STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC.
DW 17-____

2018 WATER INFRASTRUCTURE
AND CONSERVATION ADJUSTMENT FILING

DIRECT TESTIMONY OF

CARL MCMORRAN

OCTOBER 13, 2017

Q. Mr. McMorran, please state your name and business address.

A. My name is Carl McMorran, and my business address is 7 Scott Road, Hampton, New Hampshire 03842.

Q. By whom are you employed and in what capacity?

A. I am the Operations Manager for Aquarion Water Company of New Hampshire, Inc. ("Aquarion NH" or the "Company").

Q. Please describe your educational background.

A. I have a Bachelor's Degree in Biology from Bucknell University and a Master of Environmental Science Degree from Miami University. I have also taken graduate level courses in business administration, and attended (and presented at) many water works seminars and conferences.

Q. Please describe your business/professional background.

A. I have worked for Aquarion NH since November 2008. As Operations Manager, I oversee all operations, maintenance, capital improvement, and administrative activities for the Company in New Hampshire.

From April 1999 through October 2008, I served as Production Manager for the Struthers Division of Aqua Ohio in Poland, Ohio. I supervised a 6 MGD surface water treatment plant, source water protection and reservoir management activities, and operations and maintenance for major distribution facilities (tanks, boosters, etc.). I also had interim supervisory duties at other Aqua Ohio

production facilities and acted as operations consultant for the water system of the City of Campbell, Ohio.

From August 1990 through March 1999, I served as Water Quality / Technical Services Manager for the Bangor Water District in Bangor, Maine. I supervised source water protection and watershed management activities, water quality laboratory, regulatory compliance, cross connection, metering and service activities.

From June 1982 through July 1990, I worked as an Environmental Protection Specialist for the Susquehanna River Basin Commission in Harrisburg, Pennsylvania, which regulates water resources in Maryland, New York, and Pennsylvania. I conducted water quality assessment surveys, water pollution control and hydropower regulation activities.

I currently hold Class IV Water Treatment and Distribution licenses in both New Hampshire and Maine. I previously held a Class IV Water System license in Ohio and a Class A Water System license in Pennsylvania. I also held a Lake Manager certification from 1995 through 2008. I also currently serve on the Board of Directors for the New Hampshire Water Works Association.

Q. Have you previously testified before the New Hampshire Public Utilities Commission ("Commission")?

A. Yes, I provided live and pre-filed testimony before the Commission in the Company's most recent rate case Docket DW 12-085. I also provided pre-filed testimony in the Company's previous Water Infrastructure and Conservation

Adjustment ("WICA") filings Dockets DW 09-211, DW 10-293, DW 11-238, DW 12-325, DW 13-314, DW 14-300, DW 15-476 and DW 16-828.

Q. **What is the basis for the Company making this WICA filing**?

A. As more fully explained in the testimony of Troy Dixon, the Commission approved a WICA program for Aquarion NH in Orders No. 25,019 (DW 08-098 September 25, 2009) and No. 25,539 (DW 12-085 June 28, 2013). Under the WICA program, Aquarion NH can apply for approval of a WICA surcharge adjustment to collect the revenue requirement associated with used and useful WICA-eligible infrastructure improvement projects completed in the preceding twelve months ending September 30.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony discusses the WICA-eligible projects constructed in 2017 and the projects proposed for 2018. I also provide, in Attachment CM-1, candidate WICA projects for 2019 and 2020. Troy Dixon will discuss the proposed surcharge calculation and the associated rate impact for the projects that have been put into service in 2017. The one project was placed into service in 2017 and the proposed budget for that project was initially approved by Commission in Order No. 25,977 in Docket No. DW 16-828, however, as explained below, the Company modified its 2017 project.

Q. Please briefly describe the attachments to your testimony.

A. Attachment CM-1 identifies Aquarion's completed 2017 WICA projects and their respective costs as well as estimated costs for projects anticipated for 2018 through 2020. Attachment CM-2 contains the updated main replacement prioritization analysis and infrastructure inventory. The prioritization analysis was updated pursuant to the approved Settlement Agreement in the Company's last general rate case.

Q. Was there any change in the scope of the projects constructed in 2017 from what was approved by the Commission in Docket DW 16-828?

