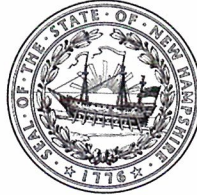


CHAIRMAN
Martin P. Honigberg

COMMISSIONERS
Robert R. Scott

EXECUTIVE DIRECTOR
Debra A. Howland

STATE OF NEW HAMPSHIRE



PUBLIC UTILITIES COMMISSION
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NHPUC 30DEC14PM2:12

December 30, 2014

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

Re: DW 14-300, Aquarion Water Company of New Hampshire, Inc.
Water Infrastructure and Conservation Adjustment (WICA)
2015-17 Capital Projects and 2015 WICA Surcharge
Staff Recommendation for Approval

Dear Ms. Howland:

On October 29, 2014, Aquarion Water Company of New Hampshire, Inc. (Aquarion) filed a petition for approval of its 2015 WICA surcharge and its 2015-17 capital projects under its WICA tariff provision. Accompanying the petition was the prefiled testimony of Carl McMorran, Operations Manager, and Troy M. Dixon, Director of Rates and Regulation for Aquarion Water Company of Connecticut, Inc., an affiliate of Aquarion. Aquarion seeks approval of a 2015 WICA surcharge of 2.5386%, based on its completed 2014 WICA capital projects, to be effective for service on and after January 1, 2015. Aquarion also requests approval of its planned 2015 capital expenditures, estimated to be in a cost range of \$905,000 to \$1.074 million. Aquarion further seeks preliminary approval of its planned 2016 projects in the cost range of between \$640,000 and \$775,000. Aquarion also submitted its preliminary budget for its 2017 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. An initial round of discovery was conducted before Staff and the parties met in a technical session on December 9, 2014, to review and discuss the filing and Aquarion's discovery responses. Staff propounded additional data requests to Aquarion subsequent to the technical session, and Aquarion provided its responses on December 15, 2014. Aquarion's responses to all of Staff's discovery requests are attached to this letter.

On December 17, 2014, Jayson P. Laflamme, Utility Analyst in the Commission's Gas & Water Division, submitted a memorandum summarizing his review of Aquarion's proposed 2015 WICA surcharge. Mr. Laflamme reviewed the calculation of the proposed surcharge of 2.5386%, which is based on total WICA investment of \$1,330,696 and includes a total of \$734,050 in capital investment placed in service during the 2013 program year. Mr. Laflamme reviewed invoices and other supporting documents and found no errors or exceptions. He believes the proposed WICA surcharge of 2.5386% is adequately supported and recommends its approval. Mr. Laflamme's memorandum is attached to this letter.

On December 22, 2014, 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 2014 WICA projects. Mr. Brogan's memorandum also provided further comments on Aquarion's proposed WICA projects for 2015-16. Mr. Brogan concluded that the company's 2014 WICA capital investments are used and useful and were prudently-incurred. He further recommended approval of Aquarion's WICA budgets for 2015 and 2016. Mr. Brogan's memorandum is attached to this letter for the Commission's review.

Based on its review, Staff recommends that the Commission approve the 2015 WICA surcharge of 2.5386% effective for service on and after January 1, 2015, consistent with Aquarion's WICA tariff provision. Staff further recommends the Commission approve Aquarion's 2015 WICA project list, and provide its preliminary approval of the 2016 projects. For informational purposes and as estimated by Aquarion in response to Staff data request TS 1-2, the proposed 2015 WICA spending in the amount of \$1,074,000 would result in a total surcharge of 4.5787% to customer bills, for service rendered on and after January 1, 2016.

The OCA did not participate in this docket. The Town of Hampton has indicated to Staff that it plans to file a separate letter of objection to Aquarion's proposed 2015 WICA surcharge. The Town of North Hampton Water Commission supports the Staff's

recommendation. The Town of Rye has not responded to Staff's request for a position on Staff's recommendation.

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

cc: Docket-Related Service List

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

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

Executive.Director@puc.nh.gov
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robyn.descoteau@puc.nh.gov
rorie.hollenberg@puc.nh.gov
steve.frink@puc.nh.gov
steven.camerino@mclane.com

Docket #: 14-300-1 Printed: December 30, 2014

FILING INSTRUCTIONS:

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

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

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

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-1

Date of Response: November 25, 2014
Witness: Carl McMorran

REQUEST: The final cost of the “Well 9 Transmission Main” project reflects a very high cost per foot (\$1,438). Please comment on the final length and scope of the project, and the extent to which the \$57,506 includes any WICA-eligible costs (see responses to Staff 1-11 and 1-12 in DW 13-314).

RESPONSE: This was a short section of transmission pipe, extending from the pump discharge through the pump station to, and including, the first yard valve. Due to the intervening pump station, the pipe passes through multiple horizontal and vertical bends, increasing the number of joints to be connected to sections of straight pipe. Also, all of the straight pipe sections were shorter than a standard pipe length, so additional labor was required to cut pieces to length and install fittings.

The project cost includes those appurtenances that constitute part of the transmission main (isolation valves, flow conditioner, check valve, and air relief valve) and their associated installation costs, but not the new flow meter which was costed under a separate project number. All costs included in the project are considered WICA eligible.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014 Date of Response: November 25, 2014
Request No.: Staff 1-2 Witness: Carl McMorran

REQUEST: During the course of docket DW 13-314 the cost estimate of the “Ocean Boulevard - Dumas Ave to Winnacunnet Road” project decreased from \$865,000 to \$664,000, due largely to the planned use of trenchless technology (see company response to Staff 1-13 in that docket). The final cost in the current filing is \$536,000. Please comment on any specific reasons for the further reduction in cost, including whether trenchless technology was in fact used.

RESPONSE: The primary reasons for the favorable project cost was due to the use of trenchless technology for pipe replacement and favorable bid pricing. Additionally, the project did not experience any weather interruptions and the project finished ahead of schedule resulting in lower inspection and traffic control costs.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-3

Date of Response: November 25, 2014
Witness: Carl McMorrان

REQUEST: The projected cost range of the “Great Boars Head - Cliff Circle to Ocean Blvd” project is indicated as \$190,000 to \$210,000, which is consistent with the DW 13-314 estimate of \$207,000. Please explain the basis of the \$400,000 figure in the “Total Cost/Estimated Costs” column for that project.

RESPONSE: There is a math error in the spreadsheet used to produce the report. It should be \$210,000, not \$400,000.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-4

Date of Response: November 25, 2014
Witness: Carl McMorran

REQUEST: Regarding the Ross Avenue project:

- a) As proposed in DW 13-314, the project consisted of three sections of main totaling 950 feet (response to Staff 1-12 b, see also attachment CM-II, page 1, in that docket). It appears the third section, 241 feet of asbestos-cement main, has been eliminated in the current proposal. Please explain.
- b) Please comment on which sections of the main are impacted by shallow bury and the need for winter bleeding (McMorran testimony p. 9 at bottom).
- c) Is any portion of the street looped with any other street?

