THE COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 23-65

HOUSATONIC WATER WORK COMPANY

Pre-Filed Testimony of James J. Mercer

June 23, 2023

Q. Please state your name and business address.

A. James J. Mercer, 80 Maple Avenue STE1, Great Barrington, Massachusetts.

Q. What is your position with the Housatonic Water Works Company?

A. I am Treasurer, Director, Chief Financial Officer and part owner of the company. I participate in financial, operating and policy decisions of the company. I also serve as the Primary Certified Operator for both the treatment system and the distribution system.

Q. Please state your educational, business and professional background.

A. I am a licensed water treatment operator and have been involved in the management of Housatonic Water Works Company ("Company" or "HWWC") for over thirty years.

Q. Please describe the Housatonic Water Works Company and the nature of its operations.

A. The Company is a privately owned water company providing water service to just over 800 customers in the Village of Housatonic, Town of Great Barrington, and small sections of Stockbridge and West Stockbridge. The Company and its employees have a long term commitment to do what is best for the community. General Service customers

consist of six unmetered customers who are billed on the basis of flat rate fixture charges; 813 metered customers with 5/8x3/4" meters, one with a 1" metered and two with a 2" meter. Fire service is provided through 66 public hydrants, 5 private hydrants, and 13 private sprinkler systems.

The source of supply for the water system is surface water from Long Pond in Great Barrington. The primary treatment is a slow sand filtration system equipped with a bypass system for high-flow fire demand emergencies. In 2022 the total annual water production was 40,274,527 gallons. The water is chlorinated, and no pH adjustment is needed for the water. All water supplied to the system meets the Department of Environmental Protection's requirements for potable water, with the exception of recent exceedances of the Maximum Contaminant Level (MCL) for haloacetic acids.

The transmission and distribution system consists of ductile iron, cast iron, and transite pipe varying in size from 1½" to 14" in diameter. There are approximately 16.6 miles of water mains of which 12 miles are 6 inches or larger in diameter.

Q. Who manages the day-to-day operations of the Water Company?

A. I manage the day-to-day operations of the Company.

Q. When was the Company's last Rate Increase?

A. The Company last filed for a Rate Case in 2015 (DPU 15-179) and per settlement approved on October 13, 2016 (DPU 15-179A), the Phase I tariff became effective November 1, 2016 and the Phase II tariff became effective June 1, 2019. The Company's last rate increase became effective on June 1, 2019 in accordance with the Department of Public Utilities' Settlement Order 07-28-A, reflecting a 30.8% rate increase and a 9.78% overall rate of return.

Q. Why is the Company seeking a rate increase?

A. A new rate increase is requested to finance needed improvements to the physical water system and its operations. The last rate increase approved by the Department of Public Utilities (DPU) went into effect in 2019.

This investment will help accomplish improvements in four important areas of concern, including public health protection (disinfection byproducts), aesthetic water quality (water color), public safety (fire flows), and system resilience (interconnect with a neighboring system). The rate increase will also cover continued attritional replacement of piping and hydrants (part of HWWC's asset management program), staffing requirements for the new treatment system, and exploring additional water sources.

Q. What are the current challenges for the water treatment system?

A. There are two main treatment issues that need addressing. All other drinking water quality parameters are quite good.

The level of haloacetic acids (HAA5) in distribution system samples has been too high since summer of 2021, sometimes exceeding the Maximum Contaminant Level (MCL) allowed by USEPA and MassDEP regulations. Haloacetic acids are a group of chlorinated disinfection byproducts that form when chlorine reacts with natural organic matter in the water. This is a health-related concern, and HWWC has entered into a Consent Order Agreement with MassDEP to consistently reduce the HAA5 levels to below the MCL.

In addition, during the warmer months of most recent years, our water has at times exhibited a yellow or brownish color. The color is caused by seasonal spikes of naturally occurring manganese in our Long Pond source water. The dissolved manganese then reacts with the chlorine used for microbial disinfection, and the oxidation of the manganese turns it into a particulate material that causes color. While this situation is not a health concern, the color does make the water appear displeasing and that needs to be resolved.

Q. What are the current challenges for the water distribution system?

A. A recent hydraulic study conducted by one of our engineering consultants showed that during the use of fire hydrants, water pressures may be lower than required in certain locations within the distribution system, especially at the highest elevations. Also, some hydrant flow rates in the commercial areas of the village are considered lower than

desired for fighting fires. Maintaining sufficient water pressure and flow rates is a very important customer service goal for our water company.

