STATE OF CONNECTICUT

PUBLIC UTILITIES REGULATORY AUTHORITY

DOCKET NO. 22-07-01

**APPLICATION OF
AQUARION WATER COMPANY OF CONNECTICUT
TO AMEND ITS RATE SCHEDULES**

DIRECT TESTIMONY OF

DANIEL R. LAWRENCE

***Capital Program and
Plant Additions***

On behalf of Aquarion Water Company of Connecticut

August 29, 2022

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DIRECT TESTIMONY OF DANIEL R. LAWRENCE

I. INTRODUCTION

Q. Please state your name, position and business address.

A. My name is Daniel R. Lawrence. I am the Vice President of Engineering and Real Estate for Aquarion Water Company of Connecticut ("Aquarion" or the "Company"). My business address is 600 Lindley Street, Bridgeport, CT 06606.

Q. What are your principal responsibilities in this position?

A. As the Company's Vice President of Engineering and Real Estate, I oversee several departments, including Engineering and Planning, Real Estate, Fleet and Facilities.

Q. Please describe your educational background and professional experience.

A. I earned a Bachelor degree in Civil Engineering (with a concentration in Environmental Engineering) from the University of Massachusetts. I am also a licensed Professional Engineer in the State of Connecticut. I joined Aquarion as the Director of Engineering and Planning in 2014 and was named to my current position as Vice President of Engineering and Real Estate in 2020. Prior to joining Aquarion, I was employed by Weston & Sampson, serving in various roles from 1997 to 2014 including Engineer, Senior Engineer, Project Manager and Senior Associate. Through these positions, I had increasing levels of responsibility in capital project management and planning, including oversight of capital investments throughout New England, New York and New Jersey. Prior to joining Weston & Sampson, I was employed as an engineer and project engineer with the consulting firm of Metcalf & Eddy and as an Engineer with Blasland, Bouck and Lee, LLC working throughout New England, New York, New Jersey, Pennsylvania and Michigan.

Q. Have you previously testified before the Public Utilities Regulatory Authority or any other regulatory commissions?

A. Yes. I have previously testified before the Public Utility Regulatory Authority ("PURA" or the "Authority") on numerous dockets, including Aquarion's most recent WICA dockets (Docket Nos. 13-02-20WI14, 13-02-20WI15, 13-02-20WI17, 13-02-20WI18, 13-02-20WI20 and 13-02-20WI21); the NESC/Valley acquisition (Docket No. 21-04-23); other recent Aquarion acquisitions (Docket Nos. 17-08-10, 18-08-34, 18-12-32, 19-09-09; and 20-06-21), and other regulatory proceedings.

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

A. My testimony has six overall objectives, which are to provide: (1) a description of Aquarion's capital program management and the tools and strategies employed to deliver capital efficiencies; (2) an overview of Aquarion's overall planning and capital program for small system acquisitions; (3) a presentation of the infrastructure improvements since the Company's last general rate case through the test year-end in this rate case (December 31, 2021), and subsequent additions placed in service as of August 31, 2022; (4) a summary of the Company's five-year capital plan through 2026; (5) a description of the Summary of Pro Forma Plant Additions to be completed for each of the proposed rate years ending December 31, 2023, December 31, 2024 and December 31, 2025; (6) a discussion of the Summary of the Lead and Copper Rule Revisions and how these revisions will impact Aquarion's capital program.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes. In addition to my testimony, listed below as Exhibit A-3-DRL-1, I am sponsoring the following exhibits:

Exhibit	Description
Exhibit A-3-DRL-1	Direct Testimony of Daniel R. Lawrence
Exhibit A-3-DRL-2	Project Management Committee (PMC)
Exhibit A-3-DRL-3	Summary of Vehicles

Q. How is the remainder of your testimony organized?

A. Section II provides an overview of the Company's capital program management. Section III addresses the Company's water system acquisitions, including the benefits achieved through these acquisitions and related infrastructure investments. Section IV presents Aquarion's infrastructure investments since its last rate case in 2013 and proforma plant additions through August 31, 2022. Section V presents the Five-Year Capital Plan for the years 2022 through 2026, including the three rate years. Section VI provides a summary of the Lead and Copper Rules Revisions (LCCR) and future investments.

II. AQUARION'S CAPITAL PROGRAM MANAGEMENT

Q. Describe Aquarion's overall approach to capital program management.

A. One of the Company's core operational functions is the installation and replacement of water infrastructure to assure reliable, high-quality water service to customers. As a result, the overall goal of the Company's capital investment program is to ensure that capital is deployed appropriately, cost-efficiently and on a timely basis across the system, and in targeted areas. The Company's objective is to ensure optimum product quality and service in all its improvements, while maintaining or enhancing customer service at reasonable rates.

Delivering capital projects effectively and efficiently is a foundation of the Company's capital program. Capital efficiency is delivered in both the planning and execution stages of all capital projects.

Q. Please explain in more detail the planning and execution stages of Aquarion's capital projects.

A. The Company's Engineering and Planning Department follows a four-stage process to ensure the Company's capital project objectives are met. All capital projects (with the exception of programmatic work and budgeted projects less than $100,000), flow through this overall four-stage process and require approval from the Project Management Committee ("PMC") prior to proceeding with each of the four stages (see Exhibit A-3-DRL-2). The Company utilizes its PMC as a quality control step to review proposed projects, costs, technical merit and benefits to the customer prior to authorizing the project to move to the next stage. The four stages are as follows:

1. **Identification and Prioritization stage**: Capital projects are identified by a variety of sources within the Company and prioritized for implementation during the development of the five-year capital plan as part of the annual budgeting process.

2. **Planning stage:** Once projects are prioritized in the current year, each capital project goes through an alternatives analysis to identify the project alternative that meets the project objectives most cost effectively. This selected alternative is presented to the PMC and moved forward to the design stage, once approved by the PMC.

3. **Design stage:** Project plans are completed and reviewed to ensure that the design plans are efficient and accurately represent the work that is proposed. The plans are reviewed by Company staff in Supply Operations, Utility Operations and in Engineering and Planning. The work is then sent out to bid and awarded to the lowest cost qualified contractor. The proposed project for execution of the work is brought to the PMC for review. Once approved, the project moves from the design stage to the project delivery stage.

4. **Project Delivery stage**: Project managers in Engineering and Planning oversee contractor activities, communicate with affected constituents, and track progress against agreed upon budgets and schedules, and update and revise as appropriate.

Q. How does Aquarion ensure capital investments and projects are identified, prioritized and appropriately included in the five-year capital budget?

A. Aquarion's identifies specific investments through a variety of sources, including Water Supply Plans, Master Plans, Water Quality Master Plan, Water Quantity Master Plan, Capital Improvement Plans ("CIP's"), and coordination with communities and other utilities. Aquarion also reviews inputs from supply and distribution system operators, operational data, regulatory requirements and overall asset repair and replacement programs. The asset programs include asset inventories/databases that track existing conditions and that also enable the Company to plan and prioritize capital projects based on age, condition, system demands, and related factors. In addition, the Company's five-year capital budget is further derived from information technology ("IT") needs, general asset purchase requirements and recurring programmatic work. Programmatic work includes investments in service lines, valves, hydrants, meters, general plant and water

mains. The level of investment in each of these programs is based on criteria defined within each program, such as vehicle mileage, estimated service line replacements, valve replacements, periodic meter replacements, and water main rehabilitation schedules.

Based on the assigned priority, capital investments and projects are put into the appropriate year of the five-year capital budget. Urgent projects are included in the next year's capital budget along with essential annual programmatic work and general purchases.

The Company prioritizes investments based on asset priority ranking, water main replacement models, regulatory requirements, improvements in customer service, and level of risk reduction. Capital investments are prioritized in terms of risk by evaluating the reduction of unwanted impacts in the following areas: water quality compliance, water quality complaints, unplanned service interruptions, customer service complaints, excessive non-revenue water, environmental compliance, inadequate fire protection, inadequate supply, inadequate pressure and personal safety.

Q. How does the Company ensure capital investments and projects are completed in the most efficient manner?

A. Before a proposed investment is included in the capital budget, the project goes through a business justification during the development of the overall five-year plan and an alternatives analysis in order to define the investment as a specific project with stated goals, costs and timetables for the project. Specific projects must follow a prescribed project management process overseen by the PMC. The project management process consists of four steps after a project is placed in the capital budget: (1) alternative analysis, (2) design, (3) project delivery/execution, and (4) evaluation. The PMC is responsible for approving

the various project management phases and monitoring the project status, cash flow, overall cost, and schedule. The PMC is also responsible for monitoring annual capital spending targets. A copy of the PMC Guidance is included as Exhibit DL-2.

The most part of the process is the development of the alternative analysis. This step provides an opportunity to evaluate alternatives to best meet the goals of the project. During this stage, the Company typically selects a consulting firm to evaluate the alternatives available and determine the most appropriate solution to meet the goals of balancing capital and operating costs, working with Engineering and Planning, Supply Operations and Utility Operations staff. In some instances, a third-party review is implemented to evaluate the alternatives analysis to ensure the proposed project has identified the needed work correctly and that all the work identified must be implemented to meet the project objectives. These third-party reviews have been critical when there is a conflict in the information available, which creates more risk to the project, or when a more costly solution is recommended as the proposed solution and another review is needed to determine the most appropriate course of action.

Q. Specifically, how does the Company structure its planning stage to ensure that it is delivering capital efficiencies in the execution of its capital investment program?

A. Through the planning stage, the Company employs many strategies to improve efficiencies in the delivery of its capital investment program. Significant project efficiencies can be realized during the initial planning phase of a project. Therefore, the Company dedicates considerable resources and effort during the planning stage of the project management process to maximize capital project efficiency.

Aquarion conducts master planning studies to identify needed investments, the time frame for investment, and to identify the projects that need to be executed within the five-year capital planning period. The components of a Master Plan include:

1. Demand Projections by Water Level
2. Margin of Safety Review
3. Assess Treatment Facilities
4. Assess Pump Stations
5. Assess Distribution System
6. Assess Treated Water Storage
7. Assess Water Quality Risk
8. Review existing five-year capital budget
9. Summarize the recommended improvements

The Company has developed 13 Master Plans for its various water systems to identify and prioritize needs within each water system since the last rate case. The Master Plans are generally updated every 8 to 12 years based on needs within a water system. The results from the Master Plans, Water Supply Plans, Water Quality Master Plan, Water Quantity Master Plan, Capital Improvement Plans, Sanitary Surveys and Inspections are then compiled into a master database, which allows the Company to review recommendations on a regular basis and compare water system needs more efficiently. The focus of the planning is to identify where investment is needed and in what time framework would be optimally executed. This level of planning is intended to maximize the existing assets and ensure timely investment, while providing high-quality service and meeting regulatory requirements.

Q. Is there another integral part of the planning process?

A. Yes. Another integral part of the planning effort is the Company's Water Supply Plan ("WSP"). The Company must submit a Water Supply Plan every six to nine years (or as otherwise required) to PURA, the Department of Public Health ("DPH"), and the Department of Energy and Environmental Protection ("DEEP") in accordance with Section 25-32d of the Regulations of Connecticut State Agencies. From 2013 to 2021, the Company prepared and submitted 31 WSP's for acquired water systems; and in 2019 submitted an update for the 2006 WSP that includes 27 water systems.

The purpose of the WSP, as stated in the regulation, is "to maximize efficient and effective development of the State's public water supply systems and to promote public health, safety and welfare." Each time the plan is updated, the Company identifies supply and/or distribution deficiencies in its systems, compiles and prioritizes capital projects into an investment plan, and identifies potential long-term improvements to address regional water supply issues. Also, the WSP includes emergency contingency and drought response plans, which help to maintain service during emergency and drought events. The WSP submitted in 2019 modified the drought response program to more effectively respond to drought conditions and preserve water supply.

Q. Would you please briefly describe some of the specific planning tools and strategies that the Company employs to ensure delivery of "above-ground" assets in a capital efficient manner?

A. Yes. Aquarion applies a robust process to assess the performance and need for capital investments in its above-ground assets.

1. <u>Asset Based Ranking – Pumping, Source of Supply and Treatment</u>

The Company has developed priority lists for each of the major asset categories relating to dams, pumping, and treatment. The priority lists include the existing assets and prioritize improvements based on age, condition, and time since the last rehabilitation, to develop a schedule for proposed improvements. This information is combined with the output from operational inspections, formal inspection reports, Water System Master Plans, the Water Quality Master Plan, the Water Quantity Master Plan, WSP's, and operational inputs, which guide the prioritization of projects and overall investments. Using these resources provides the basis for the priorities for planning, budgeting and execution.

The development of these prioritized plans allows the investments to be placed into the following categories that defines the time period in which the work needs to be completed:

1. 0 to 5 years
2. 5 to 10 years
3. 10 to 15 years
4. 15 to 20 years
5. Budget beyond 20 years

The priority lists are reviewed annually and adjusted during the budget planning process and updated based on any changes in operations, condition of the assets, reliability, water demands, water quality, available water supply, and regulatory requirements. By categorizing the assets in this manner, capital budgets are developed to address the most pressing needs related to the water infrastructure.

For example, the Company owns and operates 90 distribution pumping facilities that will need to be addressed generally every 20 to 25 years. To ensure reliability, on average four

to six pump stations need to be addressed each year. The number of pump stations addressed within each year varies based on the cost and complexity of the pump stations, but continuous investment is needed to avoid a backlog and failure of equipment, which in turn would create system and customer disruptions and potentially loss of water supply for an extended period.

Another area that drives the need for additional capital investment is water treatment facilities, where investments are needed in the 20–30-year time frame. The Company's treatment facilities are aging, and regular improvements are needed to address treatment processes, electrical and mechanical equipment, structural issues and other issues at each facility to maintain high quality water and service. Table DRL-1 below provides a summary of the date of original construction for each of the major surface water treatment plants:

Table DRL-1
Summary of Surface Water Treatment Plants (WTP)

State	System	WTP	Year Placed in Service
CT	Lakeville	Lakeville	1996
CT	Norfolk	Wangum	1996
CT	Mystic	Deans Mill	1935/2008
CT	Greater Bridgeport	Trap Falls	1980
CT	Greater Bridgeport	Easton	1993
CT	Greater Bridgeport	Hemlocks	1997
CT	Stamford	Stamford	1986/2007
CT	Greenwich	Putnam	1928/1936/1950/1999/2013
CT	Greenwich	Mianus	1955

As the Company looks forward, it is clear that treatment improvements will be needed to maintain quality and reliability as well as address emerging treatment issues such as

PFAS,[1] increase in total organic carbon resulting in an increase in disinfection by-products, change in the lead and copper rule, and overall water quality changes resulting from climate change.

