MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

First Quarter FY2025

Q1	Q2	Q3	Q4
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Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
November 13, 2024

Board of Directors Report on Key Indicators of MWRA Performance

1st Quarter – FY25

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This quarterly report is prepared by MWRA staff to track a variety of performance measures for routine review by the Board of Directors. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for internal management use and is subject to correction and clarification.

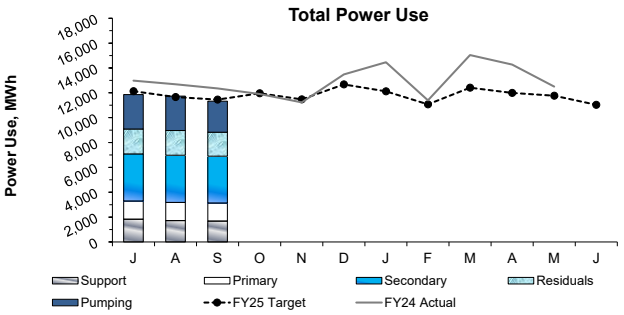
Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer

November 13, 2024

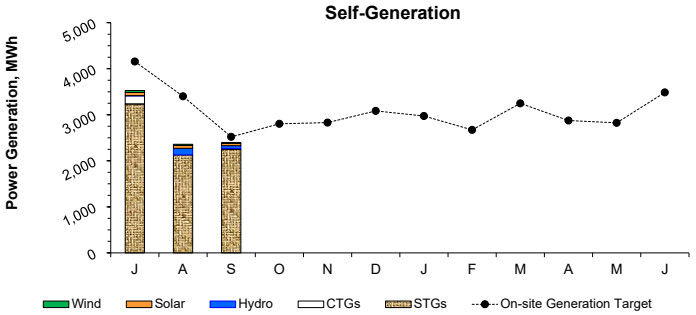
OPERATIONS AND MAINTENANCE

Deer Island Operations

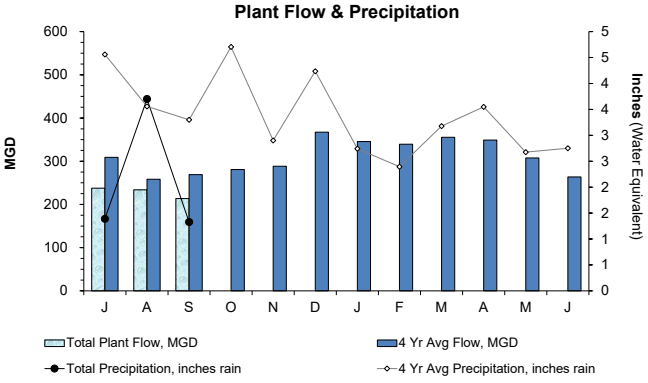
1st Quarter - FY25



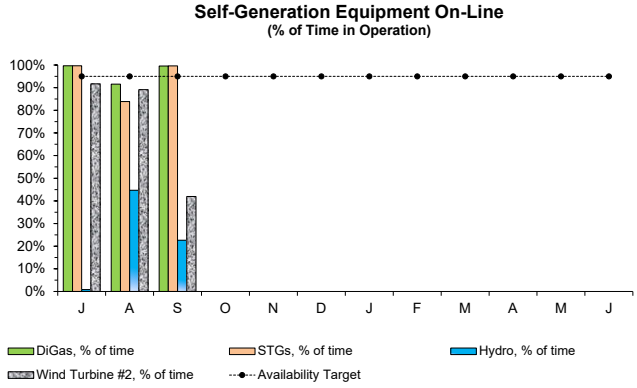
Total power usage in the 1st Quarter was on target (-0.9%) even though plant flow for this period was 18.1% below target with historical (4 year average) data used to generate the electricity model as there is a minimum baseline for power usage. Power used in most areas and major treatment processes was similar to target, except for power used for raw wastewater pumping which was 12.8% below target due to the lower plant flows, and power used for Secondary Treatment was 6.6% higher-than-expected due to a higher oxygen demand that is needed for maintaining a healthy activated sludge biomass especially during periods with lower plant flows and higher wastewater temperatures.



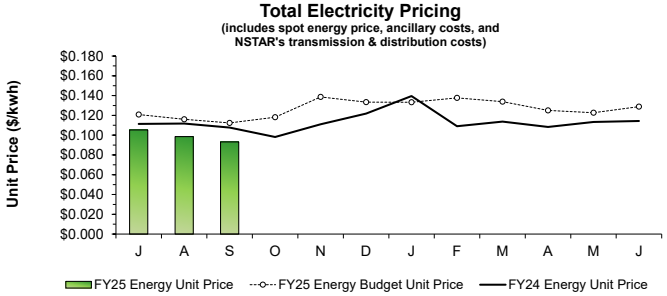
Power generated on-site during the 1st Quarter was 17.9% below target. CTGs generation was 71.0% less than target as the CTGs were operated for peak shaving on six (6) days in July, and only once briefly for maintenance/checkout purposes during the rest of the quarter. STGs generation was 6.2% below target due to the timing of the annual Thermal Power Plant (TPP) maintenance shutdown. The plant is returned to winter (non-vacuum) operation mode following the annual maintenance, thus resulting in lower generation by the Back Pressure Steam Turbine generator. This maintenance was completed in August this year, rather than in September as budgeted based on previous historical occurrences, resulting in the lower-than-expected STGs generation. Hydro Turbine generation was 77.7% below target as turbine availability was only 23% due to mechanical issues with Turbine #2, while Turbine #1 remained out of service pending a replacement gearbox and bearings. Solar Panel generation was 28.0% below target as the rooftop array on the Residuals Odor Control Facility remained out of service since September 12, 2022 due to a failed inverter. A replacement inverter is not currently available. Wind Turbine generation was 18.1% below target as Turbine #2 availability was 72% due to mechanical issues.



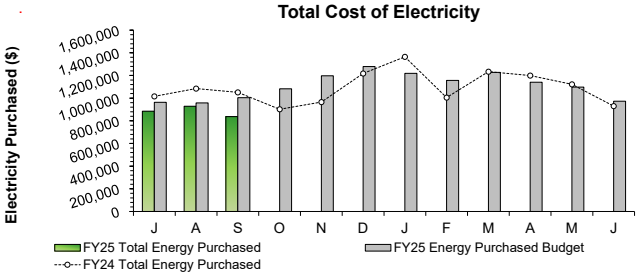
Total Plant Flow for the 1st Quarter was 18.1% below target with the budgeted 4 year average plant flow (228.3 MGD actual vs 278.7 MGD expected) as precipitation was 43.8% lower than target this quarter (6.42 inches actual vs. 11.42 inches expected).



The DiGas System availability exceeded the 95% availability target in the 1st Quarter, while STGs availability fell just below target due to the annual Thermal Power Plant maintenance shutdown in August. Hydro Turbines availability was only 22.7% due to mechanical issues with Turbine #2, while Turbine #1 remained offline pending a replacement gearbox and bearings. Wind Turbine availbility was 74.2% as Turbine #2 experienced several mechanical issues and was out of service starting August 30 and returned to service on September 19 following repairs. Wind Turbine #1 will remain out of service through FY25 and will not be included in the FY25 tracking of turbine availability.



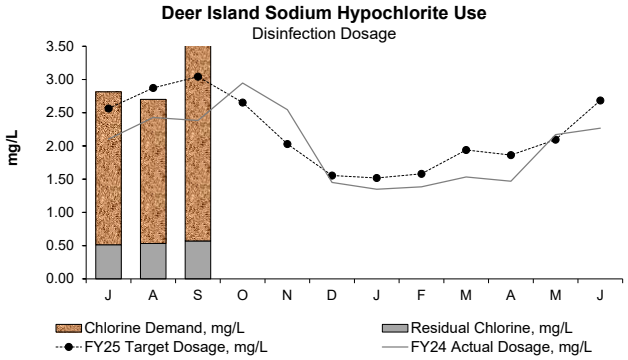
Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The Total Energy Unit Price for July through September is estimated as the complete invoices are pending receipt due to a billing delay with Direct Energy. Overall, the average unit price is estimated to be 15.0% lower than the budgetary estimate through September. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

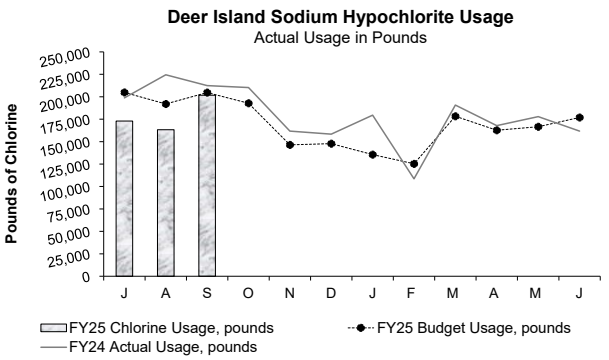


Year-to-date Total Cost of Electricity is estimated to be $270,402 (9.4%) lower than budgeted through September. The actual Total Cost of Electricity depicted for July through September is an estimate at this time as the complete invoices are pending receipt due to a billing delay with Direct Energy. The Total Cost of Electricity is estimated to be lower than budgeted as the estimated Total Energy Unit Price was 15.0% lower than target even though the Total Volume of Electricity Purchased was 6.6% above target as a result of lower-than expected onsite self-generation.

Deer Island Operations

1st Quarter - FY25





The disinfection dosing rate in the 1st Quarter was 10% above target with budgetary estimates while plant flow was 18.1% lower-than-expected resulting in a more concentrated wastewater that exerts a higher chlorine demand. However, sodium hypochlorite usage in pounds of chlorine was 10.6% lower-than-target due to the lower plant flows. DITP maintained an average disinfection chlorine residual of 0.54 mg/L in the 1st Quarter with an average dosing rate of 3.10 mg/L as chlorine demand was 2.56 mg/L. On March 4, the disinfection basin effluent total chlorine residual target for dry weather flows was increased from 0.30 mg/L to greater than or equal to 0.50 mg/L in preparation for potential new NPDES seasonal permit limits for indicator bacteria. The purpose for the higher chlorine residual target (and higher sodium hypochlorite dosing) is to continue developing operating strategies for the new permit, an effort that was also undertaken in 2023.

The overall disinfection dosing rate (target and actual) is dependent on plant flow, target effluent total chlorine residual levels, effluent quality and NPDES permit levels for fecal coliform.

Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
July	0	0	0	100.0%	0.00
August	0	0	0	100.0%	0.00
September	0	0	0	100.0%	0.00
Total	0	0	0	100.0%	0.00

100% of all flows were treated at full secondary during the 1st Quarter as there were no secondary blending events. The Maximum Secondary Capacity during the entire quarter was 700 MGD.

Secondary permit limits were met at all times during the 1st Quarter.

Deer Island Operations & Maintenance Report

Environmental/Pumping:
The plant achieved an instantaneous peak flow rate in the 1st Quarter of 653.8 MGD during the early evening of August 4. This peak flow occurred during a storm event that brought 0.38 inches of total precipitation to the metropolitan Boston area with localized pockets of higher precipitation dispersed through the area. The Total Plant Flow was 18.1% below the 4 year average plant flow target for the quarter as precipitation was 43.8% lower than the 4 year average (6.42 inches actual vs. 11.42 inches expected.

Disinfection/Dechlorination:
MWRA uses sodium hypochlorite to destroy pathogens in plant effluent after primary and secondary treatment. Indicator bacteria such as Fecal Coliform, E. coli, and Enterococcus are used to measure the presence of potential pathogens. To provide a proper pathogen kill, sodium hypochlorite, a disinfectant, is added to meet a chlorine demand, then regulated by maintaining a chlorine residual. On March 4, the disinfection basin effluent total chlorine residual target for dry weather flows was increased from 0.30 mg/L to greater than or equal to 0.50 mg/L in preparation for potential new NPDES seasonal permit limits for indicator bacteria. The purpose for the higher chlorine residual target (and higher sodium hypochlorite dosing) is to continue developing operating strategies for the new permit, an effort that was also undertaken in 2023. In the 1st Quarter of FY25, DITP maintained an average disinfection chlorine residual of 0.54 mg/L with an average chlorine demand of 2.56 mg/L, with the adjusted higher target. Higher usage of both sodium hypochlorite and sodium bisulfite, used for removing the residual chlorine before discharging the effluent, will be necessary in order to comply with the more stringent indicator bacteria limits in the proposed new NPDES permit.

Primary and Secondary Treatments:
The contractor completed the first phase of the Clarifier Rehabilitation Project (Contract #7395) with the rehabilitation of the Primary Battery A Influent and Effluent Channels by the end of July. The work included putting all 96 primary influent gates in place, installing a new aeration header system, completing the installation of the lower aeration system and Linabond repair work, installing drains between Batteries A and B, replacing 12 effluent gates, completing hatch and grating modifications, and expansion joint repairs, in addition to other work. The contractor successfully completed this phase of work within the 42 calendar day milestone period and began similar work on the Primary Battery B Influent and Effluent Channels starting July 31 and was completed in mid-September. Similar work on the Primary Battery C Channels is anticipated to begin starting in late October. The contractor has also begun replacing the secondary scum influent gates and other equipment in the Secondary clarifiers. The plan is to target maintenance on one (1) secondary clarifier in each of the three (3) Secondary Batteries at a time. There are 18 clarifiers in each battery, totaling 54 clarifiers. MWRA plans to maintain a secondary process limit of 700 MGD, which is the capacity of 50 clarifiers in operation.

Deer Island Operations & Maintenance Report (continued)

Residuals Treatment:
Module #2 Digester #4 was taken out of service on August 23 and drained for maintenance to repair a leak in the sludge feed ring piping. Repairs were completed and successfully leak tested by September 20 and the digester was slowly filled with the sludge overflows from the other online digesters. Normal sludge feed to this digester resumed on September 24.

Odor Control Treatment:
Carbon adsorber (CAD) units #2 in the North Pumping Odor Control (NPOC) Facility, #4 in the East Odor Control (EOC) Facility, and #1 in the Residuals Odor Control (ROC) Facility were emptied and refilled with new regenerated activated carbon media this month as part of routine maintenance to replace spent activated carbon.

Energy and Thermal Power Plant:
Overall, total power generated on-site accounted for 23.7% of Deer Island's total power use in the 1st Quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 23.1% of Deer Island's total electrical power use for the quarter.

This summer, DITP is enrolled in an Eversource Connected Solutions Curtailment (Demand Response) program to reduce a portion of DITP's load from the regional electrical grid during peak energy usage periods. In this program only green energy can be used to offset a committed energy demand or the load shed can be achieved by curtailing existing energy demand sources. DITP is enrolled in this program by curtailing the cryogenic oxygen generation process. To be successful, the oxygen generation process would be taken onffline for the few hours of an event to defer 1.5 MW of power demand. From a treatment perspective, staff would use stored liquid oxygen that was previously produced and stored in the Liquid Oxygen (LOX) tank to feed the secondary activated sludge without impact to the process during this short interruption, then reactivate the cryogenic compressors after the event has ended to restore normal operation. DITP participated in this program during the summer of 2023 and earned over $46,000 by participating. The cryogenic oxygen generation process was taken offline for three (3) hours from 5 p.m. to 8 p.m. on July 15, 16, and 17 for Eversource demand response called events on each of these days.

Annual maintenance at the Thermal Power Plant (TPP) began on August 18 and continued through August 31. Various maintenance activities on the STG, BP-STG, the two (2) Zurn boilers, and the common systems included maintenance on various pumps, valves, and instrumentation throughout the TPP and the DITP heat loop system. On August 18, the main STG was taken out of service for maintenance, as well as starting the maintenance on the offline Boiler 201. On August 23, Boiler 101 was taken out of service to prepare it for maintenance and Boiler 201 was placed into operation until August 25, when the BP-STG, Boiler 201, and heating loop were also taken offline, for a full Thermal Power Plant shutdown to allow for maintenance on all remaining equipment, including the common systems. On August 27, Boiler 201 was placed back into service to bring the heating loop back up to temperature, while the main STG, BP-STG and common systems were put back on-line on August 30 once the contractors completed the final portions of the maintenance. All digester gas produced was flared from August 25 to August 27 during the full TPP shutdown and there were no negative impacts caused by this annual maintenance shutdown.

From July 8 to the evening of July 10, the Wind Turbine Maintenance contractor inspected the turbine blades of Turbine #2 and performed minor blade surface repairs following the inspection.

Regulatory:
An onsite audit was performed by a MADEP inspector on August 21 to review compliance under DITP's Air Operating Permit. The onsite audit included site visits at the Thermal Power Plant (specifically the CTGs and boilers), North Main Pump Station, one of the odor control facilities, as well as the digester gas area and the Residuals complex, including the top of the digesters. The second half of the audit included a thorough review of relevent maintenance records, emissions data reports, monitoring data records, equipment operating and down time records, and all applicable records required under the Air Operating Permit. The audit was completed by the close of business and the inspector was satisified with DITP's compliance in all areas of the permit. Additional information and records that needed to be provided post-site visit was provided to the inspector in a timely manner.

Several other regulators from the MADEP arrived onsite at the DITP on September 27 to conduct an unannounced audit of the treatment plant. The regulators were given a brief plant tour covering the wastewater and residuals treatment facilities, including the Disinfection Basins, the Bypass Gates, the Secondary Treatment aerator and clarifier areas, among other process areas. Some of the topics they were interested in discussing during the meeting portion of their visit included staffing, the status of upcoming construction and special projects, DITP's wet weather response and staffing plan, the future Combined Heat and Power (CHP) plant project, and the status of the wind turbines and other green energy projects.

Clinton Operations & Maintenance Report

Dewatering Building:
The Operations staff and Facilities Specialist changed the lower wash box seal on belt filter press #1. The upper back wash box seal on belt filter press #2 was also replaced. The belt filter sludge press #2 was pressure washed. The contractor met with staff to discuss repair/replacement estimates for the grit and belt filter press sludge conveyor. The contractor replaced ten (10) of the eight (8) inch valves for Gravity Thickener #2 and a three (3) inch water meter.

Chemical Building:
Maintenance staff and the Facilities Specialist assisted Quincy Compressor Tech with the installation of a new head on the compressor unit in the lower Chemical Building, installed a new isolation valve on the bisulfite system, dismantled and jetted the entire soda ash A line and B lines, and also rebuilt the #1 Penn Valley soda ash pump. Staff rebuilt RAS pump #4, installing a new seal and shaft sleeve. The contractor repaired the leaking #2 hypochlorite fill line, corroded steam lines on the Modine heater, the water wash down line and the WAS pump #1 drain line. The contractor replaced a six (6) inch valve on the continuous secondary sludge waste line.

Aeration Basins:
Operations staff cleaned the pH and D.O. probes. The contractor replaced the pH probe on aeration tank #6.

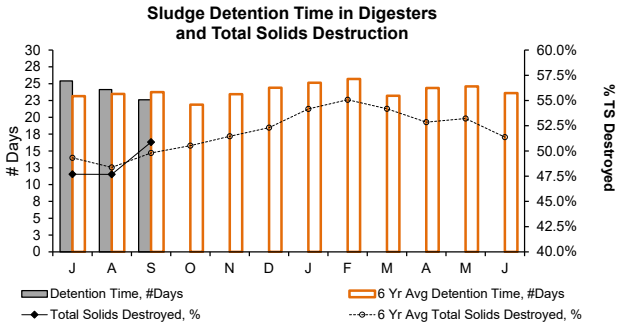
Phosphorus Reduction Building:
Operations and Maintenance staff completed a filter acid wash and cleaned the troughs on #1, #2 and #3 disk filters, cleaned and changed reagents in both CL17 chlorine analyzers, and replaced the Hach 5500 analyzer pump. The contractor replaced the tubing and calibrated the analyzer, and installed a conduit run for additional wiring for alarms from the CL17 chlorine analyzers.

Headworks Building:
Staff replaced the drive bolt in the grit classifier screw. They also cleaned the influent and mechanical bar rack. Staff rebuilt primary pump #4 installing a new power frame head. Staff pumped down the distribution box and were able to successfully clear the WAS line that had been obstructed.

Digester Building:
The Maintenance staff and contractor replaced the collar on the Ovivo mixer. The contractor replaced the Shaw mixing valve on sludge boiler #2, checked all the equipment for proper operation, and greased the floating cover and the Ovivo mixer.

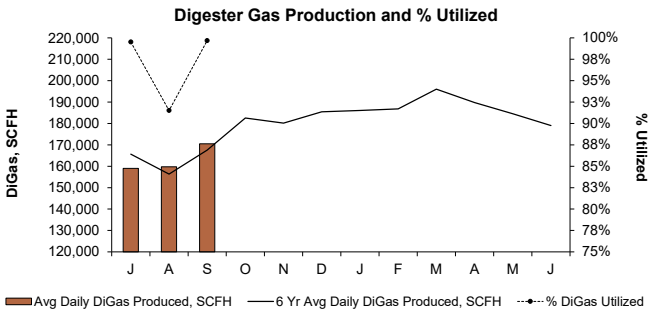
Deer Island Operations and Residuals

1st Quarter - FY25



Total solids (TS) destruction following anaerobic sludge digestion averaged 48.8% during the 1st Quarter, on target (-0.8%) with the 6 year average. Sludge detention time in the digesters was 24.1 days, with an average of 7.7 digesters in service, 2.5% above the 23.5 days detention time.

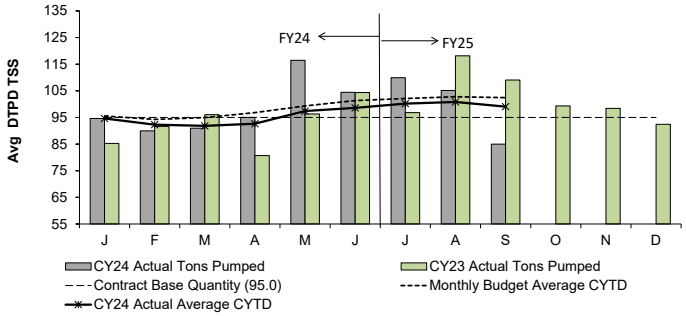
Total solids (TS) destruction is dependent on sludge detention time which is determined by primary and secondary solids production, plant flow, and the number of active digesters in operation. Solids destruction is also significantly impacted by changes in the number of digesters and the resulting shifting around of sludge.



The Avg Daily DiGas Production in the 1st Quarter was on target with the 6 Year Avg Daily DiGas Production. 96.9% of the Digas produced was utilized at the Thermal Power Plant, as only 95.1% of the DiGas was able to be utilized in August as a result of the annual Thermal Power Plant maintenance shutdown.

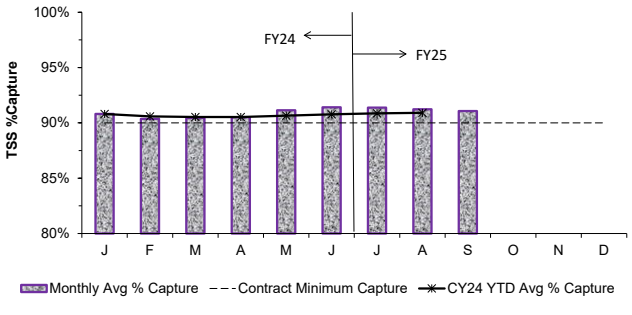
Residuals Pellet Plant

New England Fertilizer Company (NEFCO), a wholly-owned, indirect subsidiary of Synagro Technologies, Inc., operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 95.0 DTPD/TSS as an annual average (for the extended contract period of January 1, 2024 through December 31, 2034). The monthly invoice is based on 95.0 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. On average, MWRA processes more than 95.0 DTPD/TSS each year (FY24's budget is 103.2 DTPD/TSS and the FY25 budget is 99.9 DTPD/TSS).



The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 1st Quarter was 100.0 TSS Dry Tons Per Day (DTPD), 4.4% below target with the FY25 budget of 104.6 TSS DTPD for the same period. The lower amount of sludge sent to the BPF is partially due to the diversion of three (3) million gallons (an estimated 10 TSS DTPD) of digested sludge to fill the empty Digester #4 in Module #2 when it was returned to operation in late September following repairs to the sludge feed ring piping, which had required the digester to be emptied in August.

The overall CY24-to-date average quantity of sludge pumped is 99.1 DTPD, 3.3% below target



The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 1st Quarter was 91.23% and the CY24-to-date average capture is 90.93%.

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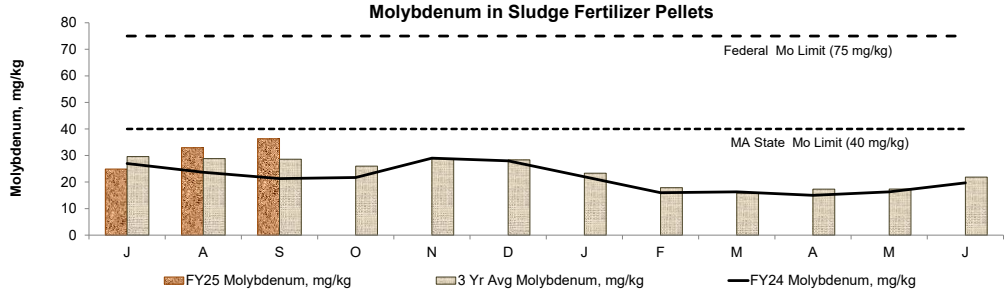


Copper, lead, and molybdenum (Mo) are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer. Molybdenum-based cooling tower water is a significant source of Mo in the sludge fertilizer pellets. The Federal standard for Mo is 75 mg/kg. The Massachusetts Type I biosolids standard for molybdenum was changed from 25 mg/kg to 40 mg/kg in 2016, allowing MWRA to sell its pellets in-state for land application whereas the previous limits forced several months' worth of pellets to be shipped out of state.

