampstead Area Water Company (HAWC) filed a rate case in late 2020 in which Southern NH Regional Water Project (SNHRWP or Project) costs are playing a significant role. The case is nearing completion, with a final hearing scheduled next month. Intervenor are opposing the proposed rate increases.

While generally familiar with the Project, its facilities in Atkinson and Hampstead, the need to provide water to Plaistow, etc., there are a few points I'm hoping you can help clarify regarding Project-related atmospheric storage. So you're aware, I've reviewed the following documents:

- Dec 22, 2017 Underwood Hydraulics and Alternatives Analysis - East Derry Route - Plaistow Water Feasibility Study
- Nov/Dec 2017 email thread (attached) provided by HAWC and involving Bruce Lewis and Underwood, with thoughts on sizing of the Atkinson tank
- 2018 Memorandum of Understanding
- 2019 Southern Interconnect Agreement (SIA)
- Jan 4, 2019 Weston & Sampson Regional Supply Basis of Design - FINAL (Attachment A to SIA)
- Jan 7, 2019 Weston & Sampson Hampstead Area Water Company (HAWC) - Chloramine Study - FINAL (Attachment B to SIA)

I'm particularly interested in understanding the evolution of tank sizing and cost sharing decisions in relation to Atkinson and Plaistow. The 2017 Underwood report mentions alternatives including either a single 2MG tank in Atkinson serving both towns (with a future tank in Plaistow as a possibility), or a 1MG tank in each town. The 2017 email thread appears to consider reducing the Atkinson tank down to 1MG. What was ultimately constructed, as you know, was a 1MG tank in Atkinson and a 0.4MG tank on Sweet Hill Road in Plaistow, with half of the Atkinson tank also providing storage for Plaistow.

Although offering little factual support for her statement, one party in the rate case has asserted the following, based in part on her interpretation of the 2017 email thread:

The pipeline project determined that Plaistow needed both a 400,000 gallon tank in Plaistow and a 500,000 gallon tank in Atkinson. Both these tanks were paid for with funds from the state. But then HAWC made the decision to increase the Atkinson tank from 500,000 gallons to 1 million gallons and took on the additional expense of \$1 million.

However, as the email thread and 2017 Underwood report occurred about the same time, and based on the context of the email's references to a 'smaller tank', it again seems clear to me that Underwood was contemplating reducing the size of the Atkinson tank down (from 2MG?) to 1MG.

So the first few questions:

1) Can you comment specifically on whether a smaller tank (less than 1MG) was ever considered in Atkinson? *NHDES does not have any record, and I do not have any personal knowledge, of HAWC ever considering a smaller tank in Atkinson. To the best of my knowledge, 2.0MG and 1.0MG were the only sizes considered.*

2) In DES's view, would it have made sense to construct a tank in Atkinson solely for Plaistow's needs, without considering HAWC's storage needs as well? *If HAWC did not have their own storage needs in Atkinson, Plaistow*

would have constructed and owned all of its storage within the Town of Plaistow. The evaluation of Plaistow interconnecting with Haverhill (Underwood memo dated 2/20/18) is a good example of this scenario; all of Plaistow's storage was assumed to be located within the Town of Plaistow.

3) Were the numbers in the email thread the final basis for sizing the Atkinson tank? If not, do you know what those numbers were? *In addition to the email thread, two engineering studies comment on the final tank sizing. "Town of Plaistow, NH – Proposed Potable Water System Basis of Design for Appropriation Budgeting" by Weston & Sampson dated 10/24/2018 established the basis for a 0.4MG tank in Plaistow. "Peer Review – Plaistow Regional Water Improvements" by Underwood Engineers dated 10/22/2018 concurred "The proposed tank volume of 0.4 MGD is acceptable assuming additional storage is available in Atkinson. This requires future improvements to improve hydraulics" (p. 20, underline mine). NHDES is not aware of any engineering studies commissioned by HAWC to independently evaluate HAWC's storage needs.*

