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STATE OF NEW HAMPSHIRE



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NHPUC 4JAN16AM9:40

January 4, 2016

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 S. Fruit St., Suite 10
Concord, New Hampshire 03301

Re: DW 15-476, Aquarion Water Company of New Hampshire, Inc.
Water Infrastructure and Conservation Adjustment (WICA)
2016-18 Capital Projects and 2016 WICA Surcharge
Staff Recommendation for Approval

Dear Ms. Howland:

On October 29, 2015, Aquarion Water Company of New Hampshire, Inc. (Aquarion) filed a petition for approval of its 2016 WICA surcharge and its 2016-18 capital projects under its WICA tariff provisions. Accompanying the petition was the testimony of Carl McMorran, Operations Manager, and Debra E. Kirvan, Controller of Aquarion Water Company of Connecticut, Inc., an affiliate of Aquarion. Aquarion seeks approval of a 2016 WICA surcharge of 3.9721%, based on its completed 2013, 2014 and 2015 WICA capital projects; said surcharge to be effective for service rendered on and after January 1, 2016. Aquarion also requests approval of its planned 2016 capital expenditures, estimated to be in a cost range of \$763,000 to \$1.044 million. Aquarion further seeks preliminary approval of its planned 2017 projects in the cost range of between \$624,000 and \$983,000. Aquarion also submitted its preliminary budget for its 2018 WICA projects, for informational purposes. The specific water main replacement projects for these three years, as well as the other WICA capital investments, are all detailed on page 2 of Attachment CM-1 to Mr. McMorran's testimony.

The Commission originally approved the WICA as a pilot program in Docket No. DW 08-098. The WICA was continued as a pilot program by the Commission in Aquarion's most recent rate case, DW 12-085. A settlement agreement between Aquarion, Staff, and the Office of the Consumer Advocate (OCA) in that docket provided for modifications to the WICA program by, among other things, excluding customer meters from WICA-eligible improvements, and requiring the company to provide an updated main replacement prioritization analysis and updated infrastructure inventory in its annual WICA filing. Order No. 25,539 (June 28, 2013).

Upon receipt of Aquarion's filing and in accordance with the procedure approved by the Commission in Docket No. DW 08-098, Staff contacted the parties to both DW 08-098 and DW 12-085 including OCA, and the Towns of Hampton, North Hampton and Rye, to establish a timeframe to review the filing and submit recommendations to the Commission. Neither OCA nor the towns participated in this review. Staff conducted discovery, and Staff and Aquarion met in a technical session on December 15, 2015, to review and discuss the filing and Aquarion's discovery responses. Staff propounded additional data requests to Aquarion subsequent to the technical session. Aquarion's responses to all of Staff's discovery requests are attached to this letter.

On December 23, 2015, Jayson P. Laflamme, Utility Analyst in the Commission's Gas & Water Division, prepared a memorandum summarizing his review of Aquarion's proposed 2016 WICA surcharge. Mr. Laflamme reviewed the calculation of the proposed surcharge of 3.9721%, which is based on total completed WICA investment of \$2,076,339 for the three program years 2013-15. Mr. Laflamme reviewed the Staff Audit Report relating to documentation of the completed 2015 WICA projects, and he incorporated adjustments in his recommendation... In addition, Mr. Laflamme describes certain modifications that Staff and Aquarion recommend in the calculation of the WICA surcharge for 2016 and forward. The first of these involves recognition and deduction of accumulated depreciation accrued for each year project assets are in service, not just the year those assets were placed in service. This accounting mirrors that which is used on a yearly basis for all plant assets. The second recommended change is with respect to how recoverable property tax expense is calculated each program year. As Mr. Laflamme describes, Staff and Aquarion recommend that the property tax rate be applied to updated net plant values each year, so as to take into account each year's accumulated depreciation. Then, the tax rate to be applied will be the most recent property tax rate in effect at the end of the project year. These recommendations are incorporated into the 2016 WICA surcharge of 3.99% that Staff and Aquarion propose. Mr. Laflamme's memorandum is attached to this letter.

On December 21, 2015, Staff received a memorandum from Douglas W. Brogan, the Commission's former water and sewer engineer now engaged as a consultant, providing the details of his review of the completed 2015 WICA projects. Mr. Brogan's memorandum also indicates that Aquarion has had a new engineering study of its water system completed in 2015, and that Aquarion intends to use this study as one of several factors in prioritizing future main replacements. He further comments on Aquarion's proposed WICA projects for 2016 and 2017. Mr. Brogan concludes that the company's 2015 WICA capital investments are used and useful and were prudently-incurred. He further recommends approval of Aquarion's WICA budgets for 2016 and 2017. Mr. Brogan's memorandum is attached to this letter.

Based on its review, Staff recommends that the Commission approve the revised 2016 WICA surcharge of 3.99% effective for service on and after January 1, 2016, consistent with Aquarion's WICA tariff provision. Staff further recommends the Commission approve Aquarion's 2016 WICA project list and provide its preliminary approval of the 2017 projects. For informational purposes, using the high end of the

estimated range of proposed 2016 WICA spending, or \$1,044,000 (see Company's response to Staff data request TS 1-2 Supplemental Attachment C), would result in a total surcharge of 5.98% to customer bills, for service rendered on and after January 1, 2017.

As indicated earlier, the OCA and the three towns in which Aquarion provides service did not participate in this docket. All four of these parties were provided with copies of Aquarion's initial filing notwithstanding Staff's outreach to coordinate their participation.

If there is anything further I can provide, please let me know.

Sincerely,



Mark A. Naylor
Director, Gas & Water Division

Attachments:

Discovery responses
Jayson P. Laflamme memorandum
Douglas W. Brogan memorandum
Staff Audit Report

cc: Service List

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 23, 2015
AT (OFFICE): NHPUC

FROM: Jayson P. Laflamme, Utility Analyst, Gas-Water Division

SUBJECT: DW 15-476, Aquarion Water Company of New Hampshire, Inc.
2016 Water Infrastructure and Conservation Adjustment Filing

TO: Mark A. Naylor
Director, Gas-Water Division

This memo is being submitted at your request to summarize my review of Docket DW 15-476, the petition of Aquarion Water Company of New Hampshire, Inc. (Aquarion) relative to its 2016 Water Infrastructure and Conservation Adjustment (WICA) filing. Aquarion's petition, submitted in accordance with its WICA tariff provisions, requested approval of a WICA surcharge of 3.9721% for effect as of January 1, 2016, on a service-rendered basis, as well as final approval of proposed projects for 2016 to be eligible for recovery through the WICA surcharge mechanism in 2017, and preliminary approval of proposed projects for 2017. Aquarion also provided a preliminary proposal of 2018 projects for informational purposes, only. Aquarion's petition was accompanied by the direct testimonies of Carl McMorran, Operations Manager for Aquarion, and Debra E. Kirven, Controller of Aquarion Water Company of Connecticut, Inc. After reviewing Aquarion's filing in this case and other associated information, I am recommending approval of a WICA surcharge of 3.99% for effect as of January 1, 2016. I am also recommending approval of proposed amendments to Aquarion's WICA tariff that coincide with changes proposed to the WICA surcharge calculation. An explanation for the basis of my recommendations follows.

My review focused primarily on Aquarion's calculation of the proposed WICA surcharge for 2016 as described in Ms. Kirven's testimony. My review included the gathering and analysis of additional information from Aquarion, through formal and informal data requests, and specifically, Aquarion's response to Staff data request TS 1-2. A copy of Aquarion's initial response as well as its supplemental response to that data request is attached to this recommendation. I also reviewed the recommendations contained in a Staff Audit Report dated December 4, 2015 relative to an examination of the underlying costs associated with Aquarion's 2015 WICA projects which form the basis for the 2016 WICA surcharge. A copy of that Final Audit Report is also attached to this recommendation.

Aquarion's original filing proposed a total of \$745,642 in 2015 project costs, comprised of the following:

Main Replacement: Great Boars Head – Cliff Circle to Ocean Blvd	\$169,733
Main Replacement: Kings Hwy – 11 th , 13 th , 14 th & 15 th St	397,822
Main Replacement: Ross Ave	<u>178,087</u>
Total	<u>\$745,642</u>

Each of the adjustments contained in the Final Audit Report has been incorporated into the determination of the 3.99% revised 2016 WICA surcharge which I am recommending for approval. Two adjustments are summarized on page 7 of the Final Audit Report and include a reduction of \$12,448 relative to the costs associated with the King’s Highway project from \$397,822 to \$385,374, as well as an \$8,271 increase in the Ross Avenue project costs from \$178,087 to \$186,358. The net of these adjustments is a \$4,177 reduction in the overall total of the 2015 WICA project costs to \$741,465, as follows:

Main Replacement: Great Boars Head – Cliff Circle to Ocean Blvd	\$169,733
Main Replacement: Kings Hwy – 11 th , 13 th , 14 th & 15 th St	385,374
Main Replacement: Ross Ave	<u>186,358</u>
Total	<u>\$741,465</u>

Additionally, the Final Audit Report (page 6) stated that the amount for retirements associated with the King’s Highway project as contained in Aquarion’s original filing of \$11,912 should be reduced by an amount of \$9,588 to \$2,324.

On December 15, 2015, Aquarion and Staff participated in a technical session, during which certain changes to the WICA surcharge calculation were discussed. The end result of those discussions is the proposed cumulative WICA surcharge for 2016 of 3.99%. See Supplemental Attachment A, Page 1 of 3 of Aquarion’s supplemental response to TS 1-2. Aquarion and Staff agree on the revised calculation as well as the resulting cumulative WICA surcharge. In addition, Supplemental Attachment C of Aquarion’s supplemental response to TS 1-2 provides Staff and Aquarion’s present understanding of the projected WICA surcharges for the years 2017 through 2019. A brief explanation of the revised 2016 WICA calculation follows.

The proposed WICA surcharge for 2016 is based on a gross WICA investment of \$2,072,161. This amount includes \$734,050 of eligible WICA investment assets placed into service during the 2013 project year (DW 13-314), \$596,646 of eligible WICA investment assets placed into service during the 2014 project year (DW 14-300), and, as stated previously, the adjusted gross WICA investment by Aquarion during the 2015 project year of \$741,465. See Column 4, Page 2 of 3 of Supplemental Attachment A of the supplemental response to TS 1-2.

The gross WICA investment of \$2,072,161 is reduced by \$38,172 in accumulated depreciation to derive a net plant in service amount of \$2,033,990. The total accumulated depreciation amount is comprised of \$23,067 in accumulated depreciation on Aquarion’s 2013 WICA investments, \$10,689 in accumulated depreciation on its 2014 WICA investments, and \$4,416 in accumulated depreciation on its proposed 2015 WICA investments. See Column 5, Page 2 of 3 of Supplemental Attachment A of the supplemental response to TS 1-2. By contrast, the WICA surcharge calculation contained in Aquarion’s original filing recognized total accumulated depreciation of just \$12,560 because only the initial year of accumulated depreciation for each of the respective project years’ assets was recognized.

The calculation of return on investment is derived by applying Aquarion’s last approved rate of return of 7.49%¹ to the net investment amount of \$2,033,990 for an amount of \$152,346. The income tax expense calculated on the return on investment is \$54,104 for a combined pre-tax

¹ See Commission Order No. 25,539 (6/28/13) in Docket DW 12-085.

return on investment of \$206,450 (\$152,346 + \$54,104) on Aquarion's cumulative net WICA investments for 2013 - 2015.

As the WICA also provides for recovery of certain related operating expenses, annual depreciation expense in the amount of \$25,184 has been included in the WICA calculation. This is comprised of \$9,227 in annual depreciation on the 2013 WICA investments, \$7,126 in annual depreciation on the 2014 WICA investments, and \$8,831 in annual depreciation on the 2015 WICA investments. See Column 7, Page 2 of 3 of Supplemental Attachment A of the supplemental response to TS 1-2. The depreciation rates applied are based on Aquarion's last-approved depreciation study.²

A recoverable property tax expense in the amount of \$45,515 is also included in the overall WICA surcharge calculation, as permitted by Aquarion's WICA tariff provisions. This amount is based on the property tax rates in effect at the end of the most recent project year, ie, 9/30/2014. Two items should be noted with regard to the calculation of the property tax portion of the WICA surcharge. First, Staff and Aquarion have agreed and recommend that the Commission approve a tariff change such that the plant amount upon which the property tax rates are applied should reflect the most current accumulated depreciation associated with the WICA investments for each project year's investments. Second, Staff and Aquarion have agreed and recommend that the Commission approve a tariff change such that the calculation of the property tax portion of the WICA surcharge should reflect an application of the municipal property tax rates in effect at the end of the most recent project year, and that these rates should be applied to all project years' investments. See Column 10, Page 3 of 3 of Supplemental Schedule A of the supplemental response to TS 1-2. Also, see the "Property Taxes" section on Page 2 of 6 of Supplemental Attachment B of the supplemental response to TS 1-2.

The pre-tax return on investment of \$206,450, the depreciation expense of \$25,184, and the property tax expense of \$45,515, have been combined to derive a cumulative WICA revenue requirement for 2016 of \$277,149, which amounts to a \$100,972 increase over the 2015 cumulative revenue requirement of \$176,177.³ This translates into the proposed WICA cumulative surcharge percentage for 2016 of 3.99%.

The revised 2016 WICA proposal is estimated to result in a total WICA surcharge of \$1.70 on the monthly bills of Aquarion's average, single-family residential customers, based on an average usage of 5.94 hundred cubic feet per month. This represents an estimated monthly increase of \$0.62 in the average WICA surcharge over that for 2015.

In conclusion, I recommend approval of the proposed, revised WICA surcharge for 2016 of 3.99%. This amount has been shown to be adequately supported through Staff discovery as well as the Audit Staff's examination. I believe that the proposed calculation of the 2016 surcharge will result in just and reasonable rates for both Aquarion and its customers. Additionally, I recommend approval of the proposed amendments to Aquarion's WICA tariff which coincide with the proposed modifications in the WICA surcharge calculation.

² See Commission Order No. 25,019 (9/25/09) in Docket DW 08-098.

³ See Commission Order No. 25,751 (1/12/15) in Docket DW 14-300.



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November 30, 2015

VIA Electronic Mail

Rorie E. Patterson
Staff Attorney
New Hampshire Public Utilities Commission
21 S. Fruit St., Suite 10
Concord, NH 03301-2429

Re: DW 15-476; Aquarion Water Company of New Hampshire, Inc. 2016 Water Infrastructure and Conservation Adjustment Filing

Dear Attorney Patterson:

In connection with the above-captioned proceeding, enclosed are Aquarion Water Company of New Hampshire's responses to the Commission Staff's first set of data requests submitted to Aquarion on November 17, 2015. Please contact me with any questions.

Very truly yours,

Rebecca S. Walkley

RS3:
Enclosure

cc: Discovery Service List

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015
Request No.: Staff 1-1

Date of Response: November 30, 2015
Witness: Carl McMorran

REQUEST: Final project costs for the three completed 2015 projects, along with their respective cost estimates from DW 14-300, are as follows:

Ross Avenue: \$178,087 (\$178,000 to \$213,000 estimated)
Kings Hwy - 11th to 15th St: \$397,822 (\$483,000 to \$579,000 estimated)
Great Boars Head - Cliff Circle to Ocean Blvd: \$169,733 (\$190,000 to \$210,000 estimated)

In this regard:

- a) Please comment on any reasons the latter two projects came in under estimates.
- b) Do any paving or other costs remain on any of these projects?

RESPONSE:

- a) Each initial proposed project cost is estimated based on a range of historical costs per foot times the length of pipe for the project. Starting with actual design work and continuing through construction, the Company's goal is to minimize project cost while meeting our objectives of improving asset condition with respect to long-term reliability, system performance and protection of water quality. Through this process, in 2015, the Company was able to reduce the cost per foot of main compared to previous projects.
 - i. The Kings Highway and side street projects are under budget mainly because the Company replaced all of the mains using trenchless methods of pipe bursting and directional drilling, instead of open trenching. In addition, the lack of major complications, particularly adverse weather and conflicts with other utilities, favorably impacted actual project costs.
 - ii. The Great Boars Head project was under budget due to favorable ground conditions and project management. The Company was able to minimize excavations in the crowded space overlying the old water main by installing perpendicular replacement sections from a parallel main on Boars Head Terrace. The Company was able to move all of the existing water services to the new mains with only a handful of excavations to the old pipe, instead of having to attempt to excavate and replace the existing main in place. In addition, the lack of major complications, particularly adverse weather and conflicts with other utilities, had a favorable impact on actual project costs.
- b) No paving or other costs remain to be performed on any of these projects.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015
Request No.: Staff 1-2

Date of Response: November 30, 2015
Witness: Carl McMorran

REQUEST: Regarding consideration of various main replacement construction alternatives:

- a) Please indicate the basis of the decision on which methodology to employ (cleaning and lining, other trenchless technology, open cut construction) for each of the three projects completed in 2015.
- b) To what extent are cleaning and lining or other trenchless technologies under consideration for any of the 2016 projects? Please explain.
- c) Please elaborate on the "evaluation of [construction] alternatives expected to be conducted in 2016" (McMorran testimony p. 8, line 21; see also lines 12-14, and testimony of Debra Kirven, p. 7, line 23 through p. 8, line 2).

RESPONSE:

- a) Starting with actual design work and continuing through construction, the Company's goal is to minimize project costs while meeting our objectives of improving asset condition with respect to long-term reliability, system performance and protection of water quality. With the help of the engineering firm of Tighe & Bond, replacement options for each project were evaluated to best meet the above objectives.
 - i. The Ross Avenue main had to be replaced by excavation because the original main was too shallow. The replacement main had to be installed at a deeper depth to ensure that it was below the frost line.
 - ii. The Kings Highway main was originally targeted for cleaning and lining, but this methodology could not be employed because the existing main had leaking joints and was under the local water table. The cleaning and lining methodologies available require that the pipe interior be dry when the lining is applied. The bad joints and high water table prevented making the existing main dry enough for the cleaning and lining methodology. The next best alternative was pipe bursting replacement.
 - iii. The numbered side streets were all old, small-diameter (2-in), galvanized mains. The pipe size and material condition were not suitable to cleaning and lining, or for pipe bursting. The mains were replaced by directionally drilling parallel new mains, which eliminated the need for temporary services. Once the new main was in service, the residential service lines were relocated, and the old main was abandoned.

- iv. For the Great Boars Head project, the Company originally considered either cleaning and lining the old main, or pipe bursting it. Both of these options would have required that temporary mains and services be installed, which was impractical due to the lack of available space in the project area. The Company also considered installing a replacement main on Great Boars Head Avenue, parallel to the existing main. This was also an expensive option; requiring new easements and trenching a new main on private property. The Company determined that the simplest and most cost effective alternative was to install replacement mains perpendicularly from Boars Head Terrace and transfer all of the existing services. Once the service lines were transferred to the new mains, the old main was abandoned.
- b) Cleaning and lining are not being considered for any of the 2016 projects.
- i. The Lafayette Road and Park Avenue mains are undersized and will be replaced with larger diameter mains.
 - ii. The Manchester Avenue main is too shallow and must be replaced at a lower depth below the frost line.
 - iii. The North Shore Road main is too shallow and must be replaced at a lower depth below the frost line.
 - iv. The Sunsurf Avenue main is too small for cleaning and lining and can be cost effectively replaced by directional drilling a new parallel main.
- c) There is a variety of cleaning and lining methods available in the industry, and new methods are frequently being developed. As new methods and technology continue to reach the market, the Company's Engineering Department takes the lead in evaluating construction alternatives for future main replacement projects, and finding contractors with the needed expertise. It is our hope and expectation that the Company will take advantage of cleaning and lining methods to continue to reduce main replacement costs.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015
Request No.: Staff 1-3

Date of Response: November 30, 2015
Witness: Carl McMorran

REQUEST: Does the “Shop Road: transmission main” project proposed for 2017 currently contemplate inclusion of any pump stations or other facilities?

RESPONSE: The proposed “Shop Road: transmission main project in this WICA filing does not include any pump stations or other facilities

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015
Request No.: Staff 1-4

Date of Response: November 30, 2015
Witness: Carl McMorran

REQUEST: A significant effort appears to have been made to upgrade the rating system used in main replacement evaluations (see McMorran testimony p. 6, line 16 through p. 7, line 6). Regarding the points assigned under various criteria in Att. CM-1, p. 1:

- a) Main breaks are now assigned one point per break in lieu of the 0 to 3 point rating used previously. Over what historic time frame are main breaks now included?
- b) Does the 'Main Breaks' category of lines 4-7 of Att. CM-2 indicate that each of the four Lafayette Road segments has experienced a main break? Please explain.
- c) In the 'Pipe Material Ratings', please comment on why asbestos-cement pipe went from a rating of 1 in previous filings to 3 in the current filing.
- d) In Att. CM-1, p. 1 the 'Lining' category is only applied to cast iron mains, whereas it appears to be applied to every type of main in Att. CM-2. Please explain.

RESPONSE:

The distribution mains are the largest part of the Company's assets, and its greatest projected long term cost. Therefore, the Company seeks to optimize the main replacement program through better records, GIS, and evaluation processes. Refining the process of managing and evaluating data on the water mains is key to prioritizing main replacement projects to produce the most customer value in terms of long term system reliability, service and water quality.

- a) Accurate main break records (those that can be definitely associated with the current GIS pipe records) go back about 15 years.
- b) The table lists each individual pipe segment in the system. Each of the pipe segments on Lafayette Road has experienced a main break (or leak).
- c) To optimize the Company's main replacement efforts, the Engineering Department has worked to develop a better understanding of different pipe materials through its own records and from industry sources. As a result, in our opinion, asbestos-cement is a much poorer quality material than previously thought.
- d) There is a formula error in the background spreadsheet for CM-2. The Company has included an update as Staff 1-4 Attachment A. It should only apply a score for unlined cast-iron pipe. Of the projects proposed for 2016, it only affects the score for the Manchester Street main. Of the highest scoring mains, the Company maintains the

recommendation to complete the Manchester Street main replacement in 2016 to eliminate the bleeder and asbestos-cement pipe, as the project fits within the budget. Also due to this adjustment on CM-2 (Staff 1-4 Attachment A), the Company has updated its projects for 2017 and therefore has included an update to CM-1 as Staff 1-4 Attachment B.

