AQUA EXHIBIT 5.0

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates and Charges for Its Waterworks Service.	)))	Case No. 16-0907-WW-AIR

DIRECT TESTIMONY
OF
PETER KUSKY, PE
ON BEHALF OF
AQUA OHIO, INC.

__ Management policies, practice and organization

___ Operating income

X Rate base

___ Allocations

___ Rate of return

___ Rates and tariffs

X__ Other

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Direct Testimony of
Peter Kusky, PE

I. BACKGROUND, EXPERIENCE AND PURPOSE

Q1. Please introduce yourself.

A. My name is Peter Kusky. I am the Regional Engineer for Aqua Ohio, Inc. (Aqua Ohio or the Company). My business address is 6550 South Ave., Boardman, Ohio 44512.

Q2. What are your job responsibilities as Regional Engineer for Aqua Ohio?

A. As Regional Engineer, I am responsible for development and implementation of the infrastructure improvement program for the Company's water and wastewater operations. In this capacity, I provide oversight of long-range planning efforts for each operating division, and detailed review, approval and coordination of individual capital projects. Specific emphasis is placed on viable alternatives, costs for each alternative and ultimately the impact on service and reliability, compliance, and operations and maintenance. I maintain contact with the government agencies (primarily the Ohio Environmental Protection Agency (OEPA), the Ohio Department of Natural Resources (ODNR) and the Ohio Department of Transportation (ODOT)) and business representatives with respect to projects that may result from or are requested by these outside entities.

Q3. Please summarize your education and work experience.

A. I graduated from Case Western Reserve University in 1995 with a Bachelor of Science Degree in Civil Engineering and in 1996 with a Master of Science Degree also in Civil Engineering. For the ten years following graduation, I worked as a consulting engineer in both Georgia and Ohio, first with Raytheon Support Services Company and then URS Corporation. Since 2004, I have been employed by Aqua Ohio and Aqua Pennsylvania. I

originally joined the engineering department of Aqua Ohio, as a Project Manager. In 2009, I became as the Assistant Division / Production Manager for the Western Pennsylvania operations of Aqua Pennsylvania. In September 2013, I returned to Aqua Ohio as the Regional Engineer. I hold Professional Engineer's Licenses in both Ohio and Pennsylvania, an OEPA Class III Water Operation License and a Pennsylvania Department of Environmental Protection Class A Water Treatment License and Class E Distribution License.

Q4. Have you previously testified before any regulatory agency?

A. Yes, I provided testimony in the Company's last rate case, Case No. 13-2124-WW-AIR.

Q5. What is the purpose of your testimony in this proceeding?

A. I will testify about the infrastructure improvements that Aqua Ohio has implemented since the last rate case, as well as the factors contributing to the need for these investments.

II. OVERVIEW OF CAPITAL INFRASTRUCTURE IMPROVEMENTS

Q6. Please describe improvements made on the Company's system since the last rate filing.

A. Since the last rate filing the Company has invested nearly $45 million in capital infrastructure improvements. These improvements include replacing and installing transmission and distribution mains, valves, service lines, meters and fire hydrants. Improvements have also been implemented at booster stations, tanks, wells, well stations, water treatment plants (WTPs), residuals processing equipment and ancillary equipment and structures. These improvements were necessary to replace aging infrastructure thereby maintaining service and reliability, obtain or maintain regulatory compliance, improve customer service and mitigate safety and security issues.

Q7. Will all of the facilities that are included in the utility plant accounts be used and useful and necessary for the convenience of the public as of the date certain?

A. Yes. To the best of my knowledge, all of the property in this case will be used and useful and necessary for providing safe, adequate and reliable water service as of the date certain.

Q8. What is the Company's program or process for making decisions with respect to capital replacement or improvements?