RESPONSE:

- a) The 241-ft segment was installed in 1954 from the west end of Ross Avenue to serve a hydrant. In 1961, the other main was installed on the entire the length of Ross Avenue to provide water service to the structures being built at that time. As our planning process got into more detail, we realized that this older section of main was redundant and could be removed from service, so it will be cut off and abandoned.
- b) The entire length is at too shallow of a depth to avoid freezing.
- c) Yes, the main is connected to the Ocean Boulevard main on the east end, and to a crossover main between Church Street and Kentville Terrace on the west end.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-5

Date of Response: November 25, 2014
Witness: Carl McMorran

REQUEST: Regarding the “Kings Hwy - 11th, 13th, 14th & 15th St” project:

- a) Please indicate why 12th Street is not included.
- b) Mr. McMorran's testimony indicates the Kings Highway main consists of or includes “old bolted joints between pipe segments that leak” (p. 9, line 9), yet the last column in the CM-1 attachment indicates the project is “Proposed for cleaning and lining rehabilitation.” The two statements appear inconsistent. Please explain.
- c) Please indicate what replacement or rehabilitation method the current cost estimates are based on.

RESPONSE:

- a) The 12th Street main has already been replaced. It experienced multiple breaks in 2014 and was replaced earlier this year.
- b) Cleaning and lining is being evaluated as an option since some of the current methodologies are effective for sealing small leaks.
- c) Cost estimates are based on historical averages for main replacements.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-6

Date of Response: November 25, 2014
Witness: Carl McMorran

REQUEST: The final column for the sixth through ninth projects on the attachment indicates "candidate for cleaning and lining." In this regard:

- a) When and how will the rehabilitation v. replacement determination be made?
- b) Are the cost estimates in the attachment based on rehabilitation or replacement?

RESPONSE:

- a) Options for both rehabilitation versus replacement are being evaluated during the design phase, which will conclude in early 2015. All other factors being equal, cleaning and lining is typically a lower cost alternative. However, constraints may be identified (such as the need to relocate the main vertically and/or horizontally, the need for a larger diameter pipe, site variables that may impair cleaning and lining methodologies) that will call for a full replacement. These factors will be evaluated in the design phase to determine the best option.
- b) Cost estimates are based on average historical replacement costs.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-7

Date of Response: November 25, 2014
Witness: Carl McMorrان

REQUEST: The "Central Rd - Huntervale Ave to Love Ln" project is currently proposed for 2017, yet attachment CM-2 indicates a Paving Year of 2015. Please explain.

RESPONSE: Paving projects tend to be delayed based on the Town's budgets. The paving projects are often delayed either due to not being approved at the annual Town's votes, or because the Town's paving priorities change from year to year. Until the road is actually paved, Aquarion chooses to schedule project costs according to the current paving schedule, which currently reflects its priority relative to other roads, even though there is a chance for modification.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-8

Date of Response: November 25, 2014
Witness: Carl McMorran

REQUEST: The "Gentian/Green/Meadow Pond" project proposed for 2015 in DW 13-314 does not appear in the current filing. Please explain.

RESPONSE: Prioritization factors for all main segments were updated as part of our asset management and capital planning process. Many projects at the top of the list score only a couple of points lower than others, resulting in a shift in projects when the data was updated. This project dropped down the list relative to other projects.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-9

Date of Response: November 25, 2014
Witness: Carl McMorran

REQUEST: Unlined cast iron mains are rated 2 in the attachment, while Attachment CM-1, page 1, indicates that type of main should be rated 3. Similarly, cement lined cast iron mains are rated 1, whereas Attachment CM-1 indicates they should be rated 2. The inventory listing in DW 13-314 reflected the ratings indicated in Attachment CM-1. Please explain.

RESPONSE: The ratings for pipe material have been revised since the last WICA proceeding, but as a result of an oversight in preparing the testimony the table used in Attachment CM-1 was not. The current ratings are listed below and should replace the Material Integrity Ratings on page 1 of Attachment CM-1.

3 – Galvanized
2 – Cast iron, unlined
1 – Cast iron, cement-lined
1 – Asbestos-cement
0 – Copper
0 – Ductile iron
0 – High Density Polyethylene
0 – Plastic
0 – Polyvinyl chloride

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014 Date of Response: November 25, 2014
Request No.: Staff 1-10 Witness: Carl McMorran

REQUEST: There do not appear to be any non-zero "Hydraulic" ratings in the current inventory. Please indicate the current status of that rating.

RESPONSE: This factor relates to fire flow capacity and is judged on whether any fire hydrants or fire services can deliver desired flow rates. If flow rates are satisfactory, the pipe segment is scored a zero. If flow rates are not satisfactory, it is scored a three since providing adequate fire flows is an essential function of the distribution system.

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.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014
Request No.: Staff 1-11

Date of Response: November 25, 2014
Witness: Carl McMorrان

REQUEST: A number of changes have been made to the inventory, including new pipe segment ID numbers. Does this reflect conversion to a new system? Please explain.

RESPONSE: The changes do not reflect a conversion to a new system. The changes are caused by asset management improvements and interfacing between our GIS and SAP systems. The new pipe segment ID numbers are the SAP equipment numbers for each pipe segment in GIS.

The number of pipe segments has also been adjusted based on GIS updates and corrections; an on-going process resulting from distribution system projects, field surveys and reviews of paper maps in our files.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: November 12, 2014 Date of Response: November 25, 2014
Request No.: Staff 1-12 Witness: Troy Dixon

REQUEST: Please provide calculations along with appropriate explanations for the following overhead charges:

- a) Project XR230-2013-009 Well 9 Transmission Main: \$7,374.59
- b) Project XC230-2012-006 Ocean Blvd Main Replacement: \$36,657.42

RESPONSE: Please refer to Staff 1-12 Attachment A for the calculations.

**Aquarion Water Company of New Hampshire
Overhead Calculations - WICA Projects
2014**

WBS Element X C730-2012-006-D03	January	February	March	April	May	June	July	August	September	October	November	December	Total
500001 Contractor - Soft Costs	4,807.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,807.98
408500 PR Overhead - Capitalized Payroll Taxes	0.00	8.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.03
920003 Labor Transfer CATS - Non CT Empl's	0.00	100.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.32
920000 Indirect Labor, Benefits, and Other	240.40	5.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	245.42
PR Overhead - Capitalized Fringe Benefits	0.00	41.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.13
X C730-2012-006-D03 Ocean Blvd Main Replacement	5,048.38	153.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,201.75
Payroll Overhead	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Calculated Payroll Overhead	0.00	50.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.16
Per SAP	0.00	50.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.16
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Overhead	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Calculated General Overhead	240.40	5.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	245.42
Per SAP	240.40	5.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	245.42
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
													36,657.42