Year	BAFID	Street	Description	Town	Class	Size (in)	Material	Lining	Length (ft)	Installed	Breaks	Hydraulic	Critical Customer	Number	Putting Year	Main Breaks	Reserve?	Pipe Age	Pipe Material	Hydraulic	Critical Customer	Lining	Schedule	Total	Estimated Cost Low	Estimated Cost High	Comments
	10006409	Ship Rock Road	Ship Rock Rd V 1000 7537 north to Woodland Rd	North Hampton	Distribution Main	8	Ductile-iron	Cement-lined	1,961	1986	0	0	0		2015	0	0	0	0	0	0	0	0	-5	-5		
	10006630	Ship Rock Road	Ship Rock Rd V 1000 7537 south to Woodland Rd	North Hampton	Distribution Main	8	Ductile-iron	Cement-lined	1,962	1986	0	0	0		2015	0	0	0	0	0	0	0	0	-5	-5		
	10741807	Rose Ave	Rose Ave Ocean Blvd to crossover	Hampton	Distribution Main	8	Ductile-iron	Unlined	284	2015	0	0	0		2015	0	0	0	0	0	0	0	0	-5	-5		
	10741806	Rose Ave	Rose Ave H181 to crossover	Hampton	Distribution Main	8	Ductile-iron	Unlined	270	2015	0	0	0		2015	0	0	0	0	0	0	0	0	-5	-5		
	10741805	Rose Ave	Rose Ave H181 to end	Hampton	Distribution Main	8	HDPE	Unlined	82	2015	0	0	0		2015	0	0	0	0	0	0	0	0	-5	-5		

**AQUARION WATER COMPANY OF NEW HAMPSHIRE
WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT**

CONTACT: Carl McMorran, Operations Manager
cmcmorran@aquarionwater.com
603-926-3319 ext 116

Contents:

Project Summary Estimated capital expenses by major category
All projected figures for 2016-2018 are estimates.

Hydrants	Aquarion has historically replaced 2 hydrants per year, on average.
Services	Aquarion has historically replaced 5 services per year, on average.
Main Replacements	Main replacements are prioritized based on GIS information. As of this date, the distribution system is separated into 1,291 pipe segments. Each segment is rated on each of the categories described below. Most ratings are based on a scale of 0 (low) to 3 (high); exceptions are noted below. The ratings for each category are summed to produce an overall rating for each pipe segment as shown in CM-2. The highest rated pipe segments are scheduled for replacement.

PRIMARY FACTORS

Bleeder (Non-revenue water)	3 - Main requires a bleeder to prevent freezing 0 - Main does not require a bleeder to prevent freezing
Hydraulic Capacity	3 - Hydrants do not provide satisfactory fire flow rates 2 - Hydraulic model indicates less than expected flow rates with little redundancy (i.e., parallel mains) 1 - Hydraulic model indicates less than expected flow rates with some redundancy 0 - Hydrants provide satisfactory fire flow rates
Main Break History Ratings	One point per break.
Pipe Material Ratings	3 - Galvanized Steel (GS) 3 - Universal Pipe (UP) 3 - Lead joint (LJ) 3 - Asbestos-cement (AC) 2 - Cast iron 0 - Copper (CU) 0 - Ductile iron (DI) 0 - High density polyethylene (HDPE) 0 - Plastic wrapped ductile iron (PWDI) 0 - Poly-vinyl-chloride (PVC) 0 - Unknown (UNK)
Pipe Age / Useful Life Ratings	3 - Installed in 1915 or sooner 2 - Installed between 1916 and 1925 1 - Installed between 1926 and 1940 0 - Installed after 1940

SECONDARY FACTORS

Critical System Component Ratings	3 - Primary transmission line w/ no redundancy 2 - Primary transmission line w/ redundancy 1 - Secondary transmission line 0 - Regular distribution main
Lining	1 - unlined cast iron
Scheduled Work Coordination	3 - Paving or excavation projects by others scheduled in next two years 2 - Paving or excavation projects by others scheduled in next three or four years 1 - Paving or excavation projects by others scheduled in more than four years 1 - Adjacent to another high scoring pipe segment 0 - No other scheduled projects -1 - Street was paved five years ago -2 - Street was paved four years ago -3 - Street was paved three years ago -4 - Street was paved two years ago -5 - Street was paved one year ago
Staff Concerns / Other Factors	Staff judgment is simply a way of expressing subjective factors that can have a large impact on projects. Some examples are to avoid disrupting the same neighborhood in consecutive years and choosing to postpone a project for more time to evaluate alternative replacement methods.
Budget Constraints	Execution of top priority main replacement projects may not leave enough funding for the runner up projects, so lower scoring and lower cost projects may be done instead.
Water Quality Issues	Dropped because water quality problems cannot be reliably linked to individual main segments. Most water quality issues have been traced back to source wells, not mains. Even water quality tuberculated mains tends to show up somewhere downstream of the source.
Main Replacement Project Management	Some main replacement projects are split into design and construction phases. Due to the amount of time required for surveys, design, permitting and other design phase factors, these activities are typically scheduled for the year prior to construction. Attempts to squeeze design and construction into a single calendar year have caused scheduling and budgeting problems. The design phase typically cannot be completed early enough in the year to allow for a sufficient construction period with respect to cold weather, road opening bans and year end accounting constraints.
Control Valves	Includes pressure reducing valves and other control valves; none are currently scheduled for replacement, but a breakdown or failure could occur that would require a replacement.
Valves	Aquarion has historically replaced 1 valve per year, on average.
Production Meters	Replacement / capitalized repairs of production meters is performed on an as needed basis when routine calibration show that the meters are not functioning accurately. Sometimes these replacements can be scheduled in advance when included as part of a pumping station upgrade.

**Aquarion Water Company of New Hampshire
Water Conservation and Infrastructure Adjustment Project Summary**

	Actual completed thru 30-Sep-15	Projected thru 30-Jun-16		Projected thru 30-Sep-17		Projected thru 30-Sep-18		Project Low
		Low	High	Low	High	Low	High	
MAIN REPLACEMENTS								
Ross Avenue	\$ 178,087.47							
Kings Hwy - 11th to 15th St	\$ 397,822.37							
Great Boars Head - Cliff Circle to Ocean Blvd	\$ 169,732.80							
Lafayette Rd: H068 to Park Ave (south)		\$ 89,000	\$ 121,000					\$ 89,000
Lafayette Rd: H068 to Park Ave (north)		\$ 62,000	\$ 84,000					\$ 62,000
Lafayette Rd: Park Ave (north) to Stickney Terr		\$ 53,000	\$ 72,000					\$ 53,000
Lafayette Rd: Stickney Terr to Winnacunnet Rd		\$ 180,000	\$ 245,000					\$ 180,000
Manchester St: off Ashworth Ave		\$ 100,000	\$ 136,000					\$ 100,000
North Shore Rd: Cusack Rd to Quinlan Ln		\$ 199,000	\$ 271,000					\$ 199,000
Sunsurf Ave: off Cliff Ave		\$ 80,000	\$ 108,000					\$ 80,000
High Street: east of Mill Pond Lane				\$ 224,000	\$ 332,000			\$ 224,000
Winnacunnet Rd: Lafayette Rd to Towle Av				\$ 162,000	\$ 232,000			\$ 162,000
Shop Road: transmission main				\$ 312,000	\$ 503,000			\$ 312,000
King's Hwy: 6th St - 8th St						\$ 106,000	\$ 166,000	\$ 106,000
King's Hwy: 8th St - 11th St						\$ 155,000	\$ 241,000	\$ 155,000
King's Hwy: Gill St - 1st St						\$ 75,000	\$ 117,000	\$ 75,000
King's Hwy: Gill St - Redman St						\$ 62,000	\$ 97,000	\$ 62,000
King's Hwy: Redcoat Ln - 30 Kings condos						\$ 88,000	\$ 137,000	\$ 88,000
6th, 7th, 8th, 9th & 10th Streets						\$ 146,000	\$ 210,000	\$ 146,000
CONTROL VALVES	\$ -							
PRODUCTION METERS	\$ -	\$ 7,000		\$ 7,000		\$ 7,000		
HYDRANTS	\$ 9,223.91	\$ 12,000		\$ 12,000		\$ 12,000		
SERVICE LINES	\$ 18,909.84	\$ 29,000		\$ 29,000		\$ 29,000		
VALVES	\$ -	\$ 5,000		\$ 5,000		\$ 5,000		
Hydrant / Service Line / Valve Threshold	\$ (50,000.00)	\$ 50,000		\$ 50,000		\$ 50,000		
Hydrant / Service Line / Valve Net	\$ -	\$ -		\$ -		\$ -		
ANNUAL TOTALS	\$ 745,642.64	\$ 763,000	\$ 1,044,000	\$ 698,000	\$ 1,074,000	\$ 632,000	\$ 975,000	\$ 2,093,000

Aquarion Water Company of New Hampshire
WICA Hydrant Replacements

Account 335

COMPLETED PROJECTS			1-Oct-14	to	30-Sep-15	
Hydrant #		Location	Town	Number	Project Cost	Completion Date
H263		Drakeside Road at Hampton Meadows	Hampton		\$ 7,729.44	07/16/2015
H530		Mill Road at house #71	North Hampton		\$ 1,494.47	04/15/2015
			TOTAL	-	\$ 9,223.91	
PROPOSED PROJECTS						
Hydrant Replacements			Town	Number	Average Annual Cost	Completion Date
1-Oct-15	to	30-Sep-16	To be determined	2	\$ 12,000	30-Sep-2016
1-Oct-16	to	30-Sep-17	To be determined	2	\$ 12,000	30-Sep-2017
1-Oct-17	to	30-Sep-18	To be determined	2	\$ 12,000	30-Sep-2018
			TOTAL	6	\$ 36,000	

Comments Hydrant replacements are not scheduled more than a year in advance because hydrants are not replaced unless identified as malfunctioning during hydrant maintenance activities.

Aquarion Water Company of New Hampshire
WICA Service Line Replacements

Account 333

COMPLETED PROJECTS						1-Oct-14	to	30-Sep-15			
Service Address		Town	Length (feet)	Diameter (inches)	Cost	Completion Date					
67	Cable Road	Rye	40	3/4	\$ 6,054.80	12/22/2014					
74	Brown Avenue	Hampton	4	3/4	\$ 6,413.17	3/17/2015					
7	Whitten Avenue	Hampton	30	3/4	\$ 1,849.49	7/10/2015					
2	Walnut Avenue	North Hampton	35	3/4	\$ 4,592.38	8/18/2015					
		TOTAL	4		\$ 18,909.84						
PROPOSED PROJECTS											
Service Line Replacements			Town	Number	Average Annual Cost	Completion Date					
1-Oct-15	to	30-Sep-16	To be determined	5	\$ 29,000	30-Sep-2016					
1-Oct-16	to	30-Sep-17	To be determined	5	\$ 29,000	30-Sep-2017					
1-Oct-17	to	30-Sep-18	To be determined	5	\$ 29,000	30-Sep-2018					
			TOTAL	15	\$ 87,000						

Comments Service lines are not scheduled for replacement unless they are identified as leaking or defective. When identified as such, they are typically replaced as soon as possible.

Aquarion Water Company of New Hampshire
WICA Main Replacement Projects

Account 381

Project	Town	Material	Length (feet)	Diameter (inches)	Total Cost/ Estimated Costs	Actual thru Sep 30, 2015	Projected Sep 30, Low	thru 2016 High	Projected Low	2017 High	Projected Low	2018 High	Prioritization Factors
Ross Avenue	Hampton	Cast iron	700	6	\$ 178,087	\$ 178,087							
Kings Hwy - 11th to 15th St	Hampton	Cast iron	946	8									
11th Street	Hampton	Galvanized	200	2									
13th Street	Hampton	Galvanized	200	2	\$ 397,822	\$ 397,822							
14th Street	Hampton	Galvanized	200	2									
15th Street	Hampton	Galvanized	200	2									
Great Boars Head - Cliff Circle to Ocean Blvd	Hampton	Cast iron	700	8	\$ 169,733	\$ 169,733							
Lafayette Rd: H068 to Park Ave (south)	Hampton	Cast iron	406	6	\$ 89,000 to \$ 121,000		\$ 89,000	\$ 121,000					Hydraulic deficiencies Main breaks Critical customers
Lafayette Rd: H068 to Park Ave (north)	Hampton	Cast iron	280	6	\$ 62,000 to \$ 84,000		\$ 62,000	\$ 84,000					Hydraulic deficiencies Main breaks Critical customers
Lafayette Rd: Park Ave (north) to Stickney Terr	Hampton	Cast iron	240	6	\$ 53,000 to \$ 72,000		\$ 53,000	\$ 72,000					Hydraulic deficiencies Main breaks Critical customers
Lafayette Rd: Stickney Terr to Winnacunnet Rd	Hampton	Cast iron	820	6	\$ 180,000 to \$ 245,000		\$ 180,000	\$ 245,000					Hydraulic deficiencies Main breaks Critical customers
Manchester St: off Ashworth Ave	Hampton	AC	460	6	\$ 100,000 to \$ 136,000		\$ 100,000	\$ 136,000					Asbestos/cement pipe Bleeder Main break
North Shore Rd: Cusack Rd to Quinlan Ln	Hampton	Cast iron	910	8	\$ 199,000 to \$ 271,000		\$ 199,000	\$ 271,000					Unlined cast iron pipe Bleeder Main break
Sunsurf Ave: off Cliff Ave	Hampton	Cast iron	360	2	\$ 80,000 to \$ 108,000		\$ 80,000	\$ 108,000					Old cast-iron pipe Main breaks
High Street: east of Mill Pond Lane	Hampton	AC	1,020	10	\$ 224,000 to \$ 332,000				\$ 224,000	\$ 332,000			Asbestos/cement pipe Main breaks Transmission Main
Winnacunnet Rd: Lafayette Rd to Towle Av	Hampton	Cast iron	738	8	\$ 162,000 to \$ 232,000				\$ 162,000	\$ 232,000			Unlined cast iron pipe Hydraulic restriction Critical customers
Shop Road: transmission main	North Hampton	Cast iron	1,450	8	\$ 312,000 to \$ 503,000				\$ 312,000	\$ 503,000			Unlined cast iron pipe Transmission main Hydraulic restriction
King's Hwy: 6th St - 8th St	Hampton	Cast iron	490	8	\$ 106,000 to \$ 166,000						\$ 106,000	\$ 166,000	Unlined cast iron pipe Transmission main
King's Hwy: 8th St - 11th St	Hampton	Cast iron	720	8	\$ 155,000 to \$ 241,000						\$ 155,000	\$ 241,000	Unlined cast iron pipe Transmission main
King's Hwy: Gill St - 1st St	Hampton	Cast iron	350	8	\$ 75,000 to \$ 117,000						\$ 75,000	\$ 117,000	Unlined cast iron pipe Transmission main
King's Hwy: Gill St - Redman St	Hampton	Cast iron	290	8	\$ 62,000 to \$ 97,000						\$ 62,000	\$ 97,000	Unlined cast iron pipe Transmission main
King's Hwy: Redcoat Ln - 30 Kings condos	Hampton	Cast iron	400	8	\$ 88,000 to \$ 137,000						\$ 88,000	\$ 137,000	Unlined cast iron pipe Transmission main
6th, 7th, 8th, 9th & 10th Streets	Hampton	Galvanized	1,378	2 & 6	\$ 146,000 to \$ 210,000						\$ 146,000	\$ 210,000	Combined with adjacent King Hwy segments above to reduce total project cost.
TOTALS						\$ 745,643	\$ 763,000	\$ 1,037,000	\$ 698,000	\$ 1,067,000	\$ 632,000	\$ 968,000	

Aquarion Water Company of New Hampshire
WICA Valve Replacements

Account 331

A		B		C		D		E		F	
COMPLETED PROJECTS											
				1-Oct-14		to		30-Sep-15			
Valve #		Location		Town				Actual Cost		Completion Date	
		No valves replaced									
				TOTAL			-	\$	-		
PROPOSED PROJECTS											
Valve Replacements				Town		Projected Number	Average Annual Cost		Completion Date		
1-Oct-15	to	30-Sep-16		To be determined		1	\$	5,000	30-Sep-2016		
1-Oct-16	to	30-Sep-17		To be determined		1	\$	5,000	30-Sep-2017		
1-Oct-17	to	30-Sep-18		To be determined		1	\$	5,000	30-Sep-2018		
				TOTAL		3	\$	15,000			

Comments Valve replacements are not scheduled more than a year in advance because valves are not replaced unless identified as malfunctioning during valve exercising activities.

Aquarion Water Company of New Hampshire
WICA Production Meter Replacements

Project	Town	Estimated Cost	Actual 2015	Projected 2016	Projected 2017	Projected 2018	Comments
No production meter replaced							
Average two production meter replacements annually	Average cost: \$3,500 / meter	\$ 21,000		\$ 7,000	\$ 7,000	\$ 7,000	
	TOTALS	\$ 21,000	\$ -	\$ 7,000	\$ 7,000	\$ 7,000	

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015
Request No.: Staff 1-5

Date of Response: November 30, 2015
Witness: Carl McMorran

REQUEST: Regarding the 'Hydraulic Capacity' rating, the company's response to Staff 1-10 in DW 14-300 indicated "At this time, we are not aware of any hydrants or fire services that cannot deliver satisfactory flow rates, so all pipe segments are scored a zero." The current Att. CM-2 contains updated hydraulic ratings, based on a revised rating system. Mr. McMorran's testimony references use of a hydraulic model in this regard (p. 6, line 21 and p. 7, lines 10-12). Please indicate the extent to which the hydraulic capacity determinations in the current filing are derived from additional fire flow testing, additional hydraulic model runs, or both.

RESPONSE: The hydraulic capacity of each pipe segment is based on the hydraulic model, which is calibrated to actual operating data, including flow rates through pumps and control valves, tank levels, pressure readings and hydrant flow tests.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015
Request No.: Staff 1-6

Date of Response: November 30, 2015
Witness: Carl McMorran

REQUEST: Please provide a copy of the Tata & Howard “capital efficiency study” referenced on p. 6, line 20 of Mr. McMorran’s testimony.

RESPONSE: For security and safety reasons, due to the sensitive nature of the critical infrastructure information (distribution piping, locations of wells, treatment facilities, pump stations and tanks etc.) contained in the “Final Capital Efficiency Plan Update November 2015” for the Aquarion Water Company’s New Hampshire System, it should not be disclosed to the public. In order to protect this confidential, sensitive information while being responsive to the request, please find below some background information and a description of the study.

Tata and Howard was retained in April of 2015 to provide a Capital Efficiency Plan for Aquarion’s New Hampshire System; an update to their Integrated Water Resource Plan from 2007. In July of 2015 Aquarion received the Draft Capital Efficiency Plan Update and in November of 2015 Tata and Howard completed the “Final Capital Efficiency Plan Update” for Aquarion’s New Hampshire System.

The purpose of the study was to identify areas of the water distribution system in need of rehabilitation, repair, or replacement and prioritize these improvements. To do this, the hydraulic model was updated to include improvements to the system since 2007. Then the existing water infrastructure, including water transmission and distribution piping and appurtenances, were evaluated using Tata and Howards “Three Circle Approach” for optimum capital efficiency. This approach which combines hydraulic and critical components consideration with an asset management rating system to evaluate the condition of the water mains in the distribution system. The results were combined to determine the water mains most in need of replacement and establish a prioritized set of improvements in the system.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Staff's Data Requests – Set #1

Date Request Received: November 17, 2015

Date of Response: November 30, 2015

Request No.: Staff 1-7

Witness: Carl McMorran

REQUEST: On the first two pages of Att. CM-2, two higher ranking pipe segments (point totals of 8 and 9) have an indicated paving year of 2016 but do not appear in any proposed project lists. Please explain.

RESPONSE: Those two pipe segments with rankings of 8 and 9 that do not appear in the proposed project lists are among several dozen that had relatively high scores. Those segments with the high points for the paving category represented a large fraction of the total. The Company had to prioritize a handful of projects for 2016 to fit within its budget. Those pipe segments with higher scores for material, break history and other performance considerations were considered to be more valuable and required more immediate action than those that had more points from secondary factors such as paving schedules.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 15-476

Aquarion Water Company's Responses to
Technical Session Data Requests – Set #1

Date Request Received: December 15, 2014
Request No.: TS 1-2

Date of Response: December 16, 2014
Witness: Debra Kirven

REQUEST: Based on discussions during the technical meeting on December 15, 2015, the PUC staff proposed recommendations to changes in Aquarion's schedules and tariff pages. Please update the information in attachments DK-1, DK-2 and DK-3 to reflect those discussions.

RESPONSE: The Company has updated the attachment schedules based on the discussions during the technical meeting as TS 1-2 Attachment A (DK-1), TS 1-2 Attachment B (DK-2) and TS 1-2 Attachment C (DK-3). These schedules have also been updated to include the most recent tax rates received in December by the respective towns. The backup information is included as TS 1-2 Attachment D.

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2015				DK-1, Pg 3 Col 6b Ln 31	\$ 2,072,161
3						
4	Accumulated Depreciation				DK-1, Pg 3 Col 8a Ln 31	(38,172)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 2,033,990</u>
7						
8	Allowed Return on Rate Base				DK-1, Pg 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 152,346
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)					\$ 2,033,990
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	54,104
27						
28	Depreciation Expense				DK-1, Pg 3 Col 8 Ln 31	25,184
29						
30	Property Tax Expense				DK-1, Pg 3 Col 10 Ln 31	46,586
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 278,220</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					(189,059)
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					4.01%

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates Town State Total	10 = ((6b-7b- 8a)/1000) x 12 Prop. Tax Expense	
1																	
2	Project Surcharge Approved in DW 13-314																
3																	
4	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 44	8.44 6.60 15.04	\$ 5	
5	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 240	15.01 6.60 21.61	\$ 42	
6	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 937	16.67 6.60 23.27	\$ 177	
7	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 3,813	16.67 6.60 23.27	\$ 2,869	
8	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 5,892	16.67 6.60 23.27	\$ 4,433	
9	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 2,556	16.67 6.60 23.27	\$ 1,923	
10	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 7,874	16.67 6.60 23.27	\$ 5,924	
11	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 435	16.67 6.60 23.27	\$ 159	
12	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 527	16.67 6.60 23.27	\$ 253	
13	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 103	8.44 6.60 15.04	\$ 32	
14	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 283	16.67 6.60 23.27	\$ 46	
15	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 363	15.01 6.60 21.61	\$ 55	
16									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 23,067		\$ 15,917	
17	Project Surcharge Approved in DW 14-300																
18																	
19	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 184	16.67 6.60 23.27	\$ 65	
20	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 978	16.67 6.60 23.27	\$ 1,265	
21	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 9,527	16.67 6.60 23.27	\$ 12,317	
22									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 10,689		\$ 13,646	
23	Project Surcharge Proposed Herein																
24																	
25	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 1,015	16.67 6.60 23.27	\$ 3,913	
26	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 2,298	16.67 6.60 23.27	\$ 8,860	
27	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 1,102	16.67 6.60 23.27	\$ 4,250	
28									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 4,416		\$ 17,023	
29																	
30																	
31									TOTALS	\$ 2,122,161	\$ 2,072,161	\$ 44,532	\$ 41,494	\$ 25,184	\$ 38,172		\$ 46,586
32																	

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.