A. As noted in Mr. Kolodziej's testimony, the Company utilizes information from four main sources in planning capital infrastructure improvements: (1) annual review and modification of the current five-year capital plan (long-range plan); (2) regulatory compliance (including OEPA, ODNR, OPUCO, and OSHA regulations); (3) ongoing monitoring and inspection of the existing facilities; and (4) available funding. Engineering plays a lead role in the annual review and development of the five-year capital plan, and works with the Company's operations and compliance personnel to identify and prioritize capital needs resulting from changes related to regulatory updates and ongoing performance of the existing infrastructure.

Since the last rate case, the Company has made a concerted effort to continue to thoroughly evaluate and prioritize infrastructure needs. These include but are not limited to improvements in and implementation of GIS mapping (Geographic Information System); an AIMS (Asset Information Management System); MC (Maintenance Connection); and Water Treatment Plant Facility Plans or Audits.

The Company has made significant advances in utilizing electronic record keeping for distribution plant, *i.e.*, GIS mapping and now AIMS. Since the last case, all paper drawings located at the Company's Ohio Corporate Office and the local offices have been scanned and are now housed in AIMS, including historic water treatment plant

and source-of-supply drawings. These drawings are available to all company personnel, on both personal computers and field tablets. In addition, distribution system record drawings now stored in AIMS are hyperlinked by street to the GIS mapping. Since 2014, record information from ongoing waterline replacement projects is similarly stored once the projects are complete. GIS mapping is available to field crews who can report mapping updates real-time compared to several times each year. Ongoing efforts by the Company include standardization of service line, valve and hydrant cards for electronic storage in both GIS and AIMS, and linking main-break and customer data to GIS for real time use by field crews. Additional and ongoing efforts include coordination of GIS, AIMS and MC for future risk-based evaluation of contingency planning and prioritization of capital investment.

Q9. Can you please briefly describe some of the major capital improvements reflected in this case?

A. Infrastructure improvements have been made at all of the Company's operating locations. As previously noted the improvements have occurred in the transmission and distribution systems (mains, valves, service lines, meters, fire hydrants, booster stations and tanks), and at the source of supply facilities and treatment plants.

Since the last rate filing, the Company has replaced approximately 140,000 lineal feet of water lines across the operating divisions. This represents approximately 2.2 percent of the total waterline footage associated with this filing, an increase from 1.6 percent in the last rate case.

As discussed above, the Company utilizes asset age, condition and repair history when prioritizing waterline replacement projects. The waterline projects in this rate case were prioritized based on main-break history, improvements to water quality /

elimination of dead ends, improvements to system hydraulics, and relocations necessitated from municipal or state projects where the Company's waterlines were located within public rights-of-way.

The largest capital projects represented in the total above have resulted from: replacing plant that is nearing or beyond its useful life (service and reliability), and improvements to water quality (aesthetics). These projects have also addressed safety and security deficiencies and changes to OEPA regulations.

A recap of the Company's capital infrastructure investment since the last rate case and by major utility account can be found on Schedule B-2.3. A brief summary of the most significant capital projects since the last rate case follows below:

Masury Division

- **Waterline Replacement**

  Approximately 3,870 feet of waterline were replaced in Masury. These projects included all or portions of five streets or roads.

- **Lincoln Booster Station**

  Replacement of the control circuit board for the emergency generator at the Lincoln Booster Station. The Lincoln Booster Station supplies a pressure zone which is "pumped storage." The booster station runs 24 hours a day, 7 days a week to maintain system pressure within the pressure zone. As a result, the emergency generator is a critical component for the system.

Ashtabula / Lake Division

- **Ashtabula Waterline Replacement**

  Approximately 22,570 feet of waterline were replaced in Ashtabula and an additional 5,670 feet of waterline were replaced in Jefferson. These projects included 42 streets or roads.

- **Ashtabula Route 84 Tank Rehab and Repainting**

  The Route 84 Tank was last painted in 1990, or approximately 25 years ago, and the paint system had reached the end of its useful life. The project addressed all of the structural deficiencies, repaired all of the pit holes, and replaced the tank's ancillary equipment (vents, manways and overflow pipe). This project included a complete repaint (inside and out), extending the useful life of the tank.