4) In a broader sense, are you able to fill in any of the details beyond the basics above, on how the need for, and sizing of, the two tanks evolved during Project planning and design; who made or provided input into those decisions; etc.? *The additional memos and emails attached and listed above should help fill in some of the gaps in the evolution of tank sizing. To the best of my knowledge the progression of alternatives that were evaluated was 1) One 2.0MG "shared" tank in Atkinson to provide 1MG storage for HAWC and 1MG storage for Plaistow. 2) One 1.0MG tank in Atkinson for HAWC and 1.0MG tank in Plaistow for Plaistow. 3) One 0.4MG tank in Plaistow for Plaistow and one 1.0MG "shared" tank in Atkinson to provide 0.5MG storage for HAWC and 0.5MG storage for Plaistow. The total volume was reduced due to concerns over water age / insufficient turnover possibly leading to water quality issues. Providing some storage in Plaistow was determined to be cost effective compared to a large diameter transmission main from Atkinson.*

On the money side, DWGTF grant funding in relation to the 1MG Atkinson tank was based on 25% of HAWC's half of the tank plus 100% of Plaistow's half, yielding 62.5% total grant funding for the cost of the tank (with the balance funded by a DWGTF loan).

So a couple questions in that regard:

5) What was the rationale or basis for only funding 25% of HAWC's portion as a grant? *The average grant awarded by the Drinking Water and Groundwater Advisory Commission in its review of 2018 funding applications was approximately 25%. HAWC's portion of the storage tank fit the mold of a "typical" Trust Fund construction project (i.e. improvements to an existing public water system to improve reliability and operations but not addressing contamination). Therefore, NHDES when discussing the project with HAWC, and the Advisory Commission when approving grant funding, viewed HAWC's portion of the tank (50%) as a separate project from Plaistow's portion and applied the considerations the Commission used to evaluate any other funding application. For simplicity, NHDES entered into a single grant agreement with HAWC that incorporated both 100% of Plaistow's portion and 25% of HAWC's portion.*

6) Was 100% grant funding ever anticipated for a tank in Atkinson and if so, for what size tank? *Since Plaistow required water storage to convert its fire suppression system to a potable water system and thereby address drinking water contamination in Plaistow, the costs to construct that storage were considered 100% eligible for funding under the Southern NH project. If all of Plaistow's storage had been constructed in Atkinson, it would have been eligible for 100% reimbursement under the Project. However, water storage for HAWC's needs was not necessary to implement the Southern NH project and was not eligible for 100% reimbursement.*

Although time is limited on my end given approaching deadlines, let me know if there are other reports I should look at, or if I need to contact Erin Holmes directly in regard to funding questions.

An email response would be a strong preference, as it could readily be attached to my testimony or otherwise shared with others as needed. But I am certainly available for a call or meeting if more convenient.

I'm copying Jayson Laflamme and Attorney Chris Tuomala, both of whom I work under at the Department of Energy, on this email for their information as well.

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Exhibit DWB-4
Page 4 of 4

Thank you,

Doug Brogan

7 attachments

-  **Plaistow Regional Water UE Review Draft 22Oct2018 reduced.pdf**
5850K
-  **Email - HAWCs need for water.pdf**
103K
-  **HAWC letter (6-20-18).pdf**
106K
-  **Plaistow Haverhill interconnection study UE 2-20-18.pdf**
9762K
-  **Plaistow - Basis of Design for Appropriation Budgeting W&S 10-24-18.pdf**
561K
-  **DES-HAWC Coordination Mtg notes (5-10-18).pdf**
112K
-  **Plaistow - Hydraulics East Derry Route memo with attachments (12-22-17) red.pdf**
9639K

Charlie Lanza

From: Joshua Manning <Joshua@LewisBuilders.com>
Sent: Monday, June 21, 2021 2:23 PM
To: Charlie Lanza
Subject: FW: Water Tank

Thanks,

-Josh Manning

From: Ryan Connor <rconnor@hampsteadwater.com>
Sent: Tuesday, December 5, 2017 4:18 PM
To: Joshua Manning <Joshua@LewisBuilders.com>
Subject: FW: Water Tank

From: Thomas Page [<mailto:tpage@underwoodengineers.com>]
Sent: Tuesday, December 5, 2017 4:10 PM
To: lewis.h2o@comcast.net
Cc: Ryan Connor <rconnor@hampsteadwater.com>; 'Thomas Page' <tpage@underwoodengineers.com>; 'Michael C. Unger' <munger@underwoodengineers.com>
Subject: RE: Water Tank

Bruce, Ryan

We've been running some water age models. The biggest impact to water age comes from the size of the storage tank(s). We're considering if the Atkinson tank could or should be smaller and would like to discuss.