** Type of Project (designations will be given for various types of projects)

to DK-1,
Pg 1, Ln 2

to DK-1,
Pg 1, Ln 28

to DK-1,
Pg 1, Ln 4

to DK-1,
Pg 1, Ln 30

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT

In addition to the net charges provided for in this Tariff, a Water Infrastructure and Conservation Adjustment (“WICA”) surcharge of ~~2.53864.01~~% will apply to all bills with services rendered on or after January 1, ~~2015~~2016.

I. General Description

Purpose: To recover the fixed costs (depreciation, property taxes and pre-tax return) of certain Commission-approved non-revenue producing system improvement projects completed and placed in service and to be recorded in the individual accounts, as noted below, between base rate cases. In addition, WICA provides the Company with the resources to accelerate asset replacement for infrastructure for the purpose of improving or protecting water quality and the reliability of service and to comply with evolving regulatory requirements imposed by the Safe Drinking Water Act.

Eligible Property: The WICA-eligible property will consist of the following:

Services over and above an annual; \$50,000 threshold (account 333) and hydrants (account 335) installed as in-kind (i.e., same size) replacements for customers;

mains and valves (account 331) installed as replacements for existing facilities that have either reached the end of their useful life, are worn out or are in deteriorated condition,

main cleaning and re-lining projects and relocations that are non-reimbursable (account 331);

replacement of production meters (account 304); and

replacement of pressure reducing valves (accounts 309, 331);

II. Computation of the WICA

Calculation: The initial charge, effective January 1, 2011, will be calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the Company's rate base and will have been placed in service between January 1, 2010 and September 30, 2010. Thereafter, the WICA will be updated on an annual basis to reflect eligible plant additions placed in service during the twelve month period ending three months prior to the effective date of each WICA update (the “Project Year”). Thus, changes in the WICA rate will occur as follows:

Issued: ~~March 11, 2015~~January 1, 2016

Issued by: _____
Donald Morrissey

Effective: January 1, ~~2015–2016~~

Title: Chief Financial Officer

As authorized in order ~~25,751XX,XXX~~ in Case DW ~~14-30015-XXX~~476

<u>Effective Date Of WICA Change</u>	<u>Date To Which WICA Eligible Plant Additions Reflected</u>
January 1, 2XXX+1	September 30, 2XXX

The fixed costs of eligible infrastructure system improvement projects will consist of depreciation, property taxes and pre-tax return, calculated as follows:

Depreciation: The depreciation expense will be calculated by applying the depreciation rates employed in the Company's last base rate case for the plant accounts to the original cost of WICA-eligible property minus the corresponding retirement unit recorded.

Property Taxes: ~~For the first year that a WICA for any particular project is in effect, the property tax expense will reflect an estimate of the tax expense for such projects based on the tax rate then in effect. If such property taxes will be due for only a portion of the calendar year, then the WICA for the first year shall reflect only the property taxes projected to be paid. For the second and subsequent years that a WICA for those projects is in effect, the WICA shall be determined using the property tax rate in effect for each town at the end of the most recent Pproject Yyear completed (the "tax rate"), and shall be applied to the cumulative Pproject Yyear ending net book value of all eligible WICA projects included from the first Pproject Yyear thru the end of the most recent Pproject Yyear taxes due and owing for such projects based on the tax bill for a full tax year. The WICA shall not be adjusted in subsequent years, regardless of any change in the taxes originally assessed.~~

Pre-tax return: The pre-tax return will be calculated using the state and federal income tax rates. The cost of equity and debt will be the rates approved in the Company's last base rate case, DW 08-098, or a subsequent docket.

WICA Surcharge Amount: The charge will be expressed as a percentage carried to ~~four~~two decimal places and will be applied to the effective portion of the total amount billed to each customer under the Company's otherwise applicable rates and charges.

Formula: The formula for calculation of the WICA surcharge is as follows:

$$\text{WICA} = \text{(ISI x PTRR) + Dep + PT}$$

Issued: ~~September 25, 2009~~January 1, 2016

Donald Morrissey

Issued by: _____

Effective: ~~September 25, 2009~~January 1, 2016
As authorized in order ~~25,019XX,XXX~~ in Case DW ~~08-09815-476~~

Title: Chief Financial Officer

NHPUC No. 1 – Water

Aquarion Water Company of New Hampshire Superseding ~~Third-Third~~ Revised Page 17

~~Second-Third~~ Revised Page 17

BRWR

Where:

Issued: ~~September 25, 2009~~ January 1, 2016

Donald Morrissey

Issued by: _____

Effective: ~~September 25, 2009~~ January 1, 2016
As authorized in order ~~25,019XX,XXX~~ in Case DW ~~08-09815-476~~

Title: Chief Financial Officer

- ISI= the original cost to the Company of eligible infrastructure system improvement projects, less accumulated depreciation.
- PTRR= the pre-tax return rate applicable to eligible infrastructure system improvement projects.
- Dep= annual depreciation expense related to eligible infrastructure system improvement projects.
- PT= annual property taxes related to eligible infrastructure system improvement projects.
- BRWR= base retail water revenues as approved by the Commission in the Company’s last rate proceeding, DW 08-098, or a subsequent docket.

Annual updates: Supporting data for each annual update will be filed with the Commission and the Office of Consumer Advocate sixty (60) days prior to the effective date of the update. The Company shall also provide notice to the Towns.

III. Safeguards

Cap: The amount of the WICA applied between general rate case filings shall not exceed seven and one-half percent (7.5%) of the Company’s annual retail water revenues as approved in its most recent rate filing, and shall not exceed five percent (5%) of such revenues for any twelve-month period.

Project Changes: If, after the Company has received Commission approval for Year 1 projects, because of changed circumstances or significant new information the Company plans to undertake projects in Year 1 that were not included on the list of approved WICA projects for that year or it has decided not to proceed with one or more projects that were included on the Commission-approved list, it shall promptly notify the Commission and all parties to the proceeding in which the list of WICA projects was approved that the Company plans to add to or delete projects and the reason for the proposed changes, in accordance with the following schedule. The Company will submit updates for approved WICA projects for subsequent project years, based upon information known on a project year-to-date basis, from the beginning of the project year through the following effective dates, on the associated reporting dates:

Issued: ~~April 1, 2014~~ January 1, 2016

Issued by: _____
Donald Morrissey

Effective: ~~April 1, 2014~~ January 1, 2016
As authorized in order ~~25,668XX,XXX~~ in Case DW ~~13-31415-476~~

Title: Chief Financial Officer

<u>Effective Date</u>	<u>Reporting Date</u>
<u>December 31</u>	<u>January 15</u>
<u>March 31</u>	<u>April 15</u>
<u>June 30</u>	<u>July 15</u>
<u>September 30</u>	<u>October 15</u>

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Issued: ~~April 1, 2014~~January 1, 2016

Issued by: _____
Donald Morrissey

Effective: ~~April 1, 2014~~January 1, 2016
As authorized in order ~~25,668XX,XXX~~ in Case DW ~~13-31415-476~~

Title: Chief Financial Officer

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Audits: The WICA will be subject to audit prior to the determination by the Commission.

New Base Rates: The WICA charge will be reset at zero as of the effective date of new base rates that provide for prospective recovery of the annual costs that had theretofore been recovered under the WICA. Thereafter, only the fixed costs of new eligible plant additions, that have not previously been reflected in the Company's rate base, would be reflected in the annual updates of the WICA.

Customer Notice: Customers shall be notified of changes in the WICA by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing. Before sending, the Company will review the notice with the Commission's Consumer Affairs division.

Issued: April 1, 2014

Issued by: _____
Donald Morrissey

Effective: April 1, 2014
As authorized in order 25,668 in Case DW 13-314

Title: Chief Financial Officer

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2016				2017 3 Col 6b Ln 33	\$ 3,116,161
3						
4	Accumulated Depreciation				2017 3 Col 8a Ln 33	(69,630)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 3,046,531</u>
7						
8	Allowed Return on Rate Base				2017 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 228,185
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)					\$ 3,046,531
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	81,038
27						
28	Depreciation Expense				2017 3 Col 8 Ln 33	37,733
29						
30	Property Tax Expense				2017 3 Col 10 Ln 33	69,963
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 416,919</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					6.01%

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1 Estimated Completion Date**	2 Actual Completion Date	3 Estimated Project Cost**	4 Actual Project Cost	5 Accumulated Depreciation	6 Project Cost minus Accumulated Depreciation	7 Depreciation Expense	8 Property Tax Expense	9 Income Tax Expense	10 Rate of Return	11 Annual Retail Revenues	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars	
2013 Projects														
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 1,710	\$ 14,756	\$ 488	\$ 213	\$ 393	7.49%	\$ 7,129,043	2,199	
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 28,188	\$ 661,668	\$ 8,054	\$ 14,962	\$ 17,600	7.49%	\$ 7,129,043	90,175	
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 610	\$ 7,538	\$ 174	\$ 155	\$ 201	7.49%	\$ 7,129,043	1,094	
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 882	\$ 13,532	\$ 252	\$ 279	\$ 360	7.49%	\$ 7,129,043	1,905	
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 904	\$ 4,263	\$ 258	\$ 95	\$ 113	7.49%	\$ 7,129,043	786	
7				\$ 142,130	\$ 734,050	\$ 32,294	\$ 701,757	\$ 9,227	\$ 15,704	\$ 18,667			96,159	
8														
9	2014 Projects													
10	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 306	\$ 2,738	\$ 122	\$ 65	\$ 73	7.49%	\$ 7,129,043	465	
11	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 17,509	\$ 576,093	\$ 7,004	\$ 13,581	\$ 15,324	7.49%	\$ 7,129,043	79,058	
12				\$ 939,568	\$ 596,646	\$ 17,815	\$ 578,831	\$ 7,126	\$ 13,646	\$ 15,397			79,523	
13														
14	2015 Projects													
15	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 13,247	\$ 728,217	\$ 8,831	\$ 16,817	\$ 19,371	7.49%	\$ 7,129,043	99,563	
16				\$ 741,465	\$ 741,465	\$ 13,247	\$ 728,217	\$ 8,831	\$ 16,817	\$ 19,371			99,563	
17														
18	2016 Projects													
19	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 149	\$ 182	7.49%	\$ 7,129,043	1,126	
20	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 6,134	\$ 1,030,866	\$ 12,268	\$ 23,647	\$ 27,421	7.49%	\$ 7,129,043	140,548	
21				\$ 1,038,600	\$ 1,044,000	\$ 6,275	\$ 1,037,725	\$ 12,549	\$ 23,796	\$ 27,603			141,674	
22														
23	TOTALS			\$ 2,861,763	\$ 3,116,161	\$ 69,630	\$ 3,046,531	\$ 37,733	\$ 69,963	\$ 81,038			\$ 416,919	

* Emergency Replacement

** Per Docket Filing DW 13-314

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**Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)**

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE**

Line		1		2		3		4		5		6a		6b		7a		7b		8 = (6b - 7b) x 2		8a = 8 x 50%		9		10 = (((6b-7b-8a)/1000) x 12)				
Description of Project		PUC Acct		Depr Rate		Type of Project**		Date in Service		Date of 1st Filing		Capital Costs		Capital Costs		Retirements		Retirements		Depreciation Expense		Accumulated Depreciation		Mil Rates		Prop. Tax Expense				
Street		Town																												
2013 Projects																														
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 61	8.44	6.60	15.04	\$											5	
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 336	15.01	6.60	21.61	\$											40	
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 1,312	16.67	6.60	23.27	\$											168	
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 5,338	16.67	6.60	23.27	\$											2,833	
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 8,249	16.67	6.60	23.27	\$											4,378	
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 3,578	16.67	6.60	23.27	\$											1,899	
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 11,023	16.67	6.60	23.27	\$											5,851	
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 610	16.67	6.60	23.27	\$											155	
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 738	16.67	6.60	23.27	\$											248	
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 144	8.44	6.60	15.04	\$											31	
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 396	16.67	6.60	23.27	\$											43	
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 508	15.01	6.60	21.61	\$											52	
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 32,294				\$										15,704		
14																														
2014 Projects																														
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 306	16.67	6.60	23.27	\$											65	
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 1,630	16.67	6.60	23.27	\$											1,265	
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 15,879	16.67	6.60	23.27	\$											12,317	
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 17,815				\$											13,646	
20																														
2015 Projects																														
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 169,733	\$ 169,733	\$ 551	\$ 551	\$ 2,030	\$ 3,045	16.67	6.60	23.27	\$											3,866	
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 385,374	\$ 385,374	\$ 2,324	\$ 2,324	\$ 4,597	\$ 6,895	16.67	6.60	23.27	\$											8,753	
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 186,358	\$ 186,358	\$ 2,637	\$ 2,637	\$ 2,205	\$ 3,307	16.67	6.60	23.27	\$											4,198	
25									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 13,247				\$											16,817	
26																														
2016 Projects																														
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 141	16.67	6.60	23.27	\$											149	
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$ 1,712	\$ 1,712	\$ 1,431	\$ 716	16.67	6.60	23.27	\$											2,759	
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$ 1,189	\$ 1,189	\$ 994	\$ 497	16.67	6.60	23.27	\$											1,915	
31	Lafayette Rd: Park Ave (north) to Stickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$ 1,019	\$ 1,019	\$ 852	\$ 426	16.67	6.60	23.27	\$											1,642	
32	Lafayette Rd: Stickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$ 3,467	\$ 3,467	\$ 2,898	\$ 1,449	16.67	6.60	23.27	\$											5,587	
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$ 1,924	\$ 1,924	\$ 1,609	\$ 804	16.67	6.60	23.27	\$											3,101	
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$ 3,835	\$ 3,835	\$ 3,206	\$ 1,603	16.67	6.60	23.27	\$											6,180	
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$ 1,528	\$ 1,528	\$ 1,278	\$ 639	16.67	6.60	23.27	\$												2,463
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 6,275				\$											23,796	
37																														
38																														
39																														
TOTALS										\$ 3,166,161	\$ 3,116,161	\$ 59,812	\$ 56,774	\$ 37,733	\$ 69,630				\$						69,963					
										to 2017 1,		to 2017 1,		to 2017 1,		to 2017 1,								to 2017 1,						
										Ln 2		Ln 28		Ln 4										Ln 30						

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2017				2018 3 Col 6b Ln 45	\$ 4,190,161
3						
4	Accumulated Depreciation				2018 3 Col 8a Ln 45	(113,816)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 4,076,345</u>
7						
8	Allowed Return on Rate Base				2018 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 305,318
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)					\$ 4,076,345
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	108,431
27						
28	Depreciation Expense				2018 3 Col 8 Ln 45	50,638
29						
30	Property Tax Expense				2018 3 Col 10 Ln 45	93,489
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 557,876</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					8.04%

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1	2	3	4	5	6	7	8	9	10	11	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars
		Estimated Completion Date**	Actual Completion Date	Estimated Project Cost**	Actual Project Cost	Accumulated Depreciation	Project Cost minus Accumulated Depreciation	Depreciation Expense	Property Tax Expense	Income Tax Expense	Rate of Return	Annual Retail Revenues	
2013 Projects													
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 2,198	\$ 14,268	\$ 488	\$ 202	\$ 380	7.49%	\$ 7,129,043	2,138
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 36,242	\$ 653,614	\$ 8,054	\$ 14,774	\$ 17,386	7.49%	\$ 7,129,043	89,170
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 784	\$ 7,364	\$ 174	\$ 151	\$ 196	7.49%	\$ 7,129,043	1,072
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 1,134	\$ 13,280	\$ 252	\$ 274	\$ 353	7.49%	\$ 7,129,043	1,874
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 1,163	\$ 4,004	\$ 258	\$ 89	\$ 107	7.49%	\$ 7,129,043	754
				\$ 142,130	\$ 734,050	\$ 41,520	\$ 692,530	\$ 9,227	\$ 15,490	\$ 18,421			95,008
2014 Projects													
8	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 428	\$ 2,616	\$ 122	\$ 65	\$ 70	7.49%	\$ 7,129,043	453
9	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 24,513	\$ 569,090	\$ 7,004	\$ 13,581	\$ 15,138	7.49%	\$ 7,129,043	78,348
				\$ 939,568	\$ 596,646	\$ 24,941	\$ 571,705	\$ 7,126	\$ 13,646	\$ 15,207			78,800
2015 Projects													
11	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 22,079	\$ 719,386	\$ 8,831	\$ 16,612	\$ 19,136	7.49%	\$ 7,129,043	98,461
				\$ 741,465	\$ 741,465	\$ 22,079	\$ 719,386	\$ 8,831	\$ 16,612	\$ 19,136			98,461
2016 Projects													
13	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 422	\$ 6,578	\$ 281	\$ 149	\$ 175	7.49%	\$ 7,129,043	1,098
14	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 18,402	\$ 1,018,598	\$ 12,268	\$ 23,790	\$ 27,095	7.49%	\$ 7,129,043	139,445
				\$ 1,038,600	\$ 1,044,000	\$ 18,824	\$ 1,025,176	\$ 12,549	\$ 23,938	\$ 27,270			140,543
2017 Projects													
16	Production Meters	30-Sep-17	30-Sep-17	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 149	\$ 182	7.49%	\$ 7,129,043	1,126
17	Main Replacements	30-Sep-17	30-Sep-17	\$ 1,067,000	\$ 1,067,000	\$ 6,311	\$ 1,060,689	\$ 12,623	\$ 23,655	\$ 28,214	7.49%	\$ 7,129,043	143,937
				\$ 1,068,600	\$ 1,074,000	\$ 6,452	\$ 1,067,548	\$ 12,904	\$ 23,803	\$ 28,397			145,064
18													
19	TOTALS			\$ 3,930,363	\$ 4,190,161	\$ 113,816	\$ 4,076,345	\$ 50,638	\$ 93,489	\$ 108,431			\$ 557,876

20
21 * Emergency Replacement
22 ** Per Docket Filing DW 13-314
23

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

10 = (((6b-7b-8a)/1000) x 12)
Prop. Tax Expense

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates Town State Total	10 = (((6b-7b-8a)/1000) x 12) Prop. Tax Expense
2013 Projects																
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 79	8.44 6.60 15.04	\$ 5
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 432	15.01 6.60 21.61	\$ 38
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 1,687	16.67 6.60 23.27	\$ 159
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 6,863	16.67 6.60 23.27	\$ 2,798
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 10,606	16.67 6.60 23.27	\$ 4,324
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 4,601	16.67 6.60 23.27	\$ 1,875
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 14,173	16.67 6.60 23.27	\$ 5,778
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 784	16.67 6.60 23.27	\$ 151
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 949	16.67 6.60 23.27	\$ 243
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 185	8.44 6.60 15.04	\$ 31
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 510	16.67 6.60 23.27	\$ 41
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 653	15.01 6.60 21.61	\$ 49
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 41,520		\$ 15,490
14																
2014 Projects																
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 428	16.67 6.60 23.27	\$ 65
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 2,283	16.67 6.60 23.27	\$ 1,265
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 22,230	16.67 6.60 23.27	\$ 12,317
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 24,941		\$ 13,646
20																
2015 Projects																
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 5,075	16.67 6.60 23.27	\$ 3,819
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 11,491	16.67 6.60 23.27	\$ 8,646
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 5,512	16.67 6.60 23.27	\$ 4,147
25									\$741,465	\$741,465	\$5,512	\$5,512	\$8,831	\$22,079		\$ 16,612
26																
2016 Projects																
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$606	\$ 606	\$ 281	\$ 422	16.67 6.60 23.27	\$ 149
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$1,712	\$ 1,712	\$ 1,431	\$ 2,147	16.67 6.60 23.27	\$ 2,776
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$1,189	\$ 1,189	\$ 994	\$ 1,491	16.67 6.60 23.27	\$ 1,927
31	Lafayette Rd: Park Ave (north) to Stickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$1,019	\$ 1,019	\$ 852	\$ 1,278	16.67 6.60 23.27	\$ 1,652
32	Lafayette Rd: Stickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$3,467	\$ 3,467	\$ 2,898	\$ 4,348	16.67 6.60 23.27	\$ 5,620
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$1,924	\$ 1,924	\$ 1,609	\$ 2,413	16.67 6.60 23.27	\$ 3,120
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$3,835	\$ 3,835	\$ 3,206	\$ 4,809	16.67 6.60 23.27	\$ 6,217
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$1,528	\$ 1,528	\$ 1,278	\$ 1,916	16.67 6.60 23.27	\$ 2,478
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 18,824		\$ 23,938
37																
2017 Projects																
39	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2017	10/31/2017	\$ 7,000	\$ 7,000	\$606	\$ 606	\$ 281	\$ 141	16.67 6.60 23.27	\$ 149
40	High Street: east of Mill Pond Lane		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 332,000	\$ 332,000	\$4,698	\$ 4,698	\$ 3,928	\$ 1,964	16.67 6.60 23.27	\$ 7,616
41	Winnacunnet Rd: Lafayette Rd. to Towle Av		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 232,000	\$ 232,000	\$3,283	\$ 3,283	\$ 2,745	\$ 1,372	16.67 6.60 23.27	\$ 5,322
42	Shop Road: transmission main		North Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 503,000	\$ 503,000	\$7,118	\$ 7,118	\$ 5,951	\$ 2,975	15.01 6.60 21.61	\$ 10,716
43									\$ 1,074,000	\$ 1,074,000	\$ 15,704	\$ 15,704	\$ 12,904	\$ 6,452		\$ 23,803
44																
45																
TOTALS									\$ 4,240,161	\$ 4,190,161	\$ 75,516	\$ 72,478	\$ 50,638	\$ 113,816		\$ 93,489
									to 2018 1,		to 2018 1,		to 2018 1,		to 2018 1,	
									Ln 2		Ln 28		Ln 4		Ln 30	

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.

** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2018				2019 3 Col 6b Ln 55	\$ 5,165,161
3						
4	Accumulated Depreciation				2019 3 Col 8a Ln 55	(170,320)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 4,994,841</u>
7						
8	Allowed Return on Rate Base				2019 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 374,114
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)				\$ 4,994,841	
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	132,863
27						
28	Depreciation Expense				2019 3 Col 8 Ln 55	62,371
29						
30	Property Tax Expense				2019 3 Col 10 Ln 55	115,425
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 684,773</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					9.87%

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1	2	3	4	5	6	7	8	9	10	11	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars	
		Estimated Completion Date**	Actual Completion Date	Estimated Project Cost**	Actual Project Cost	Accumulated Depreciation	Project Cost minus Accumulated Depreciation	Depreciation Expense	Property Tax Expense	Income Tax Expense	Rate of Return	Annual Retail Revenues		
2013 Projects														
1	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 2,687	\$ 13,779	\$ 488	\$ 191	\$ 367	7.49%	\$ 7,129,043	2,078	
2	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 44,296	\$ 645,560	\$ 8,054	\$ 14,587	\$ 17,172	7.49%	\$ 7,129,043	88,165	
3	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 958	\$ 7,189	\$ 174	\$ 147	\$ 191	7.49%	\$ 7,129,043	1,050	
4	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 1,386	\$ 13,028	\$ 252	\$ 268	\$ 347	7.49%	\$ 7,129,043	1,843	
5	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 1,421	\$ 3,746	\$ 258	\$ 84	\$ 100	7.49%	\$ 7,129,043	722	
6				\$ 142,130	\$ 734,050	\$ 50,747	\$ 683,303	\$ 9,227	\$ 15,276	\$ 18,176			93,858	
7														
8														
9	2014 Projects													
10	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 551	\$ 2,493	\$ 122	\$ 65	\$ 66	7.49%	\$ 7,129,043	440	
11	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 31,517	\$ 562,086	\$ 7,004	\$ 13,581	\$ 14,951	7.49%	\$ 7,129,043	77,637	
12				\$ 939,568	\$ 596,646	\$ 32,067	\$ 564,579	\$ 7,126	\$ 13,646	\$ 15,018			78,077	
13														
14	2015 Projects													
15	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 30,910	\$ 710,555	\$ 8,831	\$ 16,406	\$ 18,901	7.49%	\$ 7,129,043	97,359	
16				\$ 741,465	\$ 741,465	\$ 30,910	\$ 710,555	\$ 8,831	\$ 16,406	\$ 18,901			97,359	
17														
18	2016 Projects													
19	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 703	\$ 6,297	\$ 281	\$ 149	\$ 167	7.49%	\$ 7,129,043	1,098	
20	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 30,670	\$ 1,006,330	\$ 12,268	\$ 23,790	\$ 26,768	7.49%	\$ 7,129,043	138,200	
21				\$ 1,038,600	\$ 1,044,000	\$ 31,373	\$ 1,012,627	\$ 12,549	\$ 23,938	\$ 26,936			139,269	
22														
23	2017 Projects													
24	Production Meters	30-Sep-17	30-Sep-17	\$ 1,600	\$ 7,000	\$ 422	\$ 6,578	\$ 281	\$ 149	\$ 175	7.49%	\$ 7,129,043	1,098	
25	Main Replacements	30-Sep-17	30-Sep-17	\$ 1,067,000	\$ 1,067,000	\$ 18,934	\$ 1,048,066	\$ 12,623	\$ 23,655	\$ 27,879	7.49%	\$ 7,129,043	142,656	
26				\$ 1,068,600	\$ 1,074,000	\$ 19,356	\$ 1,054,644	\$ 12,904	\$ 23,803	\$ 28,054			143,754	
27														
28	2018 Projects													
29	Production Meters	30-Sep-18	30-Sep-16	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 149	\$ 182	7.49%	\$ 7,129,043	1,126	
30	Main Replacements	30-Sep-18	30-Sep-16	\$ 968,000	\$ 968,000	\$ 5,726	\$ 962,274	\$ 11,452	\$ 22,207	\$ 25,596	7.49%	\$ 7,129,043	131,329	
31				\$ 969,600	\$ 975,000	\$ 5,866	\$ 969,134	\$ 11,733	\$ 22,355	\$ 25,779			132,455	
32														
33	TOTALS			\$ 4,899,963	\$ 5,165,161	\$ 170,320	\$ 4,994,841	\$ 62,371	\$ 115,425	\$ 132,863			\$ 684,772	
34														

* Emergency Replacement
** Per Docket Filing DW 13-314

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Table with columns: Line, Description of Project, Street, Town, PUC Acct, Depn Rate, Type of Project, Date in Service, Date of 1st Filing, 6a Total Capital Costs, 6b Eligible Capital Costs, 7a Total Retirements, 7b Eligible Retirements, 8 = (6b - 7b) x 2 Depreciation Expense, 8a = 8 x 50% Accumulated Depreciation, 9 Mil Rates Town, State, Total, 10 = (((6b-7b-8a)/1000) x 12) Prop. Tax Expense. Rows include 2013, 2014, 2015, 2016, and 2017 projects.

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
** Type of Project (designations will be given for various types of projects)

TOWN OF HAMPTON

Tax Collector's Office
 Donna Bennett, Certified Tax Collector
 100 Winnacunnet Road
 Hampton, NH 03842-2119
 (603) 926-6769
 Hours: Mon-Thurs: 8 am - 5 pm; Fri: 8 am - 12 noon



8805 39 32 *****AUTO**MIXED AADC 030

AQUARION WATER OF NH
 600 LINDLEY ST
 BRIDGEPORT CT 06606-5044

**2015 SEMI-ANNUAL PROPERTY TAX BILL
 SECOND INSTALLMENT**

12.0% APR Interest Charged after 12/2/2015
 Account: 89332
 Due Date: 12/2/2015
 Bill Date: 11/2/2015

Property	
Map Lot:	999-129
Location:	TOWN AREA
Class:	4000

Tax Rate Information	
Town	\$7.91
County	\$1.12
Local Ed	\$7.64
	\$0.00
Total	\$16.67

ASSESSED VALUE AND EXEMPTIONS

Land	\$800,000.00
Building	\$13,573,000.00
Current Use	\$0.00
Gross Value:	\$14,373,000.00
EXEMPTIONS	\$0.00
Net Assessed Value:	\$14,373,000.00

PROPERTY TAX AND CREDITS

Total Gross Property Tax	\$239,598.00
Credits	
Net Property Tax	\$239,598.00
Previously Billed	\$113,475.00
Prior Bill Payments	\$113,475.00
Prepaid	\$0.00
Interest Due	\$0.00
Due By: 12/2/2015	\$126,123.00

***** PLEASE READ THE BACK OF THIS BILL FOR IMPORTANT INFORMATION
 INCLUDING EXTENDED OFFICE HOURS*****

Jim Maggiore, Chair
Larry Miller, Vice Chair
Rick Stanton, Member



Municipal Offices
233 Atlantic Avenue
North Hampton, NH 03862

Tel: (603) 964-8087
Fax: (603) 964-1514

TOWN OF NORTH HAMPTON, NEW HAMPSHIRE
THE SELECT BOARD

PUBLIC NOTICE

PLEASE TAKE NOTICE that a typographical error occurred on the Tax Warrant with respect to how the tax rate is divided between town, school, state education and the county. On your bill, you may notice that the Local Education (School) rate was transposed with the County rate and the State Education rate was transposed with the Local Education (School Rate).

THE TOTAL TAX RATE of \$17.48 is correct. The transposition doesn't affect the total amount due, and the tax bill you received is the amount you should pay. All the numbers still add up to the right tax rate.

THE CORRECT APPORTIONMENT is:

County:	\$1.11	1.11
School:	\$8.20	8.20
State Ed.:	\$2.47	
Town:	\$5.70	5.70
		<u>15.01</u>

THE TAX RATE Breakdown issued from the New Hampshire Department of Revenue is posted on the Town's website: www.northhampton-nh.gov.

THE TAX BILL that you recently received sets out the correct amount you should pay.

PLEASE CONTACT the Town Offices if you have any questions. The telephone number is (603) 964-8087.

TOWN OF RYE, N.H.
10 CENTRAL ROAD
RYE, NH 03870
(603) 964-8562

TAX COLLECTOR OFFICE HOURS

8:00 AM - 4:30 PM
MONDAY - FRIDAY

Second Bill

REAL ESTATE TAX BILL

TAX YEAR	BILL NUMBER	BILLING DATE	INTEREST RATE	DUE DATE
2015	007899-002849	11/19/2015	12% if paid after	12/23/2015
MAP/PARCEL	LOCATION OF PROPERTY	AREA		
081118000000	480 CENTRAL ROAD	3.27		
OWNER OF RECORD		TAX CALCULATION		
AQUARION WATER COMPANY 600 LINDLEY STREET BRIDGEPORT, CT 06606		Municipal Tax Amount	5,829.72	
		School Tax Amount	8,606.72	
		County Tax Amount	2,186.14	
		Total Tax	16,622.58	
TAX RATE	ASSESSED VALUATION		Actual Tax Amount	
Municipal 2.960	Buildings 1,859,700		16,622.58	
School 4.370	Land Value 109,800		Paid to Date -8,848.62	
County 1.110				
TOTAL	NET VALUE		<Amount To Pay>	
8.440	1,969,500		7,773.96	

INFORMATION TO TAXPAYERS

THE TAXPAYER MAY BY MARCH 1ST, FOLLOWING THE DATE OF NOTICE OF TAX AND NOT AFTERWARDS. APPLY IN WRITING TO THE SELECTMEN OR ASSESSOR(S) FOR A TAX ABATEMENT.

ELIGIBLE RESIDENTS MAY APPLY FOR THE TAX DEFERRAL FOR ELDERLY AND DISABLED BY MARCH 1ST.

IF YOU ARE ELDERLY, BLIND, A VETERAN OR VETERAN'S SPOUSE, A DISABLED VETERAN, OR DISABLED VETERAN'S SPOUSE OR ARE UNABLE TO PAY TAXES DUE TO POVERTY OR OTHER GOOD CAUSE, YOU MAY BE ELIGIBLE FOR A TAX EXEMPTION, CREDIT, ABATEMENT OR DEFERRAL. FOR DETAILS AND APPLICATION INFORMATION, CONTACT THE SELECTMEN'S OFFICE. APPLICATIONS FOR EXEMPTIONS AND/OR CREDITS MUST BE FILED ON OR BEFORE APRIL 15TH EACH YEAR.

REAL ESTATE TAX PAYMENTS WILL BE APPLIED FIRST TO THE OLDEST DELINQUENT REAL ESTATE TAXES (IF ANY) FOR THE INDICATED PROPERTY.

TAXPAYERS DESIRING ANY INFORMATION IN REGARD TO TAXATION, ASSESSMENTS, EXEMPTIONS, OR CHANGE OF ADDRESS MUST REFER ALL INQUIRIES TO THE BOARD OF SELECTMEN NOT TO TAX COLLECTOR.

ALL TAXES ARE ASSESSED ON APRIL 1ST OF EACH YEAR. TAX BILLS ARE MAILED TO THE LAST KNOWN ADDRESS.

PAYMENT POLICIES:

- POST-DATED CHECKS CANNOT BE ACCEPTED, AND WILL BE RETURNED TO THE TAXPAYER.
- A \$25.00 FEE PLUS ALL ADDITIONAL DELINQUENCY PENALTIES AND COLLECTION COSTS WILL BE CHARGED FOR ANY CHECK RETURNED BY THE BANK FOR ANY REASON.
- PAYMENT OF THIS BILL DOES NOT PREVENT THE COLLECTION OF PREVIOUS UNPAID TAXES, NOR DOES AN ERROR IN THE NAME OF THE PERSON(S) TAXED PREVENT COLLECTION.
- IF YOU ARE NOT THE PRESENT OWNER OF THIS PROPERTY, PLEASE FORWARD TO THE PROPER OWNER. THE TAX COLLECTOR IS NOT RESPONSIBLE FOR PAYMENT ON THE WRONG TAX BILL.
- IF THIS BILL IS PAID BY CHECK OR MONEY ORDER, IT IS NOT CONSIDERED PAID UNTIL THE CHECK OR MONEY ORDER IS CLEARED BY THE BANK.
- **PLEASE MAKE CHECK PAYABLE TO: TOWN OF RYE**

Note: If your bank pays your tax bill, please send this bill to your bank.

If you have sold this property, please forward this bill to the new owner.

IF YOU WOULD LIKE A RECEIPT, PLEASE RETURN THE ENTIRE BILL AND A SELF-ADDRESSED STAMPED ENVELOPE.

 DETACH HERE TO INSURE PROPER CREDIT. RETURN ENTIRE BOTTOM PORTION OF BILL. DETACH HERE.

From: [Joshua Unger](#)
To: [Laflamme, Jayson](#)
Cc: [Naylor, Mark](#); douglas.brogan@myfairpoint.net; [Patterson, Rorie](#); [Carl McMorran](#); [Debra Kirven](#); [McKinley Rowe](#); [Troy Dixon](#)
Subject: DW 15-476: Aquarion Water Company of New Hampshire -- Response to TS 1-2
Date: Monday, December 21, 2015 3:59:05 PM
Attachments: [TS 1-2 Supplemental Attachment A.pdf](#)
[TS 1-2 Supplemental Attachment B.pdf](#)
[TS 1-2 Supplemental Attachment C.pdf](#)

Good Afternoon Jayson,

Below is the Company's responses to your comments. I have updated the TS 1-2 Attachments A, B and C to reflect these changes.

- 1) Since the Company did not have the updated tax rates until December, the Company is using the most recent tax rate available at the date of the original filing. (i.e., North Hampton and Rye have been updated to reflect the July rates.)
- 2) The Company has updated the scheduled to remove the retirements from the property tax calculations.
- 3) I have fixed all the referenced sections that you noted below in the attachments.

Please let me know if you have additional comments.

Thank you,

Josh

Joshua Unger
Senior Regulatory Compliance Specialist
Aquarion Water Company
600 Lindley Street
Bridgeport, CT 06606
Phone: 203.337.5990
Cell: 203.331.7434
Fax: 203.330.4641

Stewards of the Environment
Please think green before printing this e-mail

From: "Laflamme, Jayson" <Jayson.Laflamme@puc.nh.gov>
Date: December 18, 2015 at 9:29:05 AM EST
To: "'dkirven@aquarionwater.com'" <dkirven@aquarionwater.com>, 'Troy Dixon'

<TDixon@aquarionwater.com>

Cc: "'rsamuels@mclane.com'" <rsamuels@mclane.com>, "Patterson, Rorie" <Rorie.Patterson@puc.nh.gov>, "Naylor, Mark" <Mark.Naylor@puc.nh.gov>, 'Doug Brogan' <douglas.brogan@myfairpoint.net>

Subject: DW 15-476: Aquarion Water Company of New Hampshire -- Response to TS 1-2

Hi Debra & Troy:

I am e-mailing specifically with regard to the Company's response to TS 1-2. I reviewed that response yesterday and had a few comments.

- 1) With regard to updating the tax calculations to reflect the 2015 rates. In future WICA filings made by the Company, do you anticipate that the Company will know what the updated tax rates will be when it makes its filings at the end of October? If not, I would suggest the use of the prior year tax rate in order to lessen the possibility of having to amend the calculation that is included in the Company's original filing when the updated rate does become known. That would also include using the 2014 tax rate for purposes of the current WICA filing.
- 2) In the Company's calculations to determine property tax expense, I see that the Company is including a deduction for retirements. Unlike the determination of depreciation expense, I don't think that it is necessary to deduct retirements for the purpose of determining property tax expense. The reason being, for the accounting treatment of plant retirements for utility purposes both gross plant and accumulated depreciation are reduced by the original cost of the retired plant. Therefore, there is ultimately a \$0 net change in net plant in service to which the tax rate would be applied. So, there is really no need to reflect the retirements when determining property tax expense because the retirement ultimately has no impact on net plant in service. If you look at my Schedule 2a included in my handout at the tech session, you'll see that I reduced both plant in service and accumulated depreciation by the amount of the retirements to arrive at the net plant in service amount which is subject to the property tax rate.
- 3) Throughout the schedules, I noted several instances where it did not look like accumulated depreciation had been deducted in the determination of property tax expense. These included:

Attachment A, Page 3 of 3: Project Surcharge Approved in DW 14-300: Company calculated \$13,646. I calculate \$13,397.

The difference appears to stem from \$10,689 in accumulated depreciation.

Attachment C, Page 3 of 9: 2014 Projects: Company calculated \$13,646. I calculate \$13,231.

The difference appears to stem from

\$17,815 in accumulated depreciation.

Attachment C, Page 6 of 9: 2014 Projects: Company calculated \$13,646. I calculate \$13,066.

The difference appears to stem from \$24,941 in accumulated depreciation.

2016 Projects: Company calculated \$23,938. I calculate \$23,500.

The difference appears to stem from \$18,824 in accumulated depreciation.

2017 Projects: Company calculated \$23,803. I calculate \$23,660.

The difference appears to stem from \$6,452 in accumulated depreciation.

Attachment C, Page 9 of 9: 2014 Projects: Company calculated \$13,646. I calculate \$12,900.

The difference appears to stem from \$32,067 in accumulated depreciation.

2016 Projects: Company calculated \$23,938. I calculate \$23,208.

The difference appears to stem from \$31,373 in accumulated depreciation.

2017 Projects: Company calculated \$23,803. I calculate \$23,360.

The difference appears to stem from \$19,356 in accumulated depreciation.

2018 Projects: Company calculated \$22,355. I calculate \$22,218.

The difference appears to stem from \$5,866 in accumulated depreciation.

I look forward to your comments regarding the above.

Thanks,

Jayson Laflamme

Utility Analyst, Gas-Water Division
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301-2429
(603) 271-6322
jayson.laflamme@puc.nh.gov

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Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2015				DK-1, Pg 3 Col 6b Ln 31	\$ 2,072,161
3						
4	Accumulated Depreciation				DK-1, Pg 3 Col 8a Ln 31	(38,172)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 2,033,990</u>
7						
8	Allowed Return on Rate Base				DK-1, Pg 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 152,346
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)					\$ 2,033,990
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	54,104
27						
28	Depreciation Expense				DK-1, Pg 3 Col 8 Ln 31	25,184
29						
30	Property Tax Expense				DK-1, Pg 3 Col 10 Ln 31	45,515
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 277,149</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					3.99%

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1 Estimated Completion Date**	2 Actual Completion Date	3 Estimated Project Cost**	4 Actual Project Cost	5 Accumulated Depreciation	6 Project Cost minus Accumulated Depreciation	7 Depreciation Expense	8 Property Tax Expense	9 Income Tax Expense	10 Rate of Return	11 Annual Retail Revenues	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars
1													
2	Project Surcharge Approved in DW 13-314												
3	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 1,221	\$ 15,245	\$ 488	\$ 313	\$ 406	7.49%	\$ 7,129,043	2,349
4	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 20,134	\$ 669,722	\$ 8,054	\$ 15,002	\$ 17,815	7.49%	\$ 7,129,043	91,032
5	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 435	\$ 7,712	\$ 174	\$ 173	\$ 205	7.49%	\$ 7,129,043	1,130
6	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 630	\$ 13,784	\$ 252	\$ 294	\$ 367	7.49%	\$ 7,129,043	1,945
7	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 646	\$ 4,521	\$ 258	\$ 98	\$ 120	7.49%	\$ 7,129,043	815
8				\$ 142,130	\$ 734,050	\$ 23,067	\$ 710,983	\$ 9,227	\$ 15,879	\$ 18,912			97,271
9													
10	Project Surcharge Approved in DW 14-300												
11	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 184	\$ 2,860	\$ 122	\$ 64	\$ 76	7.49%	\$ 7,129,043	477
12	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 10,506	\$ 583,097	\$ 7,004	\$ 13,061	\$ 15,510	7.49%	\$ 7,129,043	79,249
13				\$ 939,568	\$ 596,646	\$ 10,689	\$ 585,957	\$ 7,126	\$ 13,125	\$ 15,586			79,726
14													
15	Project Surcharge Proposed Herein												
16	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 4,416	\$ 737,049	\$ 8,831	\$ 16,510	\$ 19,606	7.49%	\$ 7,129,043	100,152
17				\$ 741,465	\$ 741,465	\$ 4,416	\$ 737,049	\$ 8,831	\$ 16,510	\$ 19,606			100,152
18													
19													
20	TOTALS			<u>\$ 1,823,163</u>	<u>\$ 2,072,161</u>	<u>\$ 38,172</u>	<u>\$ 2,033,990</u>	<u>\$ 25,184</u>	<u>\$ 45,515</u>	<u>\$ 54,104</u>			<u>\$ 277,149</u>

22 * Emergency Replacement
23 ** Per Docket Filing DW 14-300

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates			10 = ((6b-8a)/1000 x 12) Prop. Tax Expense		
															Town	State	Total			
1																				
2	Project Surcharge Approved in DW 13-314																			
3																				
4	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 44	9.02	6.60	15.62	\$	53	
5	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 240	14.53	6.60	21.13	\$	90	
6	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 937	15.80	6.60	22.40	\$	170	
7	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 3,813	15.80	6.60	22.40	\$	2,901	
8	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 5,892	15.80	6.60	22.40	\$	4,499	
9	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 2,556	15.80	6.60	22.40	\$	1,859	
10	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 7,874	15.80	6.60	22.40	\$	5,742	
11	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 435	15.80	6.60	22.40	\$	173	
12	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 527	15.80	6.60	22.40	\$	259	
13	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 103	9.02	6.60	15.62	\$	34	
14	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 283	15.80	6.60	22.40	\$	44	
15	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 363	14.53	6.60	21.13	\$	54	
16									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 23,067				\$	15,879	
17	Project Surcharge Approved in DW 14-300																			
18																				
19	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 184	15.80	6.60	22.40	\$	64	
20	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 978	15.80	6.60	22.40	\$	1,266	
21	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 9,527	15.80	6.60	22.40	\$	11,795	
22									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 10,689				\$	13,125	
23	Project Surcharge Proposed Herein																			
24																				
25	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 1,015	15.80	6.60	22.40	\$	3,779	
26	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 2,298	15.80	6.60	22.40	\$	8,581	
27	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 1,102	15.80	6.60	22.40	\$	4,150	
28									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 4,416				\$	16,510	
29																				
30																				
31									TOTALS	\$ 2,122,161	\$ 2,072,161	\$ 44,532	\$ 41,494	\$ 25,184	\$ 38,172				\$	45,515
32																				

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.

** Type of Project (designations will be given for various types of projects)

to DK-1,
Pg 1, Ln 2

to DK-1,
Pg 1, Ln 28

to DK-1,
Pg 1, Ln 4

to DK-1,
Pg 1, Ln 30

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT

In addition to the net charges provided for in this Tariff, a Water Infrastructure and Conservation Adjustment (“WICA”) surcharge of ~~2.53863.99%~~ will apply to all bills with services rendered on or after January 1, ~~2015~~2016.

