THE STATE OF NEW HAMPSHIRE

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December 6, 2018

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

NHPUC 6DEC'18AM11:19

Re:

DW 17-165, Abenaki Water Company, Inc. - Rosebrook Division

Request for Change in Rates

Staff Recommendation on Step Increase

Dear Ms. Howland:

The purpose of this letter is to offer Commission Staff's (Staff) recommendation with respect to a proposed step adjustment (Step 1) agreed to in the Settlement Agreement – Permanent Rates and Step Adjustments (Settlement Agreement) between Abenaki Water Company, Inc. – Rosebrook Division (Rosebrook or the Company), Staff, and the Office of the Consumer Advocate (OCA) (collectively Settling Parties), filed on November 5, 2018, and amended on November 14, 2018.

At the time the Settlement Agreement was filed, the costs associated with Rosebrook's Step 1 adjustment for capital additions added to plant in service from October 2017 through September 2018 had not yet been examined by the Commission's Audit Staff (Audit). The Settling Parties agreed that prior to the issuance of a Commission order approving the Settlement Agreement, Audit would perform an examination of the costs of those capital additions and issue a final report of its findings. The Settlement Agreement further stated "[i]f that report reveals a material difference between the actual underlying costs of those assets and the asset costs upon which the proposed step adjustment is based, an appropriate adjustment in the proposed Step 1 adjustment shall be recommended by Staff to the Commission for approval." Exhibit 11 at 7 (November 14, 2018).

On November 30, 2018, Audit submitted its Final Audit Report related to the assets Step 1 is based upon. As a result of its review, Audit determined that the Step 1 costs agreed to in the Settlement Agreement of \$72,243 should be reduced by \$5,820, producing a

new total of \$66,423. Final Audit Report at 7 (November 30, 2018). Staff determined this reduction demonstrates a material difference between the actual underlying costs of those assets and the asset costs upon which the proposed step adjustment included in the Settlement Agreement was based upon. Staff, therefore, recommends that the proposed Step 1 adjustment be lowered, to reflect the \$5,820 reduction to plant in service, and approved by the Commission.

Within the Settlement Agreement, the October 2017 through September 2018 plant in service is detailed on Attachment B, Schedule 3. Settlement Agreement – Permanent Rates and Step Adjustments: Attachments at 17 (November 5, 2018). Applying the \$5,820 reduction to plant in service also reduces the Annual Depreciation, Accumulated Depreciation, and State and Local Property taxes in Attachment B, Schedule 3. The figures included in Attachment B, Schedule 3, are used in the calculation of the Revenue Requirement, detailed on Attachment B, Schedule 1. *Id.* at 15.

The Settlement Agreement's originally proposed Revenue Requirement for Step 1 was \$15,043. *Id.* The revised Revenue Requirement for Step 1 is \$13,727, a \$1,316 reduction, as shown in the attached Revised Attachment B, Schedule 1. The adjustment to Step 1 amends the proposed revenue requirement percentage increase to 4.97 percent, as shown in the attached Revised Attachment A, Schedule 1. This is a 0.47 percent reduction from the Settlement Agreement's originally proposed 5.44 percent Step 1 revenue requirement increase. Settlement Agreement – Permanent Rates and Step Adjustments: Attachments at 1 (November 5, 2018).

The Step 1 adjusted revenue requirement of \$13,727, combined the annual permanent rate increase of \$64,736, results in a proposed \$354,799 annual revenue requirement for Rosebrook; that represents a proposed annual increase of \$78,464, or 28.40 percent, in Rosebrook's *pro forma* test year water revenues of \$276,335. Revised Attachment A, Schedule 1.

The reduction in the Revenue Requirement of \$1,316 does not change the proposed monthly meter rates; the reduction, however, does lower the proposed consumption charge by \$.03 per 1,000 gallons of water, from \$6.30 per 1,000 gallons (Settlement Agreement – Permanent Rates and Step Adjustments: Attachments at 22 (November 5, 2018)) to \$6.27 per 1,000 gallons (Revised Attachment B, Schedule 4). Thus, the new proposed consumption rate is a \$0.94, or 17.64 percent, increase from the Rosebrook customer's present volumetric rate of \$5.33 per 1,000 gallons of water.

As a result of the Step 1 adjustment, an average residential customer will experience an approximate \$6.32 per month, or \$75.84 annual increase.