Q. How is the issue of high chlorinated disinfection byproducts going to be resolved?

A. Housatonic Water currently adds chlorine for disinfection at one location prior to the chlorine contact basin. The water then flows through the contact basin and then through a 1.1-MG storage tank. The amount of chlorine needed to be added is controlled primarily by the need to maintain sufficient chlorine levels in the distribution system. As a result, more chlorine is added than is needed for primary disinfection within the treatment plant.

MassDEP has approved HWWC's proposed concept of using a two-stage chlorination procedure for resolving the DBP issue. We will substantially reduce the chlorine dose prior to the contact basin, while adding a second chlorine feed after the 1.1-MG storage tank to provide sufficient disinfection protection for water in the distribution system. This will greatly reduce the concentration of chlorine available to react with natural organic matter during the long contact time within the treatment plant and storage tank, and that should significantly reduce the formation of HAA5.

The costs for this modification of the treatment system, including preliminary engineering services, is estimated to be approximately $30,000.

MassDEP has not yet ruled as to whether additional measures will be required for reducing the HAA5. They may consider requiring the use for granular activated carbon (GAC) contactors for reducing the levels of NOM as a means of reducing the formation of HAA5. That is a much more expensive alternative than implementing the two-stage chlorination system.

Q. How will the water color issue be fixed?

A. HWWC has successfully pilot tested GreensandPlus filtration media for removal of the manganese that causes the color. Upon MassDEP approval, expected after one more round of pilot testing, the Company seeks to utilize this technology to permanently resolve the water color issue. HWWC will install these filters and use them during the warmer months when manganese levels are problematic for color (approximately June

through October). The cost of the new GreensandPlus filtration system, including the necessary chemical monitoring instrumentation, is estimated to be $1,670,500.

Q. What else is needed to go along with the new GreensandPlus filtration system?

A. The current building housing the treatment controls is very small, and we will need to construct a new larger building (about 2,000 square feet) to house the new manganese filtration system. We also need to include space for potential future treatment options (e.g., chemical addition for pH control), as well as for an office, bathroom, and storage of supplies and spare equipment. Normal building systems such as electricity, plumbing, heating, and air conditioning need to be included, along with a septic system for the bathroom. Other planned work includes moving the computer system controls to the new treatment building, upgrading monitoring equipment and adding an emergency generator to maintain treatment and pumping operations in the event of a power outage. The cost of the building and associated systems is currently estimated at approximately $678,000 of the $1,670,500 total project costs.

Q. Will personnel levels change with these improvements?

A. Yes. Currently, both management and operations are conducted by staff, with assistance provided by a part-time office clerk. The treatment system is currently considered by MassDEP as a Class T1 operation, and both the Primary Certified Operator (Mr. Jim Mercer) and the backup Certified Operator (Mr. Peter Marks) are both certified (licensed) at the T1 level. However, given the addition of the GreensandPlus filters, the treatment system is expected to be upgraded to a T2 level, requiring a Primary Certified Operator with at least a T2 license.

To meet that requirement, and to reduce the reliance on Mr. Jim Mercer for day-to-day operations, a full-time certified Class 2-T operator is expected to be hired to conduct daily operational duties (5 days per week). A second part-time certified operator is expected to be hired to cover the other shifts. Combined, the two operators are expected to currently cost approximately $150,000 per year.

A 2T treatment plant must be staffed (i.e., plant operator must "be present at the treatment facility") in accordance with its classification for a minimum of four hours per day Monday through Friday. On weekends and holidays the plant "must be visited" at least once per day by a certified operator. Facilities with slow sand filtration may apply to MassDEP to reduce the weekday requirement from 4 hours to 2 hours, but that exception may not apply after the GreensandPlus filtration is operational.

Q. What is planned for increasing distribution system pressures and fire hydrant flow rates?

A. HWWC is planning to construct a second water storage tank on High Street in Housatonic. This elevated ~200,000-gallon storage tank is expected to provide sufficient improvement of pressures and fire flows in the downtown Housatonic area, including the system's highest elevation points. Some nearby water mains will also be replaced with larger-diameter pipes to further help increase fire flows in the system. The cost of this new storage tank and water main replacements is currently estimated to be $1,690,000.

Q. What else is planned for distribution system improvements?

A. The Company has developed a 10-year/ $10M plan for system improvements Phase I and Phase II improvements are estimated to cost $2.4 M and $4.5M respectively. The implementation of the remaining improvements consisting of main replacement and other upgrades will be determined after the initial two phases are completed. The rate increase will help provide the necessary funding. Fortunately, despite the age of some of the pipes in our old community, in general they are in very good condition as measured by standard engineering criteria such as our low pipe break rate and low loss of water (unaccounted for water). Attrition replacement of piping and hydrants (traditional asset management) is prioritized based on results from condition assessments that include consideration of pipe age, pipe material, field observations, observed pressures, etc.