WBS Element X C730-2012-006-E04-343	January	February	March	April	May	June	July	August	September	October	November	December	Total
500010 Outside Services - WBS Elements	0.00	0.00	0.00	0.00	0.00	11,188.57	(267.73)	0.00	1,025.96	0.00	0.00	0.00	11,947.80
500011 Contractor - General - WBS Elements	0.00	0.00	0.00	0.00	16,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16,000.00
500012 Contractor - Engineering - WBS Elements	0.00	0.00	901.16	0.00	0.00	36,933.21	0.00	1,937.50	0.00	0.00	0.00	0.00	39,811.87
500013 Contractor - Excavation - WBS Elements	0.00	0.00	0.00	0.00	935.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	935.00
500014 Contractor - Installation - WBS Elements	0.00	0.00	0.00	0.00	56,919.00	0.00	0.00	20,787.03	0.00	0.00	0.00	0.00	77,706.03
500015 Contractor - Materials - WBS Elements	0.00	0.00	0.00	0.00	5,000.00	163,866.00	0.00	15,756.72	0.00	0.00	0.00	0.00	184,622.72
500020 Materials - WBS Elements	0.00	0.00	0.00	0.00	9,508.24	50,726.79	24,024.13	2,634.00	0.00	0.00	0.00	0.00	86,943.36
500030 Miscellaneous Costs - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.69	0.00	0.00	0.00	0.00	4.69
500032 Soil & Seed Remediation - WBS Elements	0.00	0.00	0.00	0.00	0.00	125.00	0.00	0.00	0.00	0.00	0.00	0.00	125.00
408500 PR Overhead - Capitalized Payroll Taxes	0.00	469.31	233.74	424.45	511.20	42.91	0.00	46.78	0.00	0.00	0.00	0.00	1,687.39
920002 Supervisory Labor Transfer CATS - CT	0.00	0.00	0.00	1,058.64	577.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,021.04
920003 Labor Transfer CATS - Non CT Empl's	0.00	5,116.32	2,909.28	4,347.03	6,062.48	151.32	0.00	584.76	0.00	0.00	0.00	0.00	19,171.19
920000 Indirect Labor, Benefits, and Other	0.00	255.82	190.52	265.28	4,502.11	13,270.79	1,190.38	2,086.03	51.53	0.00	0.00	0.00	21,812.46
920500 PR Overhead - Capitalized Fringe Benefits	0.00	2,148.85	1,231.90	2,291.90	2,823.41	248.33	0.00	245.61	0.00	0.00	0.00	0.00	8,979.99
X C730-2012-006-E04-343 Ocean Blvd Main Replacement	0.00	7,950.30	5,435.60	8,287.30	97,898.88	278,577.88	24,997.98	41,059.01	1,082.18	0.00	0.00	0.00	468,729.13
NH Rate	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
CT Rate	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
Payroll Overhead	0.00	2,558.16	1,454.64	2,123.52	3,011.24	71.66	0.00	292.38	0.00	0.00	0.00	0.00	10,667.38
Calculated Payroll Overhead - NH Employees	0.00	2,558.16	1,454.64	2,123.52	3,011.24	71.66	0.00	292.38	0.00	0.00	0.00	0.00	10,667.38
Calculated Payroll Overhead - CT Employees	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per SAP	0.00	2,558.16	1,454.64	2,123.52	3,011.24	71.66	0.00	292.38	0.00	0.00	0.00	0.00	10,667.38
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Overhead	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Calculated General Overhead	0.00	255.82	190.52	265.28	4,502.11	13,270.79	1,190.38	2,086.03	51.53	0.00	0.00	0.00	21,812.46
Per SAP	0.00	255.82	190.52	265.28	4,502.11	13,270.79	1,190.38	2,086.03	51.53	0.00	0.00	0.00	21,812.46
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Evaluation of General Overhead Assessment
General overhead represents charges to capital that are not specific to any one project. Overhead is allocated to eligible construction projects at the end of each month. Prior to April 2009, the assessment was based on the percentage of the total eligible projects each month. In April 2009, the methodology was changed so that general overhead was allocated to eligible receiver projects using a pre-determined rate. Any residual general overhead balance was then cleared out in December each year. Thus, the rates will vary from month to month prior to April 2009, as well as each December. The above scheduler recalculate general overhead for each selected project and compare the calculation to the system assessments.

Evaluation of Material Handling Assessment
Material handling represents charges to recurring T&D capital that are not specific to any one project. Material handling is assessed to all eligible construction projects at the end of each month. The assessment was based on the costs of each receiver project as a percentage of the total eligible projects each month. Thus, the rates will vary from month to month. The above scheduler recalculate material handling for each selected project and compare the calculation to the system assessments.

Evaluation of Payroll Overhead Assessment
Payroll overhead represents the percentage of fringe benefits and payroll taxes to total payroll expense. The payroll overhead rate is set at the beginning of each year based on the fringe benefit and payroll taxes as a percent of the total payroll budget. Payroll overhead is applied to the total direct and indirect labor for each job at the end of the month. The above scheduler recalculate payroll overhead for each selected project and compare the calculation to the system calculation. Payroll overhead applied to CT employees that charge their time to NH projects is computed using the CT payroll overhead rate.

Aquarion Water Company of New Hampshire
Overhead Calculations - WICA Projects
2013

WBS Element	January	February	March	April	May	June	July	August	September	October	November	December	Total
500001 Contractor - Soft Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,111.83	4,111.83
408500 PR Overhead - Capitalized Payroll Taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.52	46.52
920003 Labor Transfer CATS - Non CT Emp's	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	581.52	581.52
920400 Indirect Labor, Benefits, and Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	471.21	471.21
926500 PR Overhead - Capitalized Fringe Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(457.29)	(457.29)
* XC230-2012-006-A02 Ocean Blvd Main Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	441.96	441.96
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,195.77	5,195.77

Payroll Overhead	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
Calculated Payroll Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	488.48	488.48
Per SAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	488.48	488.48
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

General Overhead	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Calculated General Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.92	13.92
Per SAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.92	13.92
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WBS Element	January	February	March	April	May	June	July	August	September	October	November	December	Total
500001 Contractor - Soft Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,921.00	2,921.00
500013 Contractor - Excavation - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,685.00	4,685.00
500014 Contractor - Inspection - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	516.75	6,871.40	7,388.15
500015 Contractor - Installation - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20,000.00	20,000.00
500020 Materials - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,377.73	7,431.44	11,809.17
408500 PR Overhead - Capitalized Payroll Taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	112.14	56.13	266.26
920003 Labor Transfer CATS - Non CT Emp's	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,224.85	1,401.70	701.61	3,328.16
920400 Indirect Labor, Benefits, and Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.99	731.85	4,278.09	4,578.93
926500 PR Overhead - Capitalized Fringe Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	930.89	1,065.29	533.22	2,529.40
* XC230-2013-009 E04 343 Well 9 Transmission Main	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,302.72	7,725.46	47,477.89	57,506.07

Payroll Overhead	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
Calculated Payroll Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,028.87	1,177.43	589.35	2,795.66
Per SAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,028.88	1,177.43	589.35	2,795.66
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.01)	0.00	0.00	0.00

General Overhead	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Calculated General Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	251.83	4,278.09
Per SAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	251.83	4,278.09
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Explanation of General Overhead Assessment

General overhead represents charges to capital that are not specific to any one project. General overhead is assessed to all eligible construction projects at the end of each month. Prior to April 2009, the assessment was based on the costs of each receiver project as a percentage of the total eligible projects each month. In April 2009, the methodology was changed so that general overhead was allocated to eligible receiver projects using a pre-determined rate. Any residual general overhead balance was then cleared out in December each year. Thus, the rates will vary from month to month prior to April 2009, as well as each December. The above schedules recalculate general overhead for each selected project and compare the calculation to the system assessment.