I. General Description

Purpose: To recover the fixed costs (depreciation, property taxes and pre-tax return) of certain Commission-approved non-revenue producing system improvement projects completed and placed in service and to be recorded in the individual accounts, as noted below, between base rate cases. In addition, WICA provides the Company with the resources to accelerate asset replacement for infrastructure for the purpose of improving or protecting water quality and the reliability of service and to comply with evolving regulatory requirements imposed by the Safe Drinking Water Act.

Eligible Property: The WICA-eligible property will consist of the following:

Services over and above an annual; \$50,000 threshold (account 333) and hydrants (account 335) installed as in-kind (i.e., same size) replacements for customers;

mains and valves (account 331) installed as replacements for existing facilities that have either reached the end of their useful life, are worn out or are in deteriorated condition,

main cleaning and re-lining projects and relocations that are non-reimbursable (account 331);

replacement of production meters (account 304); and

replacement of pressure reducing valves (accounts 309, 331);

II. Computation of the WICA

Calculation: The initial charge, effective January 1, 2011, will be calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the Company's rate base and will have been placed in service between January 1, 2010 and September 30, 2010. Thereafter, the WICA will be updated on an annual basis to reflect eligible plant additions placed in service during the twelve month period ending three months prior to the effective date of each WICA update (the “Project Year”). Thus, changes in the WICA rate will occur as follows:

Issued: ~~March 11, 2015~~January 1, 2016 Issued by: _____
Donald Morrissey

Effective: January 1, ~~2015–2016~~ Title: Chief Financial Officer
As authorized in order ~~25,751-XX,XXX~~ in Case DW ~~14-30015-XXX~~476

<u>Effective Date Of WICA Change</u>	<u>Date To Which WICA Eligible Plant Additions Reflected</u>
January 1, 2XXX+1	September 30, 2XXX

The fixed costs of eligible infrastructure system improvement projects will consist of depreciation, property taxes and pre-tax return, calculated as follows:

Depreciation: The depreciation expense will be calculated by applying the depreciation rates employed in the Company's last base rate case for the plant accounts to the original cost of WICA-eligible property minus the corresponding retirement unit recorded.

Property Taxes: ~~For the first year that a WICA for any particular project is in effect, the property tax expense will reflect an estimate of the tax expense for such projects based on the tax rate then in effect. If such property taxes will be due for only a portion of the calendar year, then the WICA for the first year shall reflect only the property taxes projected to be paid. For the second and subsequent years that a WICA for those projects is in effect, the WICA shall be determined using the property tax rate in effect for each town at the end of the most recent Pproject Yyear completed (the "tax rate"), and shall be applied to the cumulative Pproject Yyear ending net book value of all eligible WICA projects included from the first Pproject Yyear thru the end of the most recent Pproject Yyear taxes due and owing for such projects based on the tax bill for a full tax year. The WICA shall not be adjusted in subsequent years, regardless of any change in the taxes originally assessed.~~

Pre-tax return: The pre-tax return will be calculated using the state and federal income tax rates. The cost of equity and debt will be the rates approved in the Company's last base rate case, DW 08-098, or a subsequent docket.

WICA Surcharge Amount: The charge will be expressed as a percentage carried to ~~four~~two decimal places and will be applied to the effective portion of the total amount billed to each customer under the Company's otherwise applicable rates and charges.

Formula: The formula for calculation of the WICA surcharge is as follows:

$$\text{WICA} = \text{(ISI x PTRR) + Dep + PT}$$

Issued: ~~September 25, 2009~~January 1, 2016

Donald Morrissey

Issued by: _____

Effective: ~~September 25, 2009~~January 1, 2016
As authorized in order ~~25,019XX,XXX~~ in Case DW ~~08-09815-476~~

Title: Chief Financial Officer

NHPUC No. 1 – Water

Aquarion Water Company of New Hampshire Superseding ~~Third-Third~~ Revised Page 17

~~Second-Third~~ Revised Page 17

BRWR

Where:

Issued: ~~September 25, 2009~~ January 1, 2016

Effective: ~~September 25, 2009~~ January 1, 2016
As authorized in order ~~25,019XX,XXX~~ in Case DW ~~08-09815-476~~

Donald Morrissey

Title: Chief Financial Officer

Issued by: _____

- ISI= the original cost to the Company of eligible infrastructure system improvement projects, less accumulated depreciation.
- PTRR= the pre-tax return rate applicable to eligible infrastructure system improvement projects.
- Dep= annual depreciation expense related to eligible infrastructure system improvement projects.
- PT= annual property taxes related to eligible infrastructure system improvement projects.
- BRWR= base retail water revenues as approved by the Commission in the Company’s last rate proceeding, DW 08-098, or a subsequent docket.

Annual updates: Supporting data for each annual update will be filed with the Commission and the Office of Consumer Advocate sixty (60) days prior to the effective date of the update. The Company shall also provide notice to the Towns.

III. Safeguards

Cap: The amount of the WICA applied between general rate case filings shall not exceed seven and one-half percent (7.5%) of the Company’s annual retail water revenues as approved in its most recent rate filing, and shall not exceed five percent (5%) of such revenues for any twelve-month period.

Project Changes: If, after the Company has received Commission approval for Year 1 projects, because of changed circumstances or significant new information the Company plans to undertake projects in Year 1 that were not included on the list of approved WICA projects for that year or it has decided not to proceed with one or more projects that were included on the Commission-approved list, it shall promptly notify the Commission and all parties to the proceeding in which the list of WICA projects was approved that the Company plans to add to or delete projects and the reason for the proposed changes, in accordance with the following schedule. The Company will submit updates for approved WICA projects for subsequent project years, based upon information known on a project year-to-date basis, from the beginning of the project year through the following effective dates, on the associated reporting dates:

Issued: ~~April 1, 2014~~ January 1, 2016

Issued by: _____
Donald Morrissey

Effective: ~~April 1, 2014~~ January 1, 2016
As authorized in order ~~25,668XX,XXX~~ in Case DW 13-31415-476

Title: Chief Financial Officer

<u>Effective Date</u>	<u>Reporting Date</u>
<u>December 31</u>	<u>January 15</u>
<u>March 31</u>	<u>April 15</u>
<u>June 30</u>	<u>July 15</u>
<u>September 30</u>	<u>October 15</u>

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Issued: ~~April 1, 2014~~January 1, 2016

Issued by: _____
Donald Morrissey

Effective: ~~April 1, 2014~~January 1, 2016
As authorized in order ~~25,668XX,XXX~~ in Case DW ~~13-31415-476~~

Title: Chief Financial Officer

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Audits: The WICA will be subject to audit prior to the determination by the Commission.

New Base Rates: The WICA charge will be reset at zero as of the effective date of new base rates that provide for prospective recovery of the annual costs that had theretofore been recovered under the WICA. Thereafter, only the fixed costs of new eligible plant additions, that have not previously been reflected in the Company's rate base, would be reflected in the annual updates of the WICA.

Customer Notice: Customers shall be notified of changes in the WICA by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing. Before sending, the Company will review the notice with the Commission's Consumer Affairs division.

Issued: April 1, 2014

Issued by: _____
Donald Morrissey

Effective: April 1, 2014
As authorized in order 25,668 in Case DW 13-314

Title: Chief Financial Officer

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line		<u>Schedule Ref.</u>	
1			
2	Total Investment through 09/30/2016	2017 3 Col 6b Ln 33	\$ 3,116,161
3			
4	Accumulated Depreciation	2017 3 Col 8a Ln 33	(69,630)
5			
6	Net Investment	Ln 2 + Ln 4	<u>\$ 3,046,531</u>
7			
8	Allowed Return on Rate Base	2017 2 Col 10	<u>7.49%</u>
9			
10	Allowed Return on Investment	Ln 6 x Ln 8	\$ 228,185
11			
12	Income Tax on Equity Component		
13			
14			
15		(a)	(b)
16		Weighted	Tax
17		Cost	Multiplier
18	Debt	3.58%	1.00
19	Equity	<u>3.91%</u>	<u>1.68</u>
20			
21		7.49%	10.15%
22			2.66%
23	Total Eligible Investment (Line 6 above)		\$ 3,046,531
24			
25			
26	Income Tax Expense	Ln 21 Col D X Ln 23	81,038
27			
28	Depreciation Expense	2017 3 Col 8 Ln 33	37,733
29			
30	Property Tax Expense	2017 3 Col 10 Ln 33	68,196
31			
32	Adjustment: Annual Revenues Allowed	Lines 10 + 26 + 28 + 30	<u>\$ 415,153</u>
33			
34			
35	Base Revenues on which Adjustment will be applied		
36	Revenues allowed DW 12-085		\$ 7,129,043
37	Misc. Charges not subject to WICA		(189,059)
38			<u>\$ 6,939,984</u>
39			
40	Surcharge Percent (Line 32 divided by Line 38)		5.98%

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1 Estimated Completion Date**	2 Actual Completion Date	3 Estimated Project Cost**	4 Actual Project Cost	5 Accumulated Depreciation	6 Project Cost minus Accumulated Depreciation	7 Depreciation Expense	8 Property Tax Expense	9 Income Tax Expense	10 Rate of Return	11 Annual Retail Revenues	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars
2013 Projects													
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 1,710	\$ 14,756	\$ 488	\$ 302	\$ 393	7.49%	\$ 7,129,043	2,289
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 28,188	\$ 661,668	\$ 8,054	\$ 14,821	\$ 17,600	7.49%	\$ 7,129,043	90,034
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 610	\$ 7,538	\$ 174	\$ 169	\$ 201	7.49%	\$ 7,129,043	1,108
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 882	\$ 13,532	\$ 252	\$ 288	\$ 360	7.49%	\$ 7,129,043	1,914
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 904	\$ 4,263	\$ 258	\$ 92	\$ 113	7.49%	\$ 7,129,043	783
7				\$ 142,130	\$ 734,050	\$ 32,294	\$ 701,757	\$ 9,227	\$ 15,673	\$ 18,667			96,128
2014 Projects													
10	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 306	\$ 2,738	\$ 122	\$ 61	\$ 73	7.49%	\$ 7,129,043	462
11	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 17,509	\$ 576,093	\$ 7,004	\$ 12,904	\$ 15,324	7.49%	\$ 7,129,043	78,382
12				\$ 939,568	\$ 596,646	\$ 17,815	\$ 578,831	\$ 7,126	\$ 12,966	\$ 15,397			78,843
2015 Projects													
15	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 13,247	\$ 728,217	\$ 8,831	\$ 16,312	\$ 19,371	7.49%	\$ 7,129,043	99,058
16				\$ 741,465	\$ 741,465	\$ 13,247	\$ 728,217	\$ 8,831	\$ 16,312	\$ 19,371			99,058
2016 Projects													
19	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 154	\$ 182	7.49%	\$ 7,129,043	1,131
20	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 6,134	\$ 1,030,866	\$ 12,268	\$ 23,091	\$ 27,421	7.49%	\$ 7,129,043	139,992
21				\$ 1,038,600	\$ 1,044,000	\$ 6,275	\$ 1,037,725	\$ 12,549	\$ 23,245	\$ 27,603			141,123
23	TOTALS			\$ 2,861,763	\$ 3,116,161	\$ 69,630	\$ 3,046,531	\$ 37,733	\$ 68,196	\$ 81,038			\$ 415,153

* Emergency Replacement
** Per Docket Filing DW 13-314

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates			10 = (((6b-8a)/1000) x 12) Prop. Tax Expense	
															Town	State	Total		
2013 Projects																			
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 61	9.02	6.60	15.62	\$ 53	
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 336	14.53	6.60	21.13	\$ 88	
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 1,312	15.80	6.60	22.40	\$ 162	
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 5,338	15.80	6.60	22.40	\$ 2,867	
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 8,249	15.80	6.60	22.40	\$ 4,446	
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 3,578	15.80	6.60	22.40	\$ 1,836	
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 11,023	15.80	6.60	22.40	\$ 5,672	
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 610	15.80	6.60	22.40	\$ 169	
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 738	15.80	6.60	22.40	\$ 255	
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 144	9.02	6.60	15.62	\$ 34	
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 396	15.80	6.60	22.40	\$ 42	
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 508	14.53	6.60	21.13	\$ 51	
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 32,294				\$ 15,673	
14																			
2014 Projects																			
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 306	15.80	6.60	22.40	\$ 61	
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 1,630	15.80	6.60	22.40	\$ 1,252	
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 15,879	15.80	6.60	22.40	\$ 11,653	
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 17,815				\$ 12,966	
20																			
2015 Projects																			
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 3,045	15.80	6.60	22.40	\$ 3,734	
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 6,895	15.80	6.60	22.40	\$ 8,478	
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 3,307	15.80	6.60	22.40	\$ 4,100	
25									\$741,465	\$741,465	\$5,512	\$5,512	\$8,831	\$13,247				\$ 16,312	
26																			
2016 Projects																			
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$606	\$ 606	\$ 281	\$ 141	15.80	6.60	22.40	\$ 154	
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$1,712	\$ 1,712	\$ 1,431	\$ 716	15.80	6.60	22.40	\$ 2,694	
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$1,189	\$ 1,189	\$ 994	\$ 497	15.80	6.60	22.40	\$ 1,870	
31	Lafayette Rd: Park Ave (north) to Stickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$1,019	\$ 1,019	\$ 852	\$ 426	15.80	6.60	22.40	\$ 1,603	
32	Lafayette Rd: Stickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$3,467	\$ 3,467	\$ 2,898	\$ 1,449	15.80	6.60	22.40	\$ 5,456	
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$1,924	\$ 1,924	\$ 1,609	\$ 804	15.80	6.60	22.40	\$ 3,028	
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$3,835	\$ 3,835	\$ 3,206	\$ 1,603	15.80	6.60	22.40	\$ 6,034	
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$1,528	\$ 1,528	\$ 1,278	\$ 639	15.80	6.60	22.40	\$ 2,405	
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 6,275				\$ 23,245	
37																			
38																			
39																			
TOTALS									\$ 3,166,161	\$ 3,116,161	\$ 59,812	\$ 56,774	\$ 37,733	\$ 69,630				\$ 68,196	
									to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,				to 2017 1,		
									Ln 2	Ln 28	Ln 4	Ln 30				Ln 30			

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
 ** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line		<u>Schedule Ref.</u>	
1			
2	Total Investment through 09/30/2017	2018 3 Col 6b Ln 45	\$ 4,190,161
3			
4	Accumulated Depreciation	2018 3 Col 8a Ln 45	(113,816)
5			
6	Net Investment	Ln 2 + Ln 4	<u>\$ 4,076,345</u>
7			
8	Allowed Return on Rate Base	2018 2 Col 10	<u>7.49%</u>
9			
10	Allowed Return on Investment	Ln 6 x Ln 8	\$ 305,318
11			
12	Income Tax on Equity Component		
13			
14			
15		(a)	(b)
16		Weighted	Tax
17		Cost	Multiplier
18	Debt	3.58%	1.00
19	Equity	<u>3.91%</u>	<u>1.68</u>
20			
21		7.49%	10.15%
22			2.66%
23	Total Eligible Investment (Line 6 above)		\$ 4,076,345
24			
25			
26	Income Tax Expense	Ln 21 Col D X Ln 23	108,431
27			
28	Depreciation Expense	2018 3 Col 8 Ln 45	50,638
29			
30	Property Tax Expense	2018 3 Col 10 Ln 45	90,630
31			
32	Adjustment: Annual Revenues Allowed	Lines 10 + 26 + 28 + 30	<u>\$ 555,017</u>
33			
34			
35	Base Revenues on which Adjustment will be applied		
36	Revenues allowed DW 12-085		\$ 7,129,043
37	Misc. Charges not subject to WICA		(189,059)
38			<u>\$ 6,939,984</u>
39			
40	Surcharge Percent (Line 32 divided by Line 38)		8.00%

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1	2	3	4	5	6	7	8	9	10	11	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars
		Estimated Completion Date**	Actual Completion Date	Estimated Project Cost**	Actual Project Cost	Accumulated Depreciation	Project Cost minus Accumulated Depreciation	Depreciation Expense	Property Tax Expense	Income Tax Expense	Rate of Return	Annual Retail Revenues	
2013 Projects													
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 2,198	\$ 14,268	\$ 488	\$ 292	\$ 380	7.49%	\$ 7,129,043	2,228
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 36,242	\$ 653,614	\$ 8,054	\$ 14,641	\$ 17,386	7.49%	\$ 7,129,043	89,037
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 784	\$ 7,364	\$ 174	\$ 165	\$ 196	7.49%	\$ 7,129,043	1,087
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 1,134	\$ 13,280	\$ 252	\$ 283	\$ 353	7.49%	\$ 7,129,043	1,883
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 1,163	\$ 4,004	\$ 258	\$ 87	\$ 107	7.49%	\$ 7,129,043	752
				\$ 142,130	\$ 734,050	\$ 41,520	\$ 692,530	\$ 9,227	\$ 15,468	\$ 18,421			94,986
2014 Projects													
8	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 428	\$ 2,616	\$ 122	\$ 59	\$ 70	7.49%	\$ 7,129,043	446
9	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 24,513	\$ 569,090	\$ 7,004	\$ 12,748	\$ 15,138	7.49%	\$ 7,129,043	77,514
				\$ 939,568	\$ 596,646	\$ 24,941	\$ 571,705	\$ 7,126	\$ 12,806	\$ 15,207			77,960
2015 Projects													
11	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 22,079	\$ 719,386	\$ 8,831	\$ 16,114	\$ 19,136	7.49%	\$ 7,129,043	97,963
				\$ 741,465	\$ 741,465	\$ 22,079	\$ 719,386	\$ 8,831	\$ 16,114	\$ 19,136			97,963
2016 Projects													
13	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 422	\$ 6,578	\$ 281	\$ 147	\$ 175	7.49%	\$ 7,129,043	1,096
14	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 18,402	\$ 1,018,598	\$ 12,268	\$ 22,817	\$ 27,095	7.49%	\$ 7,129,043	138,472
				\$ 1,038,600	\$ 1,044,000	\$ 18,824	\$ 1,025,176	\$ 12,549	\$ 22,964	\$ 27,270			139,569
2017 Projects													
16	Production Meters	30-Sep-17	30-Sep-17	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 154	\$ 182	7.49%	\$ 7,129,043	1,131
17	Main Replacements	30-Sep-17	30-Sep-17	\$ 1,067,000	\$ 1,067,000	\$ 6,311	\$ 1,060,689	\$ 12,623	\$ 23,124	\$ 28,214	7.49%	\$ 7,129,043	143,407
				\$ 1,068,600	\$ 1,074,000	\$ 6,452	\$ 1,067,548	\$ 12,904	\$ 23,278	\$ 28,397			144,538
18													
19	TOTALS			\$ 3,930,363	\$ 4,190,161	\$ 113,816	\$ 4,076,345	\$ 50,638	\$ 90,630	\$ 108,431			\$ 555,017

20
21 * Emergency Replacement
22 ** Per Docket Filing DW 13-314
23

**Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)**

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE**

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a	6b	7a	7b	8 = (6b - 7b) x 2	8a = 8 x 50%	9			10 = (((6b-8a)/1000) x		
									Total Capital Costs	Eligible Capital Costs	Total Retirements	Eligible Retirements	Depreciation Expense	Accumulated Depreciation	Town	State	Total	Prop. Tax Expense		
2013 Projects																				
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 79	9.02	6.60	15.62	\$ 52		
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 432	14.53	6.60	21.13	\$ 86		
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 1,687	15.80	6.60	22.40	\$ 153		
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 6,863	15.80	6.60	22.40	\$ 2,833		
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 10,606	15.80	6.60	22.40	\$ 4,394		
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 4,601	15.80	6.60	22.40	\$ 1,813		
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 14,173	15.80	6.60	22.40	\$ 5,601		
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 784	15.80	6.60	22.40	\$ 165		
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 949	15.80	6.60	22.40	\$ 250		
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 185	9.02	6.60	15.62	\$ 33		
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 510	15.80	6.60	22.40	\$ 39		
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 653	14.53	6.60	21.13	\$ 48		
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 41,520				\$ 15,468		
14																				
2014 Projects																				
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 428	15.80	6.60	22.40	\$ 59		
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 2,283	15.80	6.60	22.40	\$ 1,237		
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 22,230	15.80	6.60	22.40	\$ 11,511		
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 24,941				\$ 12,806		
20																				
2015 Projects																				
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 169,733	\$ 169,733	\$ 551	\$ 551	\$ 2,030	\$ 5,075	15.80	6.60	22.40	\$ 3,688		
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 385,374	\$ 385,374	\$ 2,324	\$ 2,324	\$ 4,597	\$ 11,491	15.80	6.60	22.40	\$ 8,375		
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 186,358	\$ 186,358	\$ 2,637	\$ 2,637	\$ 2,205	\$ 5,512	15.80	6.60	22.40	\$ 4,051		
25									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 22,079				\$ 16,114		
26																				
2016 Projects																				
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 422	15.80	6.60	22.40	\$ 147		
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$ 1,712	\$ 1,712	\$ 1,431	\$ 2,147	15.80	6.60	22.40	\$ 2,662		
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$ 1,189	\$ 1,189	\$ 994	\$ 1,491	15.80	6.60	22.40	\$ 1,848		
31	Lafayette Rd: Park Ave (north) to Sickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$ 1,019	\$ 1,019	\$ 852	\$ 1,278	15.80	6.60	22.40	\$ 1,584		
32	Lafayette Rd: Sickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$ 3,467	\$ 3,467	\$ 2,898	\$ 4,348	15.80	6.60	22.40	\$ 5,391		
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$ 1,924	\$ 1,924	\$ 1,609	\$ 2,413	15.80	6.60	22.40	\$ 2,992		
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$ 3,835	\$ 3,835	\$ 3,206	\$ 4,809	15.80	6.60	22.40	\$ 5,963		
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$ 1,528	\$ 1,528	\$ 1,278	\$ 1,916	15.80	6.60	22.40	\$ 2,376		
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 18,824				\$ 22,964		
37																				
2017 Projects																				
39	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2017	10/31/2017	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 422	15.80	6.60	22.40	\$ 154		
40	High Street: east of Mill Pond Lane		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 332,000	\$ 332,000	\$ 4,698	\$ 4,698	\$ 3,928	\$ 1,964	15.80	6.60	22.40	\$ 7,393		
41	Winnacunnet Rd: Lafayette Rd. to Towle Av		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 232,000	\$ 232,000	\$ 3,283	\$ 3,283	\$ 2,745	\$ 1,372	15.80	6.60	22.40	\$ 5,166		
42	Shop Road: transmission main		North Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 503,000	\$ 503,000	\$ 7,118	\$ 7,118	\$ 5,951	\$ 2,975	14.53	6.60	21.13	\$ 10,566		
43									\$ 1,074,000	\$ 1,074,000	\$ 15,704	\$ 15,704	\$ 12,904	\$ 6,452				\$ 23,278		
44																				
45																				
TOTALS									\$ 4,240,161	\$ 4,190,161	\$ 75,516	\$ 72,478	\$ 50,638	\$ 113,816				\$ 90,630		
									to 2018 1,			to 2018 1,			to 2018 1,			to 2018 1,		
									Ln 2			Ln 28			Ln 4			Ln 30		