In conclusion, Staff recommends that the Commission approve the Step 1 adjustment as updated based on Audit's findings as well as the resulting rates as detailed above.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Robyn J. Descoteau
Robyn J. Descoteau

Utility Analyst, Gas & Water Division

Enclosures: Commission Staff's Audit Report issued November 30, 2018

Settlement Attachment A, Schedule 1, revised 12/4/18

Settlement Attachment B, Schedules 1, 2, 3 and 4, revised 12/4/18

Settlement Attachment C, Schedule 4, revised 12/4/18

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

Executive.Director@puc.nh.gov amanda.noonan@puc.nh.gov anthony.leone@puc.nh.gov cellms@omnihotels.com Christopher.tuomala@puc.nh.gov donald.kreis@oca.nh.gov f.anne.ross@puc.nh.gov james.brennan@oca.nh.gov jayson.laflamme@puc.nh.gov mab@nhbrownlaw.com ocalitigation@oca.nh.gov pdoucette@newenglandservicecompany.com pluongo@plymouthrock.com pmueller@comcast.net pradip.chattopadhyay@oca.nh.gov robyn.descoteau@puc.nh.gov rosebrook.president@gmail.com stacey.burgess@mclane.com stephenpstcyr@yahoo.com steve.frink@puc.nh.gov thomas.getz@mclane.com viggo.fish@mclane.com

Docket #: 17-165-1 Printed: December 06, 2018

FILING INSTRUCTIONS:

a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:

DEBRA A HOWLAND EXECUTIVE DIRECTOR

EXECUTIVE DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429

- b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.
- c) Serve a written copy on each person on the service list not able to receive electronic mail.

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: November 30, 2018 **AT (OFFICE):** NHPUC

FROM: Krista Leigh, Examiner

SUBJECT: Abenaki Water Company Inc., AWC-Rosebrook Division

DW 17-165 Step Adjustment #1

FINAL Audit Report

TO: Steve Frink, Director, Gas/Water Division

Jayson Laflamme, Assistant Director, Gas/Water Division

Robyn Descoteau, Utility Analyst

Introduction

As contemplated in docket DW 17-165, Abenaki Water Company, Inc. (AWC), Rosebrook Division (AWC-Rosebrook) has requested Commission approval of a step increase resulting from assets added to plant in service from October 2017 through September 2018. An audit of the test year ended 9/30/2017 was conducted, with a final report issued on 9/6/2018.

The assets proposed for inclusion in the step adjustment were originally included in the rate case filing, summing to \$210,000. An update to the step assets was provided in response to data request #Tech 1-8 on 9/6/2018, summarized below:

<u>1</u>	<u>10/2017 – 12/2017</u>	1/2018 - 9/2018	TOTAL
#311 Well I Replacement	\$ -0-	\$ 34,768.06	\$ 34,768.06
#333 Services and Renewals	506.25	13,115.99	13,622.24
#335 Hydrants and Install.	-0-	8,354.87	8,354.87
#343 Tools/Shop/Garage Eq.	-0-	909.24	909.24
#347 Website Design	1,066.71	-0-	1,066.71
#347 Purchase/Install SCADA	-0-	2,098.17	2,098.17
#347 NH Server	-0-	689.16	689.16
SCADA on or about 9/20/2018	-0-	10.735.00	10,735.00
	<u>\$1,572.96</u>	\$ 70,670.49	\$ 72,243.45

Affiliate Agreement

The Affiliate Agreement between New England Service Company (NESC) and AWC-Rosebrook was provided, effective as of September, 2017.

Below is the list of the scope of services and provisions to be provided by NESC to AWC-Rosebrook and includes the following:

- 24/7 stand-by work for emergencies or unexpected and non-scheduled work
- Meter reading on a monthly, quarterly or as needed basis
- Regulatory and compliance reporting
- Monitoring water quality and systems oversight and services
- Shut-offs or turn-ons of water services
- Valve exercising and flushing of mains
- Resolving on-site water and service issues
- Ongoing cross connection inspections
- Miscellaneous customer service issues
- Other routine, periodic and related tasks as necessary

The following schedule of charges rendered by NESC and paid to NESC by AWC-Rosebrook for the agreement dated January 1, 2017 are as follows:

- a) Regular Work Hours Operator @ \$75 per hour
- b) NH Administrative Support/Accounting @ \$60 per hour
- c) Overtime Work Hours (usually for emergency and unplanned jobs) @ \$112 per hour (\$75 x 1.5)
- d) All other labor to be billed at cost

Basis for Cost Allocation

Audit inquired about the percentages used to allocate invoicing costs among the four divisions that comprise AWC. AWC-Rosebrook uses a 60% of cost allocation. The following is a statement from AWC-Rosebrook regarding the basis for the allocation of invoicing costs:

"The allocations used on the invoices are based on the amount of customers per the water system. It is a customer based expense rather than a rate base expense. Rosebrook has the largest number of customers 410, Lakeland at 161 and White Rock at 95."