Explanation of Material Handling Assessment

Material handling represents charges to recurring T&D capital that are not specific to any one project. Material handling is assessed to all eligible construction projects at the end of each month. The assessment was based on the costs of each receiver project as a percentage of the total eligible projects each month. Thus, the rates will vary from month to month. The above schedules recalculate material handling for each selected project and compare the calculation to the system assessment.

Explanation of Payroll Overhead Assessment

Payroll overhead represents the percentage of fringe benefits and payroll taxes to total payroll costs. The payroll overhead rate is set at the beginning of each year based on the fringe benefits and payroll taxes as a percent of the total payroll budget. Payroll overhead is applied to the total direct and indirect labor for each job at the end of the month. The above schedules recalculate payroll overhead for each selected project and compare the calculation to the system calculator.

**Aquarion Water Company of New Hampshire
Overhead Calculations - WICA Projects
2012**

WBS Element XC230-2012-006-D03	January	February	March	April	May	June	July	August	September	October	November	December	Total
500001 Contractor - Soft Costs	0.00	0.00	0.00	0.00	0.00	0.00	5,366.30	15,848.95	2,939.75	0.00	1,187.58	0.00	25,342.58
500017 Surveying - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	6,600.00	5,126.00	0.00	0.00	0.00	0.00	11,726.00
500031 Permit Fees - WBS Elements	0.00	0.00	0.00	0.00	0.00	0.00	2,743.52	0.00	549.30	0.00	3,106.76	6,422.70	12,822.28
408500 PR Overhead - Capitalized Payroll Taxes	0.00	30.11	0.00	0.00	31.01	31.01	106.87	96.77	0.00	0.00	0.00	0.00	295.77
920003 Labor Transfer CATS - Non CT Empl's	0.00	376.40	0.00	0.00	387.68	387.68	1,335.84	1,209.60	0.00	0.00	0.00	0.00	3,697.20
920400 Indirect Labor, Benefits, and Other	0.00	18.82	0.00	0.00	19.38	19.38	802.28	1,109.23	174.45	0.00	214.72	(321.14)	2,037.12
920500 Indirect Labor, Benefits, and Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(1,171.61)	(1,171.61)
926500 PR Overhead- Capitalized Fringe Benefits	0.00	225.84	0.00	0.00	232.61	232.61	801.50	725.76	0.00	0.00	0.00	0.00	2,218.32
* XC230-2012-006-D03 Ocean Blvd Main Replacement	0.00	651.17	0.00	0.00	670.68	670.68	17,756.31	24,116.31	3,663.50	0.00	4,509.06	4,929.95	56,967.66
Payroll Overhead	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	
Calculated Payroll Overhead	0.00	255.95	0.00	0.00	263.62	263.62	908.37	822.53	0.00	0.00	0.00	0.00	
Per SAP	0.00	255.95	0.00	0.00	263.62	263.62	908.37	822.53	0.00	0.00	0.00	0.00	2,514.09
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
General Overhead	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	-23.242%
Calculated General Overhead	0.00	18.82	0.00	0.00	19.38	19.38	802.28	1,109.23	174.45	0.00	214.72	(1,492.76)	
Per SAP	0.00	18.82	0.00	0.00	19.38	19.38	802.28	1,109.23	174.45	0.00	214.72	(1,492.75)	865.51
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.01)	3,379.60

Explanation of General Overhead Assessment

General overhead represents charges to capital that are not specific to any one project
General overhead is assessed to all eligible construction projects at the end of each month
Prior to April 2009, the assessment was based on the costs of each receiver project as a percentage of the total eligible projects each month
In April, 2009, the methodology was changed so that general overhead was allocated to eligible receiver projects using a pre-determined rate.
Any residual general overhead balance was then cleared out in December each year.
Thus, the rates will vary from month to month prior to April 2009, as well as each December.
The above schedules recalculate general overhead for each selected project and compare the calculation to the system assessments

Explanation of Material Handling Assessment

Material handling represents charges to recurring T&D capital that are not specific to any one project
Material handling is assessed to all eligible construction projects at the end of each month
The assessment was based on the costs of each receiver project as a percentage of the total eligible projects each month
Thus, the rates will vary from month to month
The above schedules recalculate material handling for each selected project and compare the calculation to the system assessments

Explanation of Payroll Overhead Assessment

Payroll overhead represents the percentage of fringe benefits and payroll taxes to total payroll expense
The payroll overhead rate is set at the beginning of each year based on the fringe benefits and payroll taxes as a percent of the total payroll budget.
Payroll overhead is applied to the total direct and indirect labor for each job at the end of the month
The above schedules recalculate payroll overhead for each selected project and compare the calculation to the system calculation.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: December 9, 2014
Request No.: TS-1

Date of Response: December 15, 2014
Witness: Troy Dixon

REQUEST: Please indicate how Aquarion Water Company of New Hampshire, Inc. financed the capital investment in the WICA program.

RESPONSE: Aquarion Water Company of New Hampshire, Inc. finances its rate base additions, including the WICA projects that are the subject of this proceeding, through a combination of internally generated funds (i.e., depreciation and net income) and internal or external financing. Aquarion does not identify a different capital structure for individual projects. Aquarion's overall capital structure and associated cost rates at September 30, 2014 (when the projects were all used and useful) are indicated below:

Aquarion Water Company of New Hampshire, Inc.					
	Long-term Debt	Short-term /Intercompany Debt	Preferred Stock	Common Equity	Total Capitalization
Amount at Sept 2014	\$13,900,000	(\$1,977,923)*	\$2,800	\$11,198,611	23,123,488
Cost	6.13%	2.77%	6.00%	9.60%	

*Reflects \$905,000 of available cash that is expected to be credited to customers over proposed 3 year time span.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: December 9, 2014
Request No.: TS 1-2

Date of Response: December 15, 2014
Witness: Troy Dixon

REQUEST: Please provide calculations showing the current projected WICA surcharges anticipated for 2016, 2017 and 2018.

RESPONSE: The Company's anticipated WICA surcharge calculations for 2016, 2017 and 2018 are provided in TS 1-2 Attachment A. The amount of the surcharge is projected to exceed the WICA cap of 7.5% in 2018. Accordingly the Company would only seek a surcharge up to the authorized 7.5% level.