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2018				2019 3 Col 6b Ln 55	\$ 5,165,161
3						
4	Accumulated Depreciation				2019 3 Col 8a Ln 55	(170,320)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 4,994,841</u>
7						
8	Allowed Return on Rate Base				2019 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 374,114
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)					\$ 4,994,841
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	132,863
27						
28	Depreciation Expense				2019 3 Col 8 Ln 55	62,371
29						
30	Property Tax Expense				2019 3 Col 10 Ln 55	111,213
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 680,560</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					9.81%

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1	2	3	4	5	6	7	8	9	10	11	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars	
		Estimated Completion Date**	Actual Completion Date	Estimated Project Cost**	Actual Project Cost	Accumulated Depreciation	Project Cost minus Accumulated Depreciation	Depreciation Expense	Property Tax Expense	Income Tax Expense	Rate of Return	Annual Retail Revenues		
2013 Projects														
1	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 2,687	\$ 13,779	\$ 488	\$ 281	\$ 367	7.49%	\$ 7,129,043	2,168	
2	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 44,296	\$ 645,560	\$ 8,054	\$ 14,461	\$ 17,172	7.49%	\$ 7,129,043	88,039	
3	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 958	\$ 7,189	\$ 174	\$ 161	\$ 191	7.49%	\$ 7,129,043	1,065	
4	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 1,386	\$ 13,028	\$ 252	\$ 278	\$ 347	7.49%	\$ 7,129,043	1,852	
5	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 1,421	\$ 3,746	\$ 258	\$ 81	\$ 100	7.49%	\$ 7,129,043	720	
6				\$ 142,130	\$ 734,050	\$ 50,747	\$ 683,303	\$ 9,227	\$ 15,262	\$ 18,176			93,844	
7														
8														
9	2014 Projects													
10	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 551	\$ 2,493	\$ 122	\$ 56	\$ 66	7.49%	\$ 7,129,043	431	
11	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 31,517	\$ 562,086	\$ 7,004	\$ 12,591	\$ 14,951	7.49%	\$ 7,129,043	76,646	
12				\$ 939,568	\$ 596,646	\$ 32,067	\$ 564,579	\$ 7,126	\$ 12,647	\$ 15,018			77,077	
13														
14	2015 Projects													
15	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 30,910	\$ 710,555	\$ 8,831	\$ 15,916	\$ 18,901	7.49%	\$ 7,129,043	96,869	
16				\$ 741,465	\$ 741,465	\$ 30,910	\$ 710,555	\$ 8,831	\$ 15,916	\$ 18,901			96,869	
17														
18	2016 Projects													
19	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 703	\$ 6,297	\$ 281	\$ 141	\$ 167	7.49%	\$ 7,129,043	1,061	
20	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 30,670	\$ 1,006,330	\$ 12,268	\$ 22,542	\$ 26,768	7.49%	\$ 7,129,043	136,952	
21				\$ 1,038,600	\$ 1,044,000	\$ 31,373	\$ 1,012,627	\$ 12,549	\$ 22,683	\$ 26,936			138,014	
22														
23	2017 Projects													
24	Production Meters	30-Sep-17	30-Sep-17	\$ 1,600	\$ 7,000	\$ 422	\$ 6,578	\$ 281	\$ 147	\$ 175	7.49%	\$ 7,129,043	1,096	
25	Main Replacements	30-Sep-17	30-Sep-17	\$ 1,067,000	\$ 1,067,000	\$ 18,934	\$ 1,048,066	\$ 12,623	\$ 22,849	\$ 27,879	7.49%	\$ 7,129,043	141,851	
26				\$ 1,068,600	\$ 1,074,000	\$ 19,356	\$ 1,054,644	\$ 12,904	\$ 22,997	\$ 28,054			142,947	
27														
28	2018 Projects													
29	Production Meters	30-Sep-18	30-Sep-16	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 154	\$ 182	7.49%	\$ 7,129,043	1,131	
30	Main Replacements	30-Sep-18	30-Sep-16	\$ 968,000	\$ 968,000	\$ 5,726	\$ 962,274	\$ 11,452	\$ 21,555	\$ 25,596	7.49%	\$ 7,129,043	130,677	
31				\$ 969,600	\$ 975,000	\$ 5,866	\$ 969,134	\$ 11,733	\$ 21,709	\$ 25,779			131,809	
32														
33	TOTALS			\$ 4,899,963	\$ 5,165,161	\$ 170,320	\$ 4,994,841	\$ 62,371	\$ 111,213	\$ 132,863			\$ 680,559	
34														

* Emergency Replacement
** Per Docket Filing DW 13-314

**Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)**

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE**

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a	6b	7a	7b	8 = (6b - 7b) x 2	8a = 8 x 50%	9			10 = (((6b-8a)/1000) x 12)
									Total Capital Costs	Eligible Capital Costs	Total Retirements	Eligible Retirements	Depreciation Expense	Accumulated Depreciation	Town	State	Total	Prop. Tax Expense
2013 Projects																		
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 97	9.02	6.60	15.62	\$ 52
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 528	14.53	6.60	21.13	\$ 84
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 2,062	15.80	6.60	22.40	\$ 145
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 8,388	15.80	6.60	22.40	\$ 2,799
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 12,963	15.80	6.60	22.40	\$ 4,341
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 5,623	15.80	6.60	22.40	\$ 1,790
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 17,322	15.80	6.60	22.40	\$ 5,530
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 958	15.80	6.60	22.40	\$ 161
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 1,160	15.80	6.60	22.40	\$ 245
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 4,664	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 226	9.02	6.60	15.62	\$ 32
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 623	15.80	6.60	22.40	\$ 37
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 798	14.53	6.60	21.13	\$ 44
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 50,747				\$ 15,262
14																		
2014 Projects																		
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 551	15.80	6.60	22.40	\$ 56
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 2,935	15.80	6.60	22.40	\$ 1,222
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 28,582	15.80	6.60	22.40	\$ 11,368
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 32,067				\$ 12,647
20																		
2015 Projects																		
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 169,733	\$ 169,733	\$ 551	\$ 551	\$ 2,030	\$ 7,106	15.80	6.60	22.40	\$ 3,643
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 385,374	\$ 385,374	\$ 2,324	\$ 2,324	\$ 4,597	\$ 16,088	15.80	6.60	22.40	\$ 8,272
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 186,358	\$ 186,358	\$ 2,637	\$ 2,637	\$ 2,205	\$ 7,716	15.80	6.60	22.40	\$ 4,002
25									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 30,910				\$ 15,916
26																		
2016 Projects																		
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 703	15.80	6.60	22.40	\$ 141
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$ 1,712	\$ 1,712	\$ 1,431	\$ 3,579	15.80	6.60	22.40	\$ 2,630
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$ 1,189	\$ 1,189	\$ 994	\$ 2,484	15.80	6.60	22.40	\$ 1,826
31	Lafayette Rd: Park Ave (north) to Stickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$ 1,019	\$ 1,019	\$ 852	\$ 2,129	15.80	6.60	22.40	\$ 1,565
32	Lafayette Rd: Stickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$ 3,467	\$ 3,467	\$ 2,898	\$ 7,246	15.80	6.60	22.40	\$ 5,326
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$ 1,924	\$ 1,924	\$ 1,609	\$ 4,022	15.80	6.60	22.40	\$ 2,956
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$ 3,835	\$ 3,835	\$ 3,206	\$ 8,015	15.80	6.60	22.40	\$ 5,891
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$ 1,528	\$ 1,528	\$ 1,278	\$ 3,194	15.80	6.60	22.40	\$ 2,348
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 31,373				\$ 22,683
37																		
2017 Projects																		
39	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2017	10/31/2017	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 422	15.80	6.60	22.40	\$ 147
40	High Street: east of Mill Pond Lane		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 332,000	\$ 332,000	\$ 4,698	\$ 4,698	\$ 3,928	\$ 5,891	15.80	6.60	22.40	\$ 7,305
41	Winnacunnet Rd: Lafayette Rd. to Towle Av		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 232,000	\$ 232,000	\$ 3,283	\$ 3,283	\$ 2,745	\$ 4,117	15.80	6.60	22.40	\$ 5,105
42	Shop Road: transmission main		North Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 503,000	\$ 503,000	\$ 7,118	\$ 7,118	\$ 5,951	\$ 8,926	14.53	6.60	21.13	\$ 10,440
43									\$ 1,074,000	\$ 1,074,000	\$ 15,704	\$ 15,704	\$ 12,904	\$ 19,356				\$ 22,997
44																		
2018 Projects																		
46	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2018	10/31/2018	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 141	15.80	6.60	22.40	\$ 154
47	King's Hwy: 6th St - 8th St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 166,000	\$ 166,000	\$ 2,349	\$ 2,349	\$ 1,964	\$ 982	15.80	6.60	22.40	\$ 3,696
48	King's Hwy: 8th St - 11th St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 241,000	\$ 241,000	\$ 3,410	\$ 3,410	\$ 2,851	\$ 1,426	15.80	6.60	22.40	\$ 5,366
49	King's Hwy: Gill St - 1st St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 117,000	\$ 117,000	\$ 1,656	\$ 1,656	\$ 1,384	\$ 692	15.80	6.60	22.40	\$ 2,605
50	King's Hwy: Gill St - Redman St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 97,000	\$ 97,000	\$ 1,373	\$ 1,373	\$ 1,148	\$ 574	15.80	6.60	22.40	\$ 2,160
51	King's Hwy: Redcoat Ln - 30 Kings condos		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 137,000	\$ 137,000	\$ 1,939	\$ 1,939	\$ 1,621	\$ 810	15.80	6.60	22.40	\$ 3,051
52	6th, 7th, 8th, 9th & 10th Streets		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 210,000	\$ 210,000	\$ 2,972	\$ 2,972	\$ 2,484	\$ 1,242	15.80	6.60	22.40	\$ 4,676
53									\$ 975,000	\$ 975,000	\$ 14,303	\$ 14,303	\$ 11,733	\$ 5,866				\$ 21,709
54																		
55																		
56																		
TOTALS									\$ 5,215,161	\$ 5,165,161	\$ 89,819	\$ 86,782	\$ 62,371	\$ 170,320				\$ 111,213
									to 2019 1, Ln 2		to 2019 1, Ln 28		to 2019 1, Ln 4		to 2019 1, Ln 30			

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2015				DK-1, Pg 3 Col 6b Ln 31	\$ 2,072,161
3						
4	Accumulated Depreciation				DK-1, Pg 3 Col 8a Ln 31	(38,172)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 2,033,990</u>
7						
8	Allowed Return on Rate Base				DK-1, Pg 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 152,346
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)					\$ 2,033,990
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	54,104
27						
28	Depreciation Expense				DK-1, Pg 3 Col 8 Ln 31	25,184
29						
30	Property Tax Expense				DK-1, Pg 3 Col 10 Ln 31	45,515
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 277,149</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					(189,059)
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					3.99%

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1 Estimated Completion Date**	2 Actual Completion Date	3 Estimated Project Cost**	4 Actual Project Cost	5 Accumulated Depreciation	6 Project Cost minus Accumulated Depreciation	7 Depreciation Expense	8 Property Tax Expense	9 Income Tax Expense	10 Rate of Return	11 Annual Retail Revenues	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars
1													
2	<u>Project Surcharge Approved in DW 13-314</u>												
3	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 1,221	\$ 15,245	\$ 488	\$ 313	\$ 406	7.49%	\$ 7,129,043	2,349
4	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 20,134	\$ 669,722	\$ 8,054	\$ 15,002	\$ 17,815	7.49%	\$ 7,129,043	91,032
5	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 435	\$ 7,712	\$ 174	\$ 173	\$ 205	7.49%	\$ 7,129,043	1,130
6	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 630	\$ 13,784	\$ 252	\$ 294	\$ 367	7.49%	\$ 7,129,043	1,945
7	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 646	\$ 4,521	\$ 258	\$ 98	\$ 120	7.49%	\$ 7,129,043	815
8				\$ 142,130	\$ 734,050	\$ 23,067	\$ 710,983	\$ 9,227	\$ 15,879	\$ 18,912			97,271
9													
10	<u>Project Surcharge Approved in DW 14-300</u>												
11	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 184	\$ 2,860	\$ 122	\$ 64	\$ 76	7.49%	\$ 7,129,043	477
12	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 10,506	\$ 583,097	\$ 7,004	\$ 13,061	\$ 15,510	7.49%	\$ 7,129,043	79,249
13				\$ 939,568	\$ 596,646	\$ 10,689	\$ 585,957	\$ 7,126	\$ 13,125	\$ 15,586			79,726
14													
15	<u>Project Surcharge Proposed Herein</u>												
16	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 4,416	\$ 737,049	\$ 8,831	\$ 16,510	\$ 19,606	7.49%	\$ 7,129,043	100,152
17				\$ 741,465	\$ 741,465	\$ 4,416	\$ 737,049	\$ 8,831	\$ 16,510	\$ 19,606			100,152
18													
19													
20	TOTALS			<u>\$ 1,823,163</u>	<u>\$ 2,072,161</u>	<u>\$ 38,172</u>	<u>\$ 2,033,990</u>	<u>\$ 25,184</u>	<u>\$ 45,515</u>	<u>\$ 54,104</u>			<u>\$ 277,149</u>

22 * Emergency Replacement
23 ** Per Docket Filing DW 14-300

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates			10 = ((6b-8a)/1000 x 12) Prop. Tax Expense		
															Town	State	Total			
1																				
2	Project Surcharge Approved in DW 13-314																			
3																				
4	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 44	9.02	6.60	15.62	\$	53	
5	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 240	14.53	6.60	21.13	\$	90	
6	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 937	15.80	6.60	22.40	\$	170	
7	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 3,813	15.80	6.60	22.40	\$	2,901	
8	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 5,892	15.80	6.60	22.40	\$	4,499	
9	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 2,556	15.80	6.60	22.40	\$	1,859	
10	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 7,874	15.80	6.60	22.40	\$	5,742	
11	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 435	15.80	6.60	22.40	\$	173	
12	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 527	15.80	6.60	22.40	\$	259	
13	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 103	9.02	6.60	15.62	\$	34	
14	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 283	15.80	6.60	22.40	\$	44	
15	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 363	14.53	6.60	21.13	\$	54	
16									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 23,067				\$	15,879	
17	Project Surcharge Approved in DW 14-300																			
18																				
19	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 184	15.80	6.60	22.40	\$	64	
20	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 978	15.80	6.60	22.40	\$	1,266	
21	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 9,527	15.80	6.60	22.40	\$	11,795	
22									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 10,689				\$	13,125	
23	Project Surcharge Proposed Herein																			
24																				
25	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 1,015	15.80	6.60	22.40	\$	3,779	
26	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 2,298	15.80	6.60	22.40	\$	8,581	
27	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 1,102	15.80	6.60	22.40	\$	4,150	
28									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 4,416				\$	16,510	
29																				
30																				
31									TOTALS	\$ 2,122,161	\$ 2,072,161	\$ 44,532	\$ 41,494	\$ 25,184	\$ 38,172				\$	45,515
32																				

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.

** Type of Project (designations will be given for various types of projects)

to DK-1,
Pg 1, Ln 2

to DK-1,
Pg 1, Ln 28

to DK-1,
Pg 1, Ln 4

to DK-1,
Pg 1, Ln 30

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT

In addition to the net charges provided for in this Tariff, a Water Infrastructure and Conservation Adjustment (“WICA”) surcharge of ~~2.53863.99%~~ will apply to all bills with services rendered on or after January 1, ~~2015~~2016.

I. General Description

Purpose: To recover the fixed costs (depreciation, property taxes and pre-tax return) of certain Commission-approved non-revenue producing system improvement projects completed and placed in service and to be recorded in the individual accounts, as noted below, between base rate cases. In addition, WICA provides the Company with the resources to accelerate asset replacement for infrastructure for the purpose of improving or protecting water quality and the reliability of service and to comply with evolving regulatory requirements imposed by the Safe Drinking Water Act.

Eligible Property: The WICA-eligible property will consist of the following:

Services over and above an annual; \$50,000 threshold (account 333) and hydrants (account 335) installed as in-kind (i.e., same size) replacements for customers;

mains and valves (account 331) installed as replacements for existing facilities that have either reached the end of their useful life, are worn out or are in deteriorated condition,

main cleaning and re-lining projects and relocations that are non-reimbursable (account 331);

replacement of production meters (account 304); and

replacement of pressure reducing valves (accounts 309, 331);

II. Computation of the WICA

Calculation: The initial charge, effective January 1, 2011, will be calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the Company's rate base and will have been placed in service between January 1, 2010 and September 30, 2010. Thereafter, the WICA will be updated on an annual basis to reflect eligible plant additions placed in service during the twelve month period ending three months prior to the effective date of each WICA update (the “Project Year”). Thus, changes in the WICA rate will occur as follows:

Issued: ~~March 11, 2015~~January 1, 2016 Issued by: _____
Donald Morrissey

Effective: January 1, ~~2015–2016~~ Title: Chief Financial Officer
As authorized in order ~~25,751XX,XXX~~ in Case DW ~~14-30015-XXX~~476

<u>Effective Date Of WICA Change</u>	<u>Date To Which WICA Eligible Plant Additions Reflected</u>
January 1, 2XXX+1	September 30, 2XXX

The fixed costs of eligible infrastructure system improvement projects will consist of depreciation, property taxes and pre-tax return, calculated as follows:

Depreciation: The depreciation expense will be calculated by applying the depreciation rates employed in the Company's last base rate case for the plant accounts to the original cost of WICA-eligible property minus the corresponding retirement unit recorded.

Property Taxes: ~~For the first year that a WICA for any particular project is in effect, the property tax expense will reflect an estimate of the tax expense for such projects based on the tax rate then in effect. If such property taxes will be due for only a portion of the calendar year, then the WICA for the first year shall reflect only the property taxes projected to be paid. For the second and subsequent years that a WICA for those projects is in effect, the WICA shall be determined using the property tax rate in effect for each town at the end of the most recent Pproject Yyear completed (the "tax rate"), and shall be applied to the cumulative Pproject Yyear ending net book value of all eligible WICA projects included from the first Pproject Yyear thru the end of the most recent Pproject Yyear taxes due and owing for such projects based on the tax bill for a full tax year. The WICA shall not be adjusted in subsequent years, regardless of any change in the taxes originally assessed.~~

Pre-tax return: The pre-tax return will be calculated using the state and federal income tax rates. The cost of equity and debt will be the rates approved in the Company's last base rate case, DW 08-098, or a subsequent docket.

WICA Surcharge Amount: The charge will be expressed as a percentage carried to ~~four~~two decimal places and will be applied to the effective portion of the total amount billed to each customer under the Company's otherwise applicable rates and charges.

Formula: The formula for calculation of the WICA surcharge is as follows:

$$\text{WICA} = \text{(ISI} \times \text{PTRR)} + \text{Dep} + \text{PT}$$

Issued: ~~September 25, 2009~~January 1, 2016

Donald Morrissey

Issued by: _____

Effective: ~~September 25, 2009~~January 1, 2016
As authorized in order ~~25,019XX,XXX~~ in Case DW ~~08-09815-476~~

Title: Chief Financial Officer

NHPUC No. 1 – Water

Aquarion Water Company of New Hampshire Superseding ~~Third-Third~~ Revised Page 17

~~Second-Third~~ Revised Page 17

BRWR

Where:

Issued: ~~September 25, 2009~~ January 1, 2016

Donald Morrissey

Issued by: _____

Effective: ~~September 25, 2009~~ January 1, 2016
As authorized in order ~~25,019XX,XXX~~ in Case DW ~~08-09815-476~~

Title: Chief Financial Officer

ISI= the original cost to the Company of eligible infrastructure system improvement projects, less accumulated depreciation.

PTRR= the pre-tax return rate applicable to eligible infrastructure system improvement projects.

Dep= annual depreciation expense related to eligible infrastructure system improvement projects.

PT= annual property taxes related to eligible infrastructure system improvement projects.

BRWR= base retail water revenues as approved by the Commission in the Company’s last rate proceeding, DW 08-098, or a subsequent docket.

Annual updates: Supporting data for each annual update will be filed with the Commission and the Office of Consumer Advocate sixty (60) days prior to the effective date of the update. The Company shall also provide notice to the Towns.

III. Safeguards

Cap: The amount of the WICA applied between general rate case filings shall not exceed seven and one-half percent (7.5%) of the Company’s annual retail water revenues as approved in its most recent rate filing, and shall not exceed five percent (5%) of such revenues for any twelve-month period.

Project Changes: If, after the Company has received Commission approval for Year 1 projects, because of changed circumstances or significant new information the Company plans to undertake projects in Year 1 that were not included on the list of approved WICA projects for that year or it has decided not to proceed with one or more projects that were included on the Commission-approved list, it shall promptly notify the Commission and all parties to the proceeding in which the list of WICA projects was approved that the Company plans to add to or delete projects and the reason for the proposed changes, in accordance with the following schedule. The Company will submit updates for approved WICA projects for subsequent project years, based upon information known on a project year-to-date basis, from the beginning of the project year through the following effective dates, on the associated reporting dates:

Issued: ~~April 1, 2014~~ January 1, 2016

Issued by: _____
Donald Morrissey

Effective: ~~April 1, 2014~~ January 1, 2016
As authorized in order ~~25,668XX,XXX~~ in Case DW ~~13-31415-476~~

Title: Chief Financial Officer

<u>Effective Date</u>	<u>Reporting Date</u>
<u>December 31</u>	<u>January 15</u>
<u>March 31</u>	<u>April 15</u>
<u>June 30</u>	<u>July 15</u>
<u>September 30</u>	<u>October 15</u>

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Issued: ~~April 1, 2014~~January 1, 2016

Issued by: _____
Donald Morrissey

Effective: ~~April 1, 2014~~January 1, 2016
As authorized in order ~~25,668XX,XXX~~ in Case DW ~~13-31415-476~~

Title: Chief Financial Officer

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Audits: The WICA will be subject to audit prior to the determination by the Commission.

New Base Rates: The WICA charge will be reset at zero as of the effective date of new base rates that provide for prospective recovery of the annual costs that had theretofore been recovered under the WICA. Thereafter, only the fixed costs of new eligible plant additions, that have not previously been reflected in the Company's rate base, would be reflected in the annual updates of the WICA.