2. Tank Inspection and Maintenance Program

The Tank Inspection and Maintenance Program consists of annual tank inspections, detailed internal review and planning of coating maintenance and repairs, and execution of painting and maintenance contracts. State of the art remote video cameras are used to inspect tank interiors while the tanks are still operational, which eliminates sanitary risk and expensive tank draining. If the Company maintains the exterior and interior coating systems, the useful life of the steel tanks can be extended, and expensive repairs avoided.

The Company is also in the process of developing a Tank Master Plan that evaluates the tank age, size, elevation and condition to assess if tank rehabilitation is appropriate or if a tank replacement is needed. As part of this planning, the Company reviews existing and future water system demands from the WSP's to determine if the tank is properly sized for present and future conditions. The planning process also identifies what other work may be needed to take the tank out of service or replace the tank.

During the annual budgeting process the inspection reports and planning documents are reviewed to optimize the order in which the tanks will be rehabilitated. This priority list is then used to develop a proposed five-year plan for tank rehabilitation. The work associated with taking a tank out of service for rehabilitation is often the driver for the execution of

[1] Per- and polyfluoroalkyl substances are generally referred to by their plural acronym, "PFAS".

the project. This could include coordination with mobile carriers, communities and emergency departments to temporarily relocate antennas off the existing tank onto either a pole or to the scaffolding around the tank to allow the work to be completed. Other issues include the need to provide additional pumping during the outage to meet the existing average day and maximum day water demands and fire flow requirements.

As part of Aquarion's efforts related to water storage, pumping and meeting community fire flow needs we coordinate with fire departments and fire marshals. This program is run through the Company's Community Liaison Program, Engineering and Planning and Utility Operations Departments. The program includes:

- Meeting to discuss upcoming projects and any concerns or needs of the Fire Department
- Training of Fire Department staff on the water system operations, water distribution system, water levels and expectations for fire flow from each hydrant within a water system
- Development of Fire Flow Mapping and Improvement Plans
- Providing GIS shape files and/or mapping to facilitate understanding of the water system and expediting decision making at the dispatch level
- Coordination of hydrant maintenance, repairs and painting
- Coordination and meetings with the Insurance Services Office (ISO) to ensure they receive the needed information for the evaluation of each community including fire flow results, mapping, summary of water system improvements, water demands by water level, hydrant maintenance records, confirmation that the water system models are up to date and other needed information.

3. Dam Inspection and Maintenance Program

The Company maintains an active dam inspection, maintenance and repair program, which includes an annual dam inspection. Frequency of inspections is determined by regulation and dam classification. This program is a valuable tool for understanding the general condition of each dam and for recognizing changes over time. The inspections are reviewed each year and the capital plan adjusted, if required, to meet the current needs.

Repairs and rehabilitation of Aquarion dams must be completed proactively to prevent deterioration to the point where operability or public safety is jeopardized. The Company owns 29 dams that are located in Connecticut and New York. The classification of each dam is based on the height of the dam and the potential for loss of life, as regulated by Connecticut DEEP, New York State Department of Environmental Conservation (DEC), and the United States Army Corps of Engineers. Table DRL-2 provides a summary of the dams by hazard classification.

Table DRL-2
Summary of Dams by State and Hazard Classification

CT	**27 Dams**	**Number**
	Class C (High Hazard)	14
	Class B (Significant)Significant	6
	Class BB (moderate)	2
	Class A (Low)	5
NY	**2 Dams**	
	High Hazard	2

The investment for dams is prioritized based on dam inspections, age, condition, risk, and functional hydraulic capacity of the spillway. The needed investment is placed into the following categories and defines the time period in which the work needs to be completed:

1. 0 to 5 years
2. 5 to 10 years
3. 10 to 15 years
4. 15 to 20 years
5. Budget Beyond 20 years

The priority list is reviewed annually based on current dam inspection, operations inspections, and input from the Company's third-party Professional Engineer.

4. <u>Water Supply Projections and Safe Yield Analysis</u>

As indicated previously, the Company must submit a Water Supply Plan every six to nine years (or as otherwise required) to DPH, PURA and DEEP. The WSP is an integral part of the Company's investment planning process.

Q. Have you prepared an exhibit showing the present and projected water demands and safe yield of the Company's systems?

A. Yes. Schedule G-6.1 shows the present and projected water demands and safe yields in each of the systems the Company owns and operates in Connecticut. The safe yield and demand projection data in the Schedule are based on latest available Water Supply Plan information.

Q. What steps has the Company taken to ensure supply adequacy in each of its systems?

A. Most of Aquarion's systems have adequate supply to meet current and projected demands over the 50-year planning period. Since the 2013 rate proceeding, the Company has been

actively addressing water supply related issues through the implementation of conservation; and addressing non-revenue water, new sources, and/or increased transfers from one system to another. The information on the water supply needs are defined in the WSP for each of the water systems. Specific examples of projects implemented are included below.

- Implementation of 2-day a week irrigation restriction with Darien, Fairfield, Greenwich, New Canaan, Simsbury, and Westport. This program on an annual basis has saved more than 800,000 million gallons of water in Southwest Fairfield County alone.

- Installation of meter pits on services in small systems to capture leaks on the customer side of the system. The implementation of this work in the Birchwood System reduced demands significantly and lowered non-revenue water.

- Increasing the capacity of the Southwest Regional Pipe to allow the transfer to be used at full capacity by installing 24-inch transmission in Darien and Stamford and increasing capacity of other mains in Fairfield and Westport.

- Increasing the transfer capacity from the Bargh Reservoir in Stamford to the Rockwood Reservoir in Greenwich to allow for the maximum permitted amount to be transferred, when needed.

- Obtaining approval and a Diversion Permit to increase the Transfers from Torrington Water to the Company's Litchfield Water System.

- Obtaining approval and a Diversion Permit to increase the Transfers from the Greater Bridgeport System to the Ridgefield System.

- Obtaining approval and a Diversion Permit to Transfer Water from the Greater Bridgeport System to the Newtown Water System.

Q. Would you please describe some of the specific planning tools and strategies the Company employs to ensure delivery of "below-ground" assets in a capital efficient manner?

A. The Company's water main rehabilitation and replacement program consists of two components. The system level component consists of an industry recognized ("KANEW") model that forecasts the length of water main renewal each year by pipe category and an individual pipe selection component that consists of using various tools and methods to identify specific main segments to renew or replace based on several criteria.

1. <u>Identifying Needed Water Main Renewal Investment</u>

The Company's water main renewal program uses a KANEW model to determine appropriate levels of water distribution system investment. The Company developed its KANEW model in 2005 and updated the model in 2008, 2013, 2015 and 2019. In general, the model is updated every three to five years to ensure the water main renewal rate and corresponding investment rate are resulting in reducing water quality complaints, increasing reliability, and avoiding a large increase in needed investment over a short period of time in the future.

The Company has also moved to using a program (VODA) that establishes remaining useful life for each water main segment, along with the consequence of failure. Using this data, along with age, material of construction, breaks, water quality, and pavement a plan

can be effectively developed and executed over time, to minimize breaks and result in a higher level of reliability.

This data is used in the development of the 1 Year and 5 Year Capital Plans.

2. <u>Identifying Water Main Replacement Projects for Implementation</u>

Identifying the specific main renewals for a given year is an ongoing process within Engineering and Planning. A five-year plan has been developed through a review and evaluation of water main age, material, water break history, remaining effective useful life of the main section (VODA), water quality issues, operations input and needed hydraulic improvements to better serve an area of the system or provide an increased level of fire flow.

The above criteria are then evaluated based on coordinating projects with local communities, Connecticut Department of Transportation ("CTDOT") paving plans and other utility work, in an effort to save on overall restoration costs, such as paving.

After the plan is developed, Engineering and Planning evaluates the proposed plan based on the prioritization the Company developed as part of the WICA process in Docket 10-02-13W107. In this process, the Company utilizes a prioritization worksheet that includes a scoring system to identify main replacements. The eight major prioritization criteria are as follows:

1. Main Break History
2. Pipe Age / Useful Life
3. Material Integrity
4. Critical System Impact
5. Water Quality Issues

6. Hydraulic Capacity
7. Scheduled Work Coordination
8. Other Factor (To be Specified by the Applicant)

Each prioritization factor has a weight assigned to it as follows: 0 = non-priority, 1 = low priority, 2 = moderate priority, 3 = high priority. Potential water main replacement projects with the highest scores are given the highest priority for replacement. This process has worked well, and the Company will update the prioritization factors as business and technology dictate.

These methods of evaluation and planning result in a high-level coordination with the communities and prioritize the highest need projects within the five-year plan. The plan is adjusted throughout the year as conditions change and more typically, when paving coordination opportunities come forward.

Q. How does the Company obtain data necessary to support these various models?

A. The Company has developed extensive business processes to collect, store and track the data necessary to support these models. The Company's water main records are stored in two locations. Pipeline "master data" such as main diameter and material are stored in an "ESRI ArcGIS"[2] database and pipeline "transactional" data such as main break and maintenance histories are stored in an SAP database. Fields in both databases can be queried to generate reports and analyze data. Third party software known as "Unity Engine" is used to keep the two databases in sync with one another. Main break data is either captured in the field

[2] "ArcGIS" is a geographic information system for working with maps and geographic information maintained by Environmental Systems Research Institute (ESRI), which is an international supplier of geographic information system (GIS) software, web GIS and geodatabase management applications.

directly into a "Toughbook" computer during the main break or is entered in the office into a desktop computer following the main break.

Q. Once a main is identified for rehabilitation by one of the models, how does the Company determine the method of renewal?

A. Water main rehabilitation involves restoring the water quality and/or the hydraulic characteristics of a main. In some cases, the water main size is inadequate to meet the needs of the water system due to transmission capacity or needed fire flow. The Company's Engineering and Planning department developed calibrated water system models for each of the water systems providing fire protection. These models are used for evaluating the need to increase the main size in a particular area prior to implementing a project. These models are used to help understand the implications for taking mains out of service and assist in sizing temporary water mains, if needed.

Rehabilitation techniques include cleaning and lining water mains with various lining materials. The main must have sufficient structural strength to justify rehabilitation. The useful life of a rehabilitated pipe is a function of the useful life of the host pipe as well as the expected useful life of the lining material.

Selecting the proper method of pipeline replacement or rehabilitation is a complex process involving multiple considerations such as the nature of the problem to be solved, hydraulic and operating requirements, size, and material of the existing main, the density and types of valves, fittings and service connections, the need for temporary service and other factors specific to the individual job. The Company employs alternate main replacement technologies as circumstances warrant. The Company stays apprised of new technologies

through attendance at technical conferences, review of industry literature and meetings with companies that specialize in this area.

Other alternate methods of main replacement and rehabilitation used by the Company include: Cement/Epoxy lining, Slip-lining, Pipe Bursting, Directional Drilling and Pipe Jacking.

Q. Please describe Aquarion's efforts in coordination of projects with local communities and CDOT that resulted in savings in paving related to water main rehabilitation and betterments.

A. The Company has worked diligently to reach out to the communities and the CTDOT to obtain copies of paving plans to coordinate project execution. As would be expected, some communities have detailed plans, while others decide year to year, and some only pave when they get a special allocation of funding. These plans can also change quickly. The Company works to stay connected with the communities and CTDOT to take advantage of coordinated projects and the resulting savings.

Since the 2013 rate case, the Company has achieved savings of approximately $20 million through these efforts, as outlined below:

TABLE DRL-3
Paving Savings Summary – WICA 2014-2021

Year	Filing	Pavement Savings
2014	13-02-20WI02 & 03	$ 240,347
2015	13-02-20WI05 & 06	$ 635,885
2016	13-02-20WI08 & 09	$ 334,609
2017	13-02-20WI011 & 12	$ 1,432,287
2018	13-02-20WI014 & 15	$ 2,575,595

TABLE DRL-3 Paving Savings Summary – WICA 2014-2021		
Year	**Filing**	**Pavement Savings**
2019	13-02-20WI17 & 18	$ 5,445,763
2020	13-02-20-WI20	$ 2,609,098
2021	WICA Eligible Projects (Not Filed)	$5,366,200
	Total Savings	**$18,639,784**

In addition, the Company was able to coordinate betterment related water main projects with the communities of Fairfield, Newtown and Stamford for additional paving savings in 2018 of $1.4 million, bringing the total paving savings to an estimated $20 million since 2014.

Q. How is the Company addressing emerging contaminants and/or changes in regulations and how does this impact capital investment?

A. The Company's Water Quality Department closely monitors changes in water quality regulations to ensure the Company is in compliance with the current water quality standards at the state and federal level. Currently the Company is monitoring the following issues:

- Connecticut Department of Health (CTDPH) development of a maximum contaminant level (MCL) for manganese, in lieu of a secondary standard.
- CTDPH timing for lowering the maximum contaminant level (MCL) for arsenic from 10 ppb to 5 ppb. No timetable is proposed but New Hampshire recently lowered the MCL to 5 ppb.

- United States Environmental Protection Agency (USEPA) published Health Advisory Levels (HAL) for PFAs
- CTDPH published Acton Levels (AL) for PFAs.

In June 2022, CTDPH published ALs for four PFAs compounds and USEPA issued a revised HAL for four PFAs compounds. USEPA plans to propose MCLs for two PFAs compounds in the fall of 2022 and finalize those limits by fall of 2023.

The regulatory limits for PFAs are being established relatively quickly, meaning the Company has limited time to address PFAs in any water sources. The Company has been proactively sampling for PFAs and evaluating where new treatment may be needed. The proactive approach has allowed the Company to identify areas of concern, begin evaluating solutions and apply for SRF funding in 2022.