E-22 Filing and Work Orders

Audit requested the filed E-22 form, pursuant to PUC 609.12 E-22 (Report of Proposed Expenditures for Additions, Extensions and Capital Improvements to Fixed Capital). This rule

requires that, "Each utility shall file an annual report of proposed expenditures for addition, extensions and capital improvements to fixed capital on or before May 15 of each year." AWC-Rosebrook stated that they did not file an E-22 and that they do not have any work orders associated with the plant additions proposed for the Step Adjustment. AWC-Rosebrook further provided the following statement:

"NESC doesn't usually use work orders. We communicate via email, meetings and telephone. We use our purchase orders to also serve as authorization to move forward with the cost/expenses." AUDIT ISSUE #1

Continuing Property Records (CPR)

Audit requested the CPR from AWC-Rosebrook and was provided with a depreciation schedule in lieu of a CPR. Audit noted that the depreciation schedule included the date that the asset was placed in service, as well as the cost basis of the asset, and noted this schedule to be sufficient.

Plant Additions

Services and Renewals, Account 333 \$13,622.24

2017 Labor Services	\$ 506.25
2018 Labor Services	 13,115.99
Total Services and Renewals	\$ 13,622.24

Audit verified the cost of the service labor, totaling \$506.25 in 2017 and \$13,115.99 in 2018, to labor invoices from NESC. The labor rates complied with the Affiliate Agreement between AWC-Rosebrook and NESC.

AWC-Rosebrook utilized labor services in 2017 and 2018, totaling 13,622.24, from New England Service Company (NESC) for the operation and treatment of pumping, gate valves, hydrant flushing, and testing equipment. Specifically, pH sampling and testing was performed for water purification, as well as chemical transfers involving the pumping equipment during October of 2017, as well as April and May of 2018. Of the \$13,622.24 in labor services, Audit questioned what appears to be a regular operating expense for the 47.5 hours of labor used in the Gate Valve Exercise Project, totaling \$2,540.30. AUDIT ISSUE #2

Audit requested the work order for the labor related to the Gate Valve Exercise Project. AWC-Rosebrook responded with the following:

"There is no specific work order for this project. It is standard within Abenaki Water that all Gate Valves are exercised once a year." AUDIT ISSUE #2

As a result of the audit work, the Services and Renewals should be adjusted as follows:

	<u>A</u>	s Proposed	•	As Audited
2017 Labor Services	\$	506.25	\$	506.25
2018 Labor Services		13,115.99		10,575.69
	<u>\$</u>	13,622.24	<u>\$</u>	11,081.94

Website Design, Account 347 \$1,066.71

2017 Website Design and Launch

\$ 1,066,71

Audit reviewed the 2017 charges incurred for the setup of a company website, wireless services related to the website's launch, as well as associated labor costs.

The Company provided a copy of the agreement between NESC and the website design vendor, SoSimple Interactive, signed on June 21, 2017. The agreement explains the website, design, and hosting services to be provided and the one-time cost of \$2,500 (per website for Colonial Water, Plymouth Water, Valley Water, and Abenaki Water) to be split over two payments with 50% due upon signing the contract and 50% due upon live launch of websites. The initial 50% was booked in September 2017, of which \$750 was allocated to Rosebrook. The initial cost was included in the rate base used in the DW17-165 rate case, despite the website being launched on 11/6/2017, after the test year end 9/30/2017. The 50% paid and included in the step coincides with the second invoice provided to Audit by AWC-Rosebrook. The invoice indicated that the second payment to SoSimple was for the completion of the design, setup, and live launch of the website, as well as the purchase and installation of a secure sockets layer (SSL) totaling \$1,550. Of that charge, 60% or \$930 is allocated towards the total that is subject to the step increase. Audit noted the inclusion of a \$25 sales tax, of which, AWC-Rosebrook assumed 60% for a total sales tax payment of \$15. AUDIT ISSUE #2

The 2017 labor services charges, totaling \$229, were provided by NESC for costs associated with the installation and launch of AWC-Rosebrook's website. Audit reviewed these invoices against the labor rates and they tie to the Affiliate Agreement. The amount proposed towards the step increase is \$137.48¹, or 60% of the total \$229 in labor charges.