Customer Notice: Customers shall be notified of changes in the WICA by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing. Before sending, the Company will review the notice with the Commission's Consumer Affairs division.

Issued: April 1, 2014

Issued by: _____
Donald Morrissey

Effective: April 1, 2014
As authorized in order 25,668 in Case DW 13-314

Title: Chief Financial Officer

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2016				2017 3 Col 6b Ln 33	\$ 3,116,161
3						
4	Accumulated Depreciation				2017 3 Col 8a Ln 33	(69,630)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 3,046,531</u>
7						
8	Allowed Return on Rate Base				2017 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 228,185
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)				\$ 3,046,531	
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	81,038
27						
28	Depreciation Expense				2017 3 Col 8 Ln 33	37,733
29						
30	Property Tax Expense				2017 3 Col 10 Ln 33	68,196
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 415,153</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					5.98%

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1 Estimated Completion Date**	2 Actual Completion Date	3 Estimated Project Cost**	4 Actual Project Cost	5 Accumulated Depreciation	6 Project Cost minus Accumulated Depreciation	7 Depreciation Expense	8 Property Tax Expense	9 Income Tax Expense	10 Rate of Return	11 Annual Retail Revenues	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars	
2013 Projects														
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 1,710	\$ 14,756	\$ 488	\$ 302	\$ 393	7.49%	\$ 7,129,043	2,289	
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 28,188	\$ 661,668	\$ 8,054	\$ 14,821	\$ 17,600	7.49%	\$ 7,129,043	90,034	
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 610	\$ 7,538	\$ 174	\$ 169	\$ 201	7.49%	\$ 7,129,043	1,108	
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 882	\$ 13,532	\$ 252	\$ 288	\$ 360	7.49%	\$ 7,129,043	1,914	
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 904	\$ 4,263	\$ 258	\$ 92	\$ 113	7.49%	\$ 7,129,043	783	
7				\$ 142,130	\$ 734,050	\$ 32,294	\$ 701,757	\$ 9,227	\$ 15,673	\$ 18,667			96,128	
8														
9	2014 Projects													
10	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 306	\$ 2,738	\$ 122	\$ 61	\$ 73	7.49%	\$ 7,129,043	462	
11	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 17,509	\$ 576,093	\$ 7,004	\$ 12,904	\$ 15,324	7.49%	\$ 7,129,043	78,382	
12				\$ 939,568	\$ 596,646	\$ 17,815	\$ 578,831	\$ 7,126	\$ 12,966	\$ 15,397			78,843	
13														
14	2015 Projects													
15	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 13,247	\$ 728,217	\$ 8,831	\$ 16,312	\$ 19,371	7.49%	\$ 7,129,043	99,058	
16				\$ 741,465	\$ 741,465	\$ 13,247	\$ 728,217	\$ 8,831	\$ 16,312	\$ 19,371			99,058	
17														
18	2016 Projects													
19	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 154	\$ 182	7.49%	\$ 7,129,043	1,131	
20	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 6,134	\$ 1,030,866	\$ 12,268	\$ 23,091	\$ 27,421	7.49%	\$ 7,129,043	139,992	
21				\$ 1,038,600	\$ 1,044,000	\$ 6,275	\$ 1,037,725	\$ 12,549	\$ 23,245	\$ 27,603			141,123	
22														
23	TOTALS			\$ 2,861,763	\$ 3,116,161	\$ 69,630	\$ 3,046,531	\$ 37,733	\$ 68,196	\$ 81,038			\$ 415,153	

* Emergency Replacement

** Per Docket Filing DW 13-314

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Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9			10 = (((6b-8a)/1000) x 12) Prop. Tax Expense	
															Town	State	Total		
2013 Projects																			
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 61	9.02	6.60	15.62	\$ 53	
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 336	14.53	6.60	21.13	\$ 88	
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 1,312	15.80	6.60	22.40	\$ 162	
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 5,338	15.80	6.60	22.40	\$ 2,867	
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 8,249	15.80	6.60	22.40	\$ 4,446	
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 3,578	15.80	6.60	22.40	\$ 1,836	
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 11,023	15.80	6.60	22.40	\$ 5,672	
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 610	15.80	6.60	22.40	\$ 169	
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 738	15.80	6.60	22.40	\$ 255	
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 144	9.02	6.60	15.62	\$ 34	
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 396	15.80	6.60	22.40	\$ 42	
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 508	14.53	6.60	21.13	\$ 51	
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 32,294				\$ 15,673	
14																			
2014 Projects																			
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 306	15.80	6.60	22.40	\$ 61	
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 1,630	15.80	6.60	22.40	\$ 1,252	
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 15,879	15.80	6.60	22.40	\$ 11,653	
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 17,815				\$ 12,966	
20																			
2015 Projects																			
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 3,045	15.80	6.60	22.40	\$ 3,734	
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 6,895	15.80	6.60	22.40	\$ 8,478	
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 3,307	15.80	6.60	22.40	\$ 4,100	
25									\$741,465	\$741,465	\$5,512	\$5,512	\$8,831	\$13,247				\$ 16,312	
26																			
2016 Projects																			
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$606	\$ 606	\$ 281	\$ 141	15.80	6.60	22.40	\$ 154	
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$1,712	\$ 1,712	\$ 1,431	\$ 716	15.80	6.60	22.40	\$ 2,694	
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$1,189	\$ 1,189	\$ 994	\$ 497	15.80	6.60	22.40	\$ 1,870	
31	Lafayette Rd: Park Ave (north) to Stickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$1,019	\$ 1,019	\$ 852	\$ 426	15.80	6.60	22.40	\$ 1,603	
32	Lafayette Rd: Stickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$3,467	\$ 3,467	\$ 2,898	\$ 1,449	15.80	6.60	22.40	\$ 5,456	
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$1,924	\$ 1,924	\$ 1,609	\$ 804	15.80	6.60	22.40	\$ 3,028	
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$3,835	\$ 3,835	\$ 3,206	\$ 1,603	15.80	6.60	22.40	\$ 6,034	
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$1,528	\$ 1,528	\$ 1,278	\$ 639	15.80	6.60	22.40	\$ 2,405	
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 6,275				\$ 23,245	
37																			
38																			
39																			
TOTALS									\$ 3,166,161	\$ 3,116,161	\$ 59,812	\$ 56,774	\$ 37,733	\$ 69,630				\$ 68,196	
									to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,	to 2017 1,
									Ln 2	Ln 2	Ln 28	Ln 28	Ln 4	Ln 4	Ln 4	Ln 4	Ln 4	Ln 4	Ln 30

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2017				2018 3 Col 6b Ln 45	\$ 4,190,161
3						
4	Accumulated Depreciation				2018 3 Col 8a Ln 45	(113,816)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 4,076,345</u>
7						
8	Allowed Return on Rate Base				2018 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 305,318
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)				\$ 4,076,345	
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	108,431
27						
28	Depreciation Expense				2018 3 Col 8 Ln 45	50,638
29						
30	Property Tax Expense				2018 3 Col 10 Ln 45	90,630
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 555,017</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					8.00%

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1	2	3	4	5	6	7	8	9	10	11	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars
		Estimated Completion Date**	Actual Completion Date	Estimated Project Cost**	Actual Project Cost	Accumulated Depreciation	Project Cost minus Accumulated Depreciation	Depreciation Expense	Property Tax Expense	Income Tax Expense	Rate of Return	Annual Retail Revenues	
2013 Projects													
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 2,198	\$ 14,268	\$ 488	\$ 292	\$ 380	7.49%	\$ 7,129,043	2,228
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 36,242	\$ 653,614	\$ 8,054	\$ 14,641	\$ 17,386	7.49%	\$ 7,129,043	89,037
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 784	\$ 7,364	\$ 174	\$ 165	\$ 196	7.49%	\$ 7,129,043	1,087
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 1,134	\$ 13,280	\$ 252	\$ 283	\$ 353	7.49%	\$ 7,129,043	1,883
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 1,163	\$ 4,004	\$ 258	\$ 87	\$ 107	7.49%	\$ 7,129,043	752
				\$ 142,130	\$ 734,050	\$ 41,520	\$ 692,530	\$ 9,227	\$ 15,468	\$ 18,421			94,986
2014 Projects													
8	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 428	\$ 2,616	\$ 122	\$ 59	\$ 70	7.49%	\$ 7,129,043	446
9	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 24,513	\$ 569,090	\$ 7,004	\$ 12,748	\$ 15,138	7.49%	\$ 7,129,043	77,514
				\$ 939,568	\$ 596,646	\$ 24,941	\$ 571,705	\$ 7,126	\$ 12,806	\$ 15,207			77,960
2015 Projects													
11	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 22,079	\$ 719,386	\$ 8,831	\$ 16,114	\$ 19,136	7.49%	\$ 7,129,043	97,963
				\$ 741,465	\$ 741,465	\$ 22,079	\$ 719,386	\$ 8,831	\$ 16,114	\$ 19,136			97,963
2016 Projects													
13	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 422	\$ 6,578	\$ 281	\$ 147	\$ 175	7.49%	\$ 7,129,043	1,096
14	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 18,402	\$ 1,018,598	\$ 12,268	\$ 22,817	\$ 27,095	7.49%	\$ 7,129,043	138,472
				\$ 1,038,600	\$ 1,044,000	\$ 18,824	\$ 1,025,176	\$ 12,549	\$ 22,964	\$ 27,270			139,569
2017 Projects													
16	Production Meters	30-Sep-17	30-Sep-17	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 154	\$ 182	7.49%	\$ 7,129,043	1,131
17	Main Replacements	30-Sep-17	30-Sep-17	\$ 1,067,000	\$ 1,067,000	\$ 6,311	\$ 1,060,689	\$ 12,623	\$ 23,124	\$ 28,214	7.49%	\$ 7,129,043	143,407
				\$ 1,068,600	\$ 1,074,000	\$ 6,452	\$ 1,067,548	\$ 12,904	\$ 23,278	\$ 28,397			144,538
18													
19	TOTALS			\$ 3,930,363	\$ 4,190,161	\$ 113,816	\$ 4,076,345	\$ 50,638	\$ 90,630	\$ 108,431			\$ 555,017

20
21 * Emergency Replacement
22 ** Per Docket Filing DW 13-314
23

Aquarion Water Company of New Hampshire
2018 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates			10 = (((6b-8a)/1000) x 12) Prop. Tax Expense		
															Town	State	Total			
2013 Projects																				
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 79	9.02	6.60	15.62	\$ 52		
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 432	14.53	6.60	21.13	\$ 86		
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 1,687	15.80	6.60	22.40	\$ 153		
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 6,863	15.80	6.60	22.40	\$ 2,833		
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 10,606	15.80	6.60	22.40	\$ 4,394		
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 4,601	15.80	6.60	22.40	\$ 1,813		
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 14,173	15.80	6.60	22.40	\$ 5,601		
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 784	15.80	6.60	22.40	\$ 165		
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 949	15.80	6.60	22.40	\$ 250		
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 185	9.02	6.60	15.62	\$ 33		
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 510	15.80	6.60	22.40	\$ 39		
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 653	14.53	6.60	21.13	\$ 48		
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 41,520				\$ 15,468		
14																				
2014 Projects																				
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 428	15.80	6.60	22.40	\$ 59		
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 2,283	15.80	6.60	22.40	\$ 1,237		
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 22,230	15.80	6.60	22.40	\$ 11,511		
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 24,941				\$ 12,806		
20																				
2015 Projects																				
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$169,733	\$ 169,733	\$551	\$ 551	\$ 2,030	\$ 5,075	15.80	6.60	22.40	\$ 3,688		
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$385,374	\$ 385,374	\$2,324	\$ 2,324	\$ 4,597	\$ 11,491	15.80	6.60	22.40	\$ 8,375		
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$186,358	\$ 186,358	\$2,637	\$ 2,637	\$ 2,205	\$ 5,512	15.80	6.60	22.40	\$ 4,051		
25									\$741,465	\$741,465	\$5,512	\$5,512	\$8,831	\$22,079				\$ 16,114		
26																				
2016 Projects																				
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$606	\$ 606	\$ 281	\$ 422	15.80	6.60	22.40	\$ 147		
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$1,712	\$ 1,712	\$ 1,431	\$ 2,147	15.80	6.60	22.40	\$ 2,662		
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$1,189	\$ 1,189	\$ 994	\$ 1,491	15.80	6.60	22.40	\$ 1,848		
31	Lafayette Rd: Park Ave (north) to Sickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$1,019	\$ 1,019	\$ 852	\$ 1,278	15.80	6.60	22.40	\$ 1,584		
32	Lafayette Rd: Sickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$3,467	\$ 3,467	\$ 2,898	\$ 4,348	15.80	6.60	22.40	\$ 5,391		
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$1,924	\$ 1,924	\$ 1,609	\$ 2,413	15.80	6.60	22.40	\$ 2,992		
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$3,835	\$ 3,835	\$ 3,206	\$ 4,809	15.80	6.60	22.40	\$ 5,963		
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$1,528	\$ 1,528	\$ 1,278	\$ 1,916	15.80	6.60	22.40	\$ 2,376		
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 18,824				\$ 22,964		
37																				
2017 Projects																				
39	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2017	10/31/2017	\$ 7,000	\$ 7,000	\$606	\$ 606	\$ 281	\$ 141	15.80	6.60	22.40	\$ 154		
40	High Street: east of Mill Pond Lane		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 332,000	\$ 332,000	\$4,698	\$ 4,698	\$ 3,928	\$ 1,964	15.80	6.60	22.40	\$ 7,393		
41	Winnacunnet Rd: Lafayette Rd. to Towle Av		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 232,000	\$ 232,000	\$3,283	\$ 3,283	\$ 2,745	\$ 1,372	15.80	6.60	22.40	\$ 5,166		
42	Shop Road: transmission main		North Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 503,000	\$ 503,000	\$7,118	\$ 7,118	\$ 5,951	\$ 2,975	14.53	6.60	21.13	\$ 10,566		
43									\$ 1,074,000	\$ 1,074,000	\$ 15,704	\$ 15,704	\$ 12,904	\$ 6,452				\$ 23,278		
44																				
45																				
TOTALS									\$ 4,240,161	\$ 4,190,161	\$ 75,516	\$ 72,478	\$ 50,638	\$ 113,816				\$ 90,630		
									to 2018 1,	Ln 2	to 2018 1,	Ln 28	to 2018 1,	Ln 4	to 2018 1,	Ln 30				

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.

** Type of Project (designations will be given for various types of projects)

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

**WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
CALCULATION OF SURCHARGE**

Line					<u>Schedule Ref.</u>	
1						
2	Total Investment through 09/30/2018				2019 3 Col 6b Ln 55	\$ 5,165,161
3						
4	Accumulated Depreciation				2019 3 Col 8a Ln 55	(170,320)
5						
6	Net Investment				Ln 2 + Ln 4	<u>\$ 4,994,841</u>
7						
8	Allowed Return on Rate Base				2019 2 Col 10	<u>7.49%</u>
9						
10	Allowed Return on Investment				Ln 6 x Ln 8	\$ 374,114
11						
12	Income Tax on Equity Component					
13						
14		(a)	(b)	(c)	(d)	
15		Weighted	Tax	Pre tax	Tax Gross Up	
16		Cost	Multiplier	Cost	Col (c) - Col (a)	
17						
18	Debt	3.58%	1.00	3.58%	0.00%	
19	Equity	<u>3.91%</u>	1.68	<u>6.57%</u>	<u>2.66%</u>	
20						
21		7.49%		10.15%	2.66%	
22						
23	Total Eligible Investment (Line 6 above)				\$ 4,994,841	
24						
25						
26	Income Tax Expense				Ln 21 Col D X Ln 23	132,863
27						
28	Depreciation Expense				2019 3 Col 8 Ln 55	62,371
29						
30	Property Tax Expense				2019 3 Col 10 Ln 55	111,213
31						
32	Adjustment: Annual Revenues Allowed				Lines 10 + 26 + 28 + 30	<u>\$ 680,560</u>
33						
34						
35	Base Revenues on which Adjustment will be applied					
36	Revenues allowed DW 12-085					\$ 7,129,043
37	Misc. Charges not subject to WICA					<u>(189,059)</u>
38						<u>\$ 6,939,984</u>
39						
40	Surcharge Percent (Line 32 divided by Line 38)					9.81%

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE & CONSERVATION ADJUSTMENT
COMPLETED PROJECTS

Line	Project Name or Class Category	1	2	3	4	5	6	7	8	9	10	11	12 = ((4-5) x 10) + 7 + 8 + 9 WICA Adjustment Dollars	
		Estimated Completion Date**	Actual Completion Date	Estimated Project Cost**	Actual Project Cost	Accumulated Depreciation	Project Cost minus Accumulated Depreciation	Depreciation Expense	Property Tax Expense	Income Tax Expense	Rate of Return	Annual Retail Revenues		
2013 Projects														
1	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,466	\$ 2,687	\$ 13,779	\$ 488	\$ 281	\$ 367	7.49%	\$ 7,129,043	2,168	
2	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 44,296	\$ 645,560	\$ 8,054	\$ 14,461	\$ 17,172	7.49%	\$ 7,129,043	88,039	
3	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 958	\$ 7,189	\$ 174	\$ 161	\$ 191	7.49%	\$ 7,129,043	1,065	
4	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 1,386	\$ 13,028	\$ 252	\$ 278	\$ 347	7.49%	\$ 7,129,043	1,852	
5	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 1,421	\$ 3,746	\$ 258	\$ 81	\$ 100	7.49%	\$ 7,129,043	720	
6				\$ 142,130	\$ 734,050	\$ 50,747	\$ 683,303	\$ 9,227	\$ 15,262	\$ 18,176			93,844	
7														
8														
9	2014 Projects													
10	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 551	\$ 2,493	\$ 122	\$ 56	\$ 66	7.49%	\$ 7,129,043	431	
11	Main Replacements	30-Sep-14	30-Sep-14	\$ 937,968	\$ 593,603	\$ 31,517	\$ 562,086	\$ 7,004	\$ 12,591	\$ 14,951	7.49%	\$ 7,129,043	76,646	
12				\$ 939,568	\$ 596,646	\$ 32,067	\$ 564,579	\$ 7,126	\$ 12,647	\$ 15,018			77,077	
13														
14	2015 Projects													
15	Main Replacements	30-Sep-15	30-Sep-15	\$ 741,465	\$ 741,465	\$ 30,910	\$ 710,555	\$ 8,831	\$ 15,916	\$ 18,901	7.49%	\$ 7,129,043	96,869	
16				\$ 741,465	\$ 741,465	\$ 30,910	\$ 710,555	\$ 8,831	\$ 15,916	\$ 18,901			96,869	
17														
18	2016 Projects													
19	Production Meters	30-Sep-16	30-Sep-16	\$ 1,600	\$ 7,000	\$ 703	\$ 6,297	\$ 281	\$ 141	\$ 167	7.49%	\$ 7,129,043	1,061	
20	Main Replacements	30-Sep-16	30-Sep-16	\$ 1,037,000	\$ 1,037,000	\$ 30,670	\$ 1,006,330	\$ 12,268	\$ 22,542	\$ 26,768	7.49%	\$ 7,129,043	136,952	
21				\$ 1,038,600	\$ 1,044,000	\$ 31,373	\$ 1,012,627	\$ 12,549	\$ 22,683	\$ 26,936			138,014	
22														
23	2017 Projects													
24	Production Meters	30-Sep-17	30-Sep-17	\$ 1,600	\$ 7,000	\$ 422	\$ 6,578	\$ 281	\$ 147	\$ 175	7.49%	\$ 7,129,043	1,096	
25	Main Replacements	30-Sep-17	30-Sep-17	\$ 1,067,000	\$ 1,067,000	\$ 18,934	\$ 1,048,066	\$ 12,623	\$ 22,849	\$ 27,879	7.49%	\$ 7,129,043	141,851	
26				\$ 1,068,600	\$ 1,074,000	\$ 19,356	\$ 1,054,644	\$ 12,904	\$ 22,997	\$ 28,054			142,947	
27														
28	2018 Projects													
29	Production Meters	30-Sep-18	30-Sep-16	\$ 1,600	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 154	\$ 182	7.49%	\$ 7,129,043	1,131	
30	Main Replacements	30-Sep-18	30-Sep-16	\$ 968,000	\$ 968,000	\$ 5,726	\$ 962,274	\$ 11,452	\$ 21,555	\$ 25,596	7.49%	\$ 7,129,043	130,677	
31				\$ 969,600	\$ 975,000	\$ 5,866	\$ 969,134	\$ 11,733	\$ 21,709	\$ 25,779			131,809	
32														
33	TOTALS			\$ 4,899,963	\$ 5,165,161	\$ 170,320	\$ 4,994,841	\$ 62,371	\$ 111,213	\$ 132,863			\$ 680,559	
34														

* Emergency Replacement
** Per Docket Filing DW 13-314

Aquarion Water Company of New Hampshire
2019 Annual WICA Surcharge Filing (2015 Estimate)

WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT
ELIGIBLE PROJECTS PLACED IN SERVICE