- **Ashtabula WTP Improvements**

  Upgrades at the Ashtabula WTP included, among other projects: relocation and replacement of the Alum storage and feed equipment to the new chemical building; replacement of a high-service meter; and purchase of a long arm excavator to improve solids dewatering and lower operational costs. Instrumentation was added to the low lift suction lift system resulting in a reduced need to operate the system.

- **Ashtabula Distribution Garage / Office**

  A new Distribution Garage / Office was constructed for the Ashtabula Division, replacing an undersized leased facility. The new facility creates better access for crews, both day-to-day and when responding to emergencies, and

improves storage and access to equipment and materials, which improves operational efficiencies.

- **Lake Waterline Replacement WTP Improvements**

  Approximately 42,000 feet of waterline were replaced in Lake, involving 22 streets or roads.

- **Lake WTP and Booster Stations**

  Upgrades at the Lake WTP and Booster Stations included, among other projects: filter media/filter underdrain replacement (replacing over-30-year-old equipment and a failed underdrain system); rebuild of the low lift pumps; replacement of a high-service pump and high-service pump starter with a variable-frequency drive (improving operating efficiencies) and addition of a stationary emergency generator at the Kirtland Booster Station, one of the largest booster stations in the Lakeshore system.

- **Auburn Lakes Water System**

  Work in the Auburn Lakes system included: replacement of a well motor, installation of a back-up SCADA computer and installation of new chlorine feed pump and analyzers.

- **Norlick Water System**

  Work at the Norlick System involved installation of customer meters in a system that was previously unmetered. A new plant is under construction and will include iron and manganese removal filters, replacing the current system of sequestration, which does not remove but rather masks the presence of these

elements. The new plant will significantly improve water quality for the Norlick customers and mitigate the current need for additional system flushing.

- **Seneca Lake Water System**

  Approximately 400 feet of waterline were replaced in Seneca Lake, after erosion from the West Brach of the St. Joseph River exposed a waterline downstream of the Dam.

- **Shepard Hills Water System**

  Work in the Shepard Hills system included: installation of the finished water, and replacement of the air compressor and well controls.

Mansfield/Portage/Mohawk Division

- **Portage Waterline Projects**

  Approximately 470 feet of waterline were installed on Pelham Lane, creating a loop in the system and improving reliability.

- **Mansfield Waterline Replacement**

  Approximately 5,200 feet of waterline were replaced in three of the Mansfield systems, involving Systems #1, #8 and #10.

- **Mansfield System 2 Upgrades –Waterline Replacement and Meter Installation**

  In the last two rate cases, Staff recommended replacement of all waterlines and service lines, and installation of meter pits in Mansfield System #2 (Imperial Estates). The Staff recommendation included a deadline of December 31, 2014, for the waterlines and company service lines/meter pits. This work was completed by October 31, 2014, and all customers in System #2 replaced their service lines and were connected to the new waterline by March 1, 2015.

- **Mohawk**

Individual customer meters were replaced and electronic read devices were also installed.

Marion/Tiffin Division

- **Marion Waterline Replacement**

Approximately 34,500 feet of waterline were replaced in Marion, involving 33 streets or roads.

- **Marion WTP: Pre-Treatment Project**

The existing two million gallon, below-grade pre-treatment tank was constructed in 1914. The south half of the tank is utilized as pre-sedimentation and the north for equalization/mixing. The existing tray aerator was constructed in the 1950s and feeds into the north end of the equalization/mixing tank. The pre-treatment facilities were quickly nearing the end of their useful life, have sub-optimal geometry and lacked mechanical solids removal. As a result, this project included replacement of and upgrades to the Marion WTP Pre-Treatment Facilities.

This project originated in 2014 as a result of the Marion WTP Facility Plan. Montgomery Watson Harza, an engineering firm, performed the study by scoping recommended projects and providing conceptual cost estimates. Company Operations and Engineering personnel provided input for project prioritization. This project scored as the highest priority for the plant.