As a result of the audit work, the Website Design should be adjusted as follows:

2017 Website Design and Launch

As Proposed

\$\frac{\text{As Audited}}{\text{\$\frac{1}{2}\text{066.71}}} \frac{\text{As Audited}}{\text{\$\frac{1}{2}\text{051.71}}}

¹ An inter-company adjusting entry was made for \$.77 to account 347, Website Design. This amount accounts for the variance between the \$1,066.71 included in the Tech 1-8 data request on 9/6/18 and the \$1,067.48 (\$930 SoSimple invoices plus the \$137.48 labor charges) total invoices audited.

SCADA and NH Server, Account 347 \$13,522.33

2018 Purchase and Install SCADA	2,098.17
2018 NH Server	689.16
2018 Additional Purchase and Install SCADA	10,735.00
Total Website Design	\$ 13,522,33

Audit reviewed the 2018 invoices for the purchase and installation of a SCADA (supervisory control and data acquisition) application. The system allows for the monitoring and ability to adjust a variety of flow controls. Charges related to this service include labor, totaling \$2,033.09, and a \$130.16 Verizon Wireless charge which includes a \$30 activation fee, a \$30 monthly data plan 4GB charge, a \$40 Jetpack/USB Line Access, and \$.16 in surcharges. Therefore, AWC-Rosebrook's 50% portion of the total setup charge for the SCADA is \$65.08.

Audit noted that of \$65.08 in Verizon Wireless charges allocated to AWC-Rosebrook, \$30 was charged in activation fees for the two lines used for the SCADA setup. Audit questioned the inclusion of an activation fee with the assets filed for the step adjustment. AWC-Rosebrook responded with the following explanation:

"The activation fee is not a fee that can be avoided with Verizon Wireless, it is applicable to any services started with Verizon Wireless and is a one-time charge that would not have been assessed if we did not need to establish wireless services for the SCADA systems."

Additionally, Audit noted that of \$65.08 in Verizon Wireless charges allocated to AWC-Rosebrook, \$35.08 was for monthly charges. AUDIT ISSUE #2

Audit requested clarification of a charge from NESC in the amount of \$70.68 booked on 4/30/2018. The Company indicated that the amount was keyed incorrectly to the billing system and should have been booked to 347-17-11-01, LMC. AUDIT ISSUE #2

Audit reviewed the 2018 invoices for the purchase of a server and monitor that were incurred as part of the computer equipment needed for the web design. Additionally, invoices totaling \$689.16 from NESC were reviewed for labor charges related to its installation. No exceptions were noted.

Audit questioned the estimated additional charges proposed by AWC-Rosebrook for the SCADA purchase and installation on September 28, 2018. The original estimate provided was for \$10,735 and to be spent on or about 9/20/18. However, AWC-Rosebrook providing Audit with an updated amount to the original estimate of additional charges for the SCADA purchase and installation, now totaling \$7,575.86. Specifically, the AWC-Rosebrook Station received installation for the PLC control panel for IQ SCADA and its connection to the existing station PLC to retrieve data and alarms.

Labor charges related to the SCADA installation and testing were reviewed. Audit selected four timesheets, totaling \$387.02, to sample for a detailed review. The timesheets were dated 11/6/17 and 3/13/18 and no exceptions were noted.

As a result of the Audit review, the SCADA and NH Server, Account 347 \$13,522.33 should be adjusted as follows:

	As Proposed	As Audited
2018 Purchase and Install SCADA	2,098.17	1,992.41
2018 NH Server	689.16	689.16
2018 Additional Purchase and Install SCADA	10,735.00	<u>7,575.86</u>
Total Website Design	\$ 13,522.33	\$10,257.43

Well 1 Pump Replacement, Account 311 \$34,768.06

Inspection and Materials	\$	33,117.00
Labor		1,651.06
Total Well 1 Pump Replacement	\$_	34,768.06

Audit reviewed the two invoices from FX Lyons that were provided by AWC-Rosebrook and related to the purchase and replacement of the Well 1 Pump, totaling \$33,117. Audit requested the proposal and change order referenced on invoice #026665, which reflects a total charge of \$29,142. AWC-Rosebrook provided the proposal, with material itemization, as well as the change order. Additionally, Audit questioned the \$3,975 total on the second invoice from FX Lyons, specifically inquiring about its relation to the AWC-Rosebrook Well 1 Pump replacement. AWC-Rosebrook responded with the following statement:

"The invoice from FX Lyons regarding the additional \$3,975 is from FX Lyons hiring the operator to overhaul the motor."