The final MCLs established for PFAs by CTDPH and USEPA will result in significant capital investment in water treatment at groundwater sources and possibly surface water sources. The Company will continue to work to seek funding through the State Revolving Fund (SRF) program to reduce project costs while working to meet quickly changing regulations.

Q. How is the Company attempting to leverage any potential opportunities for federal funding to offset costs to customers?

A. Under the Biden Administration's infrastructure bill, funds will be distributed through the existing Drinking Water State Revolving Fund, which is administered by DPH. Based on information from DPH, Aquarion anticipates grant funds and/or loan forgiveness rates

between 25 percent and 40 percent for lead and emerging contaminants (i.e., PFAS) and 20 percent to 40 percent for general projects.

The Company has been actively engaged in evaluating the opportunity to receive funding and principal loan forgiveness through the SRF program. The Company submitted six applications in March 2022 with a total project cost of approximately $17.5 million for two lead service line projects, three PFAS water treatment projects, and three interconnection projects (related to PFAs and available water). These projects are critical to meeting the CTDPH new Health Advisory Levels for PFAS and for providing adequate water supply. The current plan includes submitting applications for each year of the five years for a total project cost of $63.85 million. The Company continues to work hard to take advantage of opportunities to reduce costs and provide affordable rates to our customers.

III. WATER SYSTEM ACQUISITIONS

Q. Provide a list of the water systems Aquarion has acquired since its last rate case.

A. Aquarion has acquired 19 public water systems since 2013. The following table lists the acquired systems.

TABLE DRL-4
Summary of Water System Acquisitions

Name of Water System	Number of Systems	Customers	Acquisition Date
Arlington Homes, LLC	1	150	3/4/2019
Bedrock	1	15	9/23/2014
East Derby Waterworks	1	476	10/16/2014
Hickory Hills	1	38	10/30/2017
Hillside Corporation	1	34	10/23/2020
Indian Fields	1	55	8/15/2013

TABLE DRL-4
Summary of Water System Acquisitions

Name of Water System	Number of Systems	Customers	Acquisition Date
Interlaken	1	16	7/31/2019
Laurel View/Laurel Ridge	1	25	12/30/2016
Litchfield Hills	1	45	7/14/2017
New England Service Company	2	6,822	12/01/2021
SCWA-Lantern Hill	1	45	12/28/2016
Town of Canaan	1	134	4/29/2021
Town of Marlborough	1	22	11/30/2020
Town of New Fairfield	1	8	12/08/2020
Valleywood, LLC	1	132	3/04/2019
West Service Corporation & REJA Acquisition Group	2	269	4/11/2014
West Shore	1	29	3/02/2015
Total Closed	19	8,293	

Q. Why did the Company embark on its acquisition program?

A. As of August 17, 2022, there are 491[3] Community Water Systems in the State of Connecticut. Many of these smaller systems lack the capital and operational resources to continually satisfy stringent regulatory requirements, and to remain viable over the long term at rates that are affordable. The state has encouraged larger water companies with greater financial, technical and managerial resources, such as Aquarion, to acquire and consolidate operation of these smaller systems. In an effort to collaborate with the state on these objectives, the Company has continued its acquisition program to help address water supply and operational

[3] https://portal.ct.gov/DPH/Drinking-Water/DWS/Public-Water-System-Lists

issues that are prevalent in many of these small systems in Connecticut. By acquiring many of these small water systems, like those acquired in the Brookfield / New Milford corridor, the Company can create a backbone for connecting many of the smaller water systems in the region. The Company's financial and operating expertise provides customers with improved water quality, increased reliability, and a higher level of customer service, all at lower rates than could be achieved by a stand-alone small system. The acquisitions also eliminate the burdens of regulatory processes that require an excessive amount of effort dealing with the small system owners trying to solve insurmountable problems.

Q. Please describe in more detail the Company's recent acquisitions.

A. As indicated previously, since the last general rate case, the Company has acquired 19 water systems in the State in the towns of Brookfield, Canaan (Falls Village), Derby, New Fairfield, New Milford, Norwich, Mansfield, Marlborough, Middlebury, Plainville, Stonington, Suffield, and Woodbury. Of the 19 acquisitions, two were related to new developments under construction in New Milford (Laurel View) and in Woodbury (West Shore). Aquarion took ownership of these two water systems as the Exclusive Service Area ("ESA") provider for these areas in coordination with the DPH. The 17 remaining systems were acquired in a voluntary or non-voluntary status and were reviewed and approved by PURA.

Q. Were any of the systems acquired since 2013 considered non-viable?

A. The Bedrock, Hickory Hills, Interlaken and Litchfield Hills Water Systems were considered non-viable by PURA as of the acquisition process.

Q. Please describe the Company's overall planning and capital program for small system acquisitions.

A. The Company approaches the small water systems in a similar manner to the larger systems that are in operation through the development of Water Supply Plans and Master Plans and inclusion in the Company's Water Quality Master Plan and Water Quantity Master Plan. The challenges with the smaller water systems relate to aging or poorly constructed infrastructure, safety issues such as confined spaces, available water from low yielding bedrock wells and water quality issues such as uranium, nitrate, coliform, and e-coli. Tracking the available water, non-revenue water and the water quality is critical to managing these water systems and these results typically drive the need for capital improvements. It is important to note that in some of these systems a small leak of two to five gallons per minute can consume available water supply and require immediate action to ensure water is available for customers.

Since the last general rate case, capital improvements have been made at a number of facilities to address metering, high-nonrevenue water, main breaks, insufficient water supply, water quality issues, aging and poor infrastructure and providing for a greater level of control and monitoring of the operations of these facilities through supervisory control and data acquisition ("SCADA"). These capital investments allow the Company to operate the systems efficiently and provide high quality water and service to our customers.

The Company incorporates the needed capital investment in the small systems into the overall planning for capital investment for all water systems. As described previously, the information from operational inspections, formal inspection reports, Water System Master Plans, Water Quality Master Plan, Water Quantity Master Plan, WSP's, and operational

input guides the prioritization of projects and overall investment. Using these resources provides the basis for the priorities for planning, budgeting and execution.

The development of these prioritized plans allows the investment to be placed into the following categories that defines the time period in which the work needs to be completed:

1. 0 to 5 years
2. 5 to 10 years
3. 10 to 15 years
4. 15 to 20 years
5. Budget Beyond 20 years

IV. INFRASTRUCTURE IMPROVEMENTS AND PRO FORMA PLANT ADDITIONS

Q. Please describe infrastructure improvements and major plant additions since the last general rate case for the Company.

A. Since Aquarion's last general rate case in 2013 in Docket No. 13-02-20, the Company has completed $763.3 million of plant additions (net of contributed plant) that were in service as of March 31, 2022. In addition, there are approximately $37.1 million of additional plant additions that will be placed in service between April 1st and August 31, 2022. The 2022 plant additions through August 31, 2022 are included in the Company's rate application because those investments represent a significant investment in utility plant that will be in service benefiting customers at the time the requested rate adjustment goes into effect. The 2022 plant additions through August 31, 2022 also include completed WICA eligible projects.

These capital improvements will allow the Company to continue to provide its customers with a reliable and safe supply of water. In addition, because the Company's capital program

is principally outsourced, the Company is able to use a competitive bidding process to control overall project costs while ensuring that these important projects are constructed by qualified contractors. An additional benefit of using qualified contractors for these capital projects is that it generates hundreds of local jobs, and it will continue to generate additional local jobs that benefit local economies and generate increased revenue for municipalities through property taxes.

To better understand the scope of the Company's capital program, Table DRL-5 below lists the major investments in each of the asset categories that have been completed or will be completed by August 31, 2022.

1

TABLE DRL-5
MAJOR ADDITIONS TO UTILITY PLANT ($millions)

	ITEM DESCRIPTION	Asset Category	Total Estimated Cost
A	Water Main Renewal Program	Mains	233.0
B	Means Brook Dam & Gatehouse Rehab.	Dams	3.4
C	Saugatuck Gatehouse	Dams	3.5
D	Aspetuck Dam Improvements	Dams	5.0
E	Rockwood Dam Improvements	Dams	6.9
F	Newtown Low Service Area Dist. System Impr.	T&D	5.2
G	Ridgefield Tank – Peaceable Ridge	T&D	3.8
H	Bargh Transmission Main, Ph. I & II	T&D	8.9
I	North Avenue Tank 1 & 2	T&D	12.6
J	Service, Valve, Hydrant Program	T&D	49.9
K	Hardware, Software	IT	44.4
L	Meter Installation Program	Meters	25.4
M	Trap Falls Filter Rehabilitation	Treatment	4.2
N	Mianus Process Improvements	Treatment	4.3
O	Rewak Pump Station Improvements	Pumping	3.6
P	Stratton Brook & Eno Place Centralized Treatment	Treatment	19.4
Q	North Avenue Pump Station Improvements	Pumping	6.5
R	Newtown Pump Station Replacement	Pumping	3.0
S	Anderson Road Booster Pump Station	Pumping	5.4
T	Nichols & 490 Pump Station Improvements	Pumping	11.9
U	Haveymeyer PS Improvements	Pumping	7.6
V	SWFC Supply Improvements	SWFC	23.3
W	General Plant	General Plant	40.3
	TOTAL:		**531.8**

Q. Please explain the major investments in each category of the capital plan as summarized in Table DRL-5.

A. The following is a summary of the plant additions by category:

ITEM A – Main Renewal Program ($233.0 million)

The Company has invested systematically in areas such as water main replacement, water main relocation, and miscellaneous transmission and distribution improvements (replacing non-functional or aging blow-offs, air vents, and other components).

The expenditures in this category are part of a broad process the Company uses to address its water main system. As discussed earlier in my testimony, individual mains are identified annually based upon criteria such as main break history, age of pipe, pipe type, impact on water quality or pressure, fire protection deficiencies and opportunities to work in conjunction with municipal construction and paving projects that may be going on in the area. Once these mains are identified and prioritized, they are scheduled for replacement or rehabilitation.

Approximately, $149.8 million of the $233.0 million the Company has invested in water system distribution infrastructure improvements was completed under the WICA program and included in previous Semi-Annual Filing Report (SAFR) filings. In addition to replacing aging infrastructure to make our water systems more reliable, prevent unplanned service interruptions and to conserve resources, the Company's main renewal program helps sustain the local economy.

ITEM B – Means Brook Dam & Gatehouse Rehabilitation ($3.4 million)

As described earlier in my testimony, the Company invests continuously in its dam infrastructure in order to ensure public safety in accordance with modern engineering

standards, and to preserve and extend the useful life of these critical assets. In this instance, the rehabilitation of the dam and gatehouse was completed to improve the dam's stability in a flooded condition; functionality of the gates and valves was restored; structural repairs were completed for each of the gatehouses; the electric service was replaced (it was unsafe and non-code compliant); security improvements and SCADA upgrades were incorporated. The project included the piping and valves required to meet streamflow regulations.

ITEM C – Saugatuck Dam and Gatehouse Improvements ($3.5 million)

The Company performed rehabilitation of this high hazard 1941 dam and gatehouse to restore functionality and reliability of the gates and gatehouse operators including structural repairs to each of the gatehouses. Security improvements were incorporated. The project included the piping and valves required to meet streamflow regulations.

ITEM D – Aspetuck Dam Improvements ($5.0 million)

The Aspetuck Reservoir Dam improvements project focused on improving structural integrity and condition of the dam in a flooded condition; hydraulic capacity of the spillway; gatehouse and control house rehabilitation; along with aerator and bubbler replacement. For this project, the Company coordinated with DEEP and The Nature Conservancy to incorporate modifications to the dam to facilitate the safe and timely downstream passage of eels. The project incorporates the release mechanism to address the requirements under the streamflow regulations.

ITEM E – Rockwood Dam Improvements ($6.9 million)

Rockwood Dam is a high hazard earthen dam originally constructed in 1893. The rehabilitation of this dam included spillway and training wall repairs, reconstruction of low-

level outlet gatehouse, upstream slope restoration, flattening and armoring of the downstream slope to improve strength and stability at the dam and North Street Dike, and drainage improvements to control seepage at the dam to improve the structural integrity, stability, and condition of the dam to comply with dam safety regulations and to restore the asset for continued service.

ITEM F– Newtown Low Service Tank Construction ($5.2 million)

The project included the construction of a one-million gallon pre-stressed concrete water storage tank, the purchase of a parcel, and the installation of 5,063' of 16", 22' of 12" and 385' of 8" water main in order to provide adequate storage, to stabilize system pressure, and meet peak consumption and fire flow demands in in the Newtown Low Service Area.

ITEM G – Ridgefield Tank (Peaceable Ridge ($3.8 million)

The project included construction of two tanks to replace the existing tank, which was in failing condition and too small to meet system demands. The two newly constructed tanks are welded steel and have the combined storage capacity of 1.68 million gallons that provide adequate storage, maintain system pressure, and meet peak consumption and fire flow demands in in the Ridgefield system.

ITEM H – Bargh Transmission Main, Ph. I & II ($8.9 million)

The 7,900 feet long Bargh raw water transmission main, originally installed in the 1890's, is a critical component of the Southern Division supply system and is responsible for transferring water to the Rockwood Reservoir from the Bargh Reservoir. The project objective was to increase the capacity of the raw water main from approximately 8 million

gallons per day to the maximum allowed diversion of 14.9 million gallons per day by replacing the existing 20-inch cast iron pipeline with a 24-inch ductile iron pipe.

ITEM I – North Avenue Tank 1 & 2 ($12.6 million)

The project consisted of replacing partially buried 1.5 million gallon steel atmospheric tank that was in poor structural condition and too small a volume to meet summer demands with two 2.15 million gallon prestressed concrete tanks upon the same property as the existing one. The new tanks have the appropriate volume to maintain adequate distribution system pressure during the high demand season, are equipped with internal mixing systems to improve water quality and are automated for remote SCADA observation.

ITEM J – Service, Valve & Hydrant Replacement Programs ($49.9 million)

The Company has a regular investment program for the replacement of aged and leaking service lines, inoperable valves, and obsolete fire hydrants. As is the case with the main replacement program, a systematic approach is used to identify equipment that is in need of replacement or is at the end of its useful life. Once these pieces of equipment are identified, they are scheduled for replacement. Our systematic approach to this program improves system reliability, improves water quality and reduces the likelihood of unplanned service interruptions.