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing (2014 Estimate)

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

Line	<u>Schedule Ref.</u>	
1		
2	2016 3 Col 6b Ln 26	\$ 2,404,696
3		
4	2016 3 Col 8a Ln 26	(14,515)
5		
6	Ln 2 + Ln 4	<u>\$ 2,390,181</u>
7		
8	2016 2 Col 10	<u>7.49%</u>
9		
10	Ln 6 x Ln 8	\$ 179,025
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		\$ 2,390,181
24		
25		
26	Ln 21 Col D X Ln 23	63,579
27		
28	2016 3 Col 8 Ln 26	29,030
29		
30	2016 3 Col 10 Ln 26	46,129
31		
32	Lines 10 + 26 + 28 + 30	<u>\$ 317,763</u>
33		
34		
35		
36		\$ 7,129,043
37		(189,059)
38		<u>\$ 6,939,984</u>
39		
40		4.5787%

	(a)	(b)	(c)	(d)
	Weighted	Tax	Pre tax	Tax Gross Up
	Cost	Multiplier	Cost	Col (c) - Col (a)
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>
21	7.48%		10.15%	2.66%

Aquarion Water Company of New Hampshire
2016 Annual WCA Surcharge Filing (2014 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 WCA Adjustment Dollars
1	2013 Projects												
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 18,468	\$ 244	\$ 18,222	\$ 488	\$ 237	\$ 431	7.49%	\$ 7,129,043	2,372
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 4,027	\$ 685,829	\$ 8,054	\$ 14,844	\$ 18,243	7.49%	\$ 7,129,043	92,609
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 87	\$ 8,060	\$ 174	\$ 181	\$ 214	7.49%	\$ 7,129,043	1,153
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 126	\$ 14,288	\$ 252	\$ 288	\$ 380	7.49%	\$ 7,129,043	1,988
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 129	\$ 5,038	\$ 258	\$ 108	\$ 134	7.49%	\$ 7,129,043	878
7	2014 Projects												
8	Production Meters	30-Sep-14	30-Sep-14	\$ 1,800	\$ 3,044	\$ 81	\$ 2,983	\$ 122	\$ 62	\$ 79	7.49%	\$ 7,129,043	487
9	Main Replacements	30-Sep-14	30-Sep-14	\$ 837,968	\$ 593,803	\$ 3,502	\$ 590,101	\$ 7,004	\$ 13,074	\$ 15,897	7.49%	\$ 7,129,043	79,972
10	2015 Projects												
11	Production Meters	30-Sep-15	30-Sep-14	\$ 7,000	\$ 7,000	\$ 18	\$ 6,982	\$ 36	\$ 13	\$ 186	7.49%	\$ 7,129,043	758
12	Main Replacements	30-Sep-15	30-Sep-14	\$ 1,087,000	\$ 1,087,000	\$ 6,321	\$ 1,080,679	\$ 12,842	\$ 17,244	\$ 28,214	7.49%	\$ 7,129,043	137,545
13													
14													
15													
16													
17													
18													
19	TOTALS			\$ 2,155,698	\$ 2,404,898	\$ 14,515	\$ 2,380,181	\$ 29,030	\$ 46,129	\$ 83,579			\$ 317,763

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

Aquarion Water Company of New Hampshire
2016 Annual WICA Surcharge Filing (2014 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 = (6a - 7b) x 2 Depreciation Expense	8a = 8 x 50% Accumulated Depreciation	9 Mil Rates			10 = ((6b-7b-8a)/1000) x 5) 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	\$ 9	8.53	6.60	15.13	\$ 6		
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	\$ 48	14.25	6.60	20.88	\$ 44		
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 187	15.60	6.60	22.40	\$ 167		
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	\$ 763	15.60	6.60	22.40	\$ 2,830		
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	\$ 1,178	15.60	6.60	22.40	\$ 4,373		
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 511	15.60	6.60	22.40	\$ 1,897		
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	\$ 1,575	15.60	6.60	22.40	\$ 5,844		
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 87	15.60	6.60	22.40	\$ 16*		
9	Services*		Hampton	345	1.65%	Services	9/30/2013	10/31/2013	\$ 33,841	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 105	15.60	6.60	22.40	\$ 253		
10	Services*		Rye	345	1.65%	Services	9/30/2013	10/31/2013	\$ 6,494	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 21	8.53	6.60	15.13	\$ 33		
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,285	\$ -	\$ -	\$ 113	\$ 57	15.60	6.60	22.40	\$ 49		
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 73	14.26	6.60	20.88	\$ 59		
2014 Projects																				
13	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 61	15.60	6.60	22.40	\$ 62		
14	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	\$ 326	15.60	6.60	22.40	\$ 1,217		
15	Ocean Boulevard - Dumes Ave to Wamacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 538,098	\$ 538,098	\$ 6,801	\$ 6,801	\$ 8,352	\$ 3,176	15.60	6.60	22.40	\$ 11,656		
2015 Projects																				
16	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2015	10/31/2015	\$ 7,000	\$ 7,000	\$ 6,186	\$ 6,186	\$ 36	\$ 18	15.60	6.60	22.40	\$ 13		
17	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 210,000	\$ 210,000	\$ 2,664	\$ 2,664	\$ 2,466	\$ 1,244	15.60	6.60	22.40	\$ 3,462		
18	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 213,000	\$ 213,000	\$ 2,702	\$ 2,702	\$ 2,524	\$ 1,262	15.60	6.60	22.40	\$ 3,912		
19	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 578,000	\$ 578,000	\$ 7,348	\$ 7,348	\$ 6,860	\$ 3,430	15.60	6.60	22.40	\$ 9,546		
20	Cable Rd - Central Rd to Hurlerstate Ave		Rye	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 65,000	\$ 65,000	\$ 625	\$ 625	\$ 770	\$ 385	8.53	6.60	15.13	\$ 724		
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				
29																				
30																				
TOTALS									\$ 2,454,696	\$ 2,404,698	\$ 58,742	\$ 55,705	\$ 20,000	\$ 14,515				\$ 46,129		
									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. 25,639. Retirements are also proportionately reduced
** Type of Project (designations will be given for various types of projects)
***Property Tax Expense is for nine months for the 2014 proposed surcharge projects.

**Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2014 Estimate)**

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

Line		<u>Schedule Ref.</u>	
1			
2	Total Investment through 09/30/2014	2017 3 Col 6b Ln 45	\$ 3,179,696
3			
4	Accumulated Depreciation	2017 3 Col 8a Ln 45	(19,205)
5			
6	Net Investment	Ln 2 + Ln 4	<u>\$ 3,160,491</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	\$ 236,721
11			
12	Income Tax on Equity Component		
13			
14			
15			
16			
17			
18	Debt		
19	Equity		
20			
21			
22			
23	Total Eligible Investment (Line 6 above)		\$ 3,160,491
24			
25			
26	Income Tax Expense	Ln 21 Col D X Ln 23	84,069
27			
28	Depreciation Expense	2017 3 Col 8 Ln 45	38,411
29			
30	Property Tax Expense	2017 3 Col 10 Ln 45	58,897
31			
32	Adjustment: Annual Revenues Allowed	Lines 10 + 26 + 28 + 30	<u>\$ 418,097</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)		6.0245%