Overall, the levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 1st Quarter averaged 31.4 mg/kg, 8% above the 3 year average, 22% below target with the MA State Limit, and 58% below the Federal Limit.

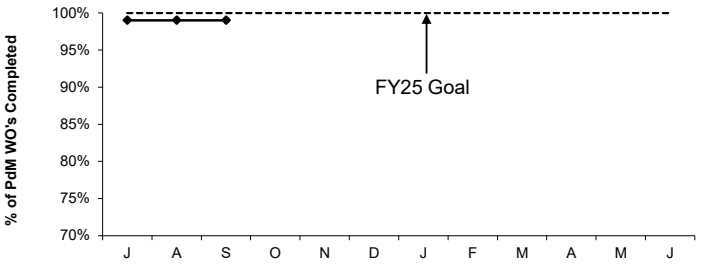
Deer Island Maintenance

1st Quarter - FY25

Productivity Initiatives

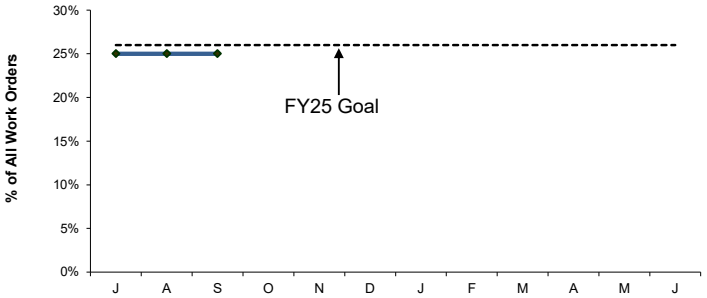
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

Predictive Maintenance Compliance



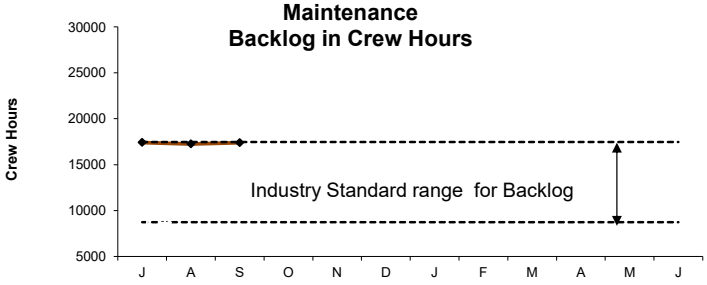
Deer Island's FY25 predictive maintenance goal is 100%. DITP completed 99% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program. Deer Island is slightly below our goal this quarter.

Predictive Maintenance



Deer Island's increased FY25 predictive maintenance goal is 26% of all work orders to be predictive. 25% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.

Maintenance Backlog in Crew Hours

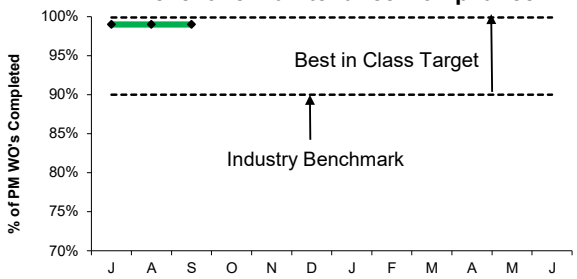


DITP's maintenance backlog at Deer Island is 17,381 hours this quarter. DITP is below the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by (8) Vacancies; (1) Electrician, (1) HVAC Technician and (6) I&C Techicians. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

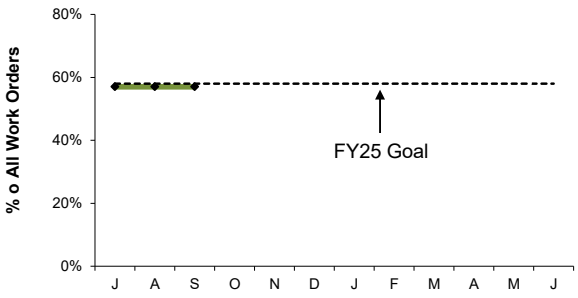
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

Preventive Maintenance Compliance



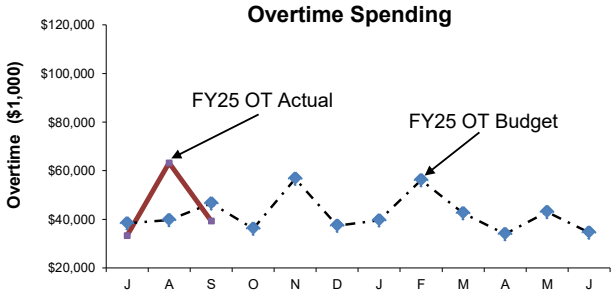
Deer Island's FY25 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 99% of all PM work orders this quarter. Deer Island was slightly below our goal, but within Best in Class Target.

Maintenance Kitting



Deer Island's increased FY25 maintenance kitting goal is 58% of all work orders to be kitted. 57% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

Overtime Spending

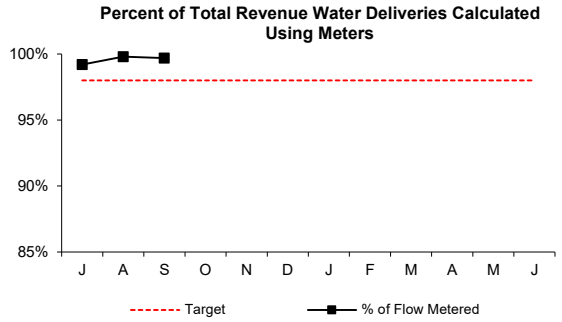


Maintenance overtime was over budget by $11K this quarter and $11k over for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarter's overtime was predominately used for Storm Coverage/High Flows, Pump and Grinder Clogging Issues, Primary Gallery Valve Replacement, Instrumentation PM/CM Work, HVAC Cooling Tower Inspection, and Miscellaneous Tank Work.

Operations Division Metering & Reliability

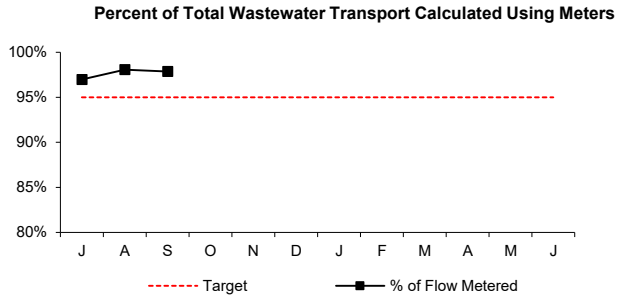
1st Quarter - FY25

WATER METERS



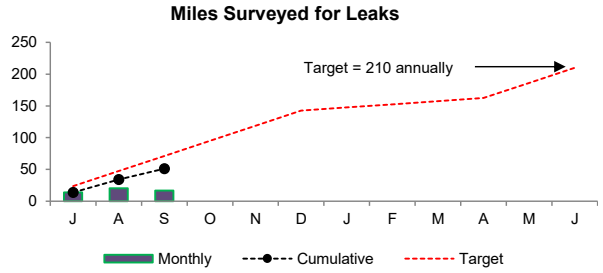
The target for revenue water deliveries calculated using meters is 98%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During Q1 FY25, 99.57% of the water billed was metered flow.

WASTEWATER METERS



The wastewater metering system is now operating in a typical mode following closeout of the replacement project. The target for revenue collection meters is a 95% capture rate which has been achieved consistently since the new meters have been online. In Q1 FY25, 2.36% of the data required estimates, while 97.64% was metered.

WATER DISTRIBUTION SYSTEM PIPELINES



During Q1 FY25, 51.18 miles of water mains were inspected.

Leak Backlog Summary													
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Totals
Leaks Detected	1	2	2										5
Leaks Repaired	0	2	3										5
Backlog	1	1	0										n/a

During Q1 FY25 5 leaks were detected, and 5 were repaired. Refer to FY25 Leak Report below for details. Also, community service ranging from individual leak location to surveys were conducted for Medford, Boston, Revere and Saugus.

1st Quarter - FY25

Date Detected	Location of Leaks	Repaired
08/20/24	Morton St @ Wellington Hill Rd Mattapan	08/21/24
08/29/24	Felton St @ Water St Waltham	08/30/24
09/18/24	Second St @ Carter St Chelsea	09/18/24
07/31/24	Broadway @ Richardson Lynn	09/30/24
09/26/24	Bryant St @ Shute St Everett	09/30/24

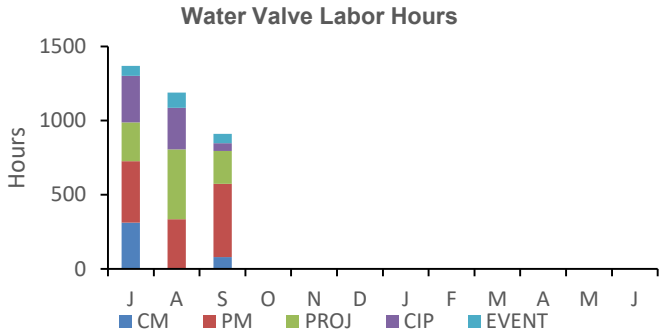
Date Detected	Location of Leaks/Unrepaired

Water Distribution System Valves

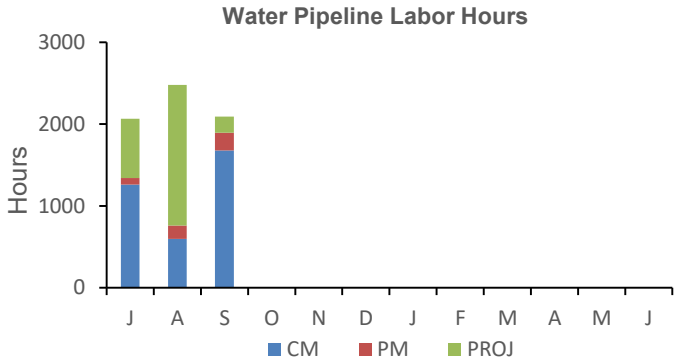
1st Quarter - FY25

Background

Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but is often displaced during the construction season. This is due to the fact that a large number of construction contracts involving rehabilitation, replacement, or new installation of water lines, requires valve staff to operate valves and assist with disinfection, dechlorination, pressure-testing, and final acceptance. Valve exercising can also be impacted due to limited redundancy in the water system; valve exercising cannot be performed in areas where there is only one source of water to the community meters or flow disruptions will occur.



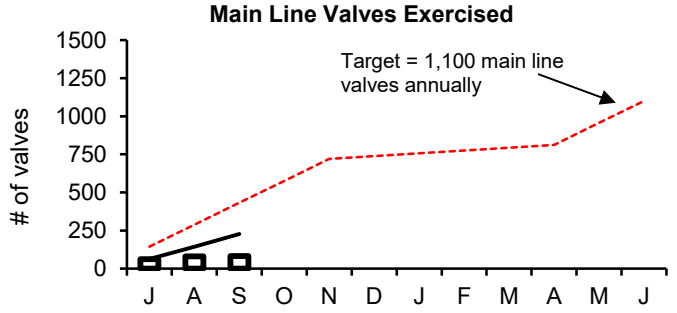
During the 1st Quarter of FY25 there was a total of 3,469 hours worked. Percentage breakdown; Corrective Maintenance 11%, Preventative Maintenance 36%, Project 28%, Capital Improvement Project 19%, Event - Wtr Fountain 7%



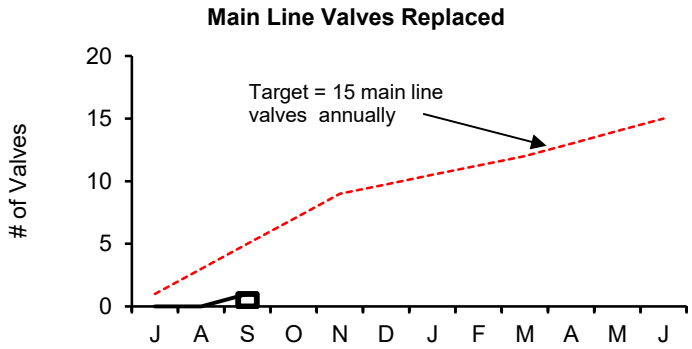
During the 1st Quarter of FY25 there was a total of 6,637 hours worked. Percentage breakdown; Corrective Maintenance 53%, Preventative Maintenance 7%, Project 40%

Type of Valve	Inventory #	Operable Percentage	
		FY24 to Date	FY24 Targets
Main Line Valves	2,255	97.5%	95%
Blow-Off Valves	1,747	98.8%	95%
Air Release Valves	1,546	96.7%	95%
Control Valves	49	100.0%	95%

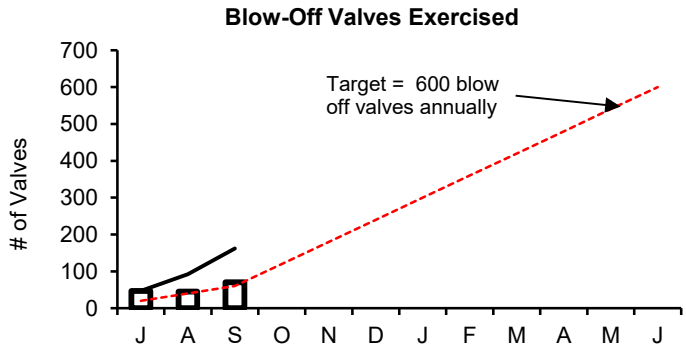
Key to Symbols:
- FY25 Monthly Total
- FY25 Cumulative Total
- FY25 Target



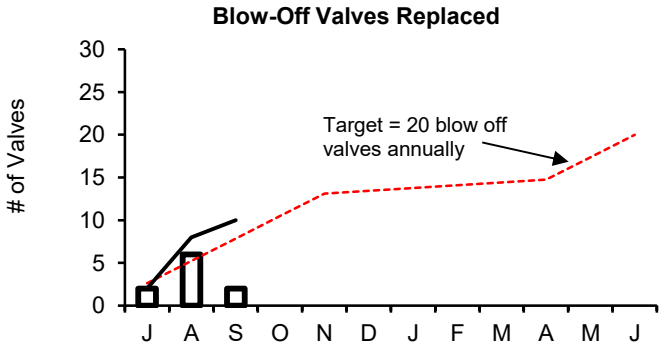
During the 1st Quarter of FY25, 227 main line valves were exercised. The total exercised for the fiscal year to date is 227.



During 1st Quarter of FY25, there was 1 main line valve replaced. The total replaced for the fiscal year to date is 1.



During 1st Quarter of FY25, 162 blow off valves were exercised. The total exercised for the fiscal year to date is 162.



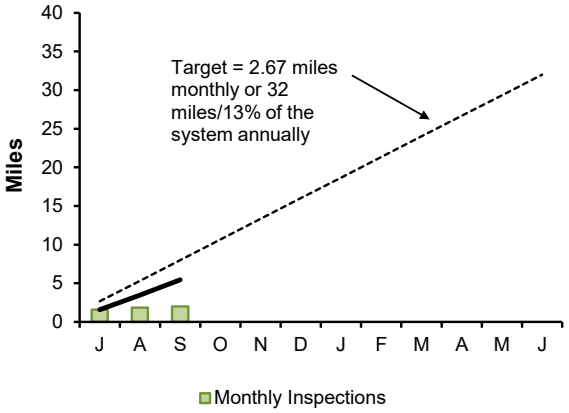
During 1st Quarter of FY25, there were 10 blow off valves replaced. The total replaced for the fiscal year to date is 10.

Wastewater Pipeline and Structure Inspections and Maintenance

1st Quarter - FY25

Inspections

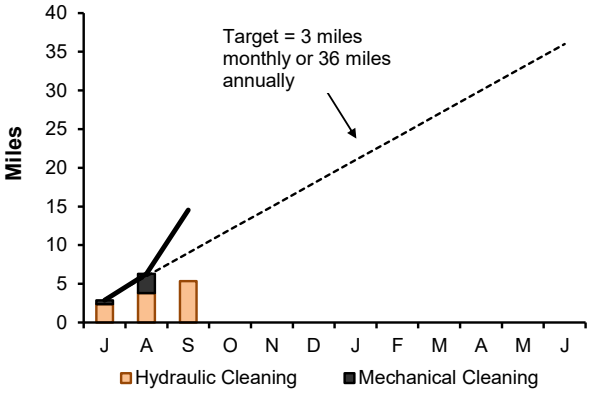
Pipeline Inspections



Staff internally inspected 5.45 miles of MWRA sewer pipe during this quarter.The year to date total is 5.45 miles. No Community Assistance was provided.

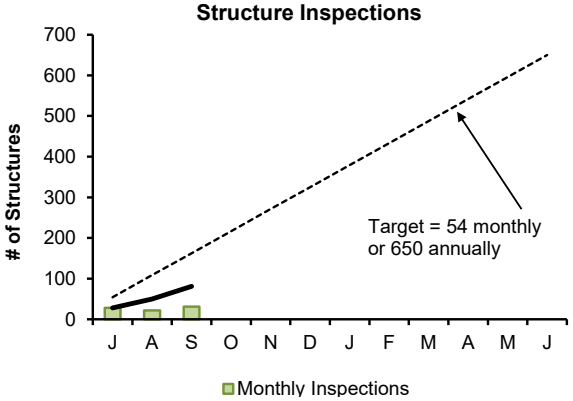
Maintenance

Pipeline Cleaning



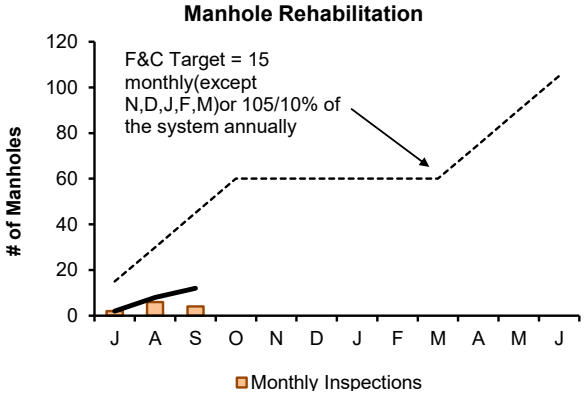
Staff cleaned 14.54 miles of MWRA sewer pipe, and removed 15.25 yards of grit. The year to date total is 14.54 miles. No Community Assistance was provided.

Structure Inspections



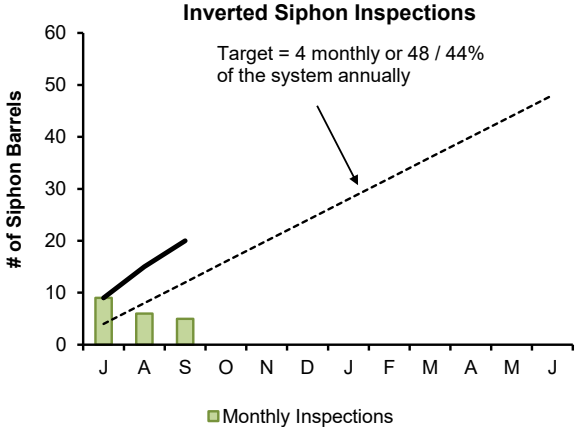
Staff inspected the 36 CSO structures and performed 45 other additional manhole/structure inspections during this quarter. The year to date total is 81 inspections.

Manhole Rehabilitation



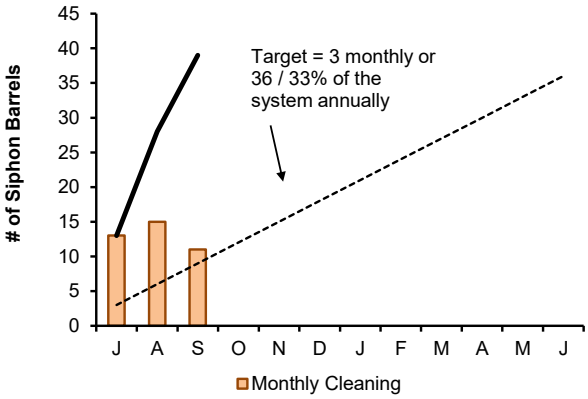
Staff replaced 12 frame and cover replacement this quarter.The year to date total is 12 .

Inverted Siphon Inspections



Staff inspected 20 siphon barrels this quarter. The year total is 20 inspections.

Inverted Siphon Cleaning

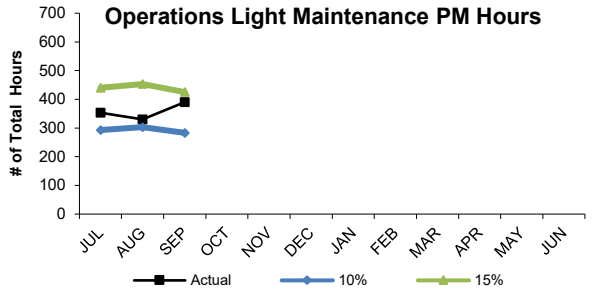


Staff cleaned 39 siphon barrels this quarter.

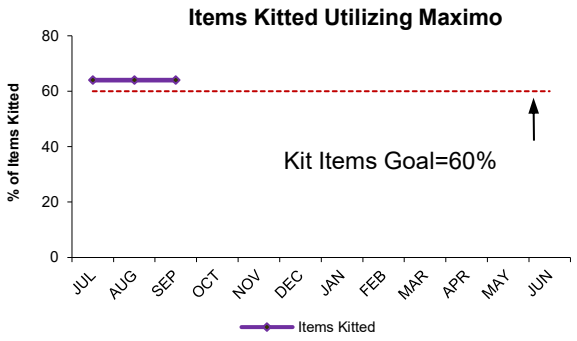
Field Operations' Metropolitan Equipment & Facility Maintenance

1st Quarter - FY25

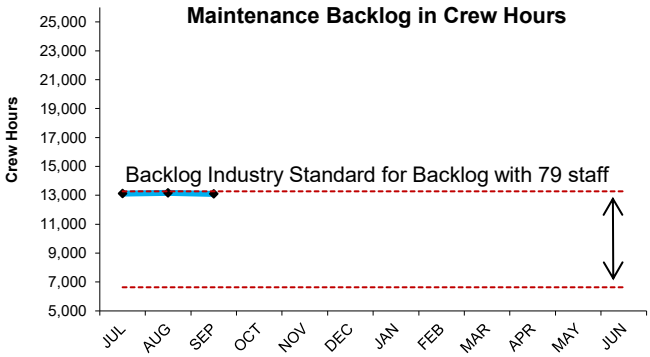
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion is 100%. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



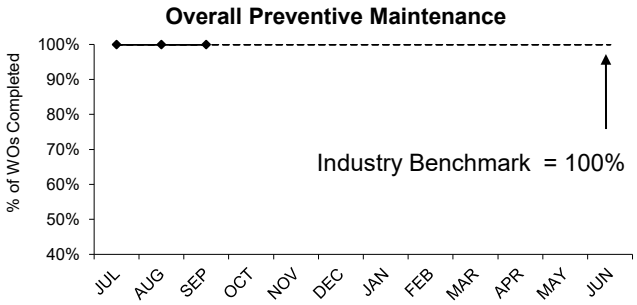
Operations staff averaged 358 hours per month of preventive maintenance during the 1st Quarter of FY25, an average of 12% of the total PM hours for the 1st Quarter, which is within the industry benchmark of 10% to 15%.



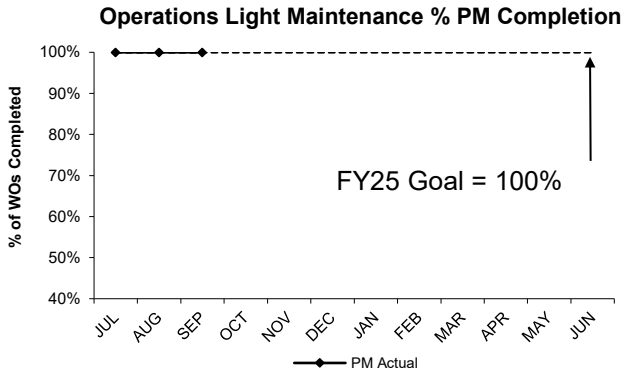
Operations' FY25 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material neccesary to complete maintenance work. In the 1st Quarter of FY25, 64% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



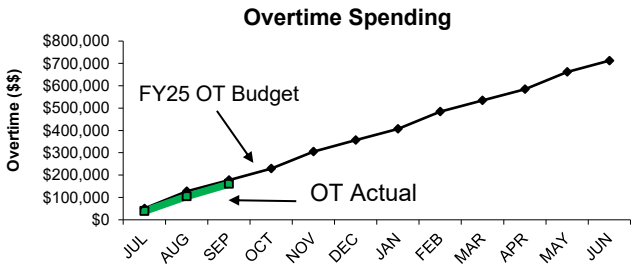
The 1st Quarter of FY25 backlog average is 13,127 hours. Which is within the industry benchmark of 6,636 to 13,275 hours. The current backlog is due to vacancies and several large maintenance projects.