A. Yes. In a letter dated June 6, 2017 and filed in Docket No. DW 16-828, Aquarion NH informed the Commission that the projected cost of the Lafayette Road project had increased from an estimate of between $360,000 and $520,000 to $854,000. The $854,000 was the lowest out of six bids. Nonetheless, the Company continued with the project because the unlined cast iron main was 67 years old, had hydraulic deficiencies, served critical customers, was impacted by the Town of Hampton's sewer main replacement project, and that there were cost efficiencies with replacing the main in conjunction with the Town's sewer replacement project. The old main consisted of 1,404 feet of cast iron pipe. The new main consists of 1,498 feet of ductile iron pipe; the difference in length due to the new main being on the opposite side of Lafayette Road, which required going a little longer on both ends to connect to existing mains. Also note that ductile iron pipe was installed instead of high density polyethylene (HDPE). This change was made to reduce the cost of the project, primarily in the amount of

extra time that would have been required to fuse and move lengths of HDPE in a workspace crowded with buildings, sewer pipes, drain pipes and other facilities.

Q. Were there any other changes from the originally approved WICA budget for 2017?

A. Yes. The Company estimated it would replace 9 service lines, three valves and two hydrants. During 2017, the Company replaced 14 service lines, one valve, and no hydrants. The estimate and the actual total cost of these categories did not exceed the $50,000 threshold required for inclusion in the WICA surcharge.

Q. What action is the Company requesting in this WICA filing with regard to the projects put into service during the 2017 program year?

A. The Company is requesting that the Commission approve a surcharge consistent with that proposed by Mr. Dixon in his testimony. The 2017 project was considered by the Commission in Docket No. DW 16-828 and approved for construction by Order No. 25,977. The costs associated with the project were prudently incurred and is consistent with the approved budget.

Q. What action is the Company requesting with regard to the proposed WICA projects reflected in the budgets for 2018, 2019, and 2020 shown in Attachment CM-1?

A. With regard to the projects listed for 2018, the Company is requesting that the Commission approve these projects for construction in 2018 and that project costs be considered for inclusion in the 2019 WICA surcharge, subject to the

Commission's audit and prudency review of the actual costs of the projects. With regard to the projects listed for 2019, the Company is requesting that the Commission preliminarily approve these proposed projects for the WICA program, subject to the Commission's final review next year. Finally, with regard to the projects listed for 2020, the Company is not requesting any action and is simply providing these projects for informational purposes only.

Q. Please describe the selection process for the WICA projects.

A. As in previous WICA filings, the Company has used an objective scoring system to evaluate pipe segments for replacement. The improvements this year include data enhancements through updates to the Company's Geographic Information System ("GIS"). The Company stores and analyzes distribution system information in a geographic information system. This information continues to be updated regularly using information on individual pipe segments from field work, engineering analyses, and hydraulic modeling of the system. Pipe segments are evaluated based on the most critical characteristics of breaks and leaks, pipe age, materials characteristics, need for bleeders and hydraulic capacity, then factors in characteristics of critical customers, pipe lining and schedule coordination. Staff judgment and budget constraints are used to make a final selection, if needed.

Q. Please describe the main replacement projects that the Company proposes to include in the WICA program for 2018, 2019, and 2020.

A. Three groups of projects scored the highest for priority in the 2018 through 2020 schedule:

Proposed Main Replacement Projects for 2018:

Hampton River Crossings: There are two parallel 4-inch mains that cross the Hampton River. Both the Company's hydraulic model and field tests show that fire flows are inadequate on the south side of the river. Replacement of these mains with larger mains will improve fire protection in this area.

Ninth Street, Seventh Street, Sixth Street and Tenth Street: These are old galvanized mains serving streets running between Kings Highway and Ocean Boulevard that have higher break frequencies. They will be replaced with HDPE pipe.

Proposed Main Replacement Projects for 2019:

The main on Mill Road between Atlantic Avenue and Pine Road has been subject to main breaks. This road is scheduled to be repaved by NH DOT in 2019 and the Company would like to benefit from cost savings related to paving.

Proposed Main Replacement Projects for 2020:

Mains on Ocean Boulevard between Dumas Avenue and Highland Avenue in Hampton Beach.

- 7,600-ft of 8-inch, unlined, cast-iron main installed in 1910
- To be replaced by a single, larger diameter main

The scope of the Ocean Boulevard project is too large to complete in a single year. The full project involves installing approximately 3,400 feet of single new

main in place of two older mains. It is likely that the Company will replace a portion of these mains in 2020 with the remainder to be done in subsequent years.

Q. Does this conclude your direct testimony?

A. Yes.