Aquarion Water Company of New Hampshire
2017 Annual WCA Surcharge Filing (2014 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-7b-8a)/1000)
									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	\$ 9	8.53	6.60	15.13	\$ 8
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,611	\$ 4,511	\$ 2,331	\$ 2,331	\$ 98	\$ 48	14.28	6.60	20.88	\$ 44
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 373	\$ 187	15.80	6.60	22.40	\$ 187
4	Church Street-Highland Avenue to Williams Street		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 133,335	\$ 133,335	\$ 8,243	\$ 8,243	\$ 1,525	\$ 763	15.80	6.60	22.40	\$ 2,830
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 206,750	\$ 206,750	\$ 10,348	\$ 10,348	\$ 2,357	\$ 1,179	15.80	6.60	22.40	\$ 4,373
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 511	15.80	6.60	22.40	\$ 1,087
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 284,218	\$ 284,218	\$ 1,780	\$ 1,780	\$ 3,149	\$ 1,575	15.80	6.60	22.40	\$ 5,844
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,498	\$ 891	\$ 174	\$ 87	15.80	6.60	22.40	\$ 181
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,994	\$ 711	\$ 211	\$ 105	15.80	6.60	22.40	\$ 253
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,464	\$ 2,308	\$ 230	\$ 82	\$ 41	\$ 21	8.53	6.60	15.13	\$ 33
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,351	\$ 2,285	\$ -	\$ -	\$ 113	\$ 57	15.80	6.60	22.40	\$ 49
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 8,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 73	14.28	6.60	20.88	\$ 59
2014 Projects																		
14	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 61	15.80	6.60	22.40	\$ 62
15	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,508	\$ 57,508	\$ 3,180	\$ 3,180	\$ 652	\$ 325	15.80	6.60	22.40	\$ 1,217
16	Osceola Boulevard- Dumas Ave to Winnacunnnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 538,088	\$ 538,088	\$ 8,801	\$ 8,801	\$ 8,352	\$ 3,178	15.80	6.60	22.40	\$ 11,856
2015 Projects																		
19	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2015	10/31/2015	\$ 7,000	\$ 7,000	\$ 6,188	\$ 6,188	\$ 38	\$ 18	15.80	6.60	22.40	\$ 13
20	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 210,000	\$ 210,000	\$ 2,684	\$ 2,684	\$ 2,488	\$ 1,244	15.80	6.60	22.40	\$ 3,482
21	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 213,000	\$ 213,000	\$ 2,702	\$ 2,702	\$ 2,524	\$ 1,262	15.80	6.60	22.40	\$ 3,512
22	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 579,000	\$ 579,000	\$ 7,348	\$ 7,348	\$ 6,860	\$ 3,430	15.80	6.60	22.40	\$ 9,546
23	Cable Rd - Central Rd to Huntevale Ave		Rye	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 85,000	\$ 85,000	\$ 825	\$ 825	\$ 770	\$ 385	8.53	6.60	15.13	\$ 724
2016 Projects																		
26	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2016	10/31/2016	\$ 7,000	\$ 7,000	\$ 608	\$ 608	\$ 281	\$ 141	16.80	6.60	22.40	\$ 105
27	High St - Locke Rd to Windmill Ln		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 683,000	\$ 683,000	\$ 8,411	\$ 8,411	\$ 7,855	\$ 3,928	15.80	6.60	22.40	\$ 10,931
28	Kings Hwy - Redcoat Ln to Winnacunnnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 105,000	\$ 105,000	\$ 1,332	\$ 1,332	\$ 1,244	\$ 622	15.80	6.60	22.40	\$ 1,731
									TOTALS									
									\$ 3,229,096	\$ 3,178,096	\$ 69,092	\$ 68,054	\$ 38,411	\$ 19,205				\$ 68,887
									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)
***Property Tax Expense is for nine months for the 2014 proposed surcharge projects.

**Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2014 Estimate)**

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

Line		<u>Schedule Ref.</u>	
1			
2	Total Investment through 09/30/2014	2018 3 Col 6b Ln 49	\$ 4,195,696
3			
4	Accumulated Depreciation	2018 3 Col 8a Ln 49	(25,323)
5			
6	Net Investment	Ln 2 + Ln 4	<u>\$ 4,170,373</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	\$ 312,381
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)		\$ 4,170,373
24			
25			
26	Income Tax Expense	Ln 21 Col D X Ln 23	110,932
27			
28	Depreciation Expense	2018 3 Col 8 Ln 49	50,646
29			
30	Property Tax Expense	2018 3 Col 10 Ln 49	73,015
31			
32	Adjustment: Annual Revenues Allowed	Lines 10 + 26 + 28 + 30	<u>\$ 546,955</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)		7.8812%

Aquarion Water Company of New Hampshire
2017 Annual WCA Surcharge Filing (2014 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 WCA Adjustment Dollars
1	2013 Projects												
2	Production Meters	30-Sep-13	30-Sep-13	\$ 18,030	\$ 16,468	\$ 244	\$ 16,222	\$ 488	\$ 237	\$ 431	7.49%	\$ 7,129,043	2,372
3	Main Replacements	30-Sep-13	30-Sep-13	\$ -	\$ 689,856	\$ 4,027	\$ 685,829	\$ 8,054	\$ 14,944	\$ 18,243	7.49%	\$ 7,129,043	92,609
4	Hydrants*	30-Sep-13	30-Sep-13	\$ 32,700	\$ 8,147	\$ 87	\$ 8,060	\$ 174	\$ 161	\$ 214	7.49%	\$ 7,129,043	1,153
5	Services*	30-Sep-13	30-Sep-13	\$ 80,600	\$ 14,414	\$ 128	\$ 14,288	\$ 252	\$ 288	\$ 380	7.49%	\$ 7,129,043	1,988
6	Valves*	30-Sep-13	30-Sep-13	\$ 10,800	\$ 5,167	\$ 129	\$ 5,038	\$ 258	\$ 108	\$ 134	7.49%	\$ 7,129,043	878
7	2014 Projects												
8	Production Meters	30-Sep-14	30-Sep-14	\$ 1,600	\$ 3,044	\$ 61	\$ 2,983	\$ 122	\$ 62	\$ 79	7.49%	\$ 7,129,043	487
9	Main Replacements	30-Sep-14	30-Sep-14	\$ 637,988	\$ 593,803	\$ 3,502	\$ 590,101	\$ 7,004	\$ 13,074	\$ 15,597	7.49%	\$ 7,129,043	79,972
10	2015 Projects												
11	Production Meters	30-Sep-15	30-Sep-14	\$ 7,000	\$ 7,000	\$ 18	\$ 6,982	\$ 36	\$ 13	\$ 186	7.49%	\$ 7,129,043	758
12	Main Replacements	30-Sep-15	30-Sep-14	\$ 1,067,000	\$ 1,067,000	\$ 6,321	\$ 1,060,679	\$ 12,842	\$ 17,244	\$ 28,214	7.49%	\$ 7,129,043	137,545
13													
14	2016 Projects												
15	Production Meters	30-Sep-15	30-Sep-14	\$ 7,000	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 105	\$ 182	7.49%	\$ 7,129,043	1,083
16	Main Replacements	30-Sep-15	30-Sep-14	\$ 768,000	\$ 768,000	\$ 4,550	\$ 763,450	\$ 9,099	\$ 12,662	\$ 20,308	7.49%	\$ 7,129,043	99,252
17													
18	2017 Projects												
19	Production Meters	30-Sep-15	30-Sep-14	\$ 7,000	\$ 7,000	\$ 141	\$ 6,859	\$ 281	\$ 105	\$ 182	7.49%	\$ 7,129,043	1,083
20	Main Replacements	30-Sep-15	30-Sep-14	\$ 1,009,000	\$ 1,009,000	\$ 5,977	\$ 1,003,023	\$ 11,954	\$ 14,014	\$ 26,680	7.49%	\$ 7,129,043	127,775
21													
22													
23													
TOTALS				\$ 3,946,898	\$ 4,195,896	\$ 25,323	\$ 4,170,373	\$ 50,646	\$ 73,015	\$ 110,932			\$ 548,955