Line	Description of Project	Street	Town	1 PUC Acct	2 Depr Rate	3 Type of Project**	4 Date in Service	5 Date of 1st Filing	6a Total Capital Costs	6b Eligible Capital Costs	7a Total Retirements	7b Eligible Retirements	8 = (6b - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9			10 = (((6b-8a)/1000) x 12) Prop. Tax Expense
															Town	State	Total	
2013 Projects																		
1	Production Meters		Rye	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 3,432	\$ 3,432	\$ 3,033	\$ 3,033	\$ 18	\$ 97	9.02	6.60	15.62	\$ 52
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 96	\$ 528	14.53	6.60	21.13	\$ 84
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 2,062	15.80	6.60	22.40	\$ 145
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 6,243	\$ 6,243	\$ 1,525	\$ 8,388	15.80	6.60	22.40	\$ 2,799
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 12,963	15.80	6.60	22.40	\$ 4,341
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 5,623	15.80	6.60	22.40	\$ 1,790
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,760	\$ 1,760	\$ 3,149	\$ 17,322	15.80	6.60	22.40	\$ 5,530
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 958	15.80	6.60	22.40	\$ 161
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 1,160	15.80	6.60	22.40	\$ 245
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 4,664	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 226	9.02	6.60	15.62	\$ 32
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 623	15.80	6.60	22.40	\$ 37
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 798	14.53	6.60	21.13	\$ 44
13									\$ 784,050	\$ 734,050	\$ 28,794	\$ 25,757	\$ 9,227	\$ 50,747				\$ 15,262
14																		
2014 Projects																		
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 551	15.80	6.60	22.40	\$ 56
17	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,506	\$ 57,506	\$ 3,160	\$ 3,160	\$ 652	\$ 2,935	15.80	6.60	22.40	\$ 1,222
18	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,096	\$ 6,801	\$ 6,801	\$ 6,352	\$ 28,582	15.80	6.60	22.40	\$ 11,368
19									\$ 596,646	\$ 596,646	\$ 10,225	\$ 10,225	\$ 7,126	\$ 32,067				\$ 12,647
20																		
2015 Projects																		
22	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 169,733	\$ 169,733	\$ 551	\$ 551	\$ 2,030	\$ 7,106	15.80	6.60	22.40	\$ 3,643
23	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 385,374	\$ 385,374	\$ 2,324	\$ 2,324	\$ 4,597	\$ 16,088	15.80	6.60	22.40	\$ 8,272
24	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 186,358	\$ 186,358	\$ 2,637	\$ 2,637	\$ 2,205	\$ 7,716	15.80	6.60	22.40	\$ 4,002
25									\$ 741,465	\$ 741,465	\$ 5,512	\$ 5,512	\$ 8,831	\$ 30,910				\$ 15,916
26																		
2016 Projects																		
28	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 703	15.80	6.60	22.40	\$ 141
29	Lafayette Rd: H068 to Park Ave (south)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 121,000	\$ 121,000	\$ 1,712	\$ 1,712	\$ 1,431	\$ 3,579	15.80	6.60	22.40	\$ 2,630
30	Lafayette Rd: H068 to Park Ave (north)		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 84,000	\$ 84,000	\$ 1,189	\$ 1,189	\$ 994	\$ 2,484	15.80	6.60	22.40	\$ 1,826
31	Lafayette Rd: Park Ave (north) to Stickney Terr		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 72,000	\$ 72,000	\$ 1,019	\$ 1,019	\$ 852	\$ 2,129	15.80	6.60	22.40	\$ 1,565
32	Lafayette Rd: Stickney Terr to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 245,000	\$ 245,000	\$ 3,467	\$ 3,467	\$ 2,898	\$ 7,246	15.80	6.60	22.40	\$ 5,326
33	Manchester St: off Ashworth Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 136,000	\$ 136,000	\$ 1,924	\$ 1,924	\$ 1,609	\$ 4,022	15.80	6.60	22.40	\$ 2,956
34	North Shore Rd: Cusack Rd to Quinlan Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 271,000	\$ 271,000	\$ 3,835	\$ 3,835	\$ 3,206	\$ 8,015	15.80	6.60	22.40	\$ 5,891
35	Sunsurf Ave: off Cliff Ave		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 108,000	\$ 108,000	\$ 1,528	\$ 1,528	\$ 1,278	\$ 3,194	15.80	6.60	22.40	\$ 2,348
36									\$ 1,044,000	\$ 1,044,000	\$ 15,280	\$ 15,280	\$ 12,549	\$ 31,373				\$ 22,683
37																		
2017 Projects																		
39	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2017	10/31/2017	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 422	15.80	6.60	22.40	\$ 147
40	High Street: east of Mill Pond Lane		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 332,000	\$ 332,000	\$ 4,698	\$ 4,698	\$ 3,928	\$ 5,891	15.80	6.60	22.40	\$ 7,305
41	Winnacunnet Rd: Lafayette Rd. to Towle Av		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 232,000	\$ 232,000	\$ 3,283	\$ 3,283	\$ 2,745	\$ 4,117	15.80	6.60	22.40	\$ 5,105
42	Shop Road: transmission main		North Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 503,000	\$ 503,000	\$ 7,118	\$ 7,118	\$ 5,951	\$ 8,926	14.53	6.60	21.13	\$ 10,440
43									\$ 1,074,000	\$ 1,074,000	\$ 15,704	\$ 15,704	\$ 12,904	\$ 19,356				\$ 22,997
44																		
2018 Projects																		
46	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2018	10/31/2018	\$ 7,000	\$ 7,000	\$ 606	\$ 606	\$ 281	\$ 141	15.80	6.60	22.40	\$ 154
47	King's Hwy: 6th St - 8th St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 166,000	\$ 166,000	\$ 2,349	\$ 2,349	\$ 1,964	\$ 982	15.80	6.60	22.40	\$ 3,696
48	King's Hwy: 8th St - 11th St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 241,000	\$ 241,000	\$ 3,410	\$ 3,410	\$ 2,851	\$ 1,426	15.80	6.60	22.40	\$ 5,366
49	King's Hwy: Gill St - 1st St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 117,000	\$ 117,000	\$ 1,656	\$ 1,656	\$ 1,384	\$ 692	15.80	6.60	22.40	\$ 2,605
50	King's Hwy: Gill St - Redman St		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 97,000	\$ 97,000	\$ 1,373	\$ 1,373	\$ 1,148	\$ 574	15.80	6.60	22.40	\$ 2,160
51	King's Hwy: Redcoat Ln - 30 Kings condos		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 137,000	\$ 137,000	\$ 1,939	\$ 1,939	\$ 1,621	\$ 810	15.80	6.60	22.40	\$ 3,051
52	6th, 7th, 8th, 9th & 10th Streets		Hampton	343	1.20%	Main Replacement	9/30/2018	10/31/2018	\$ 210,000	\$ 210,000	\$ 2,972	\$ 2,972	\$ 2,484	\$ 1,242	15.80	6.60	22.40	\$ 4,676
53									\$ 975,000	\$ 975,000	\$ 14,303	\$ 14,303	\$ 11,733	\$ 5,866				\$ 21,709
54																		
55																		
56																		
TOTALS									\$ 5,215,161	\$ 5,165,161	\$ 89,819	\$ 86,782	\$ 62,371	\$ 170,320				\$ 111,213
									to 2019 1,		to 2019 1,		to 2019 1,		to 2019 1,			
									Ln 2		Ln 28		Ln 4		Ln 30			

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,539. Retirements are also proportionately reduced.
** Type of Project (designations will be given for various types of projects)

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 4, 2015
AT (OFFICE): NHPUC

FROM: Bridget Nelson, Examiner

SUBJECT: Aquarion Water Company of New Hampshire, Inc.
DW 15-476 Water Infrastructure and Conservation Adjustment Mechanism
FINAL Audit Report

TO: Mark Naylor, Director Gas-Water Division, NHPUC
Jayson Laflamme, Utility Analyst IV
Robyn Descoteau, Utility Analyst III

Introduction

Aquarion Water Company of New Hampshire, Inc. (Aquarion) has been participating in the Water Infrastructure and Conservation Adjustment since the Commission approved it as a pilot program in Order 25,019 issued September 25, 2009.

In Docket DW 14-300, Aquarion, petitioned for approval of its proposed 2015 projects to be eligible for recovery through the WICA surcharge mechanism. Order 25,751, issued January 12, 2015, granted the approval for the projects.

On October 30, 2015, Aquarion filed the 2015 costs for recovery beginning January 1, 2016 in Docket DW 15-476.

2015 Projects

On October 29, 2014 Aquarion petitioned for approval of proposed projects to be completed in 2015. They proposed four projects, one that was previously approved for the 2014 project year, totaling approximately \$1 million.

Of the four projects three are in Hampton; The Great Boars Head, Kings Highway, Ross Avenue. The Cable Road project is in Rye.

On July 30, 2015, Aquarion issued a letter to the PUC informing them that the Cable Road project was eliminated. The proposed project was to replace 400 feet of 1930s cast iron pipe. The Company later determined that the main was already abandoned, as it was replaced in 1988 with a ductile iron main. The project was eliminated and was not supplemented with another project.

The three remaining projects were completed and deemed used and useful prior to September 30, 2015. The total costs that Aquarion is seeking through the WICA mechanism are \$745,642.64

Project Name	Location	Estimated Costs		Actual Costs	Status
		Low	High		
Great Boars Head	Cliff Circle to Ocean Blvd	\$190,000	\$210,000	\$178,087.47	Complete
Kings Highway	11th, 13th, 14th, & 15th St	\$483,000	\$579,000	\$397,822.37	Complete
Ross Avenue		\$178,000	\$213,000	\$169,732.80	Complete
Cable Road	Central Rd to Hunterville Ave	\$54,000	\$65,000	\$0.00	Eliminated
				\$745,642.64	

Great Boars Head

The Great Boars Head project was originally slated for completion in 2014. Due to unforeseen circumstances, the project was not completed in time to be considered used and useful prior to September 30, 2014.

The project involved retiring 480 feet of 10-inch diameter, unlined, cast-iron main which was originally installed in 1910. This portion of main, which is some of the oldest in the system, is located in an alley that is too narrow for machine equipment and needed to be excavated by hand. As the alley is very narrow, the new main needed to be installed laterally from an existing main on Boards Head Terrance to points where existing water services can be connected.

The old main was cut and capped at the ends and abandoned in place.

Kings Highway, including 11th, 13th, 14th, and 15th Streets

The Kings Highway project involved replacing 950 feet of 8-inch, unlined, cast-iron, main originally installed on Kings Highway in 1915. The mains on the numbered streets lay perpendicular to Kings Highway and are 2-inch, unlined, galvanized main installed in 1935. Each main is approximately 300 feet long.

The Kings Highway Main was selected because of its age and poor material rating. It also had a recent major main break and old bolted joints between pipe segments that leak. The main is also one of three transmission mains to the Hampton Beach pressure zone.

The numbered street mains also have poor material rating and have a history of breaks and leaks. Several of the mains were dead ends which were eliminated by looping to the Kings Highway main.

Replacing all of the mains at one time helped improve costs by reducing contractor mobilization costs.

Ross Avenue

The Ross Avenue mains was installed in 1961 and is 700 feet of 6-inch, partially unlined, cast-iron main.

This main was selected due to one half of the main having high prioritization factors, it being too shallow to bleed in the winter to avoid freezing, and the Town of Hampton has Ross Ave on their paving schedule in 2016 (per Carl McMorrان's testimony in DW 14-300).

Sharing paving costs with the Town helps reduce the overall project costs.

Hydrant Replacement

Per Commission Order 25,539, dated June 28, 2013 "*The first \$50,000 in costs related to the emergency/reactive replacement of services, valves, and hydrants in a given year's WICA filing shall not be eligible for recovery through the WICA surcharge*". During the period of October 1, 2014 through September 30, 2015, the Company did not incur service, valves or hydrant replacement costs in excess of the \$50,000 threshold.

Bid Summary

The Company noted that the bid process for the two 2015 projects was handled by the Company's consulting firm, Tighe & Bond. Bid requests were sent out to eight contractors and only two bids were received. The lowest bidder, D'Allessandro Corp., was chosen to complete the projects.

The Great Boars Head project was originally projected for 2014 and was put out to bid with those projects. The 2014 bid process was also handled by Tighe & Bond. The bid request went out to six contractors and no bids were received by the due date. Aquarion's Procurement Director contacted the six contractors and Robert Pike Construction was the only one interested. The design engineer reviewed the proposal received from Robert Pike and deemed it reasonable. Robert Pike was awarded the projects.

2015 Project Review

Audit was provided and reviewed all contractor invoices for the three projects completed in 2015.

Material and labor costs were verified and overhead costs were recalculated. No exceptions were noted with regards to material, labor and overhead costs.

No additional costs, including paving, are expected for the three projects.

Great Boars Head

The Great Boars Head project’s total costs were \$169,732.80. 85% of the total costs were paid to two vendors, Tighe & Bond and Robert Pike Construction. Four other vendors’ expenses made up 4% of the total costs and the remaining 11% was for materials, labor and overhead.

The E-22 provided a start date of April 1, 2014 and the end date was “to be determined”. The estimated costs of the project were listed at \$207,000.

Audit reviewed all invoices in detail for the six vendors paid. Invoices were for professional services, permit and police detail, construction work and plumbing work.

An invoice from Post Woodworking for \$2,269.75 was for a replacement shed on a customer’s property. Aquarion noted the following, regarding the shed expense:

“The cost to replace the shed was included in the project due to the original shed’s placement being on top of the main, service line taps and valves. The homeowner would not allow the Company onto the property unless we agreed to replace the shed. The condition of the shed did not allow us to move the shed during construction and move it back upon completion. The Company feels this was a necessary cost in order to get the project in its used and useful state. The project could not have been completed otherwise, so the Company believes including the shed’s cost in the project is justified.”

Kings Highway

The Kings Highway total projects costs were \$397,822.37. Of those total costs, 57% was paid to the contractor. 33% of the expenses were paid to two other vendors. The remaining 10% of the costs were for miscellaneous expense, labor and overhead.

The E-22 shows an estimated project cost to be \$314,000. The project was to begin in May 2015 and end in July 2015.

Audit reviewed all invoices in detail for the three vendors paid. Invoices were for professional services and materials.

Invoices received from Tighe & Bond included work for three projects. Two of the invoices were fully charged to the Kings Highway project when only a portion of the invoice should have been. The total Tighe & Bond expenses should be reduced by \$12,419.34.

Invoice Date	Invoice Number	Original Amount	Revised Amount	Difference
1/19/2015	11590022	\$12,322.04	\$3,315.30	-\$9,006.74
2/11/2015	21590011	<u>6,085.30</u>	<u>2,672.70</u>	<u>-3,412.60</u>
		\$18,407.34	\$5,988.00	-\$12,419.34

There was also a miscellaneous charge of \$29.07 that was inadvertently charged to the Kings Highway project. This expense should also be deducted from the total project costs.

The Kings Highway project's original costs were \$397,822.37. With the reduction of \$12,419.34 and \$29.07, the revised project costs are \$385,373.96.

Ross Avenue

The total project costs for Ross Avenue were \$178,087.47. 58% of those total costs were paid for the contractor. 30% of the costs were paid to other vendors and 12% of the costs were for materials, labor and overhead.

The E-22 shows that the project will be underway from May 2015 through July 2015. The project was estimated to cost \$241,000.

Audit reviewed all vendor invoices in detail. Invoices were for professional services, construction work, plumbing, paving and materials.

The two Tighe & Bond invoices that were fully charged to Kings Highway should have had a portion charged to the Ross Ave project. An additional \$8,270.39 should be added to the projects expenses. The Kings Highway's reduction of \$12,419.34 includes this amount.

The total Ross Avenue project costs should be \$186,357.86.

Continuing Property Records (CPRs)

Audit requested CPRs for the three projects completed in 2015. Audit provided to the Company, the "Explanation of Continuing Property Records" document found on the PUC's website.

Aquarion provided an Excel spreadsheet which fulfills the five requirements of a CPR.

1. The date on which the job was complete – The spreadsheet notes a "Cap Date" which is the date the asset was deemed used and useful and placed into service.
2. The number of units added to this account and the cost – The spreadsheet notes the plant in service account to which the asset was booked; a brief description, including how many feet of main; and the acquisition costs.
3. The number of units retired and cost – The spreadsheet indicates which asset was retired and the cost. The asset description notes how many feet were retired.
4. The net amount of units and the cost – There is no line item that shows the net units and cost as the spreadsheet lists each asset separately. However, you can determine the net units and costs by formatting the Excel spreadsheet in a different manner.
5. The Remarks or Location column to be used for clarification or to list the location of the property – The Asset description provides a location along with a location number code and the town.

It is recommended by the PUC to record the depreciation on the CPR but it is not required. Aquarion maintains a separate sheet to record the depreciation accrual.

Audit verified the CPR Excel spreadsheet to the project costs and no exceptions were noted.

Retirements

All three project completed in 2015 have retirements associated with them. The CPR Excel spreadsheet notes the following asset retirements:

Great Boars Head

- Asset #1010000977 - \$551

Kings Highway

- Asset #1010001163 - \$827
- Asset # 1010001093 - \$1,497

Ross Ave

- Asset #1010001142 - \$2,637

Debra Kirven's testimony in Docket DW 15-476 erroneously included the retirement of \$9,589 for Asset # 1010001253 in the Kings Highway total of \$11,912. Audit requested clarification and was told:

"In the search for assets associated with Kings Highway the asset #1010001253- "400' of 8" CICAL Brown Ave, 860' in town parking" was inadvertently included. This asset should not have been retired. The amount of \$9,589 should be removed from the retire column in attachment DK-1 and the accurate retirement for King's Highway should be \$2,324."

General Ledger

Audit requested a copy of the general ledger for the three projects. The GL shows costs being charged to, 408 - Payroll Taxes, 920 – Administrative & General Salaries, and 926 – Employee Pensions & Benefits as appropriate. All contractor charges were held in a 500 account.

Audit questioned the 500 account and was told it was a work in process account. Because Aquarion's largest service territory is Connecticut, they maintain their SAP system using the Connecticut chart of accounts. When providing annual reports for NH, they convert the account numbers to follow the NH PUC Chart of Accounts. Aquarion provided a conversion chart to Audit.

When a project is initially set up in the system, the Utility Plant in Service account is identified. All contractor charges for that particular project are placed in the 500 account until the project is complete. Once Aquarion personnel note in the system that the project is complete, the system automatically moves the total of all of the costs to the 101 account specified during set up.

The general ledger provided to Audit shows the cost sitting in the 500 account. Audit was able to tie those costs, along with the 408, 920 and 926 accounts, back to the CPR spreadsheet, which identifies the plant in service account the project costs were charged to. Audit was then able to tie the beginning Plant in Service balance from their annual report, Schedule F-6, to the beginning balance on the CPR spreadsheet.

Audit also verified the CPR spreadsheet ending balance as of 10/31/2015 to the October trial balance.

No exceptions were noted.

Summary

Audit reviewed the used and useful WICA projects for 2015. Support for all the costs were provided in the form of the general ledger accounts, work orders, contracts and invoices. The table below summarizes the adjustments Audit recommends for the year ending September 30, 2015.

Total Gross Project Costs per the Filing	\$745,642.64
Less: Kings Hisgway - Tighe & Bond/Misc	(12,448.41)
Add: Ross Avenue - Tighe & Bond	8,270.39
Total Adjusted Project Costs	\$741,464.62

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 21, 2015

AT (OFFICE): NHPUC

FROM: Douglas W. Brogan

SUBJECT: DW 15-476, Aquarion Water Company of New Hampshire
2016 WICA Adjustment Filing

TO: Mark A. Naylor
Director, Gas & Water Division

This memo is being submitted at your request to provide observations and recommendations in docket DW 15-476, the 2016 WICA adjustment filing of Aquarion Water Company of New Hampshire (Aquarion or company). As the former Division water/sewer engineer, I am acquainted with Aquarion's water system and its WICA pilot program. I filed recommendations as a consultant to the Commission in the company's two most recent WICA cases, DW 13-314 and DW 14-300. My review is limited primarily to the engineering and operational aspects of the current filing and is based on review of the filing itself, case discovery, and participation in a technical session on December 15, 2015. While my review included the smaller WICA replacements such as valves, services, hydrants and meters, the focus of my comments is on the water main replacement projects that comprise the core of the filing.

Projects Completed in 2015 (for 2016 WICA Adjustment)

The only change from the current year projects approved in DW 14-300 was elimination of the relatively small Cable Road main replacement. This occurred as a result of the company's subsequent determination the main had been replaced 27 years ago, although documentation from that earlier replacement was lacking. The company provided an update in August notifying the relevant parties of the project deletion in accordance with its tariff.

The Great Boars Head project was a leftover from DW 14-300 in that it was not able to be completed by the September 30, 2014 cutoff date for that filing. The project involved a difficult location near the shore, where access to an existing main, dating from 1910 and running between existing homes, was severely restricted. The company was able to reduce costs by obtaining new easements to run several small, perpendicular mains from a nearby main to pick up the necessary service lines and allow abandonment of the 1910 main. That methodology, combined with favorable field conditions, allowed the project to be completed for \$169,733. The estimated cost range for the project in DW 14-300 had been \$190,000 to \$210,000.

The Kings Highway project was completed using pipe bursting technology instead of open-cut construction for the primary section, and directional drilling for the smaller side street main replacements. This and other favorable factors allowed the project to also come in well below estimated cost (\$385,374, vs. \$483,000 to \$579,000 estimated).

The third project, Ross Avenue, was completed within the lower end of the estimated cost range (\$186,358, vs. \$178,000 to \$213,000 estimated).

Future Projects

A number of both subtle and significant improvements were made in the current filing to the already fairly extensive rating system used to assess individual pipe segments in the WICA program. The improvements are the result of additional field work, more recent hydraulic model runs and other factors. In this regard the rating system has continued to evolve for the better.

A new engineering study of Aquarion's overall system by the engineering firm Tata & Howard ("Capital Efficiency Plan Update") (study) was referenced in Mr. McMorran's testimony and obtained during discovery (response to Staff 1-6). Although a finalized version of the study was not received by the company until the month after the October 30, 2015 filing of the current case, the company has indicated the relevant substance of the study was considered during project selection for the instant filing (response to TS-1, b). While confidentiality issues relating to access to the study remain to be resolved, the study appears well done and contains a significant amount of information about the overall water system. The company has stated the study will be one more tool its own engineering department will consider in prioritizing future water main replacements (response to TS-1, c). It will be interesting to see to what extent any variances in water main rating criteria, and the specific, prioritized project recommendations contained in the study, are incorporated into future WICA filings. I would note that of the two general locations of concern in the study's Phase I (most critical) water main improvement recommendations, one (Lafayette Road/Park Avenue area) is at least partially addressed by the company's proposed 2016 WICA projects; and consideration of the second (Ocean Boulevard from Great Boars Head south) is being "postponed for at least a year to evaluate cleaning and lining alternatives" given the high replacement costs involved (McMorran testimony p. 8, lines 12-14). Overall, the study should provide a useful basis for future WICA project evaluations.

As a result of other discovery in the case, a water main rating spreadsheet error was corrected, resulting in a slight revision to the ratings (response to Staff 1-4 d) and a single project substitution in the proposed 2017 projects ("Winnacunnet Rd: Lafayette Rd to Towle Av" replaced "Park Ave: Landing Rd to V 1000 7408"). However, various other future year project replacements also occurred from those approved in DW 14-300 - not atypical for WICA filings as priorities, scheduling opportunities, costs and other factors change from year to year.

Conclusion

The level of proposed WICA investment in the current filing is fairly consistent with that of recent filings, and as such it appears Aquarion may approach its WICA rate cap of 7.5% between rate cases in a couple years (based on use of 'high' vs. 'low' or average cost estimates and full open-cut construction). However, the company continues to find creative options and apply cost-saving technologies to its projects where feasible; and the program appears to be providing reliability and other benefits to both the system and customers.

In light of the above comments and the information provided in the case, I believe the 2015 investments are used and useful and were prudently incurred, and recommend approval. I also recommend approval of the 2016 and 2017 projects as proposed by Aquarion.

I trust these comments are responsive to your request. Please let me know if you need anything further in this regard.

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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:**

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- 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.**