ITEM K – Hardware and Software ($44.4 million

Hardware and Software infrastructure upgrades, including Desktop/Notebook upgrades, Server upgrades, Peripheral Replacements, SCADA upgrades, SAP Enhancements-Upgrades and other system improvements. The major investment in this category includes:

- Desktop/Notebook/Toughbook Upgrades – ($2M)

- Peripheral Replacements – ($688k)
- Wonderware System Platform – ($1.1Mk)
- SCADA Upgrades/Improvements – ($2.2M)
- SAP Technical Upgrade – EHP – ($624k)
- Greenwich/Darien System Automation Improvements – (982k)
- SAP Customer Service Module (CRM) – ($2.8M)
- Project Portfolio Management (PPM) – ($1.6M)
- Human Capital Management (HCM) – ($724k)
- Enterprise Content Management (Documentum, Records Management – ($2.1M)
- HACH WIMS Upgrades – ($456k)
- LIMS Upgrades & Mobile Enhancements – ($598k)
- SAP Licensing – ($543k)
- Server Upgrades & Related Components – ($1.3M)
- Network Security Enhancements – ($669k)
- Network & Switch Replacements - ($460k)

ITEM L – Meter Installation Program ($25.4 million)

Regular testing and replacement of customer meters is performed in compliance with PURA regulations in order to ensure accurate customer billing. This program also includes replacement of failed meters identified through customer inquiries, relocation of meters, and meters for new customer installations.

ITEM M – Trap Falls Filter Rehabilitation ($4.2 million)

The Company performed this project at Aquarion's Trap Falls Treatment Plant to ensure long-term performance and reliability of filters and associated equipment; improve filter run times between backwashes; and improve overall filter performance. The work included structural repairs to the existing filters; replacing filter underdrains and air scour equipment, much of which was original to the facility; replacing filter media, replacing filter-related

mechanical equipment; and transitioning the temporary seasonal polymer injection process to a permanent seasonal process as well as associated SCADA programming and automation improvements.

ITEM N – Mianus Process Improvements ($4.3 million)

This project at the Mianus Treatment Plant, Greenwich, provided improvements to optimize the performance of the Aldrich filter units (the treatment process). These improvements were achieved by a complete rehabilitation of the two steel filter units; addition of tube settlers to increase the units loading rate; replacement of the filter media and underdrains; and the addition of filter air scour equipment. The addition of inclined tube settlers increased the loading rate to 1.7 gpm/ft2 and the overall filter capacity to 7.5 MGD.

ITEM O – Rewak Wellfield Improvements ($3.6 million)

Rewak wellfield is a seasonal facility serving the Darien system. The project included improvements and redevelopment of the existing well, construction of a new building to house new chemical feed systems, rehabilitation of the finished water distribution pump, establishing a separate space for new electrical equipment, improvements to the air stripper for ease of maintenance, improved heating and ventilation for the building spaces, associated site work, process piping and equipment, mechanical, plumbing, electrical, instrumentation and control improvements.

ITEM P – Stratton Brook & Eno Place Centralized Treatment ($19.4 million)

Stratton Brook and Eno Place are two separate well field treatment facilities serving Simsbury. Prior to construction, treatment at each facility was located at each of the 6 individual wellhouses. Each of these wellhouses were in poor structural condition,

insufficiently sized to provided additional treatment, and did not comply with Aquarion's electrical, automation and safety standards. Projects at both Stratton Brook and Eno Place introduced centralized treatment and added corrosion inhibitor and pH adjustment to the treatment process along with new clearwells, standby power, SCADA automation, and provisions for chemical deliveries and spill containment.

ITEM Q – North Ave Pump Station Improvements ($6.5 million)

The North Avenue Pump Station in Westport is a critical facility serving the southwesterly portion of the Main System. The pump station had inadequate pumping capacity to meet peak demands and the facility was unreliable and unsafe. The project included increasing the station's firm capacity to 7.8 million gallons per day ("MGD") to meet future peak hour demands, provide adequate fire flow during maximum daily demands, meet peak hour demands during a power outage, and improve reliability of the station.

ITEM R – Newtown Pump Station Replacement ($3 million)

This project included construction of a new 1.7 MGD pump station to replace an inadequate facility. The new facility addressed safety, capacity and reliability deficiencies, and provides additional pumping capacity to meet demands in the Bethel system. The project included associated suction and discharge piping, pumping equipment, installation of variable frequency drives for electrical efficiency, standby power, automated facility controls, and the purchase of an easement from the Town of Newtown.

ITEM S – Anderson Road Booster Pump Station Improvement ($5.4 million)

The Company replaced the 1983 buried prefabricated steel pump station in poor condition that had inadequate firm capacity with a new below grade 6.0 MGD pump station to meet

current and future system demands with a safe, reliable and efficient facility. The project included purchasing an easement from the Town of Greenwich, installation of four pumps driven by variable frequency drives, a standby generator, suction and discharge piping, and automated facility controls.

ITEM T – Nichols and 490 Pump Station Improvements ($11.9 million)

The Nichols and 490 pump station improvement project includes the replacement of two separate pump stations on the Trap Falls parcel into a single, new facility. This decision avoided the need for construction of two buildings. The project increases firm capacity for the Nichols Pump Station from 1.5 MGD to 4.0 MGD and the 490 Pump Station from 4 MGD to 10 MGD. The increase in firm capacity in the two separate water levels is necessary to meet current fire flow demands and projected future demands as well as adding redundancy and improving the reliability and efficiency of the pumps. The other associated improvements include a natural gas fueled stand-by generator, installation of new suction and discharge piping, as well as SCADA automation and security.

ITEM U – Havemeyer PS Improvements ($7.6 million)

The Company replaced the buried prefabricated steel pump station located at the intersection of Laddin's Rock Road and East Putnam Avenue on the Greenwich side of the Stamford/Greenwich town line. The existing station was in poor condition and had inadequate firm capacity. The new below grade pump station has a firm capacity of 6.0 MGD and able to meet current and future system demands in a safe, reliable and efficient manner. The project included purchasing an easement, installation of pumps driven by variable frequency drives, a standby generator, suction and discharge piping, and automated facility controls.

ITEM V - SWFC Supply Improvements – Phase 1& 2 ($23.3 million)

The investment in water mains also includes water main replacement and transmission projects to allow additional transfer of water from the Company's Bridgeport Water System to the Southwest Fairfield County Water System, which will be needed after the Stream Flow Regulations, are put in place in 2029, and to meet existing and future demands. These improvements also provide additional resiliency within the water system and provide the needed transfer capacity in case of a drought in Southwest Fairfield County. This work includes planning, design and execution for the water main, metering, and vaults.

ITEM W – General Plant ($40.3 million)

General Plant includes equipment purchases, facility improvements, building modifications, security improvements, vehicle replacements and other similar types of work. The major investment in this category includes:

- Replacement of the Stamford Water Treatment Plant Roof - ($1.2M)
- Roof Replacements - ($1.6M)
- Vehicle Replacements - ($6.6M)
- HVAC Replacement and Boiler Conversions – ($2.5M)
- Window Replacements – Lindley Street ($858k), Main Street ($556k)
- Office Renovations - ($3.6M)
- Parking Lot Re-paving - ($1.6M)
- Fix Leak Loggers – ($774k)

Q. Please provide detail on capital improvements made during the drought in 2016 and 2017 and additional work that has been done since the drought ended.

A. The drought that occurred in 2016 and 2017 impacted the Company throughout the State of Connecticut, but more severely in Southwest Fairfield County ("SWFC"). The

Company undertook needed measures to ensure water supply would be available for customers during the drought while working with the communities to restrict water usage and preserve water supply. During and after the drought ended in 2017, the Company took a number of steps to address drought resiliency as noted below:

- Permanent two-day per week irrigation restrictions were put in place in 2017 for the communities in SWFC. The irrigation restrictions have been expanded to Newtown, Westport, and Simsbury.
- Updated the Drought Response Plan in 2017 and 2018 to establish new drought triggers based on maintaining 90 days of total storage in the reservoirs. The new triggers were reviewed with DPH, DEEP and PURA staff. The Drought Response Plan is part of the 2018 WSP update submitted by the Company in November 2019.
- Completed the following Capital Projects:

    a) Replacement of the Palmer Road regulator located on the Stamford and Greenwich line was completed in 2016 and 2017 to increase the transfer of water from Stamford to Greenwich. Prior to the improvements the transfer capacity was limited to 0.4 MGD by the regulator and the piping configuration in the area of the regulator. After the replacement of the regulator, piping and vault the capacity of the transfer was increased to 1.0 MGD.

    b) Installation of a new 12-inch water main from the Iliff Pump Station in Stamford to the West School Tank in New Canaan was completed to allow for water to be pumped from Stamford to New Canaan or water to flow by gravity from the New Canaan system to the Stamford system. The water main can transfer up to 1.0 million gallons per day (MGD) and was completed in 2017. During the drought this was an above ground temporary main.

    c) Replacement of the Anderson Road Pump Station (Greenwich) was completed to increase the transfer of water from the Greenwich Mianus Water Level to the Greenwich Low Service Water Level. The pump station

has a firm capacity of 6.0 MGD, which is an increase of 1.8 MGD from the older pump station taken which was taken out of service. This project was in construction in 2016 and 2017 and was completed after the drought ended. Temporary pumping was added to the existing pump station to increase the transfer capacity during the drought to 6.0 MGD.

d) Replacement of the Havemeyer Pump Station is in construction and will increase the transfer capacity from Stamford into the Greenwich – Mianus Water Level from 3.0 MGD to 6.0 MGD. The project was in design in 2016 and 2017 during the drought and is presently under construction and expected to be completed at the end of 2020. During the drought temporary pumping was added to increase the transfer capacity to 6.0 MGD

e) Rehabilitation of the Rewak wellfield in Darien includes improvements and redevelopment of the existing well, construction of a new building to house new chemical feed systems, rehabilitation of the finished water distribution pump, a separate space for new electrical equipment, improvements to the air stripper for ease of maintenance, improved heating and ventilation for the building spaces, associated site work, process piping and equipment, mechanical, plumbing, electrical, instrumentation and control improvements.

f) The implementation of Phase 1 and Phase 2 of the SWFC projects noted previously in my testimony eliminates bottle necks in the distribution system in Westport and provides for a larger transfer capacity through the SWRP by extending the 24-ich main from the Darien and Stamford line to the 24-inch main on Berrian Road in Stamford. These projects were executed in 2017, 2018 and 2019.

Q. Please provide a summary of vehicles that are in use as of the end of 2021, including the acquisition date, purpose of vehicle, and mileage.

A. The Company has a total of 197 vehicles as of 12/30/2021 as shown on Exhibit A-3-DRL-3, which includes the information requested. Within the inventory there are three items to note, which are summarized below:

- Eleven specialty vehicles include water trucks (2); meter and large equipment/material transport (2); large meter service, facility plowing, hydrant testing, hydrant repair, utility operations gate trucks (2); and a dump truck used by the watershed team.
- Nine vehicles were acquired as part of the New England Service Company (Valley Water) acquisition.
- Four vehicles scheduled to be removed from the fleet at the next auction in 2022.

V. FIVE-YEAR CAPITAL INVESTMENT PLAN

Q. Please describe the Company's Five-Year Capital Investment Plan as presented in Schedule F.

A. As described earlier in my testimony, the Company has a formal process for identifying, prioritizing and delivering capital projects to ensure that the appropriate investment is being made to address the highest priority operating risks and issues facing the Company.

Schedule F presents the Company's current Five-Year Capital Investment Plan. A summary of the Five-Year Capital Investment Plan is presented below as Table DRL-6 for reference. The Plan was developed to address risks and implement service improvements identified through a variety of planning efforts, including the Company's WSP, Master Plans, Water

Quality Master Plan, Water Quality Master Plan, security plans and infrastructure investment planning. As indicated in Schedule F, a sustained investment of between $143.1 million and $203.4 million per year is necessary to continue to provide the level and reliability of service that our customers expect, in compliance with all applicable regulations and at an appropriate and affordable rate.

TABLE DRL-6
Capital Budget 2022-2026 by Major Capital Spend (millions)

Asset Category	2022	2023	2024	2025	2026	5-Year Plan
Mains	$51.2	$58.4	$59.1	$62.6	$63.9	$295.2
Dams	$1.3	$3.8	$8.6	$7.4	$8.8	$29.9
Transmission & Dist.	$10.8	$17.7	$19.1	$22.3	$20.5	$90.4
IT	$6.6	$9.6	$8.1	$5.1	$4.7	$34.1
Meters	$4.6	$3.6	$3.7	$3.7	$3.6	$19.2
Source of Supply	$5.1	$5.3	$2.5	$3.3	$2.0	$18.2
Treatment	$31.8	$18.3	$24.2	$25.7	$39.3	$139.3
Pumping	$11.8	$13.3	$14.2	$8.9	$7.6	$55.8
SWFC Supply Imp.	$14.3	$28.6	$35.4	$39.6	$31.6	$149.5
Housatonic WTP	$0.3	$1.2	$1.2	$6.0	$18.0	$26.7
General Plant	$5.4	$4.4	$3.6	$3.5	$3.4	$20.3

TABLE DRL-6 Capital Budget 2022-2026 by Major Capital Spend (millions)						
Asset Category	**2022**	**2023**	**2024**	**2025**	**2026**	**5-Year Plan**
Total Capex	**$143.2**	**$164.2**	**$179.7**	**$188.1**	**$203.4**	**$878.6**

Within the five-year planning period, the most significant facility upgrades for the Company occur in the Pipeline Rehabilitation Program (Mains), Dams, Transmission and Distribution, Treatment, Pumping and South-West Fairfield County Supply Improvements. A summary of the drivers in each of these areas is described below.

Mains ($295.2M)

The Five-Year Capital Investment Plan includes annual water main investments that begin at $51.2 million in 2022 and increase to $63.9 million in 2026. Most of this investment is for WICA-eligible water main replacement work, which ranges from $46.1 million in 2022 to $58.1 million in 2026.

All water main replacement work will be rigorously justified using criteria discussed earlier in this testimony. Proposed work will be presented to PURA in advance for approval following procedures established through the WICA process. Current models and best practices will be universally deployed to ensure an appropriate level of infrastructure replacement in a capital efficient manner.

Dams ($29.9M)

The Five-Year Capital Investment Plan includes $29.9 million related to Dams. The work includes alternative analysis, design and/or execution on up to 10 dam projects. The major capital investments for the 5-year plan are noted below:

- Laurel Reservoir Dam Improvements ($3.9M)
- Easton Dam Rehabilitation ($6.7M)
- Hemlocks Dam Rehabilitation ($7.1M)
- Dam Modifications for Streamflow Releases ($3.5M)
- Mianus Mill Pond Dam Improvements ($3M)
- Lakeville #2 Dam ($2.3M)

The five-year plan anticipates the Easton Dam rehabilitation will be completed by 2025 and that the Hemlocks Dam rehabilitation will be completed by 2024.

Transmission and Distribution ($90.4M)

The Five-Year Capital Investment Plan includes $90.4 million related to Transmission and Distribution. The major capital investments for the 5-year plan are noted below:

- Traps Falls Storage Tank ($7.2M)
- Mansfield HS Tank Replacement ($3.9M)
- Pine Street Tank Replacement ($3.3M)
- Nichols Tank Replacement ($3.7M)
- Fairchild Wheeler Tank Replacement ($3.3M)
- Lead Service Line Replacement ($11.6M)
- Service Line Inventory ($16M)

Treatment ($139.3M)

The Five-Year Capital Investment Plan includes $139.3M for projects related to Treatment. As noted earlier in my testimony, the need for treatment improvements will increase due to

the increasing age of Aquarion's facilities, increasingly stringent water quality requirements and regulations. The major capital investments for the five-year plan are noted below:

- Putnam Dissolved Air Flotation ("DAF") Project ($40.2M)
- Stamford Sludge Handling Improvements ($11.4M)
- Mianus Clearwell Expansion ($8.3M)
- PFAS Treatment of Small Water Systems ($8.5M)
- Trap Falls Sedimentation/Floc Basin rehabilitation ($3M)
- Trap Falls Residuals Disposal Improvements ($3M)
- Newtown Wellhouse Improvements ($2.7M)
- Peagler Hill Chemical Feed & Storage Improvements ($3.5M)
- Woodford Avenue Softening Plant ($3.3M)
- Easton WTP Sed Basin Tank Rehabilitation ($3M)

The Putnam DAF project represents 28.9 percent of the proposed five-year investment plan for treatment. The Company has recently rehabilitated or replaced significant portions of the Putnam treatment plant. The sedimentation basins that are still original are in poor structural condition and are yielding inconsistent water quality and uneven hydraulic performance. The Company is proposing to replace the existing sedimentation basins with DAF clarifiers to enhance treatment performance at the facility. DAF will result in improved organics removal which, in turn, will result in reduced disinfection by-products in the plant effluent and distribution system, as well as better removal of taste and odor causing compounds. In addition to DAF, the project also includes installation of rapid mix flocculation, a new electric service, and electrical room to serve the DAF and filter buildings.

Pumping ($55.8M)

The Five-Year Capital Investment Plan includes $55.8M for projects related to pumping. As noted earlier in my testimony, continued investment in upgrading pumping facilities is

needed. The five-year plan includes the alternative analysis, design and execution of 30 pumping facilities with the larger investments related to the following projects:

- Hampden Circle #3 (Village #3) ($2.9M)
- Talmage Hill PS Improvements ($4M)
- Tunxis Hill Pump Station ($3M)
- Jefferson Street/Pine Street Pump Station ($4M)
- Eleven Levels Pump Station ($2.3M)
- Tunxis Hill Pump Station ($2M)
- Pastors Walk Structure Rehabilitation ($2.8M)
- Hycliff PS Improvements ($2.1M)
- Belden Hill PS Upgrades ($2.4M)
- Park Lane PS Improvements ($3.3M)
- Monroe Center PS Improvements ($3.3M)
- Balance Rock PS Improvements ($2.3M)
- Post Road PS Rehabilitation ($3.1M)

SWFC Supply Improvements ($149.5M)

The Five-Year Capital Investment Plan includes $149.5 million related to SWRP Delivery Improvements.

The Company is working to increase the transfer capacity of the Southwest Regional Pipeline ("SWRP") from the Company's Bridgeport Water System to the Southwest Fairfield County Water System to meet water supply demands, improve drought resiliency and meet the Stream Flow Regulations that go into effect in place in 2029. These improvements also provide additional resiliency within the water system and provide the needed transfer

capacity in case of a drought in Southwest Fairfield County. Phase 3, also referred to as Project 2-1, includes installation of approximately 28,000 linear feet of 36-inch water main parallel to the existing SWRP from the Belden Hill Tanks to the highpoint along the SWRP. This pipeline combined with the implementation of Phase 1 and 2 improvements will increase the transfer capacity to 9.2 MGD during the summer

The final phase, referred to as Projects 3-1 and 3-2, includes the installation of 66,000 linear feet of 30-inch transmission water main run between the Hemlocks water treatment plant in Fairfield and the Belden Hill Tanks in Wilton, a new 23 MGD firm capacity Hemlocks pump station in Fairfield to pump finished water from the Hemlocks WTP into the 30-inch transmission main, and installation of 7,000 linear feet of 24-inch main along Wolfpit Road in Wilton.

These improvements, when completed, will increase the transfer capacity to 14.2 MGD.

Q. Please describe the Company's pro-forma plant additions for the rate years ending December 31, 2023, December 31, 2024 and December 31, 2025.

A. The three years referenced above represent the time period of the Company's proposed multi-year rate plan in its rate application. The expenditures the Company proposes for the three rate years were utilized to determine the average rate base for each of the rate years. The pro forma additions are listed in an account level view on Schedules B-2-2A, B and C. The resulting rate base values are depicted on Schedules B-1.0A, B and C. The expenditures are based on the Company's five-year capital plan, but do not include WICA-related projects. The expenditures in the five-year plan are further analyzed to determine the relationship between the expenditure itself, construction work in progress balances, and when the expenditure becomes a completed project that is placed into service. Once a project is

completed by the September 30th in-service date, it becomes a plant addition for rate base purposes. The above-referenced schedules demonstrate that the Company's projected plant additions for the three rate years are $115.8, $104.3 and $105.4 million, respectively.

To better understand the scope of the Company's capital program for the rate years ending December 31, 2023 and December 31, 2024, Tables DRL-7 and DRL-8 below provide the major investments and current project phase for each of the rate years.

TABLE DRL-7
SUMMARY OF MAJOR INVESTMENTS
RATE YEAR SEPTEMBER 1, 2022 – DECEMBER 31, 2023
AQUARION WATER COMPANY – CT

PROJECT DESCRIPTION	RATE YEAR 9/1/22 - 12/31/23	CURRENT PROJECT PHASE	DESCRIPTION
Programmatic Work (Services, Hydrants, Valves, Blow offs)	$5,675,501	EXECUTION	100% of all budgeted programmatic work will be completed by 12/31/23
New/Periodic Meters	$3,653,551	EXECUTION	100% of all budgeted new and replacement meter work will be completed by 12/31/23
SWFC Improvements Project 2-1, Phase I	$34,577,874	EXECUTION	The first of a three-phase project to install a 36-inch transmission main between Belden Hill Tanks and New Canaan to increase capacity of the regional pipeline. Phase I is scheduled to be in service by 12/31/2023
Service Line Inventory	$4,000,000	EXECUTION	This project includes pothole investigations that enables us to identify unknown service line material. The inventory is required as part of the LCRR.
Cedar Heights Interconnection & PS	$3,858,569	DESIGN	Project eliminates PFAS and other chronic water quality issues by abandoning existing wells and consolidating the Cedar Heights System into the New Milford Regional System. Construction to be completed by 12/31/2023.
Peagler Hill Chem Feed & Storage Improvements	$3,423,630	EXECUTION	Well treatment chemical feed and storage facility, scheduled to be in service by 12/31/2023.
Woodford Ave Softening Plant	$3,431,439	EXECUTION	Water softening plant project in Plainville. Scheduled to be in service in 2023.
Easton WTP-Settling Basin Rehabilitation	$2,971,700	DESIGN	Project includes replacement of sludge rake, shafts, rakes, motors, gear drives, lamella settling plates, and floc tank mixing equipment.
Talmadge Hill PS	$4,573,776	EXECUTION	Pump station replacement project with a firm capacity of 5.0 MGD to serve customers in Darien. Scheduled to be in service in 2023.
Tunxis Hill PS Improvements	$2,860,529	EXECUTION	Pump station replacement project with a firm capacity of 3.5 MGD to serve customers in Fairfield. Scheduled to be in service in 2023.
Hycliff PS Improvements	$2,261,219	EXECUTION	Pump station replacement project with a firm capacity of 2.0 MGD to serve customers in Stamford. Scheduled to be in service in 2023.
TOTAL:	**$71,287,788**		

TABLE DRL-8
SUMMARY OF MAJOR INVESTMENTS
RATE YEAR JANUARY 1, 2024 THROUGH DECEMBER 31, 2024
AQUARION WATER COMPANY - CT

PROJECT DESCRIPTION	RATE YEAR 1/1/24 – 12/31/24	CURRENT PROJECT PHASE	DESCRIPTION
Programmatic Work (Services, Hydrants, Valves, Blow offs)	$4,788,139	EXECUTION	Assumes 100% of all budgeted programmatic work will be completed by 12/31/24
New/Periodic Meters	$3,653,551	EXECUTION	Assumes 100% of all budgeted new and replacement meter work will be completed by 12/31/24
Pleasant View to New Milford Interconnection	$4,795,000	ALT ANALYSIS	Extension of Water Mains and Pumping to Interconnect the New Milford Regional System with the Pleasant View System.
Hemlocks Dam Improvements	$7,583,223	DESIGN	Rehabilitation of a high-hazard dam and gatehouse structure. Construction is anticipated to be completed in 2024.
Nichols Tank Replacement	$4,232,519	DESIGN	Replacement of a 0.75-million-gallon tank constructed in 1930 with an elevated tank. The new tank is scheduled to be completed in 2024.
SWFC Supply Improvements Project 2-1, Ph. II	$14,493,138	DESIGN	The 2nd of a three-phase project to install a 36-inch transmission main between Belden Hill Tanks and New Canaan to increase capacity of the regional pipeline. Phase II is scheduled to be in service by 12/31/2024
Service Line Inventory	$4,000,000	EXECUTION	This project includes pothole investigations that enables us to identify unknown service line material. The inventory is required as part of the LCRR.
Lead Service Line Replacements	$3,000,000	FUTURE	This is a multi-year program to identify and replace lead service lines in the distribution system. 100% of budgeted work is scheduled for completion by 12/31/2023.
S4 HANA	$5,136,499	ALTERNATIVE ANALYSIS	This SAP version upgrade is required in this period in order to maintain a supported version of the Company's SAP products.
PFAS Treatment Projects	6,807,133	DESIGN	Addition of treatment to reduce PFAS levels plant effluent for facilities where the presence of those chemicals in raw water are considered a high risk of exceeding anticipated regulatory MCLs. Project are scheduled to be complete in 2023 and 2024.

TABLE DRL-8
SUMMARY OF MAJOR INVESTMENTS
RATE YEAR JANUARY 1, 2024 THROUGH DECEMBER 31, 2024
AQUARION WATER COMPANY - CT

PROJECT DESCRIPTION	RATE YEAR 1/1/24 – 12/31/24	CURRENT PROJECT PHASE	DESCRIPTION
Hampden Circle #3 (Village #3) PS	$2,898,903	DESIGN	Replacement of 2 existing pump stations in Simsbury that are in poor condition with a single pump station, having a firm capacity of 1.7 MGD. The project is scheduled to be completed in 2024.
Jefferson St. PS Replacement	$3,972,531	ALTERNATIVES ANALYSIS	Replacement of a pump station that is in poor condition with a new station, primarily serving customers in Trumbull and Fairfield. The project is scheduled to be completed in 2024.
Pastors Walk PS Replacement	$2,865,512	DESIGN	Replacement of an existing pump station in Monroe that is insufficiently sized to meet domestic and fire flow demands with a 0.7 MGD pump station. The project is scheduled to be completed in 2024.
Belden Hill PS Upgrades	$2,499,385	DESIGN	Replacement of an existing pump station in Wilton that is insufficiently sized to meet domestic and fire flow demands with a 1.7 MGD pump station. The project is scheduled to be completed in 2024.
Park Lane PS Improvements	$3,200,847	DESIGN	Replacement of an existing pump station in Darien that is insufficiently sized to meet domestic and fire flow demands with a 3.0 MGD pump station. The project is scheduled to be completed in 2024.
TOTAL:	**$73,926,380**		

VI. SUMMARY OF LEAD AND COPPER RULE REVISIONS (LCRR) AND FUTURE INVESTMENTS

Q. Describe the current regulations for lead in drinking water and Aquarion's compliance with those regulations.

A. The Lead and Copper Rule (LCR) limits the amount of lead and copper than can be present in drinking water. The EPA promulgated the LCR in 1991 and has made several revisions over the years; the most recent revisions are described in the next question and answer.

The primary source of lead and copper in drinking water is corrosion of service lines, plumbing, and fixtures. Aquarion is required to monitor the concentration of lead and copper in each of its systems (specifically, by sampling water in select customers' homes). The number and frequency of samples depends on the number of customers in each system. If lead or copper concentrations exceed the "Action Levels" (as defined in the regulations) in more than 10% of samples in a sample set, required actions could include treatment improvements, replacement of lead service lines, and public education.

Aquarion's lead sampling results show that Aquarion water systems have long met and continue to comply with regulatory standards for lead. Aquarion posts the lead sampling results on its website and includes the lead sampling results in its annual Water Quality Reports, which are also posted on the Company's website. Aquarion's success in addressing the lead risk is in part due to its multi-year effort to optimize water treatment for corrosion control.

Q. Describe Aquarion's service line material inventory.

A. Because a primary source of lead in drinking water is lead service lines (LSLs), Aquarion has been developing an inventory of the material of service lines, on both the company-

owned and customer-owned portion of service lines. The material inventory as of July 2022 is shown below. Services with unknown materials that *may* be lead will be classified as "lead status unknown" service lines and will count towards the total number of LSLs in the system, which will impact any LSL replacement requirements as described below. Unknown materials that are unknown but known not to be lead (for example, installed after the lead ban in 1986), can be classified as "non-lead" service lines.

Aquarion continues to review its historic records and perform field investigations to determine the material of the service lines listed as "Unknown."

Table DRL-9
Summary of Service Line Material

Type of Service Material	Company-Owned	Unknown %	Customer-Owned	Unknown %
Lead	1,678	--	218	--
Galvanized	676	--	466	--
Non-Lead	115,327	--	23,700	--
Lead Status Unknown	61,138	30	150,204	73
Unknown Presumed Copper/Plastic[1]	28,257	14	32,488	16
Total No. of Customers	**207,076**		**207,076**	

[1] Homes built after 1986 lead ban
[2] Lead service lines noted above (1,678) are from paper records and have not been field verified.

Q. Describe the recent revisions to the lead and copper regulations.

A. The LCR has undergone various revisions since it was promulgated in 1991. In December 2021, EPA announced the implementation of the Lead and Copper Rule Revisions (LCRR). The LCRR becomes effective in October 2024, and increases the requirements for water utilities, including:

- **Inventory –** Water utilities must identify and make public the materials of service lines. Water utilities must notify customers who have service lines categorized as lead, galvanized requiring replacement (i.e., galvanized lines that are, or were formerly, downstream of an LSL), or "lead status unknown" within 30 days of completing the inventory and then on an annual basis.

- **Schools and childcare facilities –** Water utilities must conduct sampling at elementary schools and childcare facilities, as well as at secondary schools upon request.

- **Compliance sampling and customer notifications –** Water utilities must change the sampling protocol for homes with LSLs (specifically, collect "fifth-liter" sample after stagnation period instead of "first-liter" sample). If system-wide sample results for lead indicate an "Action Level" exceedance, a water utility must notify all customers in that system within 24 hours and provide educational materials within 60 days.

- **Lead Service Line Replacements (LSLRs) –** Water utilities with LSLs must prepare a Lead Service Line Replacement Program for each water system. If system-wide lead sampling results exceed certain levels (i.e., either the new "trigger level" defined in the LCRR or the existing "Action Level"), the water utility will be required to replace a certain percentage of lead service lines for two years, with the replacement rate based on

the sum of LSLs, "lead status unknown" lines, and galvanized lines requiring replacement. Only full LSL replacements (i.e. both company-owned and customer-owned portions) count towards the replacement goals. If a customer is unable or unwilling to have their portion of a service line replaced, a utility is required to notify the customer and follow risk mitigation procedures in their LSLR plan. When a utility replaces an LSL, the water utility will be required to notify the customers, provide educational materials, provide pitcher or faucet filters, and perform follow-up sampling.

- **Lead Service Line Disturbances (LSLDs) –** Minor disturbances (e.g., test pits, operation of service valves) to LSLs, service lines of unknown material, and galvanized service lines requiring replacement will require water utilities to distribute educational materials to the impacted customer(s). Major disturbances (e.g., meter replacements) to these same types of service lines will require water utilities to distribute educational materials, provide pitcher or faucet filters, and conduct follow-up sampling.

- **Public Education – The LCRR includes n**umerous new requirements for public communications and education.

Aquarion is proposing a proactive approach to the identification and replacement of company-owned and customer-owned lead service line material through the review of existing records, utilizing outreach communication, obtaining customer information through periodic meter replacements, and though pothole excavations at the curb stop to identify the Company-owned service line material and customer-owned service line material (if needed).

The proactive investigation and replacement of lead service lines on the Company-owned side and the customer-owned side is important as it will remove the risk of lead from within the water service line. At this time, the Company can replace the Company-owned side of the lead service line, but it cannot replace the customer-owned side of the water service line, as it is owned by the customer.

The guidance in the industry indicates, and as stipulated by the LCCR, that any disturbance of a lead service line or galvanized service line that is/was connected to a lead line, can result in an increase in lead in a residence. As a result, the Company has committed to only replacing lead service lines when the Company-owned and customer-owned portion can be replaced at the same time (i.e. if both sides are lead, or if the Company-owned side is lead and the customer-owned side is galvanized). The Company will also replace the Company-owned portion of a service line when the customer-owned side is non-lead (copper or plastic). This decision is consistent with LCCR and is protective of the health of the customer.

This decision does create issues for the customer as they will need to pay for the replacement of the customer-owned portion of the water service line. Very few customers have the financial means to pay for the replacement of a private service line resulting in higher income customers being able to afford to pay for the private service replacement and lower income customers not being able to afford the same work. The proposed methodology to address this inequity is outlined below.

Q. Please describe how the recent revisions to the lead and copper regulations will impact the Company's operating costs.

A. The most significant cost that will impact the Company will be the cost to replace LSLs. The Company plans to proactively identify and replace LSLs, both the company-owned and customer-owned portions of LSLs. The cost to replace LSLs is estimated to be between $5,000 and $12,500 each or approximately $67 million in total. This is based on several estimates developed based on the Company's current records review and investigations.

Another significant cost will be related to the work needed to identify the material of those service lines for which the material is "lead status unknown" at this time, which most importantly is the cost of field investigations. Proceeding with identification of the material comprising service lines to reduce the risk of lead for customers is the best path forward because, if Aquarion were to exceed a regulatory limit that triggered the requirement to replace LSLs, the required LSL replacement rate would be based on the sum of LSLs, "lead status unknown" lines, and galvanized lines requiring replacement. Thus, reducing the number of "lead status unknowns" would reduce the required number of LSL replacements. The costs to complete the needed investigations is estimated to be between $900 and $1,100 each or approximately $43M in total. This estimate is based on the Company's estimated number of lead status unknown service lines that can be determined by records review, periodic meter replacements, and field investigations (pot-hole investigation).

There will also be costs to *prepare* for the implementation of the LCRR including upgrades to IT systems and work processes for the requirements related to schools and childcare facilities program, LSLRs, LSLDs, and development of public education materials. There will be *ongoing year-after-year costs* of complying with the LCRR including for additional lead

sample collection, lead sample lab testing, public education/communications, management of the school/childcare facility program, and pitcher or faucet filters.

Q. How is the Company proposing that the cost for LSL replacement be handled, including the cost for replacing both the company-owned and customer-owned portion of the service line, and is the Company seeking PURA review and approval for this proposed approach?

A. The Company has applied for grant and loan funding for the replacement of lead service lines through the Drinking Water State Revolving Fund (DWSRF) Program to offset costs to the customer to address the LSL replacements. The funding can be used to replace the customer-owned or Company-owned portion of the service line. Thus, the Company is proposing that the LSLs on the company-owned side be treated in the same manner as any other required service line replacement and be recovered at the next rate case. The replacement of customer-owned side of LSLs will be accomplished using the grant funds from the DWSRF, where funds are available. When grant funding is not available, costs related to the replacement of the customer-owned portion will be treated as an amortized expense that will be addressed within the next rate case. This proposed methodology will address the inequity discussed above. This approach would be consistent with other regulatory agencies such as Pennsylvania, Indiana, Michigan, Missouri, New Jersey and Wisconsin that have authorize utilities to recover the cost of [customer-side] lead service line replacement within rates paid by all customers.

Q. How is the Company proposing that the cost for field investigations to identify the materials of service lines be handled?

A. The records review for service line material will be recorded within the Company's GIS system. If the service line material cannot be determined by the records review, field investigations will be completed. The costs of the investigations will result in identification of

materials as plastic, copper, galvanized and/or lead. The investigations costs within a community or water system will be attributed to the lead service lines that need to be replaced within that community or system.

Q. Does this conclude your testimony?

A. Yes.

Project Management Committee Members

- **Dan Lawrence - Chair**
- **Don Morrissey**
- **Lucy Teixeira**
- **Jeff Ulrich**
- **John Walsh**
- **Michele Mehan**
- **Maria Seara - Coordinator**

Project Management Committee Charge

- **Review and approve capital budgets.**
- **Review and approve project justification and alternative analyses.**
- **Monitor project status.**
- **Monitor and manage capital budget to the authorized limits.**
- **Encourage capital efficiency, risk reduction, innovation and best available technology.**

Committee Procedures and Process

- Committee meets monthly to:
  - Monitor and manage capital budget to the authorized limits.
  - Review minutes from previous meeting.
  - Review and vote on project authorization requests >$100k.
  - Monitor project status ($ spent to-date versus $ budgeted).
  - Monitor Projects included in the current year's PMC Metric list.
  - Review Final Cost Analyses.
  - Committee also reviews and approves annual Capital Budget.

Controls:

- PMC/Eversource authorization (initial approval of Capital Budget)
- PMC authorization (projects > $100,000)
- Projects must be re-authorized by PMC if variance > 10%
- Lock any non-programmatic projects currently >10% authorized amount
- SAP *Requisition* Authorization limits

Authorizations

Authorization Required	Action	Form	Comments
To get project into Capital Budget	Complete Phase I (planning) Complete Phase II (Alternative Analysis)	Complete Form 1 Complete Form 1B (Programmatic and Recurring Projects) Complete Form 2-1 (purchases) Complete Form 2-1, 2-2 (projects) (	Capital Budget approval does not authorize expenditures. Carryover projects must also be included in requests.
To authorize purchases >$100,000	Complete Phase I (planning) Complete Phase II (Alternative Analysis)	Submit Form 1 to PMC Submit Form 2-1 to PMC	
To authorize Phase II (Alternatives Analysis)	Complete Phase I	Submit Form 1 with a cover memo explaining the request to PMC	
To authorize Phase III (Design)	Complete Phase II	Submit Forms 2-1 and 2-2 to PMC	
To authorize Phase IV (Execution)	Complete Phase III	Submit Forms 3-1 and 3-2 to PMC	Projects in Phase IV >$100k are put on AWC Metric for project's estimated year of completion.

Fleet Object No.	Equip. No.	Total 2021 Mileage	Total Vehicle Mileage (through 2021)	Description	MFR.	Acquisition Date	Vehicle Department	Normal Vehicle Usage/Function of Vehicle
11215	10535810	12,422	65,683	2009 Chevrolet Cobalt Sedan	Chevrolet	04/22/2009	NORTHERN	FIELD OPERATIONS
11216	10536170	12,912	84,828	2009 Chevrolet Cobalt Sedan	Chevrolet	04/24/2009	SOPS	FIELD OPERATIONS
11217	10541744	1,024	54,237	2009 Chevrolet Malibu Hybrid Sedan	Chevrolet	05/15/2009	FLEET SERVICES	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11221	10582075	7,411	98,894	2010 Chevrolet Malibu Sedan	Chevrolet	05/28/2010	FLEET SERVICES	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11223	10602714	479	69,443	2011 Chevrolet HHR Sedan	Chevrolet	04/26/2011	INFORMATION TECH	MEETINGS / SITE VISITS, ALL DEPT
11224	10611771	3,396	36,958	2012 Chevrolet Cruz 4 dr Sedan	Chevrolet	08/16/2011	FLEET SERVICES	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11225	10631046	2,315	51,886	2012 Chevrolet Cruz 4 dr Sedan	Chevrolet	08/16/2011	HR / SAFETY	SAFETY MANAGER
11226	10631044	1,316	56,133	2012 Chevrolet Cruz 4 dr Sedan	Chevrolet	04/05/2012	FLEET SERVICES	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11227	10631045	1,206	38,651	2012 Chevrolet Cruz 4 dr Sedan	Chevrolet	04/05/2012	UOPS/S	DISTRIBUTION MAINTENANCE MANAGER
11232	10705119	5,455	44,500	2014 Chevrolet Cruz Sedan	Chevrolet	05/01/2014	FLEET SERVICES	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11234	10736835	1,152	8,222	2015 Nissan Leaf EV Sedan EV	Nissan	04/28/2015	FLEET SERVICES	AWAITING AUCTION
11235	10736848	10,310	70,093	2015 Ford C-Max Energy Hybrid Sedan	Ford	04/30/2015	WATER QUALITY	WATER QUALITY SAMPLING
11239	10825581	5,289	8,330	2019 Chevrolet Bolt Sedan EV	Chevrolet	07/09/2019	FLEET SERVICES	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11240	10851428	11,208	15,059	2020 Chevrolet Bolt Sedan EV	Chevrolet	07/21/2020	FLEET SERV/MTR READ	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11241	10851863	11,579	13,252	2020 Chevrolet Bolt Sedan EV	Chevrolet	07/21/2020	FLEET SERV/MTR READ	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11242	10851864	14,413	16,870	2020 Chevrolet Bolt Sedan EV	Chevrolet	07/21/2020	FLEET SERV/MTR READ	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11243	10851865	7,549	9,315	2020 Chevrolet Bolt Sedan EV	Chevrolet	07/21/2020	FLEET SERV/MTR READ	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11244	10851866	3,103	16,952	2020 Chevrolet Bolt Sedan EV	Chevrolet	07/21/2020	FLEET SERV/MTR READ	PAINTING HYDRANTS, DEMAND MANAGEMENT, AND OPERATONS
11245	10854668	20,148	21,485	2020 Ford Fusion Sedan	Ford	10/19/2020	EXECUTIVE	EXECUTIVE
12171	10719258	4,808	48,257	2014 Nissan NV 200 Cargo Van	Nissan	09/18/2014	MYSTIC	FIELD OPERATIONS
12172	10719259	9,931	78,548	2014 Nissan NV 200 Cargo Van	Nissan	09/18/2014	CROSS CONNECTIONS	CROSS CONNECTION TESTING
12173	10719260	14,687	93,000	2014 Nissan NV 200 Cargo Van	Nissan	09/18/2014	SOUTHERN UOPS/METER	METER READING
12174	10736836	9,203	70,780	2015 Nissan NV 200 Cargo Van	Nissan	04/28/2015	NORTHERN	FIELD OPERATIONS
12175	10736845	8,653	102,905	2015 Nissan NV 200 Cargo Van	Nissan	04/28/2015	CROSS CONNECTIONS	CROSS CONNECTION TESTING
12176	10736846	2,311	22,710	2015 Nissan NV 200 Cargo Van	Nissan	04/28/2015	UOPS E/W	DISTRIBUTION MAINTENANCE
12200	10788787	0	5,600	2017 Chevrolet 3500Express Cargo van	Chevrolet	10/12/2017	CORP COMM	WATER DISTRIBUTION TRUCK
12201	10808176	3,594	33,333	2018 Chevrolet Express 2500 Cargo Van	Chevrolet	11/02/2018	SOPS ELECTRICIANS	ELECTRICAL MAINTENANCE
12202	10808177	30,152	96,102	2018 Chevrolet Express 2500 Cargo Van	Chevrolet	11/02/2018	SOPS ELECTRICIANS	ELECTRICAL MAINTENANCE
12203	10834684	24,753	56,058	2019 Chevrolet Express 2500 Cargo Van	Chevrolet	10/17/2019	SOPS MAINTENANCE	ELECTRICAL MAINTENANCE
12204	10847343	16,131	25,270	2020 Ford Transit T-250 Cargo Van AWD	Ford	05/28/2020	UOPS DISTRIBUTION	DISTRIBUTION MAINTENANCE
12205	10852638	8,565	10,213	2020 Ford Transit Cargo Van	Ford	09/09/2020	SERVICE	FIELD OPERATIONS
12206	10852639	8,759	11,005	2020 Ford Transit Cargo Van	Ford	09/09/2020	SOUTHERN SERVICE	FIELD SERVICE
12207	10852637	6,745	8,030	2020 Ford Transit Cargo Van	Ford	09/09/2020	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12208	10873640	1,837	3,114	2021 Chevy Express 2500 Cargo Van	Chevrolet	09/08/2021	MYSTIC	FIELD OPERATIONS/LOANER
12209	10875652	2,580	2,790	2021 Ford Transit Cargo Van	Ford	09/27/2021	SERVICE /EAST WEST	METER REPLACEMENT/CUSTOMER SERVICE
12210	10875653	3,635	3,941	2021 Ford Transit Cargo Van	Ford	09/27/2021	UOPS/EW	DISTRIBUTION MAINTENANCE
12211	10876931	585	883	2021 Ford Transit Cargo Van	Ford	10/18/2021	SERVICE E/W	METER REPLACEMENT/CUSTOMER SERVICE
12212	10878430	3,006	330	2021 Ford Transit Cargo Van	Ford	11/09/2021	MYSTIC	SERVICE
12255	10434265	4,929	59,935	2007 Chevrolet Express Cargo Van	Chevrolet	07/13/2007	SOPS/S	FIELD OPERATIONS
12269	10610454	856	110,316	2011 Chevrolet Express Cargo Van	Chevrolet	08/04/2011	UOPS/S	AWAITING AUCTION
12271	10610466	172	24,718	2011 Chevrolet Express Cargo Van	Chevrolet	08/04/2011	SERVICE	LARGE METER SERVICE
12273	10633366	2,155	30,065	2012 Chevrolet Express Cargo Van	Chevrolet	05/09/2012	SOUTHERN UOPS/METER	LARGE METER SERVICE
12274	10634069	11,753	71,539	2012 Chevrolet Express Cargo Van	Chevrolet	05/16/2012	UOPS E/W	FIRE FLOW TEST
12275	10634467	200	145,210	2012 Chevrolet Express Cargo Van	Chevrolet	05/22/2012	MYSTIC	AWAITING AUCTION
12276	10634468	18,546	131,821	2012 Chevrolet Express Cargo Van	Chevrolet	05/22/2012	SOPS/S	MECHANICAL MAINTEANCE
12279	10681079	17,368	123,401	2013 Chevrolet Express Cargo Van	Chevrolet	04/25/2013	UOPS/W	FIELD SERVICE
12280	10681077	14,117	109,488	2013 Chevrolet Express Cargo Van	Chevrolet	04/25/2013	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12281	10681078	11,370	74,708	2013 Chevrolet Express Cargo Van	Chevrolet	04/25/2013	SOPS/S	MECHANICAL MAINTEANCE
12282	10681073	13,663	121,915	2013 Chevrolet Express Cargo Van	Chevrolet	04/24/2013	UOPS/s	FIELD SERVICE
12283	10681072	3,925	27,941	2013 Chevrolet Express Cargo Van	Chevrolet	04/24/2013	SOPS	MECHANICAL MAINTENANCE
12284	10681232	7,001	54,335	2013 Chevrolet Express Cargo Van	Chevrolet	05/01/2013	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12286	10690801	7,734	93,348	2014Chev Express 3500 Ext Cargo Van	Chevrolet	10/29/2013	SOPS MAINTENANCE	MECHANICAL MAINTENANCE
12287	10716206	17,912	134,832	2014 Chevrolet Express Cargo Van	Chevrolet	08/06/2014	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12288	10716207	13,051	90,832	2014 Chevrolet Express Cargo Van	Chevrolet	08/06/2014	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12289	10717083	12,163	91,936	2014 Chevrolet Express Cargo Van	Chevrolet	08/19/2014	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12290	10717084	8,952	97,780	2014 Chevrolet Express Cargo Van	Chevrolet	08/19/2014	UOPS E/W	DISTRIBUTION MAINTENANCE
12291	10717085	15,856	70,800	2014 Chevrolet Express Cargo Van	Chevrolet	08/19/2014	UOPS/S	FIELD SERVICE
12292	10717088	20,367	139,981	2014 Chevrolet Express Cargo Van	Chevrolet	08/19/2014	WATER QUALITY	WATER QUALITY SAMPLING
12293	10718346	10,668	85,503	2014 Chevrolet Express Cargo Van	Chevrolet	08/27/2014	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12294	10718347	12,995	80,339	2014 Chevrolet Express Cargo Van	Chevrolet	08/27/2014	SOUTHERN UOPS/SERVICE	FIELD SERVICE
12296	10718350	13,330	80,000	2014 Chevrolet Express Cargo Van	Chevrolet	08/27/2014	SERVICE W	METER REPLACEMENT/CUSTOMER SERVICE
12297	10718353	9,920	58,785	2014 Chevrolet Express Cargo Van	Chevrolet	08/27/2014	SERVICE W	METER REPLACEMENT/CUSTOMER SERVICE
12298	10718348	15,633	82,338	2014 Chevrolet Express Cargo Van	Chevrolet	08/27/2014	SERVICE E	METER REPLACEMENT/CUSTOMER SERVICE
12299	10718349	18,316	86,780	2014 Chevrolet Express Cargo Van	Chevrolet	08/27/2014	UOPS CENTRAL	DISTRIBUTION MAINTENANCE
12373	10011201	343	71,531	1999 Chevrolet/3500Ext Cab	Chevrolet	06/18/1999	CORP COMM	WATER DISTRIBUTION TRUCK
12386	10011212	633	145,003	2000 CHEVROLET/Silverado	Chevrolet	07/28/2000	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12393	10011238	3,196	65,505	2001 CHEVROLET/S10	Chevrolet	07/03/2001	FLEET SERVICES	ROADSITE FLEET MAINTENANCE
12429	10631334	9,894	53,412	2012 Chevrolet Equinox	Chevrolet	04/20/2012	MYSTIC	FIELD OPERATIONS
12430	10632877	4,315	91,384	2012 Chevrolet Equinox	Chevrolet	04/25/2012	FLEET SERVICES	MEETINGS / SITE VISITS, ALL DEPT
12433	10677795	2,380	70,020	2013 Chevrolet Equinox	Chevrolet	03/25/2013	FLEET SERVICES	MEETINGS / SITE VISITS, ALL DEPT
12434	10738597	11,918	85,218	2015 Chevrolet Tahoe SSV Police Pkg	Chevrolet	06/05/2015	PATROL	PATROL
12437	10764622	18,029	113,702	2017 Acura MDX	Acura	08/12/2016	EXECUTIVE	EXECUTIVE
12438	10822650	23,239	55,702	2019 Chevrolet Equinox	Chevrolet	05/16/2019	FLEET SERVICES	MEETINGS / SITE VISITS, ALL DEPT
12439	10831705	21,589	39,793	2020 Chevrolet Traverse	Chevrolet	10/04/2019	EXECUTIVE	EXECUTIVE
12440	10853994	21,388	25,406	2021 GMC Acadia SUV	GMC	10/07/2020	EXECUTIVE	EXECUTIVE
12441	10855434	17,163	19,703	2020 Chevrolet Blazer SUV	Chevrolet	11/05/2020	EXECUTIVE	EXECUTIVE
12442	10871592	6,550	7,250	2021 Ford Explorer Limited	Ford	07/30/2021	EXECUTIVE	EXECUTIVE
12511	10011277	7,194	116,584	2002 GMC/Sierra	GMC	03/05/2002	WATERSHED	WATERSHED MAINTENANCE
12535	10011363	6,000	66,593	2004 CHEVROLET/Sierra	Chevrolet	09/23/2004	SOPS	SUPPLY OPERATIONS SUPPORT
12556	10488569	10,054	168,965	2008 GMC Canyon Crew Cab	GMC	06/16/2008	NORTHERN	AWAITING AUCTION
12560	10502797	0	126,245	2008 Chevrolet Silverado 2500 6.5'	Chevrolet	08/29/2008	UOPS	FACILITIES PLOW
12566	10535809	6,403	73,270	2009 Chevrolet Colorado pickup	Chevrolet	04/22/2009	UOPS E/W	DISTRIBUTION MAINTENANCE
12577	10579394	7,491	157,842	2010 Chevrolet Colorado	Chevrolet	04/30/2010	METER READER	METER READING
12580	10580125	11,989	93,641	2010 Chevrolet Colorado Utility	Chevrolet	05/05/2010	SOPS/SCADA	SCADA/CONTROLS
12586	10580858	31,429	140,441	2010 Chevrolet Colorado	Chevrolet	05/11/2010	METER READER	METER READING
12587	10580867	8,170	121,617	2010 Chevrolet Colorado	Chevrolet	05/11/2010	METER READER	METER READING
12589	10582078	4,484	134,297	2010 Chevrolet Colorado	Chevrolet	05/28/2010	METER READER	METER READING
12593	10606101	3,261	50,742	2011 Chevrolet Silverado Pickup	Chevrolet	06/03/2011	SOPS/S	FIELD OPERATIONS
12594	10607317	8,342	71,456	2011 Chevrolet Silverado Pickup	Chevrolet	06/10/2011	WATERSHED	WATERSHED MAINTENANCE
12595	10612731	7,292	98,876	2012 GMC Canyon	GMC	08/18/2011	METER READER	METER READING
12596	10612732	16,503	136,361	2012 GMC Canyon	GMC	08/18/2011	METER READER	METER READING
12598	10612734	3,968	61,428	2012 GMC Canyon Ext Cab	GMC	08/18/2011	SOPS E/W	FIELD OPERATIONS
12599	10612735	0	56,455	2012 GMC Canyon	GMC	08/18/2011	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12600	10612736	2,776	95,614	2012 GMC Canyon Ext Cab Z71	GMC	08/25/2011	WATERSHED	WATERSHED MAINTENANCE
12602	10634478	5,296	135,417	2012 Chevrolet Colorado Crew Cab Z71	Chevrolet	05/24/2012	PATROL	PATROL
12603	10634479	5,487	49,846	2012 Chevrolet Colorado Crew Cab 1LT	Chevrolet	05/24/2012	SOPS E/W	TECH INSTRUMENT
12604	10635239	5,998	76,507	2012 Chevrolet Silverado 3500 Reg Cab	Chevrolet	05/24/2012	SOPS MAINTENANCE	MECHANICAL MAINTENANCE
12605	10635241	11,398	74,007	2012 Chevrolet Silverado 3500 Reg Cab	Chevrolet	05/24/2012	SOPS MAINTENANCE	MECHANICAL MAINTENANCE
12606	10635742	9	43,389	2012 Chevrolet Colorado Reg Cab	Chevrolet	06/05/2012	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12607	10679291	11,052	119,399	2013 Chevrolet Silverado Ext Cab 1500	Chevrolet	03/27/2013	SOPS	PLANT MANAGER TREATMENT
12610	10677174	13,307	77,880	2013 Chevrolet Silverado Ext Cab 2500	Chevrolet	03/20/2013	SOUTHERN UOPS- DIST	FIELD SERVICE
12611	10679292	10,623	124,426	2013 Chevrolet Silverado Crew Cab 2500	Chevrolet	03/27/2013	UOPS E/W	DISTRIBUTION MAINTENANCE
12612	10677173	12,324	60,000	2013 Chevrolet Silverado Ext Cab 1500	Chevrolet	03/20/2013	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12613	10711242	18,085	138,141	2014 Chevrolet Silverado Ext Cab 1500	Chevrolet	06/18/2014	PATROL	PATROL
12614	10720466	18,478	142,017	2015 Chevrolet Silverado Ext Cab 2500	Chevrolet	10/13/2014	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12615	10720484	12,188	87,797	2015 Chevrolet Silverado Ext Cab 2500	Chevrolet	10/13/2014	WATERSHED	WATERSHED INSPECTIONS AND PROTECTION
12618	10723255	21,247	175,008	2015 Chevrolet Silverado Reg Cab Utility	Chevrolet	12/04/2014	NORTHERN	FIELD OPERATIONS
12619	10739918	14,099	63,578	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	06/24/2015	UOPS E/W	DISTRIBUTION MAINTENANCE
12620	10740730	17,031	92,906	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	07/02/2015	UOPS E/W	DISTRIBUTION MAINTENANCE
12621	10742495	23,379	137,016	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	07/27/2015	NORTHERN	FIELD OPERATIONS
12622	10742496	18,932	123,362	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	07/27/2015	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12625	10740728	1,156	13,150	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	06/30/2015	SOPS	FIELD OPERATIONS
12626	10741476	1,422	21,331	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	07/15/2015	SOPS	FIELD OPERATIONS
12627	10742525	5,362	72,398	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	07/29/2015	SOPS	FIELD OPERATIONS
12628	10746195	15,705	105,952	2015 Chevrolet Silverado Crew Cab 8'	Chevrolet	10/29/2015	UOPS E/W	DISTRIBUTION MAINTENANCE
12629	10746209	12,205	82,350	2016 Chevrolet Colorado Crew Cab Z71	Chevrolet	11/03/2015	PATROL	PATROL
12630	10746572	22,489	122,926	2016 Chevrolet Colorado Ext Cab	Chevrolet	11/03/2015	NORTHERN	FIELD OPERATIONS
12631	10746240	20,110	118,737	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	11/11/2015	UOPS E/W	DISTRIBUTION MAINTENANCE
12632	10746263	25,307	120,157	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	11/12/2015	NORTHERN	FIELD OPERATIONS
12633	10746262	17,193	96,245	2015 Chevrolet Silverado DBL Cab 6.5'	Chevrolet	11/12/2015	SOUTHERN UOPS/DIST	DISTRIBUTION MAINTENANCE
12634	10775725	21,936	100,364	2017 Chevrolet Silverado DBl Cab	Chevrolet	01/24/2017	WATER QUALITY	WATER QUALITY SAMPLING

Fleet Object No.	Equip. No.	Total 2021 Mileage	Total Vehicle Mileage (through 2021)	Description	MFR.	Acquisition Date	Vehicle Department	Normal Vehicle Usage/Function of Vehicle
12635	10775731	20,297	89,302	2017 Chevrolet Silverado DBl Cab	Chevrolet	01/24/2017	WATER QUALITY	WATER QUALITY SAMPLING
12636	10775732	13,587	83,937	2017 Chevrolet Silverado DBl Cab	Chevrolet	01/24/2017	WATER QUALITY	WATER QUALITY SAMPLING
12637	10775733	19,364	70,555	2017 Chevrolet Silverado DBl Cab	Chevrolet	01/24/2017	WATER QUALITY	WATER QUALITY SAMPLING
12638	10778982	26,308	29,116	2017 Chevrolet Silverado DBl Cab	Chevrolet	03/29/2017	SOPS	FIELD OPERATIONS
12639	10778983	13,488	71,264	2017 Chevrolet Silverado DBl Cab	Chevrolet	03/29/2017	UOPS E/W	DISTRIBUTION MAINTENANCE
12640	10778981	22,845	99,516	2017 Chevrolet Silverado DBl Cab	Chevrolet	03/29/2017	MYSTIC	FIELD OPERATIONS
12641	10779035	11,452	48,528	2017 Chevrolet Silverado Crew Cab	Chevrolet	03/31/2017	S/SOPS	FIELD OPERATIONS
12642	10779034	15,734	67,105	2017 Chevrolet Silverado DBl Cab	Chevrolet	03/31/2017	UOPS E/W	DISTRIBUTION MAINTENANCE
12643	10779060	15,228	69,820	2017 Chevrolet Silverado DBl Cab	Chevrolet	04/05/2017	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12644	10779090	7,188	37,446	2017 Chevrolet Silverado DBl Cab	Chevrolet	04/11/2017	SOPS	FIELD OPERATIONS
12645	10788498	15,900	69,000	2017 Chevrolet Silverado DBl Cab	Chevrolet	10/11/2017	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12646	10801983	17,300	59,567	2018 Chevrolet Colorado Ext Cab	Chevrolet	07/13/2018	SOPS/PUMP & STORAGE	MANAGER - PUMPING AND STORAGE
12647	10804644	6,171	23,634	2018 Chevrolet Colorado Ext Cab	Chevrolet	08/17/2018	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12648	10804649	10,674	27,312	2018 Chevrolet Colorado Ext Cab	Chevrolet	08/17/2018	WATERSHED	MGMT WATERSHED MAINT
12649	10804650	10,681	38,493	2018 Chevrolet Colorado Ext Cab	Chevrolet	08/17/2018	CROSS CONNECTIONS	CROSS CONNECTION TESTING
12650	10805391	23,375	59,238	2018 Chevrolet Colorado Ext Cab	Chevrolet	08/31/2018	WATER QUALITY	WATER QUALITY SAMPLING
12651	10809858	6,760	37,645	2017 Chevrolet Silverado DBl Cab	Chevrolet	11/29/2018	UOPS E/W	DISTRIBUTION MAINTENANCE
12652	10808284	10,250	53,625	2017 Chevrolet Silverado DBl Cab	Chevrolet	11/07/2018	UOPS E/W	DISTRIBUTION MAINTENANCE
12653	10808558	27,237	84,371	2019 Chevrolet Silverado DBL Cab	Chevrolet	11/29/2018	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12654	10809094	14,328	45,022	2019 Chevrolet Silverado Off RD	Chevrolet	12/07/2018	PATROL	PATROL
12655	10809659	12,035	37,761	2019 Chevrolet Silverado DBL Cab	Chevrolet	12/11/2018	SOPS MAINTENANCE	MECHANICAL MAINTENANCE
12656	10808563	26,365	81,576	2019 Chevrolet Silverado DBL Cab	Chevrolet	11/29/2018	SERVICE DEPT CENTRAL	METER REPLACEMENT/CUSTOMER SERVICE
12657	10808560	9,369	33,601	2019 Chevrolet Silverado DBL Cab	Chevrolet	12/01/2018	CROSS CONNECTIONS	CROSS CONNECTION TESTING
12658	10823954	4,848	9,158	2019 Chevrolet Colorado Dbl Cab	Chevrolet	05/31/2019	SOPS	FIELD OPERATIONS
12659	10823955	6,419	28,341	2019 Chevrolet Colorado Dbl cab	Chevrolet	05/31/2019	WATERSHED	ENVIROMENTAL COMPLIANCE
12660	10823956	15,214	42,308	2019 Chevrolet Colorado Dbl cab	Chevrolet	05/31/2019	WATERSHED	WATERSHED INSPECTIONS AND PROTECTION
12661	10823942	18,556	48,673	2019 Chevrolet Colorado Dbl cab	Chevrolet	05/31/2019	WATER QUALITY	WATER QUALITY SAMPLING
12662	10825653	17,399	40,641	2019 Chevrolet Silverado DBL Cab	Chevrolet	07/18/2019	SERVICE	METER REPLACEMENT/CUSTOMER SERVICE
12663	10828000	16,765	31,181	2019 Chevrolet Silverado DBL Cab	Chevrolet	07/19/2019	WATER QUALITY	MGMT WQ SAMPLING
12664	10824901	9,264	31,097	2019 Chevrolet Silverado DBL Cab	Chevrolet	06/14/2019	CROSS CONNECTIONS	CROSS CONNECTION TESTING
12665	10830040	1,200	3,053	2017 Chevrolet Silverado DBl Cab	Chevrolet	09/12/2019	SOPS/S	MANAGER - WATER TREATMENT
12666	10829884	32,358	59,935	2017 Chevrolet Silverado DBl Cab	Chevrolet	08/29/2019	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12667	10830041	21,745	55,708	2017 Chevrolet Silverado DBl Cab	Chevrolet	09/12/2019	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12668	10825514	21,720	54,123	2017 Chevrolet Silverado DBl Cab	Chevrolet	06/28/2019	SOPS/PUMP & STORAGE	FIELD OPERATIONS
12669	10834667	18,600	37,034	2017 Chevrolet Silverado DBl Cab	Chevrolet	11/15/2019	SOPS/S	MECHANICAL MAINTEANCE
12670	10830019	15,248	37,125	2017 Chevrolet Silverado DBl Cab	Chevrolet	09/05/2019	UOPS E/W	DISTRIBUTION MAINTENANCE
12671	10825295	23,259	53,734	2017 Chevrolet Silverado DBl Cab	Chevrolet	06/24/2019	MYSTIC	FIELD OPERATIONS
12672	10827981	4,444	9,050	2017 Chevrolet Silverado DBl Cab	Chevrolet	07/18/2019	SOPS/S	FIELD OPERATIONS
12673	10825515	18,596	45,669	2017 Chevrolet Silverado DBl Cab	Chevrolet	06/28/2019	SOUTHERN UOPS/DIST	DISTRIBUTION MAINTENANCE
12674	10830017	9,649	26,519	2017 Chevrolet Silverado DBl Cab	Chevrolet	09/05/2019	MYSTIC	FIELD OPERATIONS
12675	10824900	10,513	31,445	2017 Chevrolet Silverado DBl Cab	Chevrolet	06/14/2019	WATERSHED	WATERSHED FORESTER
12676	10829218	42,973	99,266	2019 Chevrolet Silverado DBL Cab	Chevrolet	08/22/2019	NORTHERN	FIELD OPERATIONS
12677	10829219	17,595	44,831	2019 Chevrolet Silverado DBL Cab	Chevrolet	08/22/2019	NORTHERN	FIELD OPERATIONS
12678	10829892	18,884	47,115	2019 Chevrolet Silverado DBL Cab	Chevrolet	08/29/2019	NORTHERN	FIELD OPERATIONS
12679	10834338	8,362	23,178	2019 Chevrolet Silverado DBL Cab	Chevrolet	11/01/2019	CROSS CONNECTIONS	CROSS CONNECTION TESTING
12681	10854570	23,861	27,529	2017 Chevrolet Silverado DBl Cab	Chevrolet	10/09/2020	MYSTIC	FIELD OPERATIONS
12682	10857023	15,080	15,360	2017 Chevrolet Silverado DBl Cab	Chevrolet	12/03/2020	SOPS E/W	FIELD OPERATIONS
12683	10857024	26,881	27,120	2020 Chevrolet Silverado DBL Cab	Chevrolet	12/04/2020	NORTHERN	FIELD OPERATIONS
12684	10857022	20,008	20,228	2017 Chevrolet Silverado DBl Cab	Chevrolet	12/04/2020	MYSTIC	FIELD OPERATIONS
12685	10857995	2,577	2,714	2020 Chev Silverado 5500 Hydrant Ut	Chevrolet	12/11/2020	UOPS	HYDRANT REPAIR
12686	10857018	11,814	12,574	2017 Chevrolet Silverado DBl Cab	Chevrolet	11/05/2020	UOPS/S	FIELD SERVICE
12687	10854571	8,436	9,965	2017 Chevrolet Silverado DBl Cab	Chevrolet	10/09/2020	SOPS	FIELD OPERATIONS
12688	10854667	5,770	6,890	2020 Chevrolet Silverado DBL Cab	Chevrolet	10/16/2020	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12690	10857019	216	470	2020 Chevrolet Silverado Stellar Hook	Chevrolet	10/09/2020	SOPS MECHANICAL	MECHANICAL MAINTENANCE
12691	10857025	13,516	19,733	2020 Chevrolet Silverado DBL Cab	Chevrolet	12/04/2020	NORTHERN	FIELD OPERATIONS
12692	10871594	4,621	4,996	2021 Chevrolet Silverado 2500 DBl Cab	Chevrolet	07/30/2021	SOPS ELECTRICIANS	MECHANICAL MAINTENANCE
12693	10871595	7,777	8,124	2021 Chevrolet Silverado 2500 DBl Cab	Chevrolet	07/30/2021	NORTHERN	FIELD OPERATIONS
12694	10871803	6,620	6,858	2021 Chevrolet Silverado 2500 DBl Cab	Chevrolet	08/06/2021	NORTHERN	ELECTRICAL MAINTENANCE
12695	10871804	3,344	3,554	2021 Chevrolet Silverado 2500 DBl Cab	Chevrolet	08/10/2021	UOPS E/W	DISTRIBUTION MAINTENANCE
12696	10876930	0	352	2021 Chevrolet Silverado 1500 DBL Cab	Chevrolet	10/15/2021	FLEET SERVICES	LOANERS FOR VEHICLE MAINTENANCE AND REPAIRS
12703	10879517	1,441	272	2021 Chevrolet Silverado 1500 DBL Cab	Chevrolet	12/02/2021	NORTHERN	FIELD OPERATIONS
13303	10011272	2,831	41,278	2002 Ford/F 550 Dump	Ford	02/25/2002	WATERSHED	DUMP TRUCK - WATERSHED
13305	10011221	11	107,212	2000 Ford/F450 Truck	Ford	08/22/2000	UOPS E/W	UOPS GATE TRUCK 1
13306	10440087	413	8,416	2007 Ford F450 Utility Gate	Ford	07/23/2007	UOPS E/W	UOPS GATE TRUCK 2
13307	10746196	3,834	14,858	2015 Chev Silverado 3500 HD Rack Body	Chevrolet	10/30/2015	SOPS MAINTENANCE	LARGE EQUIPMENT AND MATERIALS TRANSPORT
13308	10778586	3,116	5,135	2017 Chevrolet Silverado Rack body	Chevrolet	03/07/2017	SERVICE	METER AND LARGE EQUIPMENT TRANSPORT
14303	10011348	2,261	121,439	2003 PETERBILT 330	Peterbilt	06/18/2003	UOPS E/W	HYDRANT REPAIR
12697	10894302	0	28,493	2020 Ford F250 SD (NESC)	Ford	12/03/2021	NORTHERN/NESC	FIELD OPERATIONS
12698	10880121	10,236	60,475	2016 Chev Silverado 2500 R Cab (NESC)	Chevrolet	12/02/2021	NORTHERN/NESC	FIELD OPERATIONS
12699	10879570	22,580	28,483	2012 Chev Silverado 2500 R Cab (NESC)	Chevrolet	12/02/2021	NORTHERN/NESC	FIELD OPERATIONS
12700	10892019	11,332	44,100	2019 Ford F-250 Utility (NESC)	Ford	12/02/2021	NORTHERN/NESC	FIELD OPERATIONS
12701	10881660	23,436	93,421	2016 GMC Sierra 1500 (NESC)	GMC	12/02/2021	WATER QUALITY/NESC	WATER QUALITY SAMPLING
12702	10892091	2,340	186,010	2013 Chevy Silverado 3500 Utility (NESC)	Chevrolet	02/15/2022	NORTHERN/NESC	FIELD OPERATIONS/LOANER
12443	10879569	21,700	137,400	2014 Jeep Grand Cherokee (NESC)	Jeep	12/02/2021	NORTHERN/NESC	EXECUTIVE
12444	10880129	32,684	84,509	2016 Honda CR-V (NESC)	Honda	12/02/2021	E&P NESC	ENGINEERING
12214	10880130	15,596	66,220	2019 Ford Econoline Utility Van (NESC)	Ford	12/02/2021	CROSS CONN/NESC	BACKFLOW TESTING