A total of \$1,651 in labor charges were provided by NESC for the installation and testing for the Well 1 Pump replacement. The rates reviewed tied to the Affiliate agreement and no exceptions were noted.

Audit sampled a labor invoice for further review, totaling \$106.27 dated 12/18/17. AWC-Rosebrook provided the timesheet that corresponds with the charge and no exceptions were noted.

Hydrants and Hydrant Installations, Account 335 \$8,354.87

Labor, Equipment, and Materials	\$ 8,354.87
Total Hydrants and Hydrant Installations	\$ 8,354.87

Audit reviewed the NESC labor invoices and sampled one amount for further analysis, which totaled \$134.79 and was dated 7/30/18. AWC-Rosebrook provided the timesheet that corresponds with the amount and no exceptions were noted.

Tools, Shop, and Garage Equipment, Account 343 \$909.24

Two invoices, totaling \$909.24, from Everett J. Prescott, Inc. were reviewed by Audit. The charges included tools and equipment for a Seat Wrench and a Hach Chlorine and pH Pocket Colorimeter. The Seat Wrench is used for hydrant work at AWC-Rosebrook and the Colorimeter is a tool used to test the chlorine and pH in the water. It maintains the history of the last ten readings.

Retirements

Audit requested the detailed listing of assets retired and any related Contribution in Aid of Construction (CIAC) which would have been impacted. AWC-Rosebrook reported one retirement of a Well 1 Pump for 2018 and confirmed that none of the assets are associated with CIAC. Audit questioned why the Well 1 Pump, listed on the provided depreciation schedule, was not recorded as retired. AWC-Rosebrook explained that they book all of their retirements at the end of the year. AUDIT ISSUE #3

Depreciation Expense

Depreciation rates and the use of half-year convention for newly added assets were confirmed and recalculated with no exceptions noted.

Conclusion

Based on the review of the general ledger, Audit has determined that the total of the step adjustment, as of 11/19/18, should be \$66,423.25 rather than the filed \$72,243.45:

		Company	Audit		
		TOTAL	TOTAL		<u>Variance</u>
#311 Well 1 Replacement	\$	34,768.06	\$ 34,768.06	\$	-
#333 Services and Renewals		13,622.24	11,081.94		2,540.30
#335 Hydrants and Install.		8,354.87	8,354.87		_
#343 Tools/Shop/Garage Eq.		909.24	909.24		-
#347 Website Design		1,066.71	1,051.71		15.00
#347 Purchase/Install SCADA		2,098.17	1,992.41		105.76
#347 NH Server		689.16	689.16		-
SCADA on or about 9/20/2018	_	10,735.00	<u>7,575.86</u>	_	3,159.14
	<u>\$_</u>	72,243.45	<u>\$ 66,423.25</u>	\$_	5,820.20

AUDIT ISSUE #1

No E-22 Filing or Work Orders Provided

Background

Audit requested the filed E-22 form from AWC-Rosebrook, per PUC 609.12, as well as work orders for any additions included in the step adjustment filing.

<u>Issue</u>

AWC-Rosebrook did not file an E-22 and they were not able to provide work orders, stating that, "NESC doesn't usually use work orders."

Recommendation

Audit recommends that AWC-Rosebrook file the appropriate E-22 form, as required of PUC 609.12. Moreover, Audit recommends that work orders or other written documentation be required for products and/or services scheduled.

Company Response

Abenaki Water Company was generally aware of the E-22 form. During initial rate case audit, it was understood this form was not commonly submitted.

Audit Response

Set forth in PUC 609.12, an E-22 form needs to be filed for proposed expenditures for additions, extensions, and capital improvements.

AUDIT ISSUE #2

Charges not related to the proposed step increase

Background

AWC-Rosebrook provided invoices and timesheets as supporting documentation relating to the additions made to plant for the SCADA.

<u>Issue</u>

AWC-Rosebrook appears to have included operational expenses, totaling \$2,540.30 in labor charges associated with the Gate Valve Exercise Project. Additionally, 60% of a \$25 sales tax charge, totaling \$15, along with \$35.08 of monthly charges from Verizon Wireless is not applicable for a step adjustment increase filing. There is also an amount of \$70.68 that AWC-Rosebrook indicated was keyed incorrectly and should therefore be booked to account #347-17-11-01.