This a potential basis for sizing the Atkinson tank that can justify a smaller tank. If Plaistow ever really took off long term a future tank could be added on Sweet Hill.

Item	Basis	Amount
Equalization storage	HAWC average daily flow 0.37 MGD * 20%	0.074 MGal
Equalization storage	Plaistow average daily flow 0.31 MGD * 20%	0.062 MGal
Emergency storage	HAWC ADF	0.37 MGal
Fire flow storage	3500 gpm for 3 hours (Plaistow worst case)	0.63 MGal
Total storage needed	Round up	1.2 MGal
Existing storage in HAWC	Smith tank	0.5 MGal
New storage needed	Round up to	1.0 MGal

We modeled this with the Atkinson tank level controlling flow into HAWC from Derry, since the Smith tank is the first to fill with each cycle. That forces the Atkinson tank to turnover more.

This assumes a good hydraulic connection between the tanks, including upgrading the 8" sections to 16".

We can discuss more tomorrow or Friday
Thanks Tom

From: Bruce Lewis [<mailto:lewis.h2o@comcast.net>]
Sent: Wednesday, November 22, 2017 3:51 PM
To: 'Thomas Page' <tpage@underwoodengineers.com>
Subject: RE: Water Tank

Tom:

Floor of tank will be USGS 396' Full Tank Level will be USG 437' matching Smith Hill.

Basic tank with some appurtenances \$1.3 mill.. NO site work, or related costs in this preliminary estimate from Chris H. at DN.

Bruce W. Lewis, Manager

Lewis Engineering
44 Stark Lane
Litchfield, NH 03052
Office 603-886-4985
Cell 603-493-1619
lewis.h2o@comcast.net



Please read & consider saving electronically & not printing this email

1 John 4:8



From: Thomas Page [<mailto:tpage@underwoodengineers.com>]
Sent: Wednesday, November 22, 2017 3:23 PM
To: 'Michael C. Unger' <munger@underwoodengineers.com>; lewis.h2o@comcast.net
Cc: 'Ryan Connor' <rconnor@lewisbuilders.com>
Subject: Water Tank

Ryan, have you contracted or received budget quotes from DN tank for a new concrete tank in Atkinson? I wanted to check first before so as to not duplicate efforts.
Also, I recall discussing a potential base elevation for the tank back on October 18 at your office but can't find a number in my notes.

Thanks Tom

From: Michael C. Unger [<mailto:munger@underwoodengineers.com>]
Sent: Tuesday, November 21, 2017 5:17 PM
To: lewis.h2o@comcast.net
Cc: 'Ryan Connor' <rconnor@lewisbuilders.com>; Thomas G. Page <tpage@underwoodengineers.com>
Subject: RE: HDPE / DI

Thank you Bruce



Michael C. Unger, P.E.
Sr. Project Engineer
Underwood Engineers
25 Vaughan Mall
Portsmouth, NH 03801
(603)436-6192

From: Bruce Lewis [<mailto:lewis.h2o@comcast.net>]
Sent: Tuesday, November 21, 2017 2:30 PM
To: 'Michael C. Unger' <munger@underwoodengineers.com>
Cc: Ryan Connor <rconnor@lewisbuilders.com>
Subject: FW: HDPE / DI

Mike:

Information for you from Ryan at HAWC.

SDR 11 HDPE (160 psi working pressure) in 16" diameter has an ID of 14" and from the Web. C = 155. It can be purchased in 50' lengths.

Thanks,

Bruce W. Lewis, Manager
Lewis Engineering
44 Stark Lane
Litchfield, NH 03052
Office 603-886-4985
Cell 603-493-1619
lewis.h2o@comcast.net



Please read & consider saving electronically & not printing this email

1 John 4:8



From: Ryan Connor [<mailto:rconnor@hampsteadwater.com>]
Sent: Tuesday, November 21, 2017 11:20 AM
To: lewis.h2o@comcast.net
Subject: HDPE / DI

Bruce,
The I.D. of 16" HDPE is 14.047"
It comes in 50' lengths



*A division of Lewis Builders
Development*

Ryan Connor

Project Manager • Hampstead Area Water Services, Co.