After the new storage tank has been installed, another comprehensive hydraulic study will be conducted to identify any potential remaining low pressures or fire flows that exist under the new and improved distribution system conditions. Upcoming

infrastructure replacements will focus on those remaining areas where pressures and/or hydrant flows are then considered lower than desired.

Another planned distribution system project designed to improve system resiliency is to install a piping and valved interconnection between our distribution system and that of the Great Barrington Fire District (GBFD) at Christian Hill Road estimated to cost $375,000. This will provide both HWWC and GBFD with an emergency backup water supply. HWWC may also explore the possibility of a shared laborer position with GBFD to perform system repairs and work on emergency responses.

Q. Is HWWC looking for alternate water sources?

A. Yes. HWWC owns property around Long Pong that may prove fruitful for developing groundwater supplies. HWWC may conduct a hydrogeological investigation and potentially drill some test wells.

HWWC is also considering hiring an engineering firm to develop an updated Safe Yield value for the Long Pond source water. The determination of the safe yield of a water body is important for long-term planning, especially as concerns about extended droughts have increased in recent years.

Q What is the current status of unaccounted water in the system?

The Company implemented an aggressive leak detection program to identify and repair leaks throughout our distribution system. Our water main break rate (0.060 breaks per mile per year compared to the national average of ~0.25 breaks per mile per year), is low and is indicative of the fact that all 16 miles of pipes are in good repair. We also have a low rate of water loss, averaging just 7% of the total water treated in 2022, with 10% or less considered a good target for U.S. water systems.

Q. What is the magnitude of the proposed rate increase?

A. The proposed rate increase is 112.7% which would provide an overall rate of return of 7.83% and additional revenues of $808,808 over the adjusted test year revenues of

$717,660. The additional revenue would provide the cash flow necessary to implement the needed capital improvements.

Q. Have the Stockholders of HWWC been issued annual dividends or other compensation?

A. The Company has not issued dividends. In recent years, Housatonic Water Works has suffered cash shortfalls due in most part to unexpected occurrences and major capital requirements linked to aging system facilities. The management commitment to provide safe, adequate, and quality service has received priority over the compensation for Officers/Stockholders of the Company. This unpaid expense has been accrued and recorded over time. The current liability is approaching Two-Million dollars.

Q. What impact will the proposed rate increase have on the average customer?

A. On average, residential customers with a 5/8" meter use 4,150 gallons of water per month with 54% of gallons within tier one (the existing monthly usage allowance) and 46% of annual gallons in tier two (usage in excess of allowance). The proposed across-the-board increase will result in a monthly minimum service charge of $98.38 and a $23.24 charge per thousand gallons for all water usage over the 2,500 gallon monthly allowance. The annual cost of water service for the average residential customer would increase from $746.40 to $1,641.48 or an increase of 119.9%.

Q. Who has provided information / assistance in the preparations of this rate filing?

A. In addition to Company personnel, Cirone Friedberg LLP (the Company's accountant) and Consultant Gary White, who prepared the schedules in support of this rate filing.

Q. Have you discussed this rate filing with any Town Officials or Civic Organizations?

A. I have discussed this rate filing with the fire chief and other town officials. We will also maintain a copy of the rate filing in the Company's business office for review by

interested parties. The Company will notify each individual customer with an insert to their monthly bill and publish notification in the local newspaper, as required.

Q. Are there any tariff changes that you would like to bring to the Department's attention?

A. Other than the Schedule 11 schedule of water rate changes, the company is proposing two changes to our Terms and Conditions.

New customers fill out and sign an application for service and essentially "contract for service" whereas existing accounts are transferred to a new owner when the property of an existing customer is purchased.

In order to clarify the meaning and intent of M.D.P.U. 16, the Company is adding the language "as a binding contract for service" to the end of the sentence of item (a) under Section 1 "Rules and Regulations Govern Rendering of Service".

The Massachusetts Department of Environmental Protection requested specific language regarding private water mains be added which can be found in Section 7.

Q Do you have any further thoughts you would like to offer in closing?

Yes. The Company has several goals including:

- Provide safe and high-quality drinking water
- Operate cost effectively
- Consider other community goals in operating the water utility
- Provide informative and responsive customer service
- Foster communication and coordination among other local water utilities

In order to meet these goals, the company endeavors to efficiently manage all aspects of its operations and maintenance programs. The increased use of technology (including green technology), system monitoring, data collection and managing regulatory requirements help to increase efficiency whenever possible.

The Company will continue its rate structure conservation measures by utilizing monthly water allowances within its consumptive rates.

Q Does this complete your testimony?

A Yes it does.