Recommendation

Audit suggests removal of the following charges from the total amount proposed for the step increase:

Account 333, 2018 NESC Labor	\$	2,540.30
Account 347, SoSimple Tax Payment		15.00
Account 347, Verizon Wireless		35.08
Account 347, NESC		70.68
	<u>\$</u>	2,661.06

Company Response

Abenaki Water company is in agreement with all the adjustments for account 347 totaling \$120.76.

Abenaki Water Company is not in agreement with the reduction for account 333 in the amount of \$2,540.30. The Gate valve exercise project is an on-going project that consists of locating and identifying the valves. Abenaki has owned the Rosebrook Water System since October 2016. Many of the valves identified on the maps provided are not in the actual location stated and have to be located, tested, documented, and remapped to insure accuracy. The Service and Renewal project will be an on-going project until all gate valves have been identified, tested and marked in their appropriate locations on the maps.

Abenaki Water is requesting the \$2,540.30 variance remain in the capital account associated with the Service and Renewal Project making the total requested amount \$13,622.24 as originally requested and to update the audit report above.

Audit Response

Audit restates the issue based on the Company's response to Audit's request for work orders related to the Gate Valve Exercise Project: "There is no specific work order for this project. It is standard within Abenaki Water that all Gate Valves are exercised once a year."

AUDIT ISSUE #3

Recording plant retirements

Background

AWC-Rosebrook replaced the Well 1 Pump on 1/31/2018.

Issue

Although the Well 1 Pump was replaced in early 2018, the retirement of the replacement asset has yet to be recorded on the general ledger.

Recommendation

Audit recommends posting the retirement of the Well 1 Pump that was replaced in January 2018. Going forward, Audit recommends that retirement posting should be done immediately upon addition of plant replacement

Company's Response

So noted.

Audit's Response

Audit concurs with the Company's response.

DW 17-165 ABENAKI WATER COMPANY, INC. ROSEBROOK DIVISION PERMANENT RATES REVENUE REQUIREMENT - Revised 12/4/18

Proforma Rate Base (Sch 3; Col 9)	\$	594,422
Rate of Return (Sch 2)	×	7.56%
Operating Income Requirement		44,938
Less: Proforma Operating Income (Sch 4; Col 9)		(2,429)
Revenue Deficiency / (Surplus) Before Income Tax Effect		47,367
Divided by Income Tax Divisor (Sch 5)	+	60.59%
Tax Effected Revenue Deficiency / (Surplus)		78,179
Add: Proforma Annual Water Revenues (Sch 4; Col 9)	٠	276,335
Total Proposed Operating Revenue Requirement after Permanent Rates	\$	354,514
Revenue Deficiency Adjusted for 2018 Tax Change:		
Tax Effected Revenue Deficiency / (Surplus)	\$	78,179
Tax Rate Change Revenue Adjustment (Sch 4d)		(12,909)
Amortization of Excess Deferred Income Taxes		(534)
Amortization of Excess Deferred Tax Liability (Company Schedule)		
Adjusted Revenue Deficiency / (Surplus)	\$	64,736
Add: Proforma Annual Water Revenues (Sch 4; Col 9)	-	276,335
Total Proposed Tax Effected Operating Revenue Requirement after Permanent Rates	\$	341,071
Percentage Increase/Decrease in Annual Water Revenues after Permanent Rates		23.43%
Brancood Dovenius Dozwinsmont		
Proposed Revenue Requirement Increase Tax Effected Revenue Requirement after Permanent Rati \$ 341,071 \$ 64,736	Inc	23.43%
Step Increase I Revenue Requirement 13,727 13,727		4.97%
Totals for Initial Revenue Requirement 354,799 78,464		28.40%
Subsequent Step Increase II Revenue Requirement 9,986 9,986 Testals after Subsequent Step II Adjustment 9,986 9,986		3.61%
Totals after Subsequest Step II Adjustment \$ 364,784 \$ 88,449		32.01%
Proforma Annual Water Revenues ÷ \$ 276,335		
Percentage Increase in Annual Water Revenues 32.01%		

DW 17-165 ABENAKI WATER COMPANY INC ROSEBROOK DIVISION STEP I INCREASE - AUDITED REVENUE REQUIREMENT - Revised 12/4/18

Increase in Net Income Requirement:

2018 Plant Additions (Att B; Sch 3) Less: Accumulated Depreciation (Att B; Sch 3) Net 2018 Plant in Service	\$ 	66,423 (3,113) 63,310
Net 2018 Plant in Rate Base	\$	63,310
Rate of Return (Att B; Sch 2)	x	7.56%
Increase in Operating Income Requirement	\$	4,786
Net Increase in Operating Expenses:		
Annual Depreciation Expense for 2018 Plant Additions (Att B; Sch 3)	\$	6,223
Annual Income Tax Expense (Rate Base x 2.24%)		1,418
Property Tax Expense for 2018 Plant Additions (Att B; Sch 3)		1,300
Step Increase in Revenue Requirement	\$	13,727
Adjusted Test Year Water Sales (Att A; Sch 1)	\$	341,071
Percent Increase / (Decrease) in Revenue Requirement from Water Sales		4.02%

DW 17-165 ABENAKI WATER COMPANY INC ROSEBROOK DIVISION STEP I INCREASE - AUDITED WEIGHTED AVERAGE COST OF CAPITAL

	C	apital St	ructure	Cost of Debt						Weighted	
	Per Test	Year	Percent	Interest Rate @ 09/30/17		Annual Iterest*		nnual tizatìon **	 al Annual st of Debt	Cost Rate	Average Cost
Debt			<u>"</u> "				8				
2014 CoBank Loan, \$300,000	\$ 20	5,080	0.00%	3.68%	\$	7,547	\$	2,163	\$ 9,710	0.00%	0.00%
2016 CoBank Loan, \$400,000	38	7,201	0.00%	3.55%		13,746		128	13,874	0.00%	0.00%
Total Debt	593	2,281	40.00%		\$	21,293	\$	2,291	\$ 23,584	3.98%	1.59%
Common Equity											
Common Stock		100	0.00%								
Additional Paid in Capital	58	9,521	0.00%								
Retained Earnings	4	7,234	0.00%								
Total Common Equity		6,755	60.00%							9.95%	5.97%
Total Capitalization	\$ 1.22	9,036	100.00%								7.56%

^{*} Annual Interest calculation: Test Year balance x Interest Rate at 9/30/17

	Weighted Tax Effect Due to Use of Internal Cash						
	Weighted Cost	Tax Multiplier	Pre-Tax Cost	Tax Gross-up			
Debt:	1.59%	1.0000	1.59%	0.00%			
Equity:	5.97%	1.3744	8.21%	2.24%			
	7.56%	=	9.80%	2.24%			

^{**} Per response to Data Request: Tech 1-6

DW 17-165 ABENAKI WATER COMPANY INC ROSEBROOK DIVISION STEP I INCREASE - AUDITED COST ADDITIONS AND RETIREMENTS - Revised 12/4/18

2018 Plant Additions:

Account	Estimated Amount *	Depreciation Rate	Estimated Annual Depreciation	Estimated Accumulated Depreciation 12 mos 9/30/18	Estimated Net Plant in Service	Estimated State Property Taxes	Estimated Town Property Taxes	
311: Well 1 Pump Replacement	\$ 34,76	3 10.00%	\$ 3,477	\$ (1,739)	\$ 33,029	\$ 229	\$ 605	
333: Services & Renewals (2017)	50	2.50%	13	(7)	499	3	9	
333; Services & Renewals (2018)	13,110	2.50%	328	(164)	12,952	87	228	
335: Hydrant & Hydrant Install	8,35	1.90%	159	(80)	8,275	55	145	
343: Tools, Shop & Garage Equipment	90	5.30%	48	(24)	885	·	-	
347: SCADA System Estimate	10,73	20.00%	2,147	(1,074)	9,661	=	-	
347: Purchase & Install SCADA Extended	2,09	3 20.00%	420	(210)	1,888	3	-	
347: Website Design	1,06	7 20.00%	213	(107)	960	-	-	
347: NH Server	68		138	(69)	620			
* Estimate: Final invoices pending as of 9/27/18 Adjustments to estimated amounts per Audit	72,24		6,943	(3,474)	68,769	374	987	
Aujustinents to estimated amounts per Audit	Report Issued	1/30/16						
333: Services & Renewals (2018)	(2,54	0) 2.50%	(64)	32	(2,508)	(17)	(44)	
347: SCADA System Estimate	(3,15	9) 20.00%	(632)	316	(2,843)	-	-	
347: Purchase & Install SCADA Extended	(10	3) 20.00%	(21)	11	(95)	-	-	
347: Website Design	(1	5) 20.00%	(3)	2	(13)			
	(5,82	0)	(720)	361	(5,459)	(17)	(44)	
2	\$ 66,42	3	\$ 6,223	\$ (3,113)	\$ 63,310	\$ 357	\$ 943	