The Field Operations Department (FOD) preventive maintenance goal for FY25 is 100% of all PM work orders. Staff completed 100% of all PM work orders in the 1st Quarter of FY25.



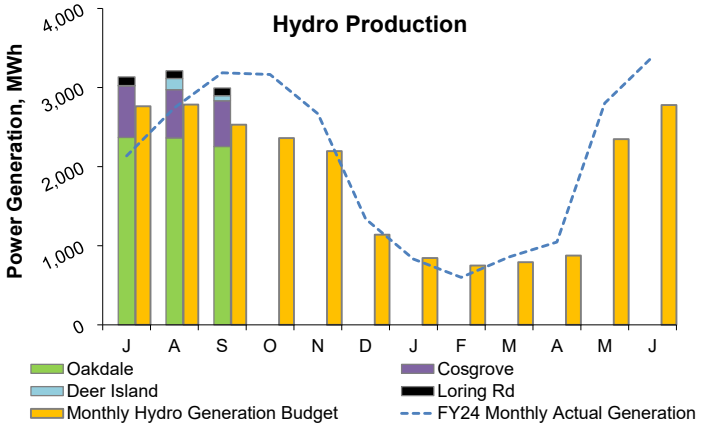
Wastewater Operations complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY25 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work orders in the 1st Quarter of FY25.



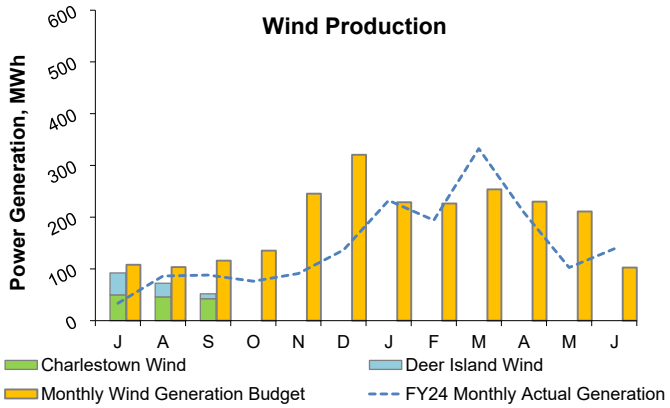
Maintenance overtime was $6,126 under budget on average, per month, for the 1st Quarter of FY25. Overtime is used for critical maintenance repairs and wet weather events. The overtime budget through the 1st Quarter of FY25 is $178,115. Overtime spending was $159,738 which is $18,377 under budget for the fiscal year.

Renewable Electricity Generation: Savings and Revenue

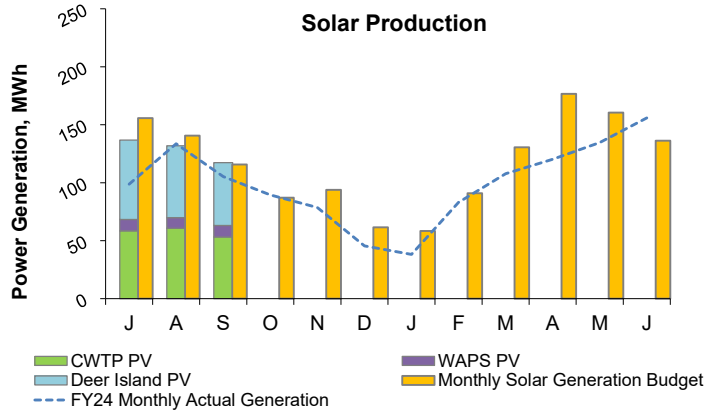
1st Quarter - FY25



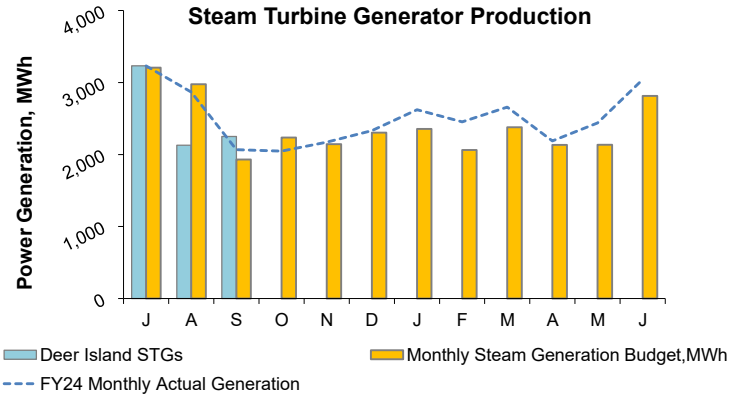
In Quarter 1, renewable energy produced from hydroelectric turbines totaled 9,420 MWh, 17% above budget. However, most data is still preliminary and not based on final totals due to utility billing delays.



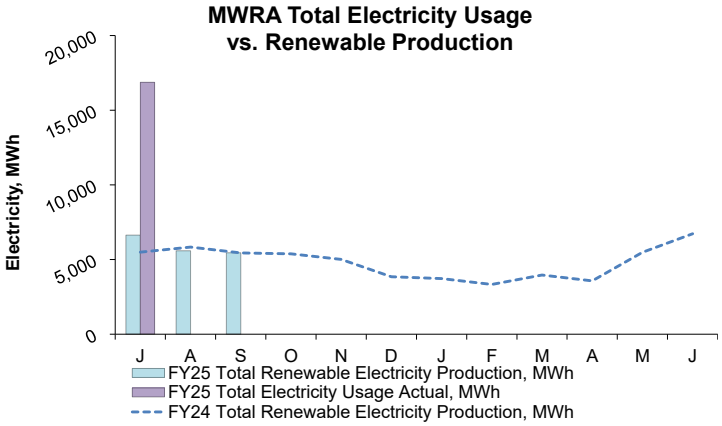
In Quarter 1, wind turbine production totaled 217 MWh, 34% below budget. Charlestown Wind Turbine production is an estimate, final billing has not been received. Deer Island Turbine #1 has been out of service since April 2022, and was heavily damaged following a braking failure on May 29, 2023. Deer Island Turbine #2 was also out of service for corrective maintenance during much of August.

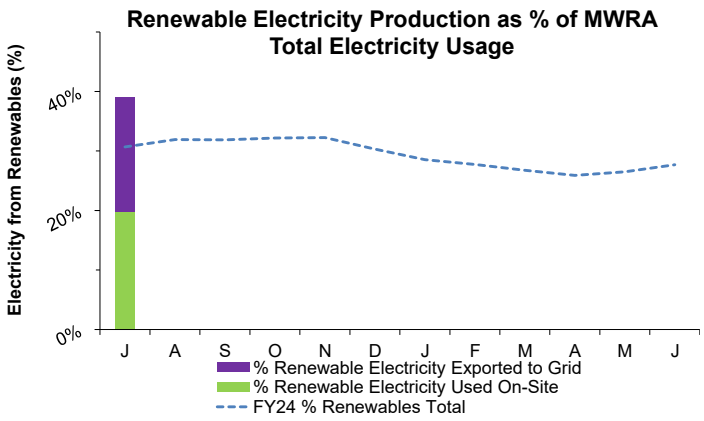


In Quarter 1, the renewable energy produced from all solar PV systems totaled 386 MWh; 6% below budget[1]. The Deer Island Residuals Odor Control roof mounted array has been offline since September 2022 due to a failed inverter.



In Quarter 1, the renewable energy produced from all steam turbine generators totaled 7,612 MWh; 6% below budget[1]. Steam production was reduced in August during routine maitnenance.





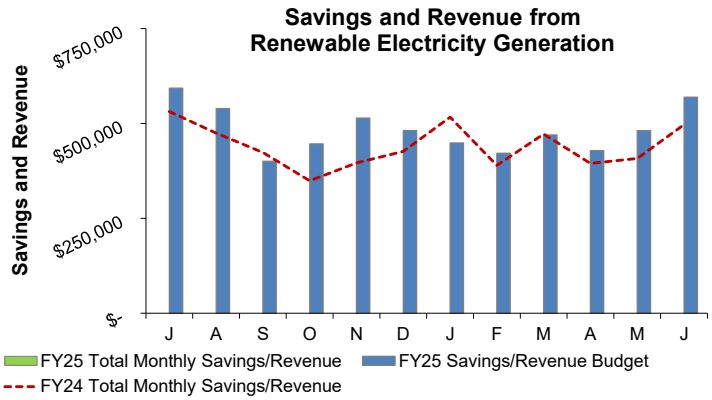
In Quarter 1, total renewable electricity production is estimated to be 17,769 MWh, which is 4% above budget for the quarter. This is based on internal estimates for at least one month of output at all hydroturbines, besides Deer Island, and the Charlestown Wind Turbine. Several statements for the Oakdale facility have not been received in FY25 due to previous utility metering issues that caused billing delays. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget.

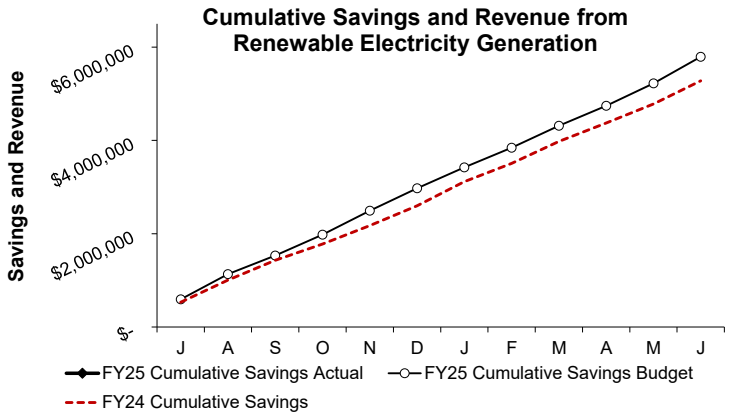
All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.

Notes: 1. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

Renewable Electricity Generation: Savings and Revenue

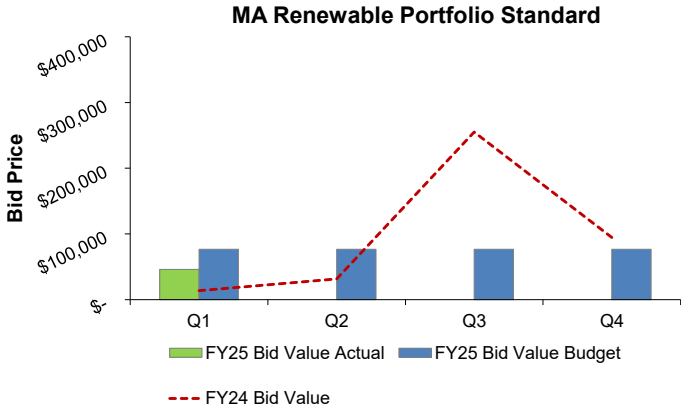
1st Quarter - FY25

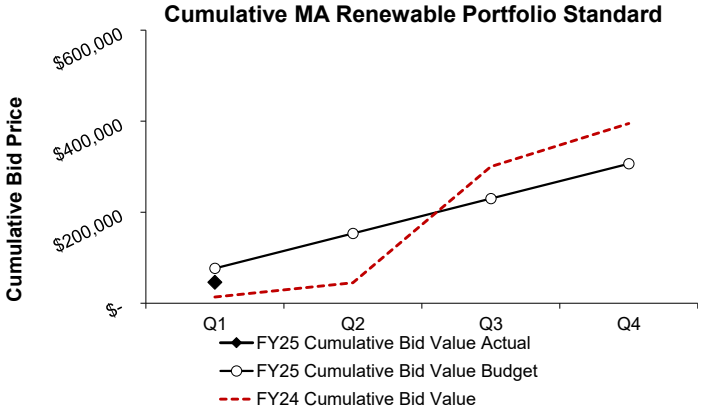




There are no months in FY25 with complete data to report.

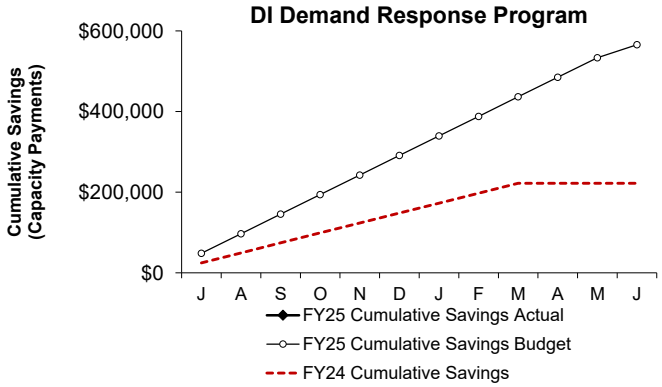
Savings and revenue[1] from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs).
The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).

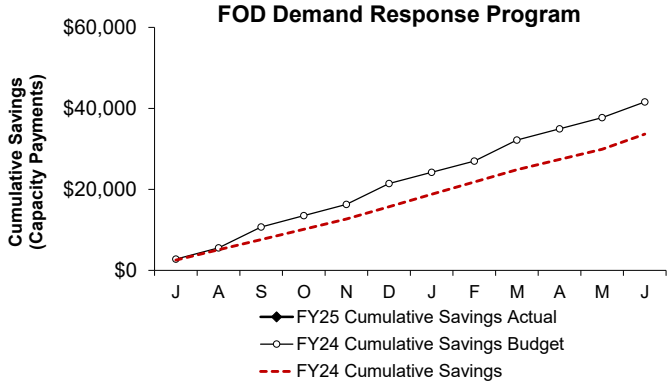




Bids were awarded during the 1st Quarter[2] of FY25 from MWRA's renewable energy assets; 1,412 Q4 FY24 Class I Renewable Energy Certificates (RECs) were sold for a total value of $46,033 RPS revenue; which was 40% below budget[3] for the Quarter. No Class II RECs are sold during Q1 and are instead banked for future sale. REC values reflect the bid value on the date that bids are accepted. Cumulative bid values reflects the total value of bids received to date.

*MWRA's SRECs have transitioned to the Class 1 REC category starting in FY23.



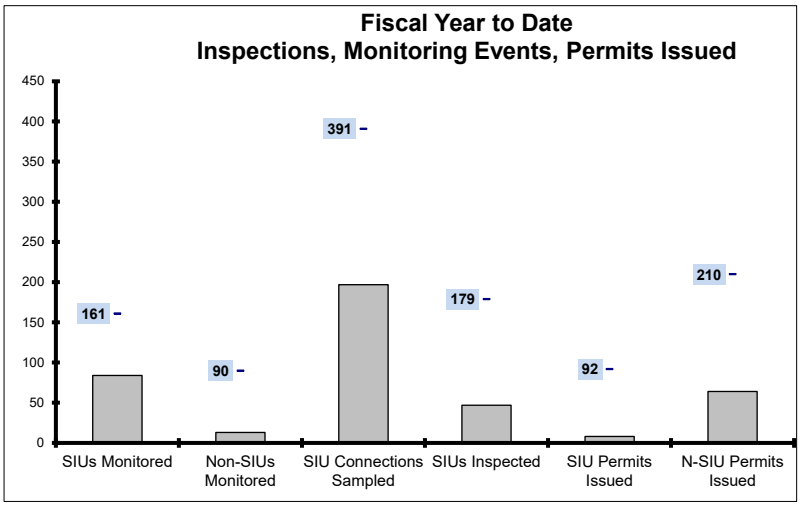


Currently Deer Island, Loring Rd, Brutsch Hydro, and JCWTP participate in the ISO-New England Demand Response Programs. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. No capacity payments have been received in FY25.

Notes:
1. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, and revenue refers to any value of renewable energy produced that is sold to the grid.
2. Only the actual energy prices are being reported. Therefore, some of the data lags up to 3 months due to timing of invoice receipt.
3. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

Toxic Reduction and Control

1st Quarter - FY25



EPA Required SIU Monitoring Events
for FY25: 159
YTD : **84**

Required Non-SIU Monitoring Events
for FY25: 90
YTD : **13**

SIU Connections to be Sampled
For FY25: 387
YTD: **197**

EPA Required SIU Inspections
for FY25: 177
YTD: **47**

SIU Permits due to Expire
In FY25: 63
YTD: **8**

Non-SIU Permits due to Expire
in FY25: 272
YTD: **64**

Significant Industrial Users (SIUs) are MWRA's highest priority industries due to their flow, type of industry, and/or their potential to violate limits. SIUs are defined by EPA and require a greater amount of oversight. EPA requires that all SIUs *with flow* be monitored at least once during the fiscal year.

The "SIU Monitored" data above, reflects the number of industries monitored; however, many of these industries have more than one sampling point and the "SIU Connections Sampled" data reflect samples taken from multiple sampling locations at these industries.

EPA requires MWRA to issue or renew 90 percent of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10 percent of SIU permits to be issued within 180 days.

Number of Days to Issue a Permit								
	0 to 120		121 to 180		181 or more		Permits Issued	
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU
Jul	4	20	0	0	0	11	4	31
Aug	2	14	1	0	0	3	3	17
Sep	1	14	0	1	0	4	1	19
Oct	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0
% YTD	88%	72%	13%	1%	0%	27%	8	67

TRAC's annual monitoring and inspection goals are set at the beginning of each fiscal year but they can fluctuate due to the actual number of SIUs.

In addition to the Annual SIU inspections required under TRAC's EPA approved Industrial Pretreatment Program, other inspections are usually undertaken, including for enforcement, permit renewal, follow up, temporary construction dewatering sites, group/combined permit audits, spot, sampling locations, visit only and out of business facility.

Monitoring of SIUs and Non-SIUs is dynamic for several reasons, including: newly permitted facilities; sample site changes requiring a permit change; changes in operations necessitating a change in SIU designation; non-discharging industries; a partial sample event is counted as an event even though not enough sample was taken due to the discharge rate at the time; and sometimes increased/decreased inspections lead to permit category changes requiring additional monitoring events

This is the first quarter of the MWRA fiscal year, FY25.

In this quarter, 75 permits issued.
There were 8 SIUs, of which 7 were issued on time.
There were 67 non-SIUs of which 48 were issued on time, with 18 late beyond 180 days.

All but 1 of the SIU permits were issued within the 120-day timeframe. The 1 SIU issued after 120 days due to outstanding permit fees holding up the issuance of the permits.

In FY24, there have been 31 completely new permits issued: 8-LFLP, 6-02 N-SIUs, 14-Dental, 1-SIU, 2-DEW

For the Clinton Sewer Service area, there was 0 SIU permits issued during the FY24 fiscal year.

Permit Categories, as defined in CMR 10.101(2):

SIU- Significant Industrial User

DEW - Category 12 Temporary Construction Site Dewatering Permit

LFLP - Category 10 Non-Significant Industrial User with Low Flow and Low Pollutant

02 N-SIU - Category 2 Non-Significant Industrial User

Dental - Category D1 Dental Group Permit

G2 - Category G2 Group Permit for Food Processing

Field Operations Highlights

1st Quarter - FY25

METRO WATER OPERATIONS AND MAINTENANCE

Valve Program: Valve operations to support in-house work including providing isolations on: Section 94 (Blow Off Replacement), Section 73 (Blow off Replacement), Section 77 (Blow off Replacement) Section 58 (Leak Repair), WASM10 (Leak Repair). CIP Contractors were supported by isolation and dewatering of portions of Section 29 and 89 (Contract 7117), Section 101 (Contract 7457), Section 23, 24 & 47 (Contract 6392) and W14 & W16 (Contract 7563). Other work included the replacement of hatches on the Fells Storage Tank, Meter 32 isolation for Somerville, Meter 183 fire flow valve repair and mainline valve exercising of 17 water main sections.

Water Pipeline Program: Staff completed Blow-Off replacements in Dedham (Section 77) and Mattapan (Sections 94 and 73). Additional work included hatch replacement on Fells Water Storage Tank, leak repairs on the Section 58 (36-inch main) in Mattapan and WASM10 in Waltham.

SCADA

Water System Work

- Continued technical support for JCWTP PLC replacement project; Continued support for the PRV improvement project; support for the Wachusett Lower Gate House Project and Steel Tank Project; supported ozone generator PLC upgrades and soda ash panel work at CWTP; made improvements to Fells S:CAN program configuration; resolved alarm acknowledge issue in OCC

Wastewater System Work

- Continued work on network management improvements; continued work on Braintree/Weymouth Pump Station Improvements Project; continued testing the network monitoring system; improved SCADA code at Alewife; improved alarming on Nut Island Odor Control System; improved fuel monitoring system at Framingham Pump Station; improved communication at Quincy and Hough's Neck Pump Stations.

ENVIRONMENTAL QUALITY-WATER

- Algae: Starting July 9th and until mid-September, elevated levels of *Chrysosphaerella* algae continued to be detected at Quabbin Reservoir. DCR increased algae monitoring, two days a week and staff provided water quality updates throughout this quarter. CVA communities received metallic-taste complaints from July through September due to elevated levels of *Chrysosphaerella* in Quabbin. Staff performed sampling of algal toxin and taste and odor compounds at Cosgrove Intake, CWTP and BWTF raw water inlet taps, CWTP and LMS finished water taps. Seasonal, visual inspection of standby reservoirs for cyanobacteria was also performed in this quarter.
- Regulatory Sampling: Performed sampling for monitoring programs including EPA's Unregulated Contaminant Monitoring Rule 5, Disinfection Byproducts Rule, and Optimal Water Quality Parameters. Staff initiated planning for the last round of UCMR5 sampling in 2025 with site visits, and development of training for member communities, to be delivered in December 2024.
- Non-Regulatory: MWRA voluntarily sampled at locations near residences with lead results over the lead action level. All samples met pH and alkalinity targets. Staff conducted monthly sampling of MWRA's compliance taps for the nitrification-monitoring program.
- Community Support: Staff assisted Quincy with investigative sampling at a TCR site with coliform positives and performed ATP testing on water sampled at three (3) sites in proximity to the coliform positive site. Staff also assisted Brookline with a complaint sampling. All field results were typical.
- Internal Support: The CWTP lead pipe-rig study, sample collection events continued this quarter. Staff conducted pipe clearance sampling at six sites in Newton and Watertown. Staff conducted clearance sampling at Fells tank and Norumbega Tank Dewatering Line. Water quality results were typical. Staff participated in the Annual NEWWA drinking water taste test in North Falmouth, MA on September 17.

- Projects: Staff performed sampling for Legionella as part of a collaborative research study with Georgia Tech and the University of Texas.
- Contaminant Monitoring System (CMS): This quarter, staff responded to three CMS alarms and followed routine response protocols during each event. Quarterly CMS sample collections was performed this quarter. Staff in coordination with Verizon began the installation and roll-out of new routers and modems at active CMS sites. Staff provided a presentation on MWRA's contaminant monitoring system to the Board of Directors to commemorate 9/11. Reviewed the Route 12 intake rehabilitation design and projected cost for a new task order. In September, staff assisted with active monitoring of water quality from the drawdown of a Norumbega tank cell using the CMS mobile trailer.
- Wachusett & Quabbin Buoys: Staff visited Quabbin and Wachusett reservoirs to perform routine maintenance and equipment upgrades on buoy equipment. A purchase order was issued to a vendor this quarter for a new fixed depth buoy to be procured in support of reservoir monitoring during MWRA's dam removal project. This quarter, staff in coordination with DCR and MWRA Operations staff determined the location for the installation and operation of QA's fixed depth buoy during the dam removal project.
- Data Management Group (http://wqdmgdev.mwra.net/): Staff submitted monthly DEP and DPH reports on schedule and fulfilled eight data requests. TCR data from Chicopee and data collected from water quality buoys were migrated to PostgreSQL databases. Programming to automate the Weekly water quality report continued this quarter.
- Environmental / Chemical Contract Management:

  Permitting/Environmental Compliance: A five-year review of the Southborough SPCC plan was performed this quarter, and a final draft submitted to the vendor. The Oakdale SPCC 5-year plan was finalized this quarter.

  Chemical Contract Management: Staff held annual fire department inspections for Southborough, with no issues to note and the permits were posted. Annual fire department permits were also submitted for Wachusett Dam and Cosgrove this quarter.