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direct. 603-362-1920 Cell- 603-290-2275
email. rconnor@hampsteadwater.com
54 Sawyer Ave
Atkinson, NH 03811

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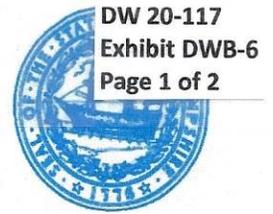
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The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

March 6, 2019

Debra A. Howland, Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

NHPUC 7MAR'19PM1:45

Re: DW-18-138 Hampstead Area Water Company Atkinson Water Storage Tank

Dear Ms. Howland:

The New Hampshire Department of Environmental Services (NHDES) is writing this letter of support for the Hampstead Area Water Company's (HAWC) Petition for approval of financing for the Atkinson Water Storage Tank, as well as a step increase to recover debt costs.

The HAWC water system currently includes two primary water storage tanks -- the Smith Mountain Tank in northern Hampstead and the Sawyer Avenue Tank in southern Atkinson. The existing Sawyer Avenue Tank in Atkinson is buried with pumped storage. If the pumps fail, the stored water is not available to the system. Construction of the proposed gravity storage tank in Atkinson will improve HAWC's ability to provide safe and reliable service to its customers by:

1. Providing more stable pressures in the southern part of the system, which will now be maintained by the water level in the tank independent of the number of wells in operation and their flow rates.
2. Allowing wells to pump at a more constant, sustainable rate, which will reduce wear and tear on mechanical and electrical equipment. Currently wells in the south have to ramp up to meet peak demands.
3. Reducing system complexity by providing storage for peak demands. Currently, operators have to open and close valves and increase well flow rates manually to balance flows and pressures in different parts of the system based on fluctuating demands.
4. Increasing fire storage volume.
5. Increasing fire flow rates, especially in the southern part of the system.

In addition to the above-stated benefits to HAWC's system, the proposed Atkinson Tank will provide added benefits to the Southern New Hampshire Regional Water Project (SNHRWP), which seeks to use Manchester Water Works as a supplemental source of supply for water systems serving the Towns of Windham, Salem, Atkinson, Hampstead and Plaistow. The proposed Atkinson Tank is a necessary part of the SNHRWP as it will enable HAWC to make one half of the volume of water from the proposed Atkinson Tank available for purchase by the Town of Plaistow when Plaistow establishes a municipal water system.

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By combining efforts, both HAWC and the SNHRWP are taking advantage of an economy of scale. The cost per unit volume is less for a larger tank than for two smaller tanks. Duplication of effort and common costs such as site work are reduced and, as a result, HAWC's rate payers will realize the same benefit from the proposed Atkinson Tank at a lower cost than if HAWC were to construct the tank independently.

Furthermore, HAWC water users and rate payers will realize the following benefits as a result of the additional supply capacity provided by the SNHRWP.

1. Increased reliability of water supply. Some existing wells are experiencing declining yields.
2. Improved water quality by allowing HAWC to prioritize higher quality wells. Some wells have experienced increasing concentrations of regulated contaminants such as arsenic, radium, and alpha particles. HAWC will be able to serve a safer product to customers by taking their lowest quality wells offline and blending in regional water.
3. Reduction in system complexity by allowing HAWC to take up to ten of its existing 19 wells offline.
4. Ability to expand to address contamination and/or loss of water in private wells.

Please note that although the New Hampshire Drinking Water and Groundwater Trust Fund (the Trust Fund) is providing funds to HAWC for the proposed Atkinson Tank in the form of a loan, the Trust Fund will provide a grant for HAWC's construction costs necessitated by and solely related to the SNHRWP. In addition, costs that HAWC will incur as a result of the SNHRWP including, but not limited to, operation and maintenance, bulk water purchase, and tax liabilities will be offset, in part, by wholesale water sales to the Town of Plaistow. In view of the foregoing, NHDES believes that HAWC's Petition is in the best interests of its customers as it will enable the company to continue to provide safe and reliable service at just and reasonable rates, and to play an important role in the SNHRWP.

In summary, NHDES supports HAWC's request for financing construction of the Atkinson Water Storage Tank.

Sincerely,



Robert R. Scott
Commissioner