DW 17-165 ABENAKI WATER COMPANY INC ROSEBROOK DIVISION STEP I INCREASE - AUDITED CALCULATION OF RATES - Revised 12/4/18

Total Annual Water Revenues Proposed per Settlement (Sch 1)								\$ 354,799
Less: Fire Protection Revenues Municipal Private							\$ -	
Revenues from General Metered	Customers							\$ 354,799
Customer Charge Revenues:	Meter Size 5/8" Meter 5/8"X3/4" Meter 1" Meter 2" Meter 3" Meter 6" Meter	Att A, Sch 6 Adjusted Rate \$ 15.00 15.00 49.48 201.40 438.58 1,756.15	Percent Increase 0.00% 0.00% 0.00% 0.00% 0.00%	Propose Rate \$ 15. 15. 49. 201. 438. 1,756. (a)	00 00 48 40 58	Pro-forma # of Meters 107 254 46 2 3 1 413	Annual Revenues \$ 19,260 45,720 27,313 4,834 15,789 21,074 \$ 133,990	(133,990) 37.77%
Consumption Charge Revenues								\$ 220,809 62.23%
	Consumption Charge Revenues Total Proforma Annual Consumption (1,000 gals) Consumption Rate per Customer (per 1,000 gals) \$ 220,809 35,244 \$ 6.27							
	Total Proforma An	nual Consumptio	n (per 1,000 g	als)	X	35,244		(220,809)
Unallocated Water Revenues								<u> </u>
(b) Pro-forma Consumption:	2017 Actual Water Gallons Conversion to Cub Cubic Feet Conversion to CCI	ic Feet			+ . + .	35,243,804 7.48 4,711,411 100	47,114	
NEW RATE: Average usage for a Residential Customer per month: Meter charge			1.31	x 6.2	27 =	8.21 15.00 \$ 23.21	x 12 = x 12 =	\$ 98.52 180.00 \$ 278.52
OLD RATE: Average usage for a Residential Customer per month: Meter charge			1.31	x 5.3	33 = .	6.98 9.91 \$ 16.89	x 12 = x 12 =	83.76 118.92 \$ 202.68
AVERAGE MONTHLY INCREASE PER RESIDENTIAL CUSTOMER:					:	\$ 6.32		\$ 75.84
AVERAGE YEARLY INCREASE PER RESIDENTIAL CUSTOMER:						\$ 75.84		

DW 17-165 ABENAKI WATER COMPANY INC ROSEBROOK DIVISION STEP II INCREASE - UNAUDITED CALCULATION OF RATES - Revised 12/4/18

Total Annual Water Revenues Proposed per Settlement (Sch 1)							\$ 364,784	
Less: Fire Protection Revenues Municipal Private							\$ - 	
Revenues from General Metered	Customers							\$ 364,784
Customer Charge Revenues:	Meter Size 5/8" Meter 5/8"X3/4" Meter 1" Meter 2" Meter 3" Meter 6" Meter	Att B, Sch 4 Adjusted Rate \$ 15.00 15.00 49.48 201.40 438.58 1,756.15	Percent Increase 2.81% 2.81% 2.81% 2.81% 2.81%	1 5 20 45	te 15.42 15.42 50.87 07.07 60.92 05.58	Pro-forma # of Meters 107 254 46 2 3 1 413	Annual Revenues \$ 19,799 47,000 28,080 4,970 16,233 21,667 \$ 137,749	(137,749) 37.76%
Consumption Charge Revenues:								\$ 227,035 62,24%
Consumption Charge Revenues Total Proforma Annual Consumption (1,000 gals) Consumption Rate per Customer (per 1,000 gals) Total Proforma Annual Consumption (per 1,000 gals) x 35,244								(227,035)
Unallocated Water Revenues						ř.		<u>\$</u>
(b) Pro-forma Consumption:	2017 Actual Wat Gallons Conversion to Cu Cubic Feet Conversion to CC	bic Feet			+	35,243,804 7.48 4,711,411 100	47,114	
NEW RATE: Average usage for a Residential Customer per month: Meter charge			1.31	x	6.44 =	8.44 15.42 \$ 23.86	x 12 = x 12 =	\$ 101.28 185.04 \$ 286.32
OLD RATE: Average usage for a Residential Customer per month: Meter charge			1.31	×	5,33 =	6.98 9.91 \$ 16.89	x 12 = x 12 =	83.76 118.92 \$ 202.68
AVERAGE MONTHLY INCREASE PER RESIDENTIAL CUSTOMER						\$ 6.97		\$ 83.64
AVERAGE YEARLY INCREASE PER RESIDENTIAL CUSTOMER: \$ 83.64					\$ 83.64			