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

Aquarion Water Company of New Hampshire
2017 Annual WICA Surcharge Filing (2014 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	9a = 8 x 50% Accumulated Depreciation	9 Mil Rates			10 = ((8b-7b-8a)/1000 x 9) 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	\$ 8	6.53	6.60	15.13	\$ 6
2	Production Meters		North Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 4,511	\$ 4,511	\$ 2,331	\$ 2,331	\$ 98	\$ 48	14.26	6.60	20.66	\$ 44
3	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2013	10/31/2013	\$ 8,522	\$ 8,522	\$ -	\$ -	\$ 375	\$ 167	15.80	6.60	22.40	\$ 167
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	\$ 763	15.80	6.60	22.40	\$ 2,630
5	Auburn Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 208,750	\$ 208,750	\$ 10,346	\$ 10,346	\$ 2,357	\$ 1,178	15.80	6.60	22.40	\$ 4,373
6	Auburn Avenue Extension		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 85,554	\$ 85,554	\$ 359	\$ 359	\$ 1,022	\$ 511	15.80	6.60	22.40	\$ 1,067
7	Perkins Avenue		Hampton	343	1.20%	Main Replacement	9/30/2013	10/31/2013	\$ 264,216	\$ 264,216	\$ 1,780	\$ 1,780	\$ 3,149	\$ 1,575	15.80	6.60	22.40	\$ 5,844
8	Hydrants*		Hampton	348	2.40%	Hydrants	9/30/2013	10/31/2013	\$ 22,839	\$ 8,147	\$ 2,468	\$ 861	\$ 174	\$ 87	15.80	6.60	22.40	\$ 161
9	Services*		Hampton	345	1.85%	Services	9/30/2013	10/31/2013	\$ 33,941	\$ 12,108	\$ 1,894	\$ 711	\$ 211	\$ 106	15.80	6.60	22.40	\$ 253
10	Services*		Rye	345	1.85%	Services	9/30/2013	10/31/2013	\$ 6,484	\$ 2,306	\$ 230	\$ 82	\$ 41	\$ 21	6.53	6.60	15.13	\$ 33
11	Valves*		Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,351	\$ 2,265	\$ -	\$ -	\$ 113	\$ 57	15.80	6.60	22.40	\$ 49
12	Valves*		North Hampton	349	5.00%	Other T&D Plant	9/30/2013	10/31/2013	\$ 6,133	\$ 2,901	\$ -	\$ -	\$ 145	\$ 73	14.26	6.60	20.66	\$ 69
2014 Projects																		
14	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2014	10/31/2014	\$ 3,044	\$ 3,044	\$ 264	\$ 264	\$ 122	\$ 61	15.80	6.60	22.40	\$ 62
15	Well 9 Transmission Main		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 57,606	\$ 57,506	\$ 3,180	\$ 3,180	\$ 852	\$ 328	15.80	6.60	22.40	\$ 1,217
16	Ocean Boulevard- Dumas Ave to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2014	10/31/2014	\$ 536,096	\$ 536,066	\$ 6,601	\$ 6,601	\$ 6,352	\$ 3,178	15.80	6.60	22.40	\$ 11,856
2015 Projects																		
19	Production Meters		Hampton	328	4.40%	Other Pumping	9/30/2015	10/31/2015	\$ 7,000	\$ 7,000	\$ 6,166	\$ 6,166	\$ 36	\$ 16	15.80	6.60	22.40	\$ 13
20	Great Boars Head - Cliff Circle to Ocean Blvd		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 210,000	\$ 210,000	\$ 2,694	\$ 2,694	\$ 2,456	\$ 1,244	15.80	6.60	22.40	\$ 3,462
21	Kings Hwy - 11th, 13th, 14th & 15th St		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 213,000	\$ 213,000	\$ 2,702	\$ 2,702	\$ 2,524	\$ 1,262	15.80	6.60	22.40	\$ 3,612
22	Ross Avenue		Hampton	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 579,000	\$ 579,000	\$ 7,346	\$ 7,346	\$ 6,890	\$ 3,430	15.80	6.60	22.40	\$ 9,546
23	Cable Rd - Central Rd to Hunterville Ave		Rye	343	1.20%	Main Replacement	9/30/2015	10/31/2015	\$ 65,000	\$ 65,000	\$ 825	\$ 825	\$ 770	\$ 365	6.53	6.60	15.13	\$ 724
2016 Projects																		
26	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	\$ 106
27	High St - Locks Rd to Windmill Ln		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 693,000	\$ 693,000	\$ 8,411	\$ 8,411	\$ 7,855	\$ 3,928	15.80	6.60	22.40	\$ 10,931
28	Kings Hwy - Redcoat Ln to Winnacunnet Rd		Hampton	343	1.20%	Main Replacement	9/30/2016	10/31/2016	\$ 105,000	\$ 105,000	\$ 1,332	\$ 1,332	\$ 1,244	\$ 622	15.80	6.60	22.40	\$ 1,731
2017 Projects																		
31	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	\$ 106
32	Ocean Blvd - Boars Head Terr to Dumas Ave		Hampton	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 519,000	\$ 519,000	\$ 6,594	\$ 6,594	\$ 6,149	\$ 3,074	15.80	6.60	22.40	\$ 8,557
33	Central Rd - Hunterville Ave to Love Ln		Rye	343	1.20%	Main Replacement	9/30/2017	10/31/2017	\$ 490,000	\$ 490,000	\$ 6,216	\$ 6,216	\$ 5,805	\$ 2,903	6.53	6.60	15.13	\$ 5,457
TOTALS									\$ 4,245,696	\$ 4,195,666	\$ 82,496	\$ 79,461	\$ 50,646	\$ 25,323				\$ 73,015
									to 2016 1		to 2016 1		to 2016 1		to 2016 1			
									Ln 2		Ln 28		Ln 4		Ln 30			

*Total capital costs are reduced by \$50,000 proportionately per Order No. 25,638. Retirements are also proportionately reduced.

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

***Property Tax Expense is for nine months for the 2014 proposed surcharge projects.

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 14-300

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

Date Request Received: December 9, 2014
Request No.: TS 1-3

Date of Response: December 15, 2014
Witness: Carl McMorran

REQUEST: The WICA section of the tariff in Part I indicates mains and valves “installed as replacements for existing facilities” are WICA-eligible. Regarding the response to Staff 1-1:

- a) Were each of the appurtenances listed in relation to the well 9 transmission main (isolation valves, flow conditioner, check valve, air relief valve) replacements of existing equipment?
- b) To the extent any were not, would the company be amenable to removing the cost of those items from the WICA-eligible portion of the project?

RESPONSE:

- a) Yes, all costs and equipment used in the Well 9 transmission main were for the replacement of existing piping and appurtenances.
- b) Cost for other equipment associated with the project (such as chemical injectors, sample tap lines, pressure gauges, etc.) that are not directly related to the piping have already been excluded from the WICA submittal.

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 17, 2014
AT (OFFICE): NHPUC

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

SUBJECT: DW 14-300, Aquarion Water Company of New Hampshire, Inc.
2015 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 14-300, the petition of Aquarion Water Company of New Hampshire, Inc. (Aquarion) relative to its 2015 Water Infrastructure and Conservation Adjustment (WICA) Filing. The petition requests approval of Aquarion's proposed WICA surcharge for effect as of January 1, 2015 on a service rendered basis as well as approval of Aquarion's proposed projects for 2015 as being eligible for recovery through the WICA surcharge mechanism. My review focused primarily on the calculation of the proposed WICA surcharge of 2.5386% to go into effect on January 1, 2015. A detailed explanation of this calculation is contained in the direct testimony of Troy M. Dixon, Director of Rates and Regulation for Aquarion Water Company of Connecticut, Inc., which accompanied Aquarion's WICA filing.

I reviewed the calculation of the 2.5386% WICA surcharge percentage as presented on Attachment TD-1 of Mr. Dixon's testimony and found no errors or exceptions in that calculation. Aquarion's calculated WICA surcharge is based upon a total WICA investment of \$1,330,696. This amount includes \$734,050 of eligible WICA investment placed into service during the 2013 program year (10/1/12 – 9/30/13) which was reviewed by Staff as part of DW 13-314, Aquarion's prior year WICA filing. The other portion consists of Aquarion's 2014 WICA investment in the amount of \$596,646. I reviewed copies of invoices and other schedules in support of this amount which represents the eligible WICA investment placed in service by Aquarion during the 2014 program year (10/1/13 – 9/30/14). The 2014 investment consists of the Well 9 Flow Meter project for \$3,044, the Well 9 Transmission Main project for \$57,506, and the Ocean Boulevard Main Replacement project for \$536,096. My review of the underlying invoices and schedules for these three projects revealed no errors or exceptions.

In conclusion, I believe that the proposed WICA surcharge of 2.5386% is both adequately supported and calculated appropriately and will result in just and reasonable rates for Aquarion and its customers.

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 22, 2014

AT (OFFICE): NHPUC

FROM: Douglas W. Brogan

SUBJECT: DW 14-300, Aquarion Water Company of New Hampshire
2015 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 relation to docket DW 14-300, the 2015 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 also filed recommendations as a consultant to the Commission in the company's previous WICA docket, DW 13-314. 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, participation in a technical session on December 9, 2014, and a brief telephone conversation with Carl McMorrان, Aquarion Operations Manager, on December 16, 2014. While my review included the smaller WICA replacements such as valves, services, hydrants and meters, the focus of my comments is the water main replacement projects that comprise the core of the filing.

Projects Completed in 2014 (for 2015 WICA Adjustment)

Two projects were completed by the September 30, 2014 cutoff for inclusion in the 2015 WICA adjustment. Both were on the list of projects approved in DW 13-314 for construction this year.

The larger of the two, "Ocean Boulevard - Dumas Ave to Winnacunnet Road", has appeared on WICA lists dating to 2009. Earlier cost estimates had been reduced significantly based on a decision to use trenchless technology (pipe bursting) instead of open cut construction. The company was ultimately able to complete the project for even less than the most recent estimate (\$536,096 v. the \$663,968 estimate in DW 13-314) due to favorable conditions encountered during bidding and construction (response to Staff 1-2 in the current docket).

The smaller project, "Well 9 Transmission Main", was completed at a higher cost per foot than any main replacement project done by the company in the last ten years (\$1,440/foot v. the next highest project at \$552/foot, see table at end of my March 24, 2014 memo in DW 13-314). This project was initially envisioned as involving replacement of up to 300 feet of unlined cast iron main, but was ultimately limited to the 40 feet considered of greatest concern to the reliability of Well 9. Roughly half of the replaced main was located outside the Well 9 pump station and half inside. The high per foot cost is due largely to the short pipe sections, multiple joints and other associated replacement work inside the station. The company initially anticipated excluding the cost of appurtenances such as pump station valves and air reliefs, but in the end decided to

include all items directly related to replacement of the main itself. The company did eliminate costs of other upgrades such as chemical injectors, gauges and sample tap lines from the WICA filing (see responses to Staff 1-1 and TS 1-3). While the resulting project has the somewhat unusual appearance of a pump station upgrade billed as a WICA main replacement, that view belies the project's history, and the project does appear to comply generally with the WICA-eligibility criteria in the company's tariff. The project was completed for \$57,506, nearly \$10,000 less than the DW 13-314 estimate. The production meter inside the station was replaced as a separate WICA-eligible item, as noted in the current filing.

Future Projects

A third project on the approved list from DW 13-314 for construction in 2014, "Great Boars Head - Cliff Circle to Ocean Blvd", was not completed by the September 30 cutoff date for reasons detailed in Mr. McMorran's testimony (p. 5), thus moving the project to next year's WICA list. Actual project completion is anticipated by the end of this year. While changes to approved lists was an issue in DW 13-314, the company attempted to complete this project in time for the 2015 adjustment filing; its inability to do so was not certain until near the end of the WICA construction cycle; and the circumstances appear to fall outside the newly inserted tariff criteria requiring notification of parties concerning changes to approved 'Year 1' project lists ("the Company plans to undertake projects ... that were not included on the list of approved WICA projects ... or ... has decided not to proceed with one or more projects that were included").

A number of projects are under consideration for possible cleaning and lining instead of replacement, but the evaluation of which is the preferred alternative for a given project will not be made until a design phase closer in time to actual construction. Cleaning and lining could significantly reduce costs for any eligible projects, as current cost estimates are based on full replacement.

Of the two projects preliminarily approved in DW 13-314 for completion in the 2015 construction season, one has been retained (Ross Avenue) and the other dropped entirely from the current filing (Gentian/Green/Meadow Pond). Two other projects have been added for 2015 (Kings Highway and Cable Road). Such juggling of projects is not unusual in balancing changing priorities, cost factors, coordination with town and state projects and such. The projects as currently proposed for 2015 are supported by Mr. McMorran's testimony (pp. 8-10) and case discovery and appear reasonable. The projects slated for construction in 2016 and 2017 similarly raise no significant concerns at this point in time.

Conclusion

In light of the above comments and the information provided in the case, I believe the 2014 investments are used and useful and were prudently incurred, and recommend approval. I also recommend approval of the 2015 and 2016 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.