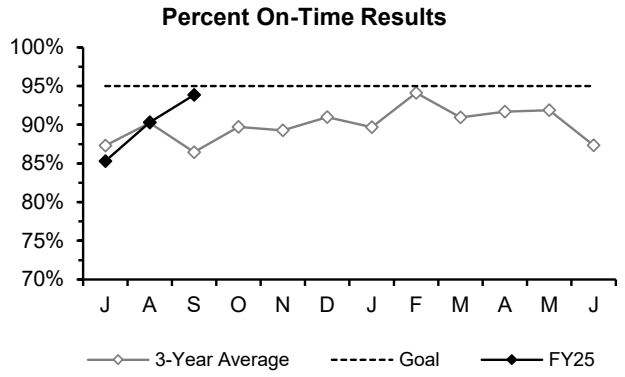
ENVIRONMENTAL QUALITY-WASTEWATER

- Ambient Monitoring: Three summer water column surveys, benthic (sediment) surveys of Boston Harbor and Massachusetts Bay, triennial lobster survey, and the retrieval of mussels in a bioaccumulation study were conducted in July-September.
- Harbor/CSO Receiving Water Monitoring: The annual report on water quality in the Charles River, and the Alewife Brook/Mystic River was submitted to EPA and DEP on July 15, fulfilling the requirement in the CSO Variances for those water bodies.
- Permitting and Compliance Reporting: Renewed Variances for CSO discharges to the Charles River and Alewife Brook/Mystic River, covering September 1, 2024 to August 31, 2029, were issued by MassDEP on August 30.
- Coordination with other MWRA Departments: Assisted Engineering & Construction by participating in community CSO coordination meetings and preparation of presentations. Coordinated with MIS to facilitate the completion of the transition from Oracle Discoverer to SAP Webi, and helped make sure new mwra.com met all regulatory requirements. Worked with Field Operations to improve the design of forms to collect SSO data. Prepared appendices of influent and effluent data for the annual industrial waste report for TRAC.
- Cooperation with other agencies: Staff worked with other members of the NEWEA CSO/Wet Weather committee to review abstracts and plan the program for the triennial specialty conference this fall. Hosted the fall meeting of the Massachusetts Bays National Estuary Partnership (MassBays) Management Committee and Science and Technical Advisory Committee at Deer Island.

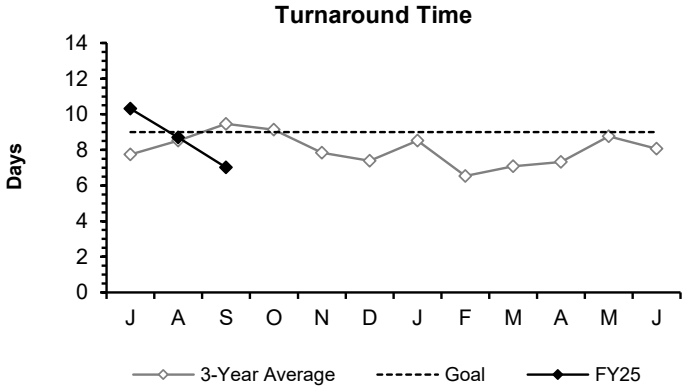
Laboratory Services

1st Quarter - FY25

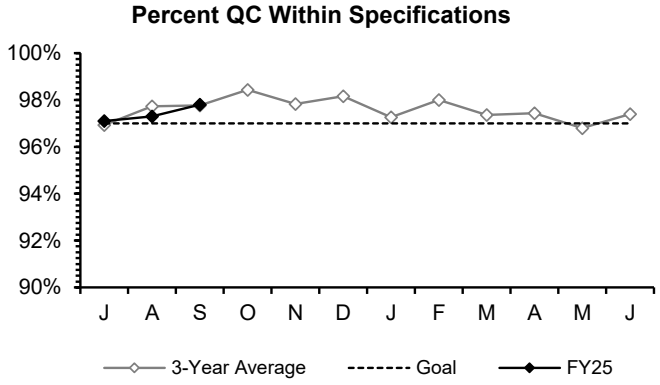
Laboratory Services supports the laboratory sampling, testing, and consulting needs of various client groups primarily in the Operations Division. This includes drinking water transmission and treatment, wastewater collection and treatment, wastewater residuals management, industrial-pretreatment monitoring, and environmental quality.



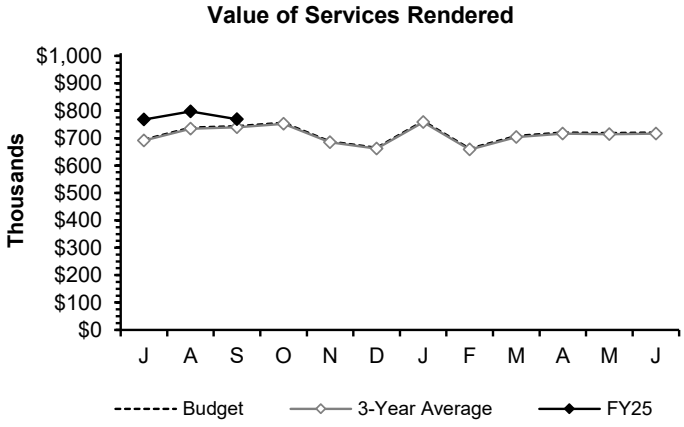
The Percent On-Time measurement assesses performance against internal client due dates. These due dates are shorter than the compliance reporting requirements to allow for internal review of the data.



Turnaround Time measures the average time from sample receipt to sample completion.



Percent QC Within Specifications measures the fraction of Quality Control tests that met required limits during the month.



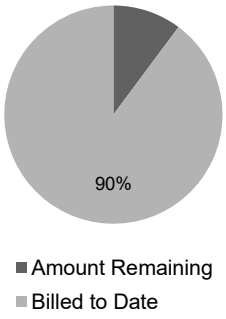
Value of Services Rendered models the true cost of the lab work performed, including fringe benefits that are not a part of the Laboratory Services budget.

School Lead Program: During the 1st quarter of FY25, MWRA's lab completed 260 tests from 49 schools and childcare facilities in 24 communities. Since 2016, MWRA's Laboratory has conducted over 44,800 tests from 664 schools and daycares in 45 communities. We have also completed 1023 home lead tests under the DPH sampling program since 2017.

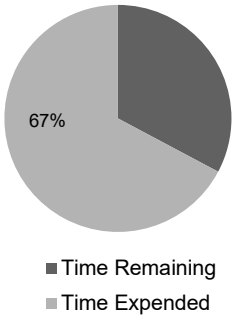
CONSTRUCTION PROGRAMS

Engineering & Construction
Projects In Construction
1st Quarter - FY25

Cost



Time



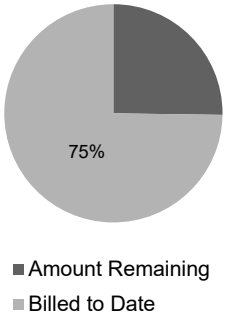
Carroll Water Treatment Plant SCADA Improvements

Project Summary: The current SCADA control equipment has reached the end of its useful life, and future vendor support for the installed PLC base is no longer guaranteed. This contract includes the supply and installation of replacement instrumentation panels, PLC's, UPS backup power, fiber-optic communication network, wiring between the existing panels, and new equipment and refurbishment of the operator control room. In addition, a new server room equipped with HVAC and fire suppression is being constructed to house redundant computer hardware supporting active and backup SCADA systems.

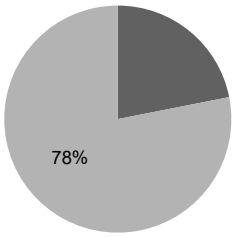
Contract Amount: $13,626,674.07 *Contract Duration:* 1,675 Days

Notice to Proceed: 1-Sep-21 *Contract Completion:* 3-Apr-26

Cost



Time



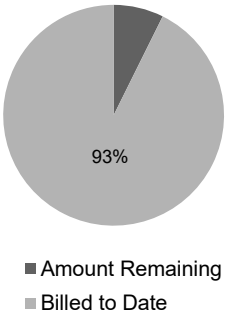
Section 89 Replacement Pipeline

Project Summary: This project will include replacement of a 10,500-foot portion of PCCP with class IV reinforcing wire, line valves and appurtenances, and abandonment of the 118-year old, 24-inch diameter cast iron Section 29 pipeline.

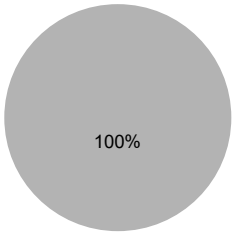
Contract Amount: $36,131,912.71 *Contract Duration:* 1,475 Days

Notice to Proceed: 5-Aug-21 *Contract Completion:* 19-Aug-25

Cost



Time



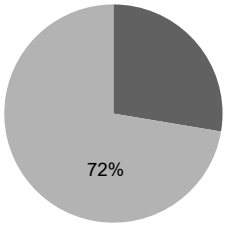
Low Service PRV Improvements

Project Summary: This project will demolish the existing Nonantum Road and Mystic Valley Parkway PRV vault structures, including four 24-inch PRVs and appurtenances, and construct new, larger cast-in-place vaults. At Mystic Valley Parkway, two 42-inch PRVs and at Nonantum Road two 30-inch PRVs, isolation valves, piping, and other appurtenances will be installed. Additionally, a new master meter will be constructed at the Mystic Valley Parkway pressure reducing valves and the existing master meter located near the Nonantum Road pressure reducing valves will be upgraded to accommodate the increased flow.

Contract Amount: $12,205,837.64 *Contract Duration:* 990 Days

Notice to Proceed: 14-Jul-21 *Contract Completion:* 30-Mar-24

Cost



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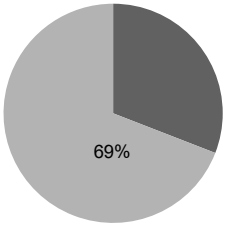


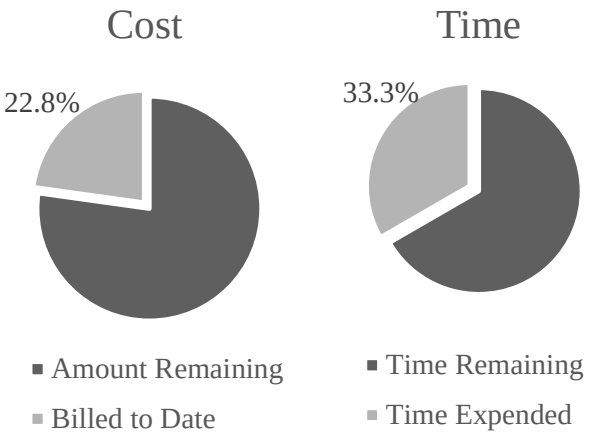
Construction of Water Mains – Section 101

Project Summary: This construction contract consists of a new 36-inch diameter water main and appurtenances extending from MWRA's Meter 182 at the Waltham/Lexington town line down Lexington Street to Totten Pond Road, where it will connect to Waltham's water system. This new water main will provide sufficient capacity to maintain water service to Waltham during the anticipated shutdown of MWRA's WASM 3 pipeline and the Lexington Street Pumping Station for future rehabilitation.

Contract Amount: $34,231,736.35 *Contract* Duration: 1175 Days

Notice to Proceed: 12-Jul-22 *Contract Completion: 29*-Sep-25

Deer Island Wastewater Treatment Plant
Projects In Construction
1st Quarter – FY25

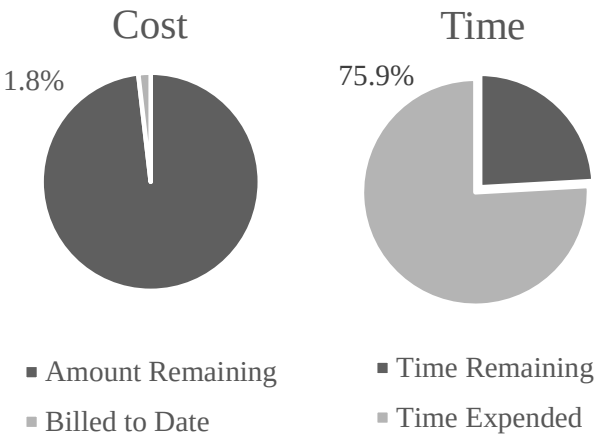


7395 - Clarifier Rehabilitation Phase 2

Project Summary: This project involves the replacement of the original remaining scum and sludge equipment, as follows: over 400 Primary Clarifier influent, effluent, and dewatering gates; 384 primary effluent cross channel gate actuators; approximately 450 secondary scum influent gates and actuators; wear strip rails,768 head shaft and idler sprockets; over 3000 linear feet of influent channel aerations piping systems; 360 head shafts collector drives and chains; return sludge line vent piping; approximately 400 concrete and aluminum hatches and associated electrical and control systems.

Contract Amount: $289,595,007 *Contract Duration:* 1710 Days

Notice to Proceed: 10-Mar-23 *Contract Completion:* 14-Nov-27



7734 - Deer Island Treatment Plant Roofing Replacement at Various Buildings

Project Summary: This project includes the removal and replacement of 86,500 square feet of roofing on the following buildings: Cryogenic Compressor; Gravity Thickener Complex; Thermal/Power Plant; Main Switchgear; and Digester Complex Modules 1, 2 and 3. Buildings to be reroofed in the Digester Complex include: Module 1- Digester Equipment Complex Roof, Elevator/Stair Lobby Roof and Elevator Penthouse Roof; Module 2 - Digester Equipment Complex Roof; and Module 3- Digester Equipment Complex Roof and Elevator Penthouse Roof.

Contract Amount: $8,873,000 *Contract Duration:* 365 Days

Notice to Proceed: 28-Dec-2023 *Contract Completion: 27-Dec-2024*

CSO CONTROL PROGRAM

1st Quarter – FY25

Overview

In compliance with milestones in the Federal District Court Order, all 35 projects in the CSO Long-Term Control Plan (LTCP) were complete as of December 2015. Subsequently, MWRA completed a multi-year CSO post-construction monitoring program and performance assessment, filing the Final CSO Post Construction Monitoring Program and Performance Assessment Report with the Court and submitted copies to EPA and DEP in December 2021. April 2024 Annual report shows an 88% reduction in CSO in a typical year, from 3.3 billion gallons to 397 million gallons, with 73 of 86 outfalls meet or materially meet the LTCP goals (6 of the 73 materially meet) for CSO activation frequency and volume. MWRA and its member CSO communities are moving forward with plans to bring 7 of the 13 (formerly 16) CSOs in line with the LTCP goals. With respect to the remaining 6 challenging CSO outfalls, MWRA and its CSO Consultant (AECOM) continue to investigate alternative to move closer to LTCP goals.

MWRA CSO Performance Assessment

- In November 2017, MWRA signed a contract for CSO Post-Construction Monitoring and Performance Assessment with AECOM Technical Services, Inc. The contract includes CSO inspections, overflow metering, hydraulic modeling, system performance assessments and water quality impact assessments, culminating in the submission of a report to EPA and MassDEP in December 2021 verifying whether the LTCP goals are attained.

- AECOM continues to support efforts to advance project identified to meet performance goals at 7 of the 13 CSOs that don't meet LTCP goals, evaluate alternatives for the remaining 6 challenging sites, and predict and report on annual CSO discharges.

- Submit in December 2024 a Supplement to the Post-Construction Monitoring and Performance Assessment report with the MWRA's final results and conclusions as to the 16 outfalls that have not met their respective LTCP goals.

Court Ordered Levels of CSO Control

Progress on the work to comply with the court ordered levels of CSO control is discussed with the EPA/MassDEP at progress meetings held quarterly. The last meeting was held on 9/26/2024 concluding the quarterly meetings.

Ongoing Projects as of September 30, 2024

- *East Boston CSO Control*: As part of the East Boston CSO a FAA/MOU was executed in June 2021 for $2.1M, BWSC design and construction. Plans for Phase 4 sewer separation with five new contracts starting summer 2024 (through 2030) will result in most of East Boston being separated.
  Somerville Marginal New Pipe Connection came out of the variance optimization study that recommended adding a new pipe from the facility's CSO influent conduit to the interceptor with an added control gate. The $4.4m construction project is expected to be completed by December 2025.
- *Fort Point Channel and Mystic Confluence* – BOS013, BOS062, BOS065, BOS070 DBC and BOS017: The FAA/MOU was amended on December 13, 2023 to include BOS013. The FAA/MOU was amended again on 1/29/2024 to increase the amount to $11.9 million to accommodate the greater than anticipated construction cost.
- *CAM005 weir raising and lengthening* for reducing CSO activation and frequency volume. Investigation was conducted on 9/14/2024. Preliminary Design Report for the feasibility anticipated November 1, 2024.

CSO variances

MassDEP has issued a series of multi-year CSO variances that allow MWRA, Cambridge, and Somerville to continue to have limited CSO discharges to Alewife Brook and the Upper Mystic River, as well as the Charles River lower basin. The most recent variances, issued in 2019, require the development of Updated LTCP. The Updated LTCPs must include a description of the existing level of CSO control, an evaluation of the costs and the performance and water quality improvements achieved by additional CSO control alternatives, a public participation plan, and an affordability analysis. Draft Updated Control Plan due December 2025 and the Final Plan due December 2027.

- MassDEP and EPA conditionally approved MWRA's Updated CSO Control Plan Scope of Work on 5/11/2022.
- Schedule Extension Request for Deliverables Associated with Updated CSO Control Plan was submitted 9/22/22. In May 2023 EPA/MassDEP advised that MWRA, Cambridge and Somerville proceed according to our revised schedule.
  - As identified in the variance the progress is reported at monthly meetings with EPA/MassDEP. The next meeting is scheduled for 11/13/2024. Key elements of the Updated CSO Control Plan are discussed including the ongoing development of alternatives to be evaluated using the Unified Hydraulic Model. On 10/9/2024 MWRA, Cambridge and Somerville shared individual alternatives achieving control for the 2050 TY.
- The 3rd of 8 planned meetings was held on 11/15/2023. The next Public Meeting is scheduled for **January 2025** (Alternatives Development and Affordability Analysis).
- Development and Submittal of Studies as required under variance included the following:
  - Alewife PS Optimization Evaluation was submitted on 4/27/2021
  - Somerville Marginal CSO Reduction, Study and Preliminary Design was submitted on 12/27/2021
  - Alewife Brook and Charles River System Optimization Evaluation was submitted on 12/28/2022
  - MWRA CSO Variances Additional System Optimization Measures Report was submitted on 1/31/2023.
  - **Odor control feasibility study due June 1, 2025.**
  - **Real time notification study due August 31, 2025.**
  - **Evaluation of floatables control study due October 1, 2025.**
- Bi-annual meeting with CLF/Watershed groups held on 6/21/2024. Next meeting November.

CIP Expenditures
1st Quarter – FY25

FY25 Capital Improvement Program Expenditure Variances through September by Program - ($ in thousands)				
Program	FY25 Budget Through September	FY25 Actual Through September	Variance Amount	Variance Percent
Wastewater	$36,789	$19,221	($17,569)	-48%
Waterworks	$21,788	$20,029	($1,759)	-8%
Business and Operations Support	$3,726	$834	($2,892)	-78%
Total	$62,303	$40,083	($22,220)	-36%

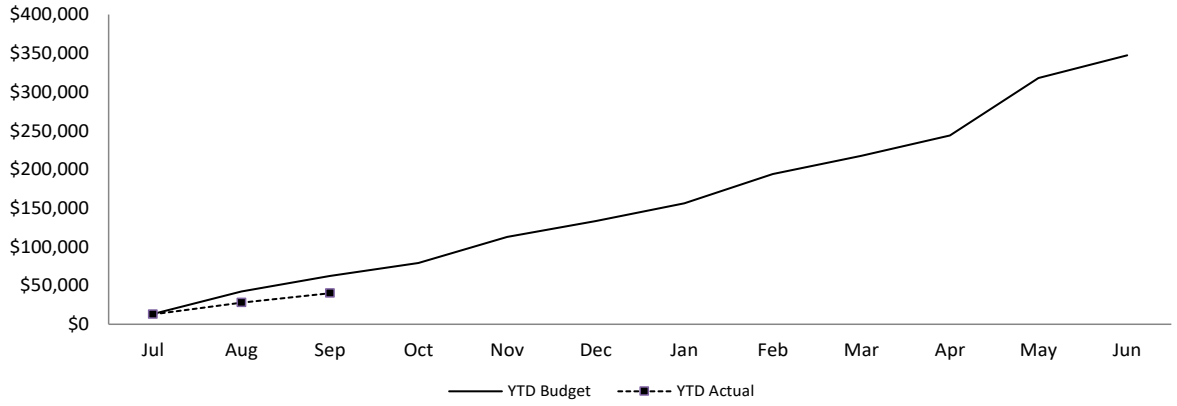
Wastewater:

- Spending was less than planned in Wastewater primarily due to lower than anticipated loan distributions for the I/I Local Financial Assistance program, timing of community managed payments for the Fort Point Channel & Mystic project, and delivery of materials planned for FY25 received in FY24 for Clarifier Rehabilitation Phase 2 Construction.

Water:

- Spending was less than planned in Waterworks primarily due to longer lead-time on some larger items and a change in design for the multi-orifice valve for the Wachusett Gatehouse Pipe Replacement project, lower than projected spending for Metro Water Tunnel Program Administration, Legal & Public Outreach, less than anticipated contractor progress for Section 89/29 Replacement, lower than projected task order work for CWTP Technical Assistance, and less than planned consultant work for the WASM 3 MEPA/Design/CA/RI contract.
- This less than planned spending was partially offset by FY24 planned work performed in FY25 for Northern Extra High CP-1 Improvements and CP3 (Sections 23, 24 & 47) Rehabilitation, contractor progress for Waltham Section 101 Pipeline Construction and Carroll Water Treatment Plant Parapet Wall Repairs, and greater than anticipated loan distributions for Local Water System Assistance Program.

Budget vs. Actual CIP Expenditures ($ in thousands)
Total FY25 CIP Budget of $347,348



Construction Fund Management

All payments to support the capital program are made from the Construction Fund. Sources of fund in-flows include bond proceeds, commercial paper, SRF reimbursements, loan repayments by municipalities, and current revenue. Accurate estimates of cash withdrawals and grant payments (both of which are derived from CIP spending projections) facilitate planning for future borrowings and maintaining an appropriate construction fund balance.

Cash Balance as of 9/28/24	$117.2 billion
Unused capacity under the debt cap:	$2.5 billion
Estimated date for exhausting construction fund without new borrowing:	Oct 2024
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding: Commercial paper capacity / Revolving Loan	$ 0 million $ 250 million
Budgeted FY25 Cash Flow Expectancy*:	$245 million

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

1st Quarter – FY25

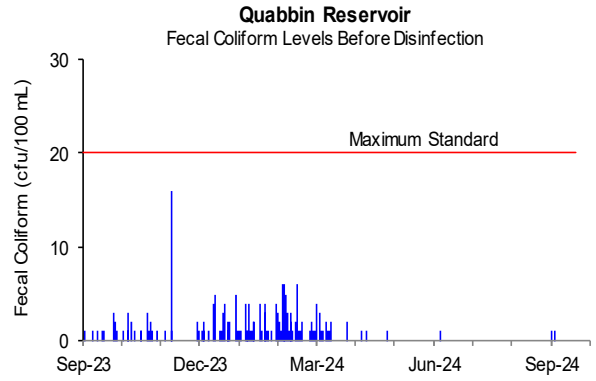
Source Water – Microbial Results

Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal coliforms, a subclass of the coliform group, are identified by their growth at temperatures comparable to those in the intestinal tract of mammals. They act as indicators of possible fecal contamination. The Surface Water Treatment Rule for unfiltered water supplies allows for no more than 10% of source water samples prior to disinfection over any six-month period to have more than 20 fecal coliforms per 100mL.

Sample Site: Quabbin Reservoir

Quabbin Reservoir water is sampled at the William A. Brutsch Water Treatment Facility raw water tap before being treated and entering the CVA system.

All samples collected during the quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL.**

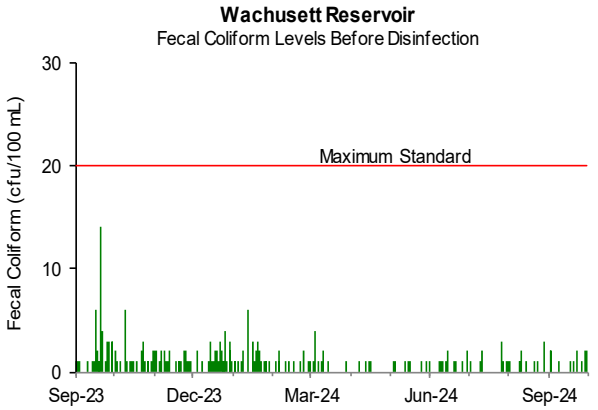


Sample Site: Wachusett Reservoir

Wachusett Reservoir water is sampled at the CWTP raw water tap in Marlborough before being treated and entering the MetroWest/Metropolitan Boston systems.

In the wintertime when smaller water bodies near Wachusett Reservoir freeze up, many waterfowl will roost in the main body of the reservoir - which freezes later. This increased bird activity tends to increase fecal coliform counts. DCR has an active bird harassment program to move the birds away from the intake area.