As noted above, this project is part of the Company's long-term strategy in Marion to phase-in a new plant over the next 20-plus years. The project included

technical aspects of future upgrades and considered cost saving alternatives to delay or phase existing plant until necessary.

- **Marion WTP - Washwater Tank Rehabilitation**

  The condition of the Marion washwater tank was a deficiency noted in a 2016 OEPA inspection report. As part of the Company's 2016 tank rehabilitation program, the Marion tank underwent a complete rehab and repaint on both the interior and exterior. The tank was last painted in 1983. After 33 years, the paint system had reached the end of its useful life. Steel repairs and OSHA updates were also needed. As part of the project, a pressure-reducing valve and vault were installed at the plant, to allow filters to be washed while the tank was out-of-service. This also resulted in a back-up source for washing filters, which can be used for future contingency situations.

- **Marion WTP – Lime and Soda Ash Silo Tank Rehabilitation**

  As part of the Company's 2016 tank-rehabilitation program, the exterior of the lime and soda ash silos were repainted, and steel- and OSHA-related upgrades were also completed. The tanks were last painted in 1987. After 29 years, the exterior paint system had reached the end of its useful life, making the upgrades necessary.

- **Tiffin Waterline Replacement**

  Approximately 11,000 feet of waterline were replaced in Tiffin, involving 8 streets or roads.

Franklin County/Lawrence/Lake White Division

- **Waterline Replacement**

Approximately 3,000 feet of waterline were replaced in Franklin, involving 33 streets or roads. In Lawrence and Lake White, the totals were 3,200 feet and 4,200 feet, respectively. Six streets/road were involved in Lawrence and four in Lake White

- **Tank Rehab and Repainting – Multiple Tanks**

Three distribution storage tanks were rehabilitated in the Franklin County Division since the last rate case: Huber Ridge, Timberbrook and Blacklick. These tanks were last painted in 1992, 1991 and 1990, respectively, and the paint systems had reached the end of their useful lives. Further need for these projects was evidenced at the Huber Ridge tank, which experienced a sidewall leak during the winter of 2014. These projects addressed all structural and OSHA-related deficiencies, repaired all pit holes, and replaced the tanks' ancillary equipment (vents, manways and overflow pipe). The projects included a complete repaint (inside and out), extending the useful life of the tank.

- **WTP Upgrades**

Upgrades at the Franklin WTPs included replacement and installation of well pumps and motors, chemical feed systems, filters, and safety-related improvements. An Arc Flash assessment was completed for the plants and remote locations, resulting in NFPA 70E labeling, safety protocols and identification of electrical upgrades.

Phase I improvements to the Lake Darby WTP, including the addition of a finished water clearwell, will allow completion of Phase II, which involves replacing the existing Aerolator, which is at the end of its useful life.

- **Lake White Source of Supply and Treatment Plant**

Both the wells and the WTP at Lake White were located in and on the Lake White Dam, which is owned and operated by the ODNR. Ongoing planned and emergency work on the Dam resulted in the need for Aqua Ohio to relocate these facilities. Rather than purchase property and install new wells and a new or upgraded WTP, the Company negotiated a long-term purchased water agreement with the Village of Waverly, which owns a lime-softening WTP. As part of the project to interconnect the two systems, the Company installed approximately 2,000 feet of waterline and a booster station to fill the existing distribution storage tank. The result has been improved water quality for the customers at Lake White, who previously did not have softened water.

Q10. Does this conclude your direct testimony?

A. Yes, it does.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Direct Testimony of Peter Kusky, PE was served by electronic mail to the following persons on this 14th of June, 2016:

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One of the Attorneys for Aqua Ohio, Inc.

Summary: Text Direct Testimony of Peter Kusky, PE electronically filed by Ms. Rebekah J. Glover on behalf of Aqua Ohio, Inc.