All samples collected during the quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

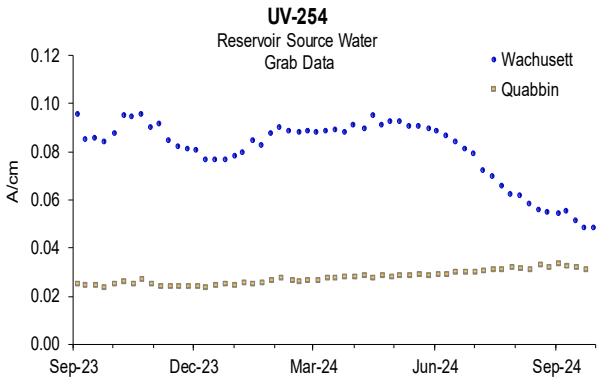


Source Water – UV Absorbance

UV Absorbance at 254nm wavelength (UV-254), is a measure of the amount and reactivity of natural organic material in source water. Higher UV-254 levels cause increased ozone and chlorine demand resulting in the need for higher ozone and chlorine doses, and can increase the level of disinfection by-products. UV-254 is impacted by tributary flows, water age, sunlight and other factors.

Quabbin Reservoir UV-254 levels averaged 0.031 A/cm for the quarter.

Wachusett Reservoir UV-254 levels averaged 0.060 A/cm for the quarter.



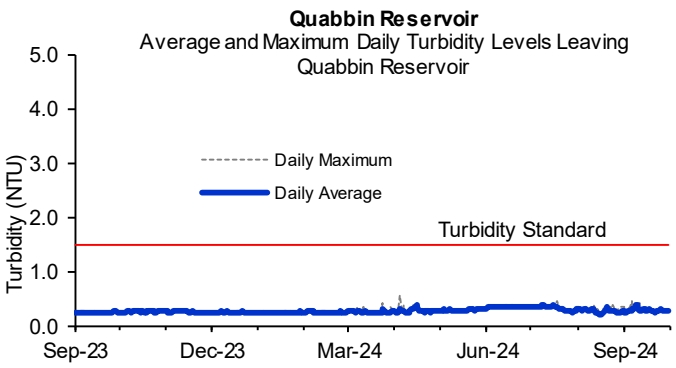
Source Water – Turbidity

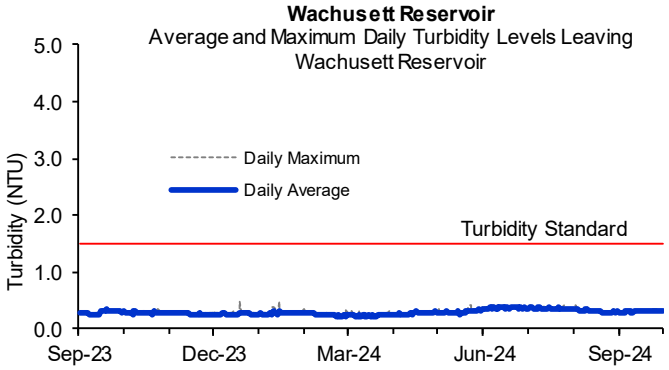
1st Quarter – FY25

Turbidity is a measure of suspended and colloidal particles including clay, silt, organic and inorganic matter, algae and microorganisms. The effects of turbidity depend on the nature of the matter that causes the turbidity. High levels of particulate matter may have a higher disinfectant demand or may protect bacteria from disinfection effects, thereby interfering with the disinfectant residual throughout the distribution system.

There are two standards for turbidity: all water must be below five NTU (Nephelometric Turbidity Units), and water only can be above one NTU if it does not interfere with effective disinfection.

Turbidity of Quabbin Reservoir water is monitored continuously at the Brutsch Water Treatment Facility (BWTF) before UV and chlorine disinfection. Turbidity of Wachusett Reservoir is monitored continuously at the Carroll Water Treatment Plant (CWTP) before ozonation and UV disinfection. Maximum turbidity results at Quabbin and Wachusett were within DEP standards for the quarter.



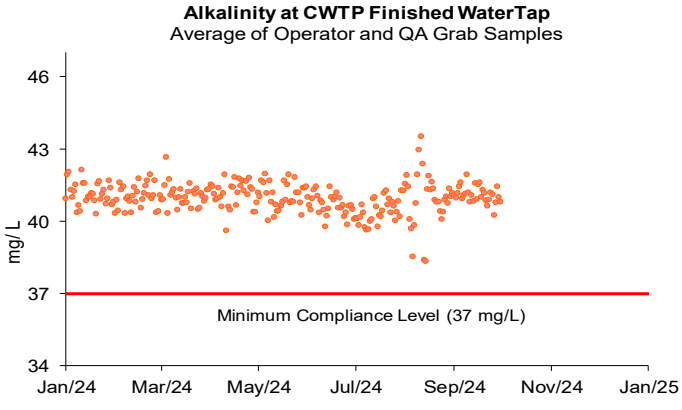


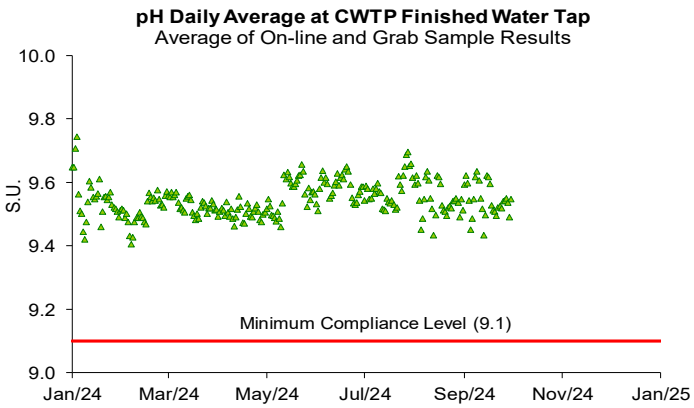
Treated Water – pH and Alkalinity Compliance

MWRA adjusts the alkalinity and pH of Wachusett water at CWTP to reduce its corrosivity, which minimizes the leaching of lead and copper from service lines and home plumbing systems into the water. MWRA tests finished water pH and alkalinity daily at the CWTP's Fin B sampling tap. MWRA's target for distribution system pH is 9.3; the target for alkalinity is 40 mg/l. Per DEP requirements, CWTP finished water samples have a minimum compliance level of 9.1 for pH and 37 mg/L for alkalinity. Samples from 27 distribution system locations have a minimum compliance level of 9.0 for pH and 37 mg/L for alkalinity. Results must not be below these levels for more than nine days in a six month period. Distribution system samples are collected in March, June, September, and December.

Each CVA community provides its own corrosion control treatment. See the CVA report: https://www.mwra.com/node/6548.

Quarterly distribution system samples were collected over a course of two weeks in September. Distribution system sample pH ranged from 9.2 to 9.7 and alkalinity ranged from 39 to 44 mg/L. No sample results were below DEP limits for this quarter.





Treated Water – Disinfection Effectiveness

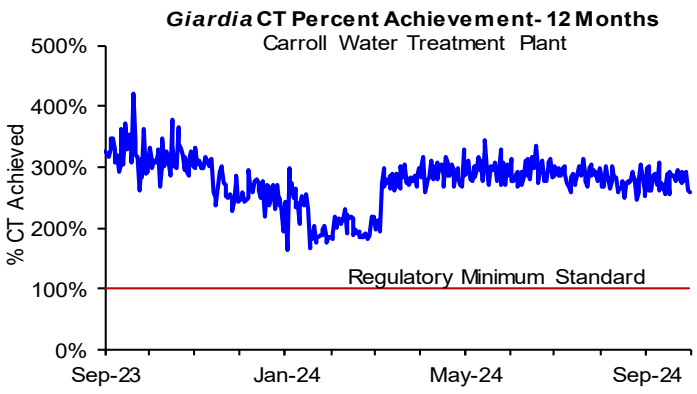
1st Quarter – FY25

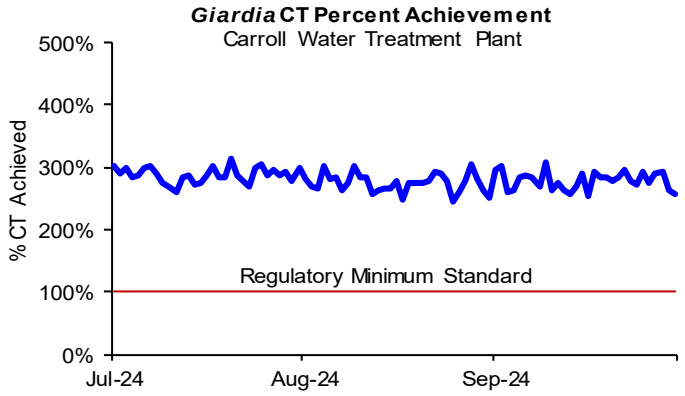
At the Carroll Water Treatment Plant (CWTP), MWRA meets the required 99.9% (3-log) inactivation of *Giardia* using ozone (reported as CT: concentration of disinfectant x contact time) and the required 99% (2-log) inactivation of *Cryptosporidium* using UV (reported as IT: intensity of UV x time). MWRA calculates inactivation rates hourly and reports *Giardia* inactivation at maximum flow and *Cryptosporidium* inactivation at minimum UV dose. MWRA must meet 100% of required CT and IT.

CT achievement for *Giardia* assures CT achievement for viruses, which have a lower CT requirement. For *Cryptosporidium*, there is also an "off-spec" requirement. Off-spec water is water that has not reached the full required UV dose or if the UV reactor is operated outside its validated ranges. No more than 5% off-spec water is allowed in a month.

Wachusett Reservoir – MetroWest/Metro Boston Supply:

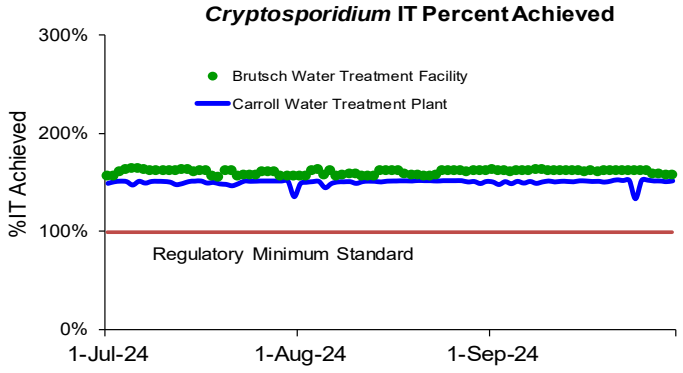
- The chlorine dose at the CWTP varied between 3.65 and 4.00 mg/L for the quarter.
- Ozone dose at the CWTP varied between 1.3 to 2.2 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- *Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.

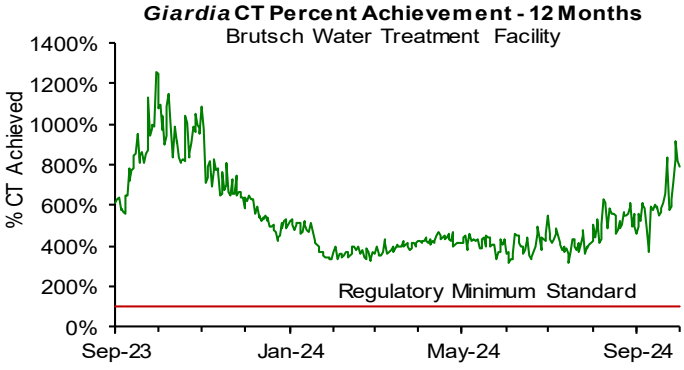


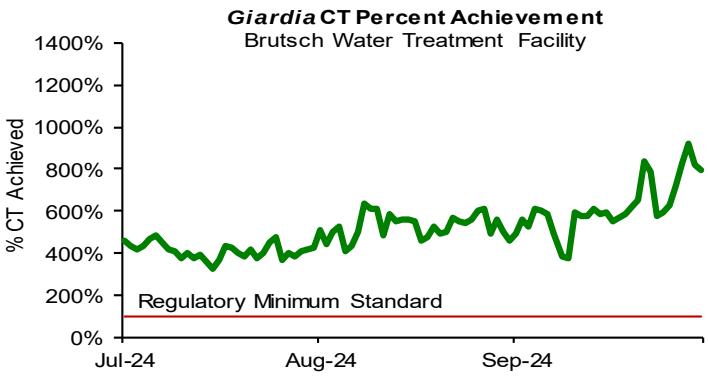


Quabbin Reservoir (CVA Supply) at: Brutsch Water Treatment Facility

- The chlorine dose at BWTF is adjusted in order to achieve MWRA's seasonal target of 0.75 - 0.85 mg/L (November 1 – May 31) and 0.85 - 1.05 mg/L (June 1 – October 31) at Ludlow Monitoring Station.
- The chlorine dose at BWTF varied between 1.55 to 2.05 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- *Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.







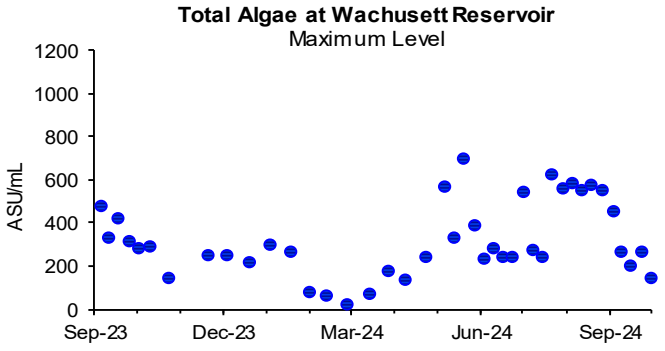
Source Water - Algae

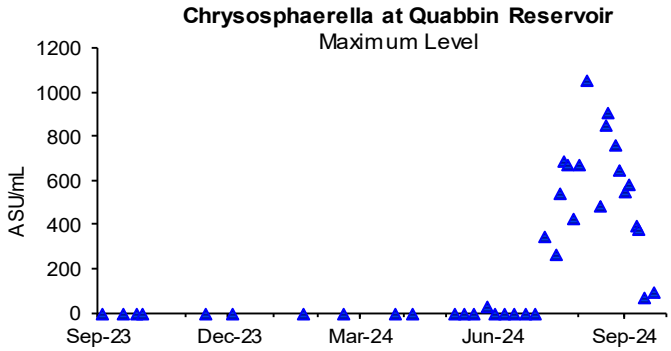
1st Quarter – FY25

Algae levels in the Wachusett and Quabbin Reservoir are monitored by DCR and MWRA. These results, along with taste and odor complaints, are used to make decisions on source water treatment for algae control.

Taste and odor complaints at the tap may be due to algae, which originate in source reservoirs, typically in trace amounts. Occasionally, a particular species grows rapidly, increasing its concentration in water. When *Synura*, *Anabaena*, or other nuisance algae bloom, MWRA may treat the reservoirs with copper sulfate, an algaecide. During the winter and spring, diatom numbers may increase. While not a taste and odor concern, consumers that use filters may notice a more frequent need to change their filters.

In the first quarter, fourteen complaints which may be related to algae were reported from the local communities. Eleven complaints regarding metallic taste were reported from the CVA communities. In July, the Levels of *Chrysosphaerella* were elevated in the Quabbin Reservoir. Levels of *Chrysosphaerella* decreased towards the end of the September.





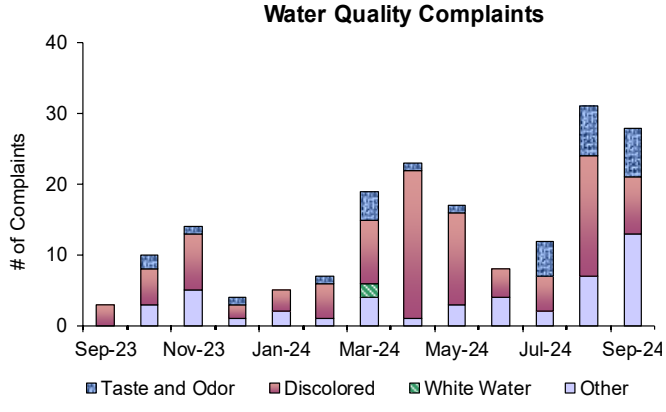
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

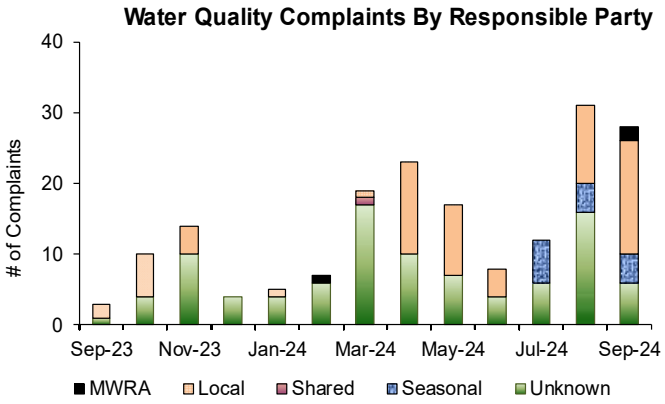
MWRA collects information on water quality complaints that typically fall into four categories: 1) discoloration due to MWRA or local pipeline work; 2) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3) white water caused by changes in pressure or temperature that traps air bubbles in the water; or 4) "other" complaints including no water, clogged filters or other issues.

MWRA routinely contacts communities to classify and tabulate water complaints from customers. This count, reflecting only telephone calls to towns, probably captures only a fraction of the total number of customer complaints. Field Operations staff have improved data collection and reporting by keeping track of more kinds of complaints, tracking complaints to street addresses and circulating results internally on a daily basis.

Communities reported 71 complaints during the quarter compared to 62 complaints from 1st Quarter of FY24. Of these complaints, 30 were for "discolored water", 19 were for "taste and odor", and 22 were for "other". Of these complaints, 27 were local community issues, 2 were a shared MWRA/community issue, 14 were seasonal in nature, and 28 were unknown in origin.

- Communities with discolored water complaints due to hydrant flushing performed during the quarter:
  August– Somerville (7); September– Arlington (2); Somerville (2)
- In the first quarter, thirteen seasonal complaints were due to elevated *Chrysosphaerella* in the Quabbin Reservoir.
- In September, seven no water complaints in Arlington were reported due to a water main break.





Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

1st Quarter – FY25

While all communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), data from the 44 systems that use MWRA's Laboratory are reported below.
The MWRA TCR program has 144 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.
Samples are tested for total coliform and *Escherichia coli (E.coli*). *E.coli* is a specific coliform species whose presence likely indicates potential contamination of fecal origin.
If *E.coli* are detected in a drinking water sample, this is considered evidence of a potential public health concern. Public notification is required if repeat tests confirm the presence of *E.coli* or total coliform.
Total coliform provide a general indication of the sanitary condition of a water supply. If total coliform are detected in more than 5% of samples in a month (or if more than one sample is positive when less than 40 samples are collected), the water system is required to investigate the possible source/cause with a Level 1 or 2 Assessment, and fix any identified problems.
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

Highlights

In the first quarter, eighty-eight of the 6,621 fully and partially served samples (1.3%) tested positive for total coliform. Seven of the 1914 Shared Community/MWRA samples tested positive for total coliform. None of the 396 CVA/MWRA community samples tested positive for total coliform. These communities were required to conduct Level Assessments: Bedford (July-September); Peabody (September); Quincy (August); Somerville (August); Winthrop (July-August-September). No samples confirmed for *E.coli*. 0.3% of the Fully Served community quarterly samples had chlorine residuals lower than 0.2 mg/L.

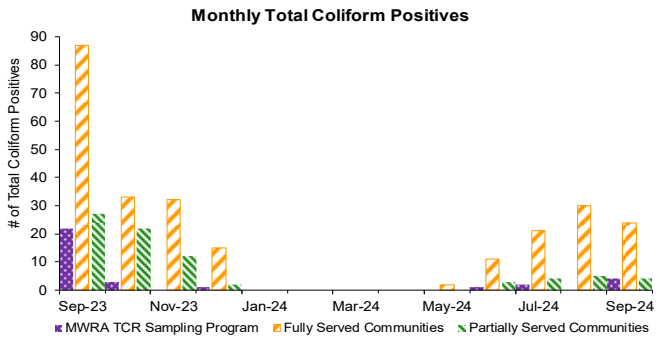
NOTES:

a) MWRA total coliform and chlorine residual results include data from community locations. In most cases these community results are indicative of MWRA water as it enters the community system; however, some are strongly influenced by local pipe conditions. Residuals in the MWRA system are typically between 1.0 and 2.8 mg/L.

b) The number of samples collected depends on the population served and the number of repeat samples required.

c) These communities are partially supplied, and may mix their chlorinated supply with MWRA chloraminated supply.

d) Part of the Chicopee Valley Aqueduct System. Free chlorine system.



			Total Coliform # Samples (b)	Total Coliform # (%) Positive	*E.coli* Positive	# Assessment Required
MWRA	a	MWRA Locations	413	2 (0.5%)	0	
		Shared Community/MWRA sites	1501	5 (0.3%)	0	
		Total: MWRA	1914	7 (0.4%)	0	No
Fully Served		ARLINGTON	168	0 (0%)	0	
		BELMONT	112	0 (0%)	0	
		BOSTON	801	2 (0.3%)	0	No
		BROOKLINE	235	0 (0%)	0	
		CHELSEA	188	2 (1.1%)	0	No
		DEER ISLAND	56	0 (0%)	0	
		EVERETT	185	1 (0.5%)	0	No
		FRAMINGHAM	275	1 (0.4%)	0	No
		LEXINGTON	127	1 (0.8%)	0	No
		LYNNFIELD	18	0 (0%)	0	
		MALDEN	252	0 (0%)	0	
		MARBLEHEAD	75	1 (1.3%)	0	No
		MARLBOROUGH	159	2 (1.3%)	0	No
		MEDFORD	237	1 (0.4%)	0	No
		MELROSE	120	1 (0.8%)	0	No
		MILTON	105	1 (1.0%)	0	No
		NAHANT	30	0 (0%)	0	
		NEWTON	291	4 (1.4%)	0	No
		NORTHBOROUGH	48	0 (0%)	0	
		NORWOOD	99	0 (0%)	0	
		QUINCY	352	11 (3.1%)	0	Yes
		READING	143	0 (0%)	0	
		REVERE	219	1 (0.5%)	0	No
		SAUGUS	96	0 (0%)	0	
		SOMERVILLE	263	6 (2.3%)	0	Yes
		SOUTHBOROUGH	30	0 (0%)	0	
		STONEHAM	91	0 (0%)	0	
		SWAMPSCOTT	57	0 (0%)	0	
		WALTHAM	222	2 (0.9%)	0	No
		WATERTOWN	143	0 (0%)	0	
		WESTON	45	0 (0%)	0	
		WINTHROP	102	38 (37.3%)	0	Yes
		Total: Fully Served	*5344*	*75 (1.4%)*		
Partially Served	c	BEDFORD	71	7 (9.9%)	0	Yes
		BURLINGTON	125	0 (0%)	0	
		CANTON	93	1 (1.1%)	0	No
		NEEDHAM	123	0 (0%)	0	
		PEABODY	232	5 (2.2%)	0	Yes
		WAKEFIELD	132	0 (0%)	0	
		WELLESLEY	110	0 (0%)	0	
		WILMINGTON	87	0 (0%)	0	
		WINCHESTER	94	0 (0%)	0	
		WOBURN	210	0 (0%)	0	
		Total: Partially Served	*1277*	*13 (1.0%)*		
		Total: Community Samples No CVA	*6621*	*88 (1.3%)*		
CVA	d	MWRA CVA Locations	105	0 (0%)	0	
		CHICOPEE	186	0 (0%)	0	
		SOUTH HADLEY FD1	60	0 (0%)	0	
		WILBRAHAM	45	0 (0%)	0	
		Total: CVA	*396*	*0 (0.0%)*		

Chlorine Residuals in Fully Served Communities

	2023				2024								
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
% <0.1	0.4	0.2	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
% <0.2	1.8	1.0	1.2	1.0	0.5	0.4	0.1	0.1	0.1	0.2	0.4	0.2	0.2
% <0.5	6.2	5.2	5.7	3.2	2.4	1.9	0.6	1.0	0.8	1.2	1.8	2.0	1.5
% <1.0	16.0	13.2	14.4	8.4	5.8	3.7	2.6	2.9	3.1	5.2	5.8	7.3	5.6
% ≥1.0	84.0	86.8	85.6	91.6	94.2	96.3	97.4	97.1	96.6	94.5	93.5	91.8	93.9

Treated Water Quality: Disinfection By-Product (DBP) Levels in Communities

1st Quarter – FY25

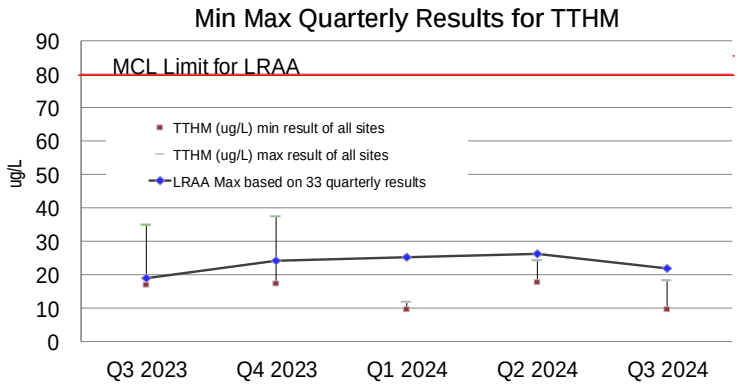
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. They are of concern due to their potential adverse health effects at high levels. EPA's locational running annual average (LRAA) standard, using the most recent four quarterly results, is 80 µg/L for TTHMs and 60 µg/L for HAA5s. The locational running annual average at each individual sampling location must be below the standard.

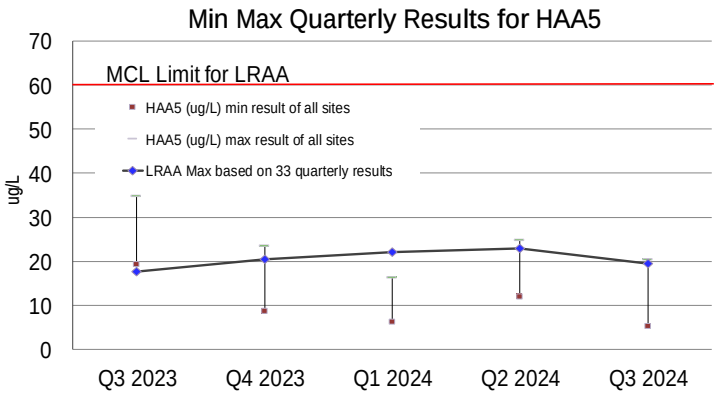
Bromate is tested monthly as required for water systems, like CWTP, that treat with ozone. EPA's RAA Maximum Contaminant Level (MCL) standard for bromate is 10 µg/L. The current RAA for Bromate at the CWTP finished water tap is 0.0 µg/L.

MWRA's TTHM and HAA5 sampling program includes sampling at 33 MetroWest and Metro Boston communities sites. Partially served and CVA communities are responsible for their own compliance monitoring and are regulated individually.

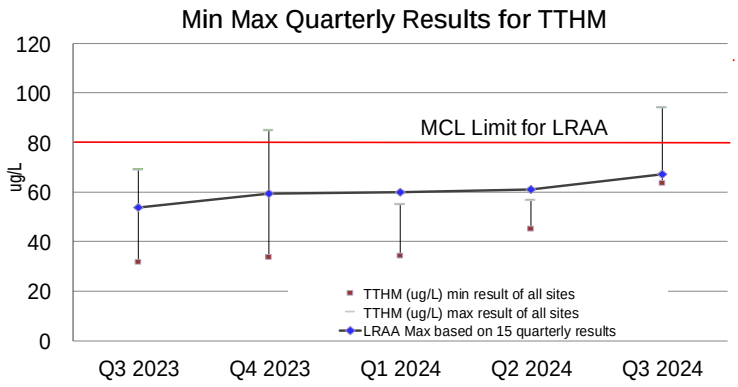
The LRAA for TTHMs and HAA5s for MWRA's Compliance Program (represented as the line in the top two graphs below) remains below current standards. The Max LRAA in the quarter for TTHMs = 22.0 µg/L; HAA5s = 19.4 µg/L. No LRAA exceedances or violations occurred this quarter for MetroBoston and for any of the CVA communities.

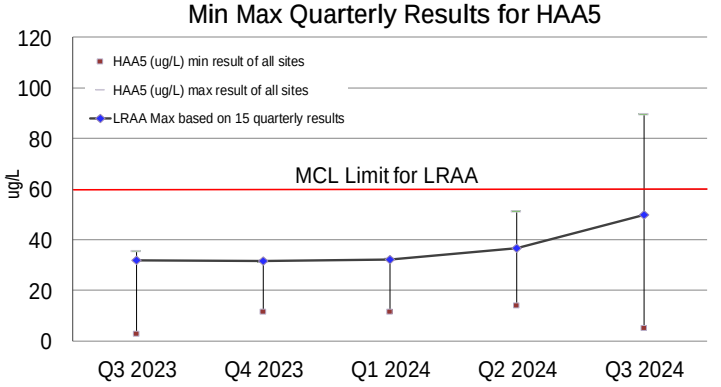
MetroBoston Disinfection By-Products





CVA Disinfection By-Products (Combined Results Chicopee, Wilbraham, & South Hadley FD1)





Water Supply and Source Water Management

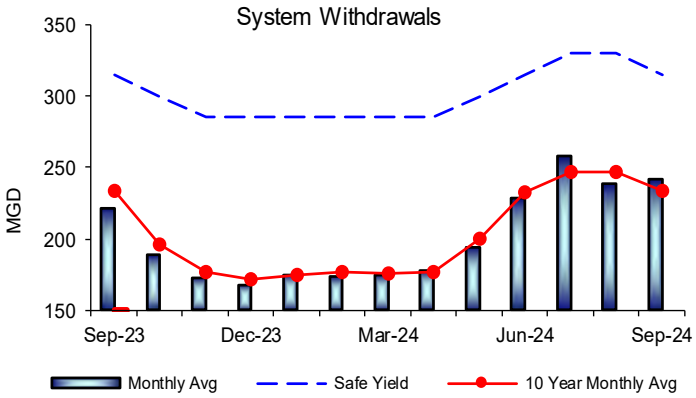
1st Quarter – FY25

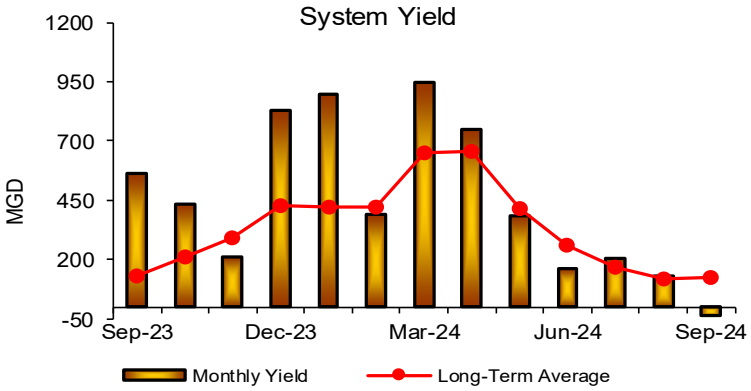
Background

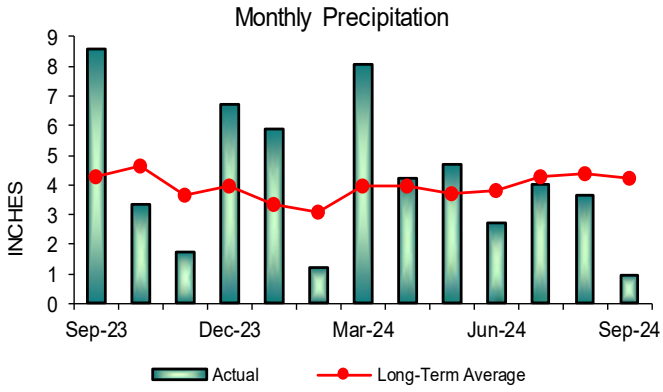
A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir was designed to effectively supply water to the service areas under a range of climatic conditions and has the ability to endure a range of fluctuations. Wachusett Reservoir serves as a terminal reservoir to meet the daily demands of the Greater Boston area. A key component to this reservoir's operation is the seasonal transfer of Quabbin Reservoir water to enhance water quality during high demand periods. On an annual basis, Quabbin Reservoir accounts for nearly 50% of the water supplied to Greater Boston. The water quality of both reservoirs (as well as the Ware River, which is also part of the System Safe Yield) depend upon implementation of DCR's DEP-approved Watershed Protection Plans. System Yield is defined as the water produced by its sources, and is reported as the net change in water available for water supply and operating requirements.

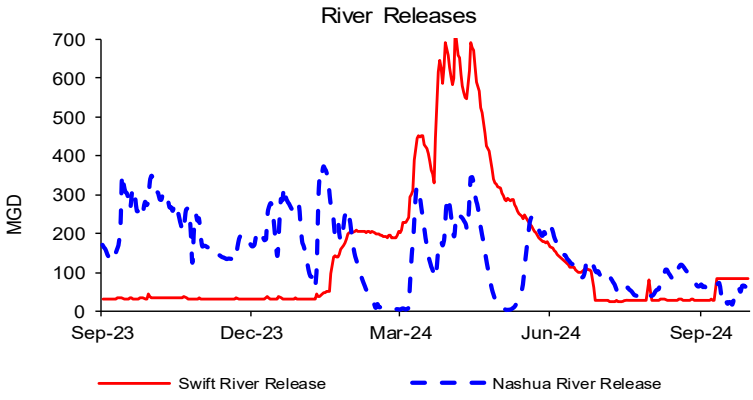
Outcome

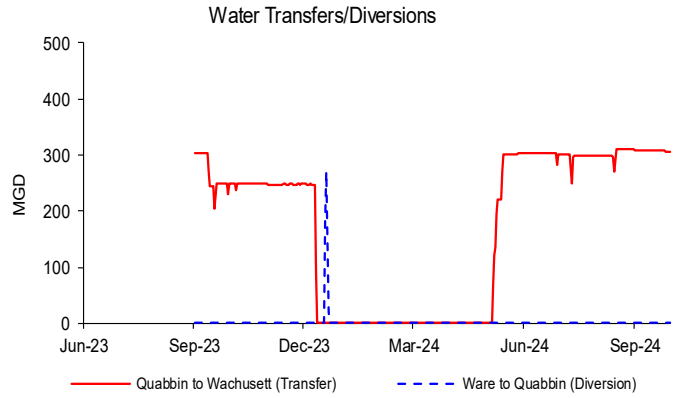
The volume of the Quabbin Reservoir was at 89.6% as of September 30, 2024; an 8.7 % decrease for the quarter, which represents a loss of more than 35.9 billion gallons of storage and a decrease in elevation of 4.75'. System withdrawal, precipitation and yield were below their long term quarterly averages. Quabbin is in Normal Operating Range for this time of year.

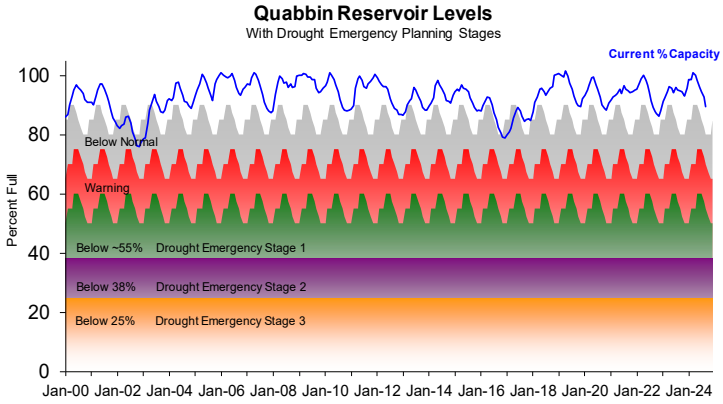












WASTEWATER QUALITY

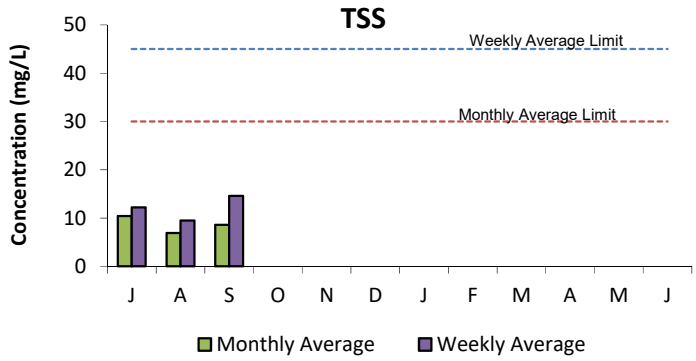
NPDES Permit Compliance: Deer Island Treatment Plant

1st Quarter - FY25

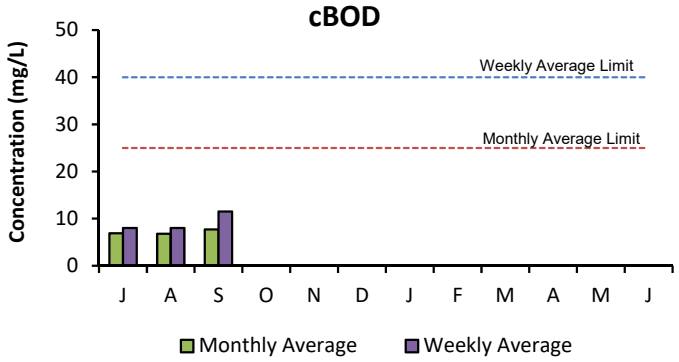
NPDES Permit Limits

Effluent Characteristics		*Units*	*Limits*	*July*	*August*	*September*	*1st Quarter Violations*	*FY25 YTD Violations*
Dry Day Flow (365 Day Average):		MGD	436	308.4	300.2	287.9	0	0
cBOD:	Monthly Average	mg/L	25	6.9	6.8	7.7	0	0
	Weekly Average	mg/L	40	8.0	8.0	11.5	0	0
TSS:	Monthly Average	mg/L	30	10.4	6.9	8.6	0	0
	Weekly Average	mg/L	45	12.2	9.5	14.6	0	0
TCR:	Monthly Average	ug/L	456	0.0	0.0	0.0	0	0
	Daily Maximum	ug/L	631	0.0	0.0	0.0	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	13	15	13	0	0
	Weekly Geometric Mean	col/100mL	14000	7	7	6	0	0
	% of Samples >14000	%	10	0	0	0	0	0
	Consecutive Samples >14000	#	3	0	0	0	0	0
pH:		SU	6.0-9.0	6.4-6.9	6.4-6.8	6.5-6.9	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Inland Silverside	%	≥50	>100	>100	>100	0	0
	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Inland Silverside	%	≥1.5	50	25	25	0	0
	Sea Urchin	%	≥1.5	100	100	100	0	0

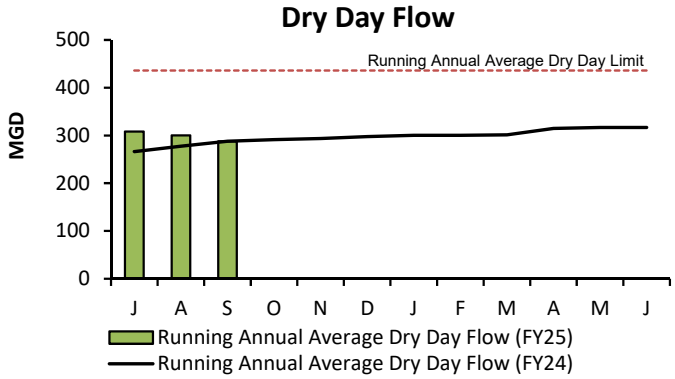
There have been no permit violations in FY25 to date at the Deer Island Treatment Plant (DITP).



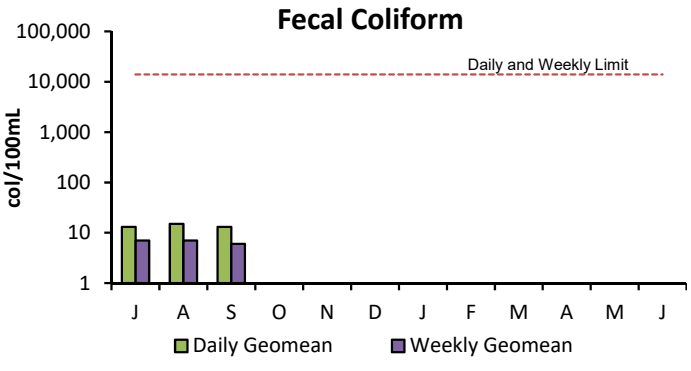
Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 1st Quarter were within permit limits.



Carbonaceous Biochemical Oxygen Demand (cBOD) is a measure o the amount of dissolved oxygen required for the decomposition of organic materials in the environment. All cBOD measurements for the 1st Quarter were within permit limits.



Running Annual Average Dry Day Flow is the average of all dry weather influent flows over the previous 365 days. The Dry Day Flow for the 1st Quarter was well below the permit limit of 436 MGD.



Fecal Coliform is an indicator for the possible presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. In the 1st Quarter, all permit conditions for fecal coliform were met.

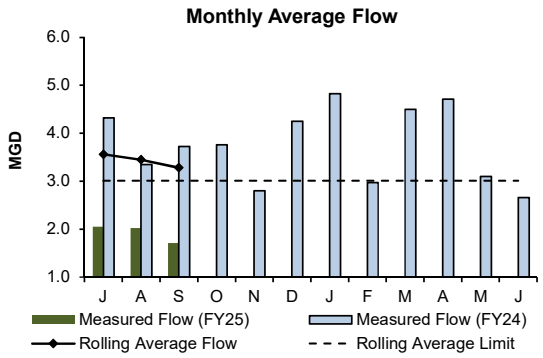
NPDES Permit Compliance: Clinton Wastewater Treatment Plant

1st Quarter - FY25

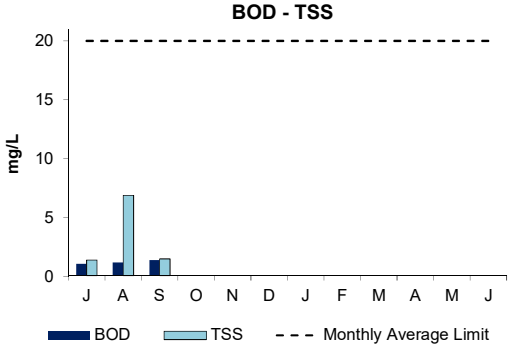
Effluent Characteristics		Units	Permit Limits	July	August	September	1st Quarter Violations	FY25 YTD Violations
Dissolved Oxygen	Daily Minimum	mg/L	6	7.9	7.8	7.7	0	0
BOD	Monthly Average Load	lb/d	500	19.0	21.0	19.0	0	0
	Weekly Average Load	lb/d	500	25.0	24.0	27.0	0	0
	Monthly Average	mg/L	20	1.1	1.2	1.4	0	0
	Weekly Average	mg/L	20	1.4	1.5	2.0	0	0
BOD % removal	Monthly Average Minimum	%	85	99.5	99.6	99.4	0	0
pH	Monthly Minimum	S.U.	6.5	7.0	7.4	7.3	0	0
	Monthly Maximum	S.U.	8.3	9.2	7.6	7.9	1	1
TSS	Monthly Average Load	lb/d	500	23.0	120.0	21.0	0	0
	Weekly Average Load	lb/d	500	44.0	269.0	23.0	0	0
	Monthly Average	mg/L	20	1.4	6.9	1.5	0	0
	Weekly Average	mg/L	20	2.5	15.8	1.6	0	0
TSS % removal	Monthly Average Minimum	%	85	99.5	97.3	99.5	0	0
Total Ammonia Nitrogen June 1st - October 31st	Monthly Average	mg/L	2	0.03	<0.1	<0.1	0	0
	Daily Maximum	mg/L	3	0.13	<0.1	<0.1	0	0
Total Phosphorus April 1st - October 31st	Monthly Average	lb/d	3.8	0.8	1.4	0.5	0	0
	Monthly Average	mg/L	0.15	0.05	0.08	0.03	0	0
Copper	Monthly Average	ug/L	11.6	9.73	10.2	11.4	0	0
	Daily Maximum	ug/L	14	10.5	10.2	11.4	0	0
Flow	12 -month Rolling Average	MGD	3.01	3.56	3.45	3.28	3	3
TCR	Monthly Average	ug/L	20	0.13	<20	0.13	0	0
	Daily Maximum	ug/L	30.4	4.0	<20	4.0	0	0
E. Coli	Monthly Geometric Mean	cfu/100mL	126	5.0	5.0	5.0	0	0
	Daily Maximum	cfu/100mL	409	9.0	7.0	10.0	0	0
Acute Toxicity[1]	Monthly Average Minimum	%	100	>100	N/A	N/A	0	0
Chronic Toxicity[1]	Monthly Average Minimum	%	62.5	100	N/A	N/A	0	0

There have been four permit violations in FY25 at the Clinton Treatment Plant.
1st Quarter: There were four permit violations in the first quarter, three for 12 month rolling-average flow and one for pH.

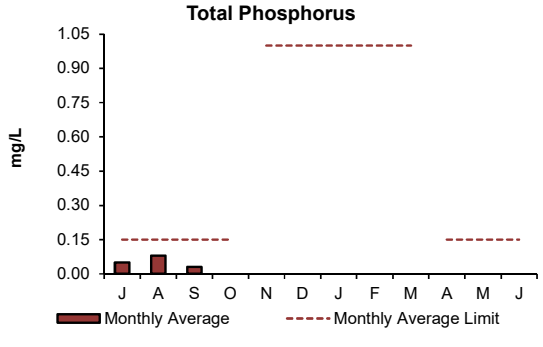
[1] Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



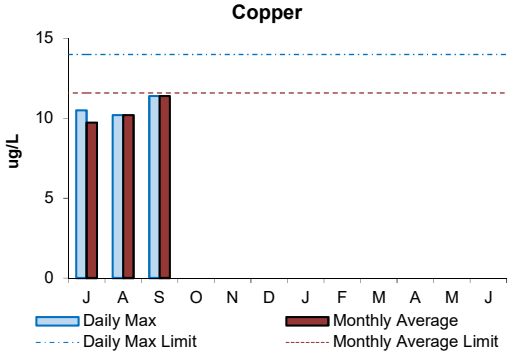
The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant.
The 12-month rolling average flows during the 1st Quarter were above the permit limit.



Monthly average concentrations of BOD and TSS were below permit limits in the 1st Quarter. The permit monthly limit for both parameters is 20 mg/L.



Total phosphorus limits are most stringent during the growing season from April to October.
The 1st Quarter's monthly average concentrations for total phosphorus were below permit limits.

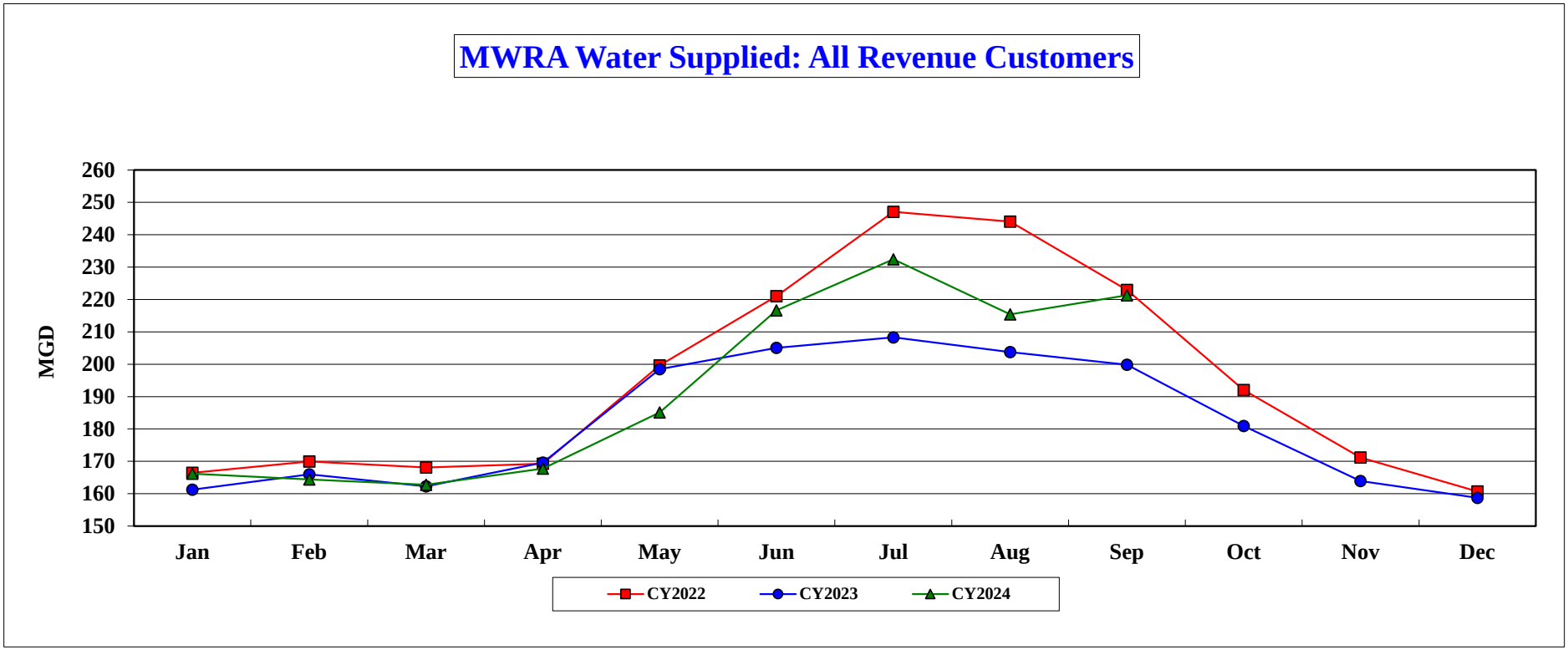


Daily maximum and monthly average concentrations of copper were below permit limits in the 1st Quarter. Permit daily and monthly limits are 14.0 ug/L and 11.6 ug/L respectively.

COMMUNITY FLOWS AND PROGRAMS

Customer Water Use

1st Quarter - FY25



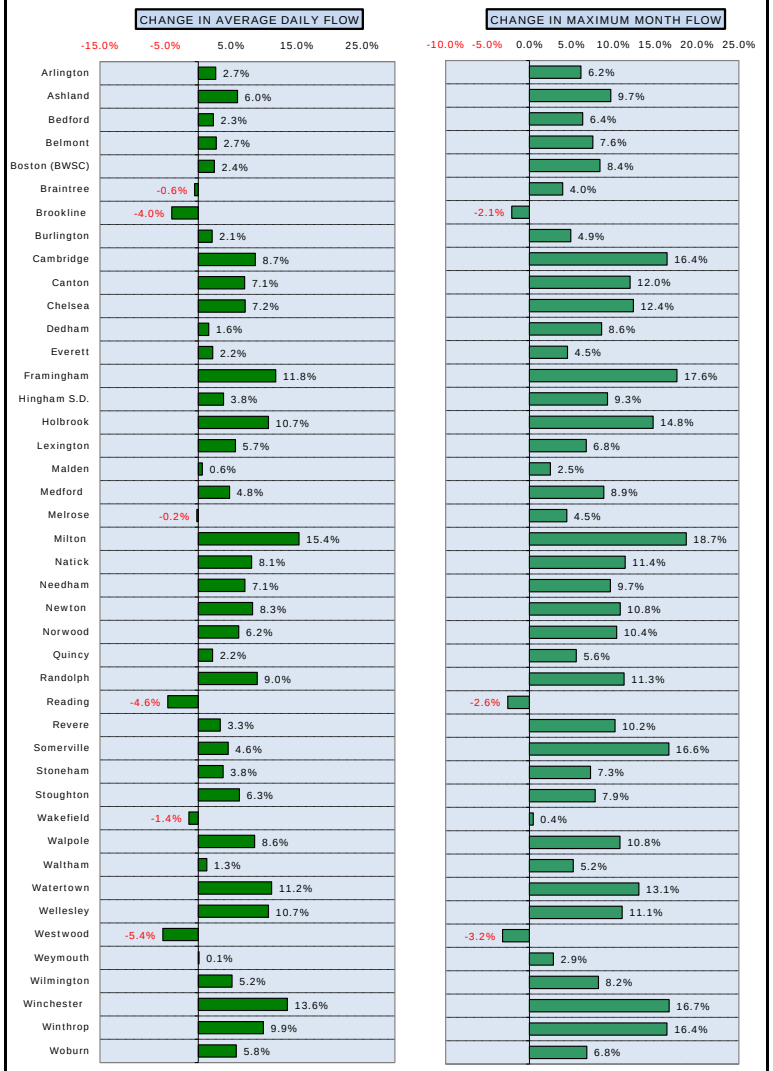
	Water Use (million gallons per day)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2022	166.445	169.923	168.101	169.253	199.626	221.002	247.075	244.069	222.906	192.000	171.170	160.697	201.236	194.537
CY2023	161.272	165.989	162.292	169.594	198.499	205.042	208.304	203.762	199.844	180.948	163.937	158.736	186.227	181.612
CY2024	166.216	164.428	162.771	167.755	185.117	216.636	232.419	215.396	221.314	0.000	0.000	0.000	192.551	1,701.905

The September 2024 Community Water Use Report was recently distributed to communities and customers served by the MWRA's Metropolitan and Chicopee Valley waterworks systems. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2024 water use will be used to allocate the FY2026 water utility rate revenue requirement.

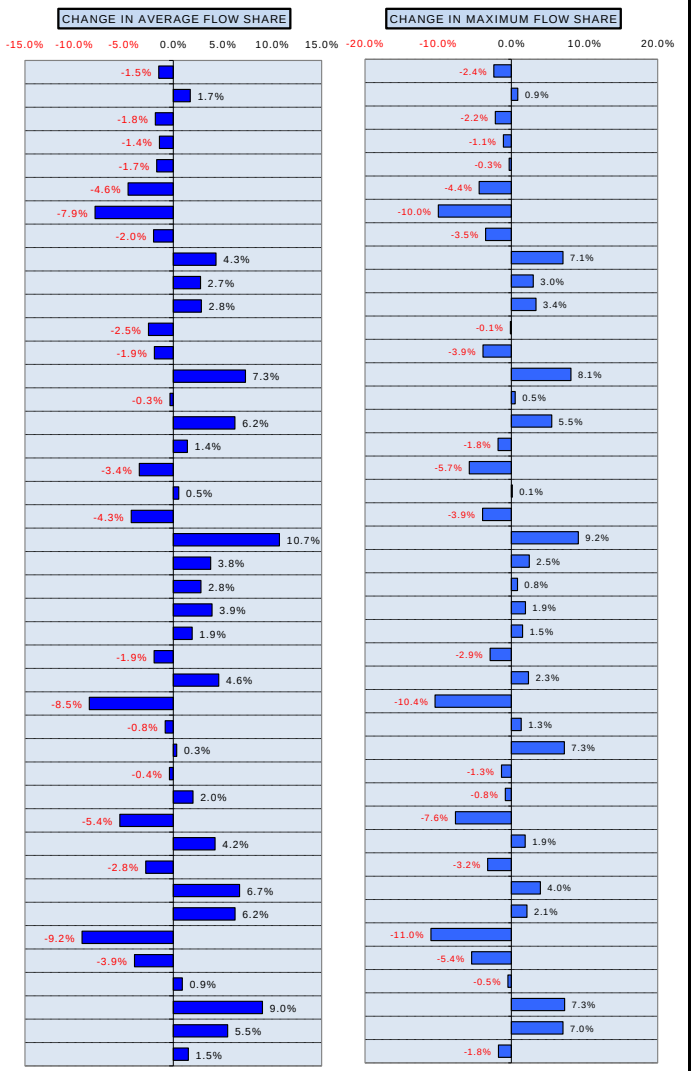
MWRA customers used an average of 223.1 mgd in the 1st quarter (Jul-Sep 2024) of FY2025. This is an increase of 19.0 mgd or 9.3% compared to the 1st quarter of FY2024.

How CY2022-24 Community Wastewater Flows Could Effect FY2026 Sewer Assessments [1,2,3]

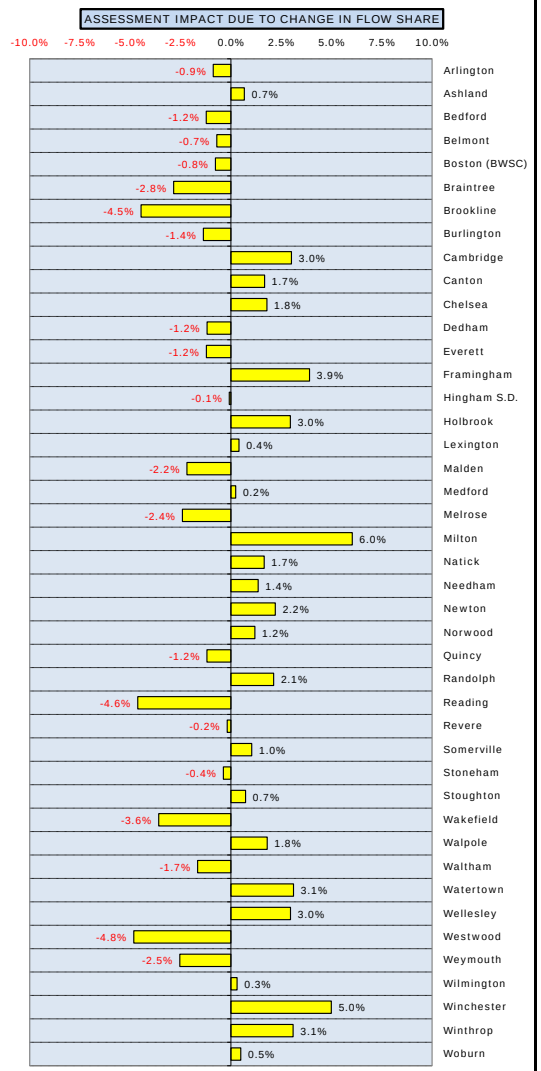
The flow components of FY2026 sewer assessments will be calculated using a 3-year average of CY2022 to CY2024 wastewater flows compared to FY2025 assessments that will use a 3-year average of CY2021 to CY2023 wastewater flows.



But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2022 to CY2024 flow share compared to CY2021 to CY2023 flow share, compared to all other communities in the system.



The chart below illustrates the change in the TOTAL BASE assessment due to FLOW SHARE CHANGES. [4]



[1] MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smoothes the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.

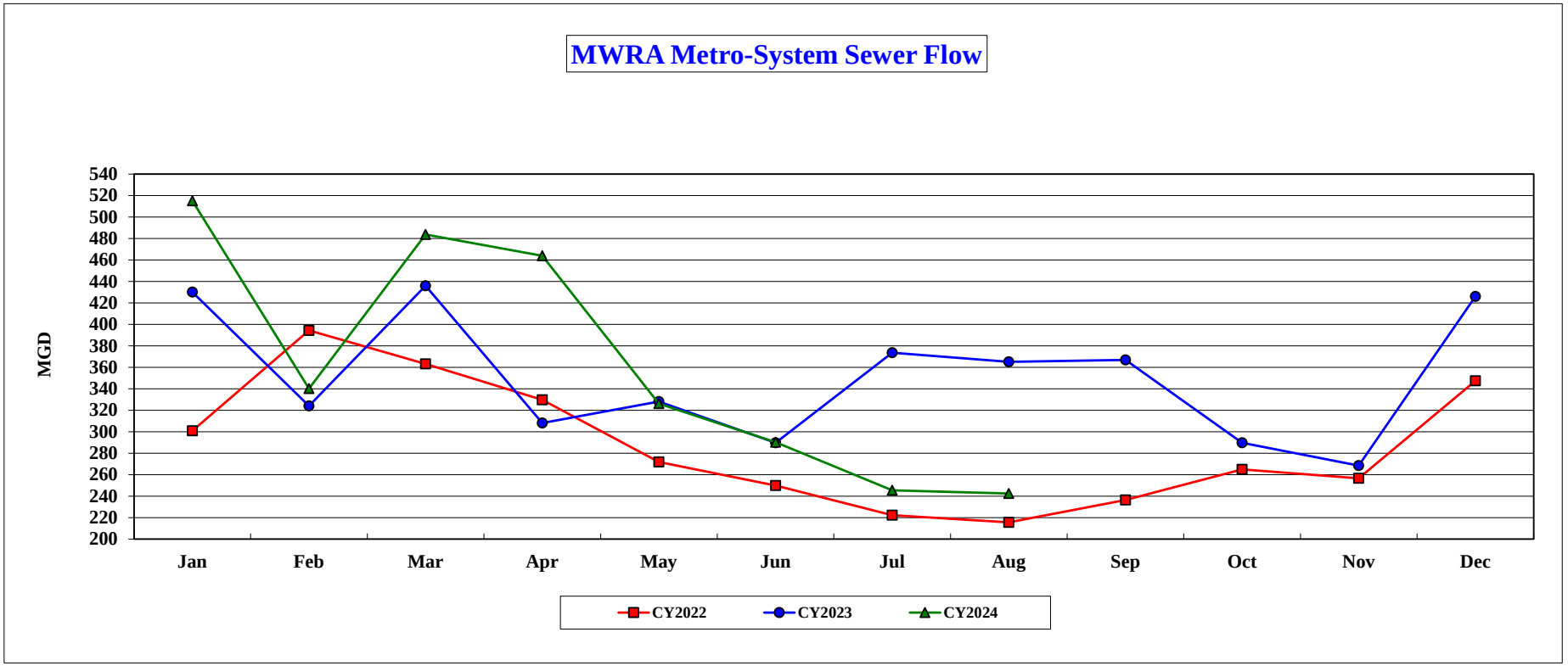
[2] Based on actual flows for 2022 through August 2024.

[3] Flow data is preliminary and subject to change pending additional MWRA and community review.

[4] Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

Community Sewer Flow

YTD - FY25



	Sewer Flow (million gallons per day)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2022	300.930	394.400	363.110	329.710	271.890	249.840	222.280	215.600	236.380	264.960	256.590	347.420	292.254	287.098
CY2023	430.060	323.980	435.990	308.110	328.160	289.710	373.540	365.130	366.840	289.680	268.470	426.070	357.717	351.159
CY2024	515.140	340.120	483.660	463.870	326.210	290.200	245.410	242.440					363.460	

The 2024 8-Month Community Sewer Flow Report was recently distributed to the 43 communities served by the MWRA's Metropolitan sewer system. Each community's share of sewer flow relative to the system as a whole is used to allocate the annual sewer rate revenue requirement to MWRA sewer communities. The average of calendar year 2022-2024 sewer flow will be used to allocate the FY2026 sewer utility rate revenue requirement.

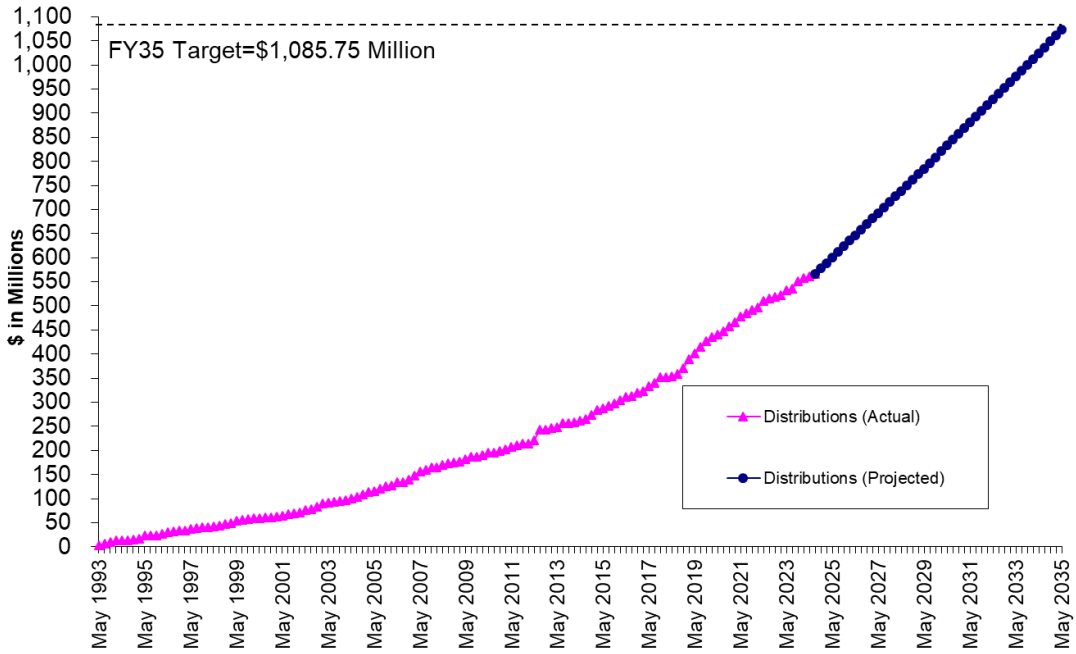
MWRA customer sewer flow averaged 363.5 mgd in the first eight months of CY2024. This is an increase of 5.7 mgd or 1.6% compared to the first eight months of CY2023.

Community Support Programs
1st Quarter – FY25

Infiltration/Inflow Local Financial Assistance Program

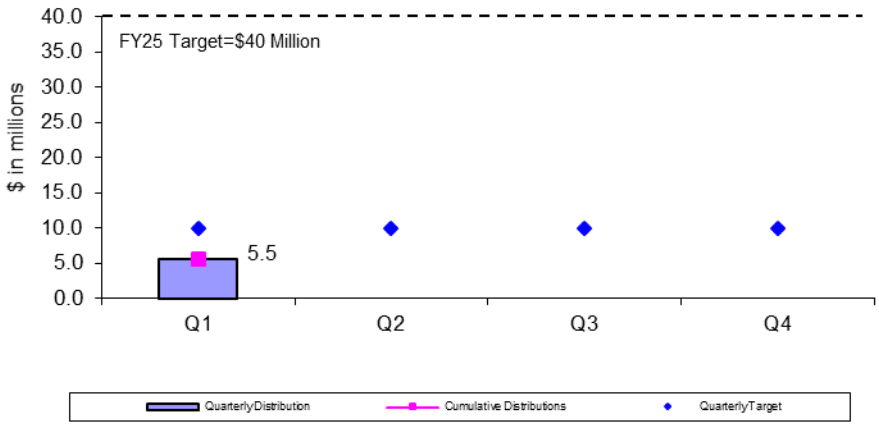
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides $1085.75 million in grants and interest-free loans (average of about $22 million per year from FY93 through FY35) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total $300.75 million) were distributed as 45% grants and 55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 through 12 funds (total $360 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period. Phase 13 funds of $100 million are distribution as ten-year interest-free loan-only funds. Phase 14 funds (total $100 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period. Phase 15 provides an additional $100 million in ten-year interest-free loan-only funds. Phase 16 funds (total $125 million) are programmed in the budget beginning in FY26 and will be distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period.

I/I Local Financial Assistance Program Distribution FY93-FY35



During the 1st Quarter of FY25, $5.5 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Boston and Stoughton. Total grant/loan distribution to date for FY25 is $5.5 million. From FY93 through the 1st Quarter of FY25, all 43 member sewer communities have participated in the program and $565 million has been distributed to fund 688 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY35 and community loan repayments will be made through FY45. All scheduled community loan repayments have been made.

FY25 Quarterly Distributions of Sewer Grant/Loans



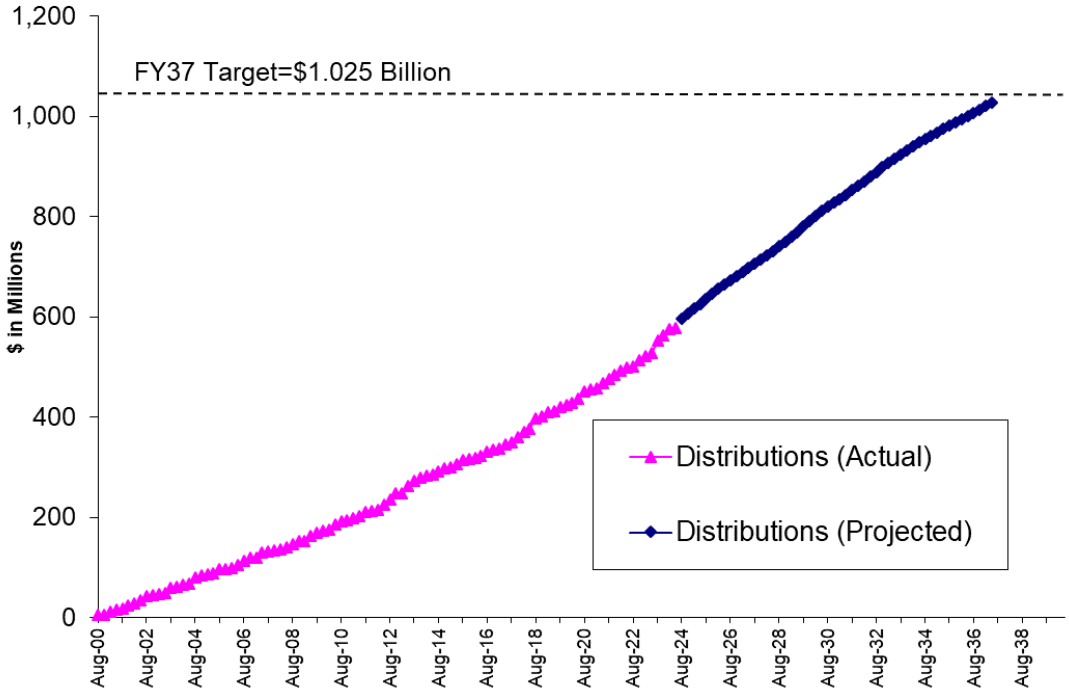
Community Support Programs

1st Quarter – FY25

Local Water System Assistance Program

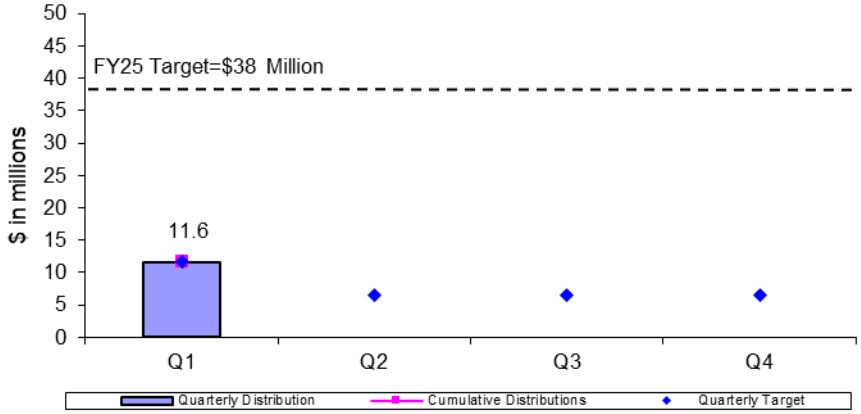
MWRA's Local Water System Assistance Programs (LWSAP) provides $1.025 billion in interest-free loans (an average of about $24 million per year from FY01 through FY35) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There have been four (3) funding phases: Phase 1 at $222 Million, Phase 2 at $210 Million, and Phase 3 at $293 Million. Eligible project costs include: water main cleaning/lining, replacement of unlined water mains, lead service replacements, valve, hydrant, water meter, tank work, engineering design, engineering services during construction, etc. MWRA partially-supplied communities receive pro-rated funding allocations based on their percentage use of MWRA water. Interest-free loans are repaid to MWRA over a ten-year period beginning one year after distribution of the funds. The Phase 1 water loan program concluded in FY13 with $222 million in loan distributions. The Phase 2 - LWSAP continues distributions through FY25. The Phase 3 LWSAP is authorized for distributions from FY18 through FY30. And the Phase 4 – LWSAP is authorized for distributions from FY25 through FY35.

Local Water System Assistance Program Distribution FY01-FY35



During the 1st Quarter of FY25, $11.6 million in interest-free loans was distributed to fund local water projects in Boston and Norwood. Total loan distribution to date for FY25 is $11.6 million. From FY01 through the 1st Quarter of FY25, $588 million has been distributed to fund 538 local water system rehabilitation projects in 43 MWRA member water communities. Distribution of the remaining funds has been approved through FY35 and community loan repayments will be made through FY45. All scheduled community loan repayments have been made.

FY25 Quarterly Distributions of Water Loans



Community Support Programs
1st Quarter – FY25

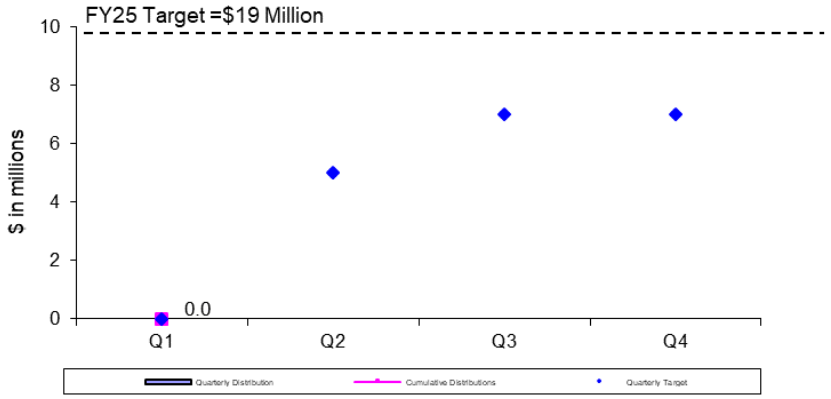
Lead Service Line Replacement Loan Program

By its vote on March 16, 2016, the Board approved an enhancement to the Local Water System Assistance Program to provide up to $100 million in 10-year zero-interest loans to communities solely for efforts to fully replace lead service lines. The Lead Service Line Replacement Loan Program is also referenced as the Lead Loan Program or LLP. Each community can develop its own program, tailored to their local circumstances. MWRA's goal in providing financial assistance to member communities is to improve local water systems so that the high quality water MWRA delivers can make it all the way to the consumer's tap. The presence of a lead service line connecting a home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. MWRA's stable water quality and effective corrosion control treatment reduce the risk that a lead service line will cause elevated lead levels, and measured lead levels in high risk homes have decreased by 90 percent since corrosion control was brought on-line in 1996. However, the risk of elevated levels remains as long as lead service lines are in use. From the inception of the program through FY24, 46 loans have been made to 17 communities totaling $43.8 million dollars. No lead loans were made in the first quarter of FY25.

Summary of Lead Loans:

Quincy in FY24	$1.50 Million	Somerville in FY22	$1.60 Million	Everett in FY20	$1.0 Million
Winthrop in FY24	$0.98 Million	Revere in FY22	$1.30 Million	Somerville in FY20	$0.90 Million
Chelsea in FY24	$0.30 Million	Chelsea in FY22	$0.30 Million	Chelsea in FY20	$0.30 Million
Melrose in FY24	$1.04 Million	Watertown in FY21	$0.60 Million	Marlborough in FY19	$1.0 Million
Lexington in FY24	$3.88 Million	Marlborough in FY21	$2.0 Million	Winthrop in FY19	$0.50 Million
Watertown in FY24	$0.30 Million	Everett in FY21	$1.50 Million	Chelsea in FY19	$0.10 Million
Malden in FY24	$0.50 Million	Boston in FY21	$2.60 Million	Everett in FY19	$1.0 Million
Chelsea in FY23	$0.50 Million	Winthrop in FY21	$0.80 Million	Needham in FY18	$1.0 Million
Watertown in FY23	$0.30 Million	Chelsea in FY21	$0.30 Million	Winchester in FY18	$0.50 Million
Winthrop in FY23	$0.70 Million	Winchester in FY21	$0.60 Million	Revere in FY18	$0.20 Million
Reading in FY23	$1.50 Million	Everett in FY20	$0.50 Million	Winthrop in FY18	$0.30 Million
Watertown in FY23	$0.30 Million	Marlborough in FY20	$1.0 Million	Marlborough in FY18	$1.0 Million
Winchester in FY23	$0.60 Million	Winchester in FY20	$0.60 Million	Newton in FY17	$4.0 Million
Everett in FY22	$1.5 Million	Winthrop in FY20	$0.70 Million	Quincy in FY17	$1.5 Million
Boston in FY22	$0.90 Million	Weston in FY20	$0.20 Million	Winchester in FY17	$0.50 Million
Winthrop in FY22	$0.80 Million			**TOTAL**	**$43.80 Million**

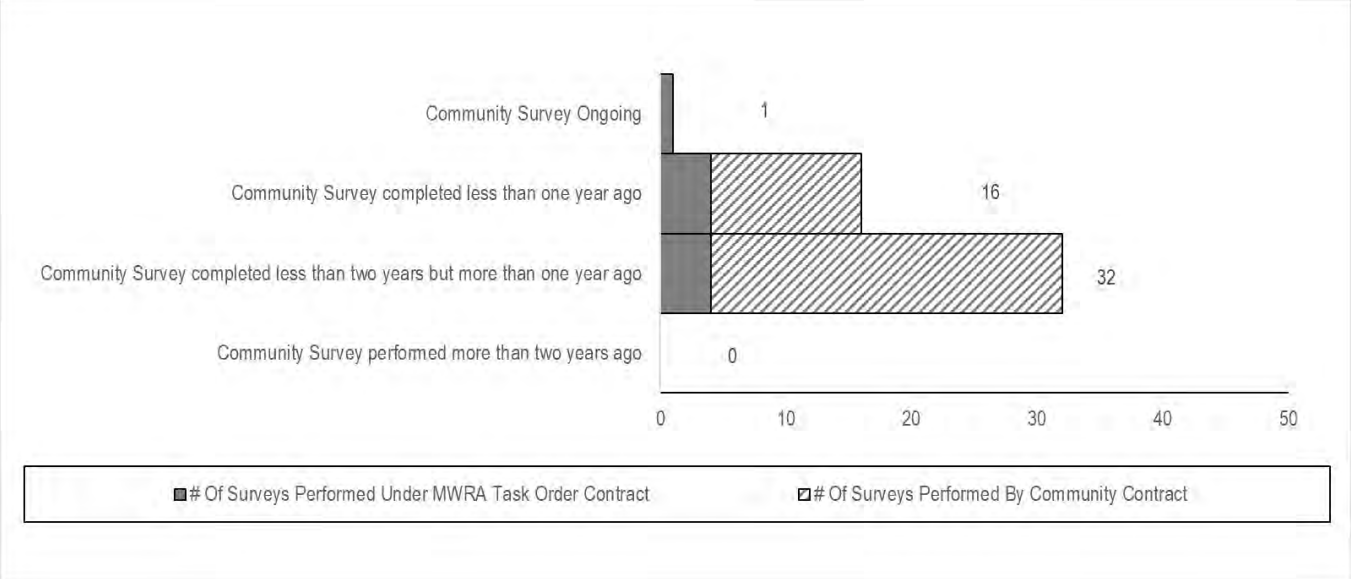
FY25 Quarterly Distributions of Lead Service Line Replacement Loans



Community Support Programs
1st Quarter – FY25

Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews, or alternatively, using MWRA's task order leak detection contract. MWRA's task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 1st Quarter of FY25, all member water communities were in compliance with MWRA's Leak Detection Regulation.



Community Water Conservation Outreach

MWRA's Community Water Conservation Program helps to maintain average water demand below the regional water system's safe yield of 300 mgd. Current 5-year average water demand is less than 200 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor - outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, and toilet leak detection dye tabs), all at no cost to member communities or individual customers. The Program's annual budget is $25,000 for printing and purchase of materials. Annual distribution targets and totals are provided in the table below. Distributions of water conservation materials are made based on requests from member communities and individual customers.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	16,504				**16,504**
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,352				**1,352**
Toilet Leak Detection Dye Tablets	------	2,517				**2,517**

BUSINESS SERVICES

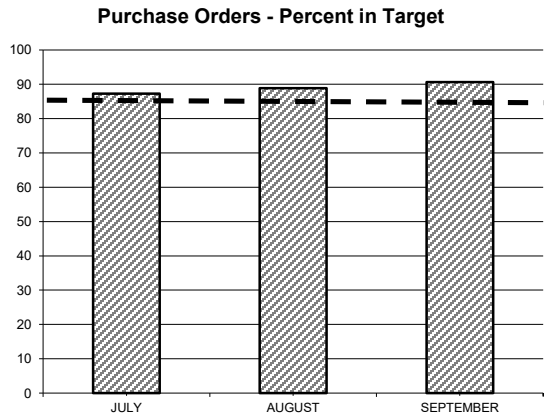
Procurement: Purchasing and Contracts

1st Quarter - FY25

Background: Goal is to process 85% of Purchase Orders and 80% of Contracts within Target timeframes.

Highlights: Processed 97% of purchase orders within target; Average Processing Time was 4.21 days vs. 5.05 days in Qtr1 of FY24. Processed 63% (15 of 24) of contracts within target timeframes; Average Processing Time was 129 days vs. 149 days in Qtr 1 of FY24.

Purchasing



	No.	TARGET	PERCENT IN TARGET
$0 - $500	482	3 DAYS	94.3%
$500 - $2K	635	7 DAYS	98.2%
$2K - $5K	336	10 DAYS	98.2%
$5K - $10K	173	25 DAYS	99.4%
$10K - $25K	53	30 DAYS	96.2%
$25K - $50K	26	60 DAYS	88.4%
Over $50K	31	90 DAYS	90.3%

The Purchasing Unit processed 1736 purchase orders, 78 more than the 1658 processed in Qtr 1 of FY24 for a total value of $28,301,365 versus a dollar value of $25,743,025 in Qtr 1 of FY24.

The purchase order processing target was met for all categories.

Contracts, Change Orders and Amendments

Procurement executed twenty four contracts with a value of $38,381,169 and six amendments with a value of $300,000. Nine contracts were not executed within the target timeframe. One contract was delayed due to the development of a scope of services for a new contract format and coordination with staff in regards to the new scope. Another contract was delayed due to pending permit approvals. Several contracts were delayed in an effort to coordinate bid submission deadlines to maximize competition. A fifth contract was delayed due to bidder questions and contractor delays submitting documents. Another contract was delayed due to selection committee participation requirements. A seventh contract was delayed due to contractor delays in fulfilling registration requirements with the Massachusetts Secretary of State. An additional contract was delayed due to changes to the contract terms. The final contract was delayed due to additional procurement requirements necessary for insurance services. Insurance for all categories of coverage was obtained timely and according to schedule.

Staff reviewed 40 proposed change orders and 27 draft change orders.
Thirty two change orders were executed during the period. The dollar value of all non-credit change orders during Qtr 1 of FY25 was $4,177,769 and the value of credit change orders was ($3,932,263).

Note: A credit change order is a change order that results in a decrease in contract value.

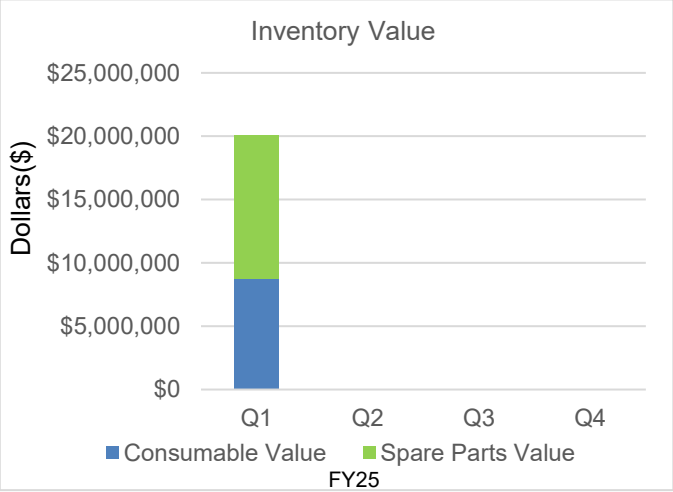
Materials Management

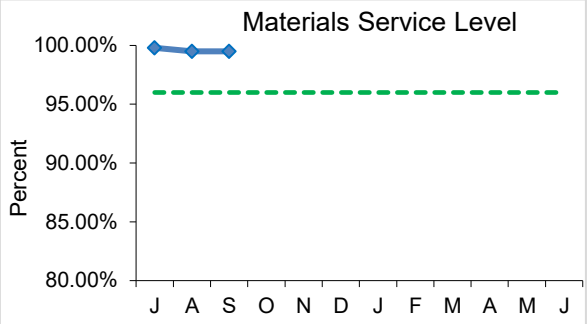
1st Quarter - FY25

The Materials Management department manages the three regional warehouses (Chelsea, Deer Island and Southboro). This includes the replenishment and receipt of both consumable and spare parts items to meet the needs of the MWRA. Additionally, MWRA tools and equipment are safeguarded through the Property Pass unit within the Materials Management department.

Inventory goals focus on:

- Maintaining optimum levels of consumables inventory (office supplies, electrical, safety, etc.) and spare parts inventory (critical items such as actuators, motors, muffin monsters, etc.) necessary to support MWRA Operations and Maintenance. Typically spare parts carry longer lead times.
- Adding new items to inventory to meet changing business needs.
- Reviewing consumables and spare parts for obsolescence.
- Managing and controlling valuable equipment and tools via the Property Pass Program.

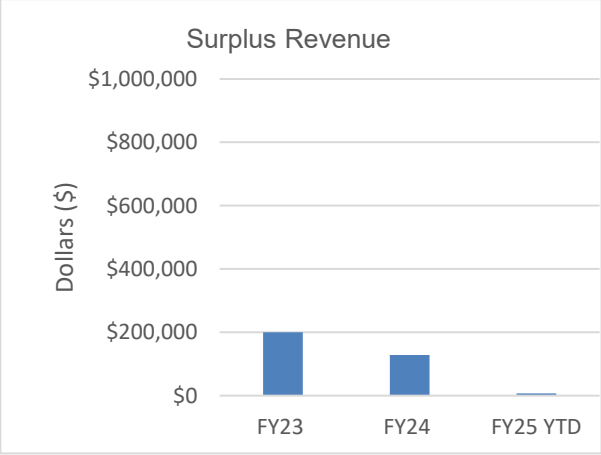


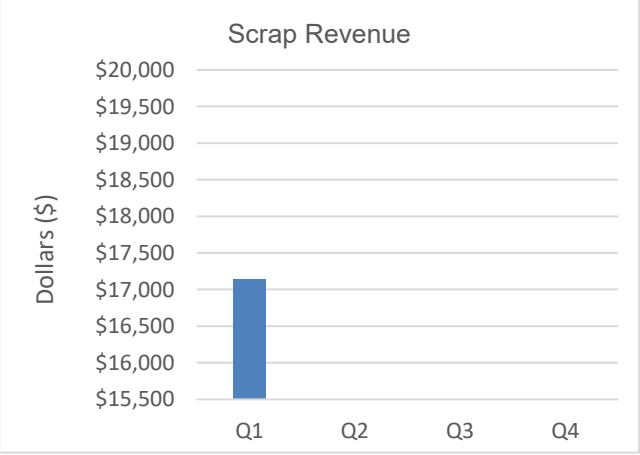


The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,233 (99.6%) of the 7,262 items requested in Q1 from the inventory locations for a total dollar value of $2,092,289.

Property Pass Program:

- Conducts audits of tools and equipment to ensure the safeguarding of MWRA assets.
- Manages the disposition and sale of surplus tools and equipment through GovDeals, an online auction site.
- Manages the surplusing of scrap metals and materials generating revenue to the MWRA staff.

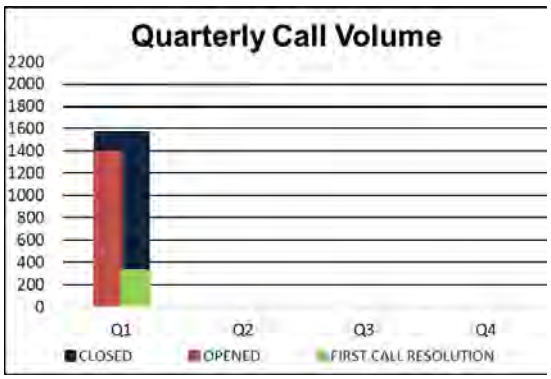




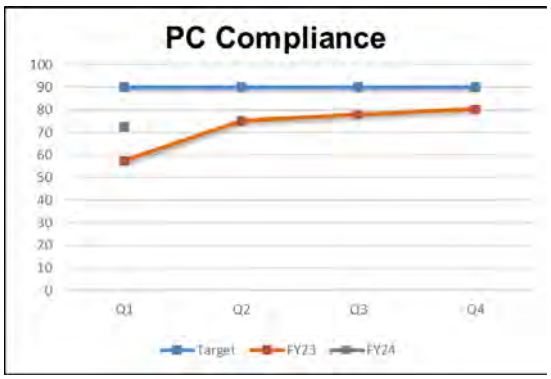
MIS Program

First Quarter – FY25

Numbers & Statistics



Summary of calls managed by the Helpline.



Percentage of user endpoints that are in compliance with system updates. These numbers are a direct reflection of accessibility to these systems. Daytime patching began in January for mobile devices.

Project Updates

Infrastructure & Security

SD-WAN: Seven of ten locations completed. Circuit installation completed in Needham. Firewalls scheduled for installation and cut over in October. Belchertown circuit installation anticipated for October. Staff continue working with vendor on safety plan for Deer Island.

VOIP: Finalizing Ethernet cabling for Deer Island. Drafting CUCM statement of work for upgrade.

VMWare WorkspaceONE: Migration of end points to WorkspaceONE continues, approximately 80% complete.

Oracle Database Appliance Hardware Refresh: Database migrations completed. Updating system documentation with vendor

Server/Database Version Upgrades: Staff continue to meet monthly to review and identify migration paths of infrastructure to maintain support.

Live Stream Webcams: New hardware selected, developing scope of work for installation.

AWIA: DMZ server logging implemented.

Distributed Antenna System: Vendor scheduled to begin repairs Chelsea facility system in July. Services being procured to repair Deer Island system

Library, Record Center, & Training

Library: Completed 30 research requests and provided access to 12 new books/reports, 15 articles, and 5 new standards (outside subscriptions). The Library Portal supported 3,161 user searches (compared to 1,645 total searches in FY24) on topics including construction estimating, geotechnical data, contract documents, CSO control, floatables management, and professional certification study materials.

Record Center (RC): Added 55 new boxes to the RC and handled 255 total boxes. The RC Manager attended 2 virtual RCB meetings. The RC dispositioned 171 physical boxes and performed database/physical box searches for various departments. Research included: Engineering documents, public record requests, staff summaries, personnel files, Law requests, Invoices, various construction contracts.

MIS Training: In Q1, 10 online IT lessons were taken (10 YTD), by 18 employees (18 YTD).

Applications

ECM/Electronic Document Management: Build for the first Staff Summary workflow (Purchasing Staff Summary) began in July and was completed in September. User Acceptance Testing (UAT) to begin in October, with the goal of completing and rolling it out in the fall. Continued to gather requirements in Q1 for building the remaining Staff Summary, Requisition, and Policy processes in ECM. Work continued towards migrating the remaining InfoStar data into ECM in the hopes of formally retiring InfoStar at the end of that project.

MWRA Website Refresh: Went live with the new mwra.com in August. Continue to update content as needed.

Infor Upgrade/Migration: MIS staff are developing the reports, integrations, and configurations required by MWRA end users; unit testing completed development and preparing for the Systems Integration Testing scheduled to start in late October; and continuing to perform analysis and development related to integrating the MWRA Custom applications and Maximo Asset Management application with CloudSuite. MIS completed requirements sessions for an enhanced PIMS/Lawson customer and invoice interface. The vendor (IPS) started development work. MIS also provided file specifications to the project consultant (RPI) to build the interfaces for a number of MWRA partners, including: Great West, Colonial Life, Continental America, AFLAC, MASS DOR GIC Optional Life / LTD Changes, GIC deductions, Hyperion, Positive Pay, GIC Discrepancy Reports and MWRA Retirement integrations. The ERP development team performed data clean-up and validation activities on many business classes and reported any variances back to RPI for correction. Work progressed on the Security configurations of the application, to be tested during Systems Integration Testing.

Maximo/Lawson Interface: This project completed in September. MIS worked with Starboard to resolve issues related to the implementation of the Maximo-Lawson interfaces and will continue to work with end users to resolve any open issues they have. MIS and RPI are also starting the process to develop the integrations needed with Maximo when Lawson is migrated to CloudSuite in August 2025.

Maximo Version Upgrade: This project was completed in April and MIS staff is continuing to resolve issues related to the upgrade. They have implemented the initial IBM recommendations and will continue working with IBM to resolve any remaining issues.

Legal Matters

1st Quarter – FY25

PROJECT ASSISTANCE

Real Estate, Contract, Energy, Environmental, and Other Support:

- **8(m) Permits and License Agreements**: Reviewed one hundred thirteen (113) 8(m) permits, including many related MEPA Section 61 Findings. Drafted DITP license.

- **Real Property**: Revised and finalized five draft notices of offer for property interests in Lynn and Revere, drafted grant of easements from the Cities of Lynn and Revere to MWRA, and reviewed easement plan for Contract 7454 - Section 56 Replacement of Saugus River Crossing. Reviewed newspaper advertising and notice requirements for grant of location for DCR construction access permit for Section 56 Project. Drafted public access 8(m) permit for the Town of Stoneham. Reviewed various property interests, disposition and acquisition processes for Metropolitan Water Tunnel Program; toured prospective sites for North Tunnel. Reviewed deeds and ground leases for property in Waltham concerning boring work. Reviewed lease terms and DCR agreement for property in Boston. Reviewed deed for Commercial Point CSO Facility and improvements thereon. Researched right of entry for property interest with reverter clause. Reviewed property ownership concerning a parcel of land in Natick in MWRA's care, custody and control. Drafted and finalized Cease and Desist Order related to water pipeline section 90 in Hyde Park and Drafted and Cease and Desist Order related to water pipeline section 77 in Dedham. Reviewed appraisal and title documents concerning watershed preservation restriction for Parcel No. W-001266 in Petersham for water supply protection purposes. Reviewed Turkey Hill permit and exhibits and followed-up with telecommunications provider regarding renewal process. Reviewed easement plans for Contract 7216, Interceptor Renewal No. 7 Malden-Melrose (Sections 41/42/49/54/65). Drafted and recorded Certificate with special act and plans confirming MWRA's ownership of Norumbega covered storage real property relative to Chapter 172 of the Acts of 2024. Reviewed recorded documents for parcel of land in Chelsea and prepared confirmatory deed with references to MWRA's subsurface pipeline easements and property details for corresponding plan of land.

- **Environmental**: Prepared comments and/or revisions to comments regarding proposed federal and state legislation concerning the topics of non-flushable wipes and PFAS. Reviewed and revised potential changes to OP.05, Emergency Water Supply Withdrawals, as well as an Emergency Water Supply Agreement with the Town of Wayland. Researched historical Water Quality Standards Variances for the Charles River and Alewife Brook/Upper Mystic River watersheds. Reviewed and revised PCB Interim Measure Status Report for an MWRA facility. Reviewed updates to EPA's Residual Designation Authority Stormwater General Permit(s) development for the Charles River, Mystic River and Neponset River Watersheds. Assisted with preparation of administrative appeals to the Massachusetts Department of Environmental Protection, Office of Appeals and Dispute Resolution filed on September 27, 2024 - In the Matters of Massachusetts Water Resources Authority Challenge to Certain Conditions in Alewife Brook/Upper Mystic River Basin and Lower Charles River/Charles River Basin Variances, OADR Nos. 2024-029 and 2024-030. Assisted Finance and Environmental teams with Financial Responsibility filings for the Underground Storage Tank program.

- **Energy**: Prepared revisions to second draft letter of intent regarding potential solar-pv installation(s) at Deer Island and other Authority facilities. Reviewed federal tax laws and policies regarding Tax Code Section 179D allocations**.** Review of Notice D.P.U. 23-140, *Rulemaking Amending the Net Metering Regulations*, for potential impacts to Authority Net Metering projects*.* Assisting Tunnel Redundancy Program regarding a potential Line Extension Agreement with Eversource regarding electric distribution service for tunnel boring machine locations/projects. Review of draft contract terms regarding electricity supply for MWRA profile accounts.

- **Miscellaneous**: Reviewed documents for submission to Records Conservation Board for disposition. Reviewed terms of construction contract and various documents concerning dispute. Prepared case briefs for various recent Supreme Court decisions. Reviewed Metro West Tunnel memoranda of understanding with various municipalities for Tunnel Redundancy program. Reviewed revisions to MWRA Physical and Environmental Information Security Policy – # ADM.37. Docket research and obtained judicial order from SJC archives. Reviewed statutory requirement for written evaluation of contractor performance on construction projects. Reviewed consultant request for use of MWRA-owned equipment to perform inspection-work at MWRA facility. Reconciled outstanding invoices with telecommunications provider and updated exhibit concerning insurance coverages for Turkey Hill permit renewal.

- **Public Records Requests:** During the First Quarter FY 2025, MWRA received and responded to one hundred sixty-three (163) public records requests.

LITIGATION/CLAIMS - 1st Quarter FY 2025

New Lawsuits:

- There is one new case in 1st Quarter FY 2025.

  Barletta Heavy Division, Inc. v. MWRA; Business Litigation Section, Suffolk Superior Court, C.A. No.2484CV02185 BLS2. The Plaintiff Contractor filed this action on August 16, 2024 against MWRA alleging breach of contract and breach of implied covenant of good faith and fair dealing in connection with the Prison Point CSO Facility Improvements project, MWRA Contract 7462. MWRA's responsive pleading was due on October 21, 2024.

New Claims:

- There are no new claims in 1st Quarter FY 2025.

Significant Developments:

- MWRA v. Baldwin Energy, LLC and Hanover Insurance Company; Business Litigation Section, Suffolk Superior Court C.A. No.2484CV01019-BLS2. On August 30, Plaintiff/Counterclaim Defendant MWRA filed its Partial Motion to Dismiss Counterclaim and Special Motion to Dismiss Counterclaim Count IV with the Court. The court held a hearing on MWRA's motion on September 13. The court issued a decision on September 30, allowing MWRA's Motion to Dismiss Counts III and IV of the Counterclaim. The Court denied the anti-SLAPP motion as to Count IV, but dismissed it pursuant to 12(b)(6).

- In re Aqueous Film-Forming Products Liability Litigation, MDL No. 2:18-mn-02873-RMG, U.S. District Court for the District of South Carolina. On August 19, 2024, MWRA filed Requests for Exclusion from the Tyco Fire Products LP and BASF Corporation class action settlements.

Closed Cases:

- There are no Closed Cases to report.

Closed Claims:

- There are no Closed Claims to report.

Subpoenas:

- During the 1st Quarter of FY 2025, one new subpoena was received, one subpoena closed and one subpoena is pending.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of June 2024
Construction/Contract/Bid Protest	3
Tort/Labor/Employment	1
Environmental/Regulatory/Other	2
Eminent Domain/Real Estate	0
TOTAL	**6**
Other Litigation matters (restraining orders, etc.) - Class Action suits	4
TOTAL – all pending lawsuits	**10**
Claims not in suit	0
Bankruptcy	6
Wage Garnishment	1
TRAC/Adjudicatory Appeals	3
Subpoenas	1
TOTAL – ALL LITIGATION MATTERS	**21**

TRAC/MISC. ADMIN. APPEALS

Settlement by Agreement of Parties No Settlements by Agreement of the Parties during the 1st Quarter FY 2025.

Stipulation of Dismissal No Stipulations of Dismissal in 1st Quarter FY 2025.

Notice of Dismissal Fine paid in full No Notices of Dismissal, Fines Paid in Full in 1st Quarter FY 2025.

Tentative No Decisions were issued in 1st Quarter FY 2025.

Final Decisions No Final Decisions were issued in 1st Quarter FY 2025.

LABOR AND EMPLOYMENT

New Matters

- The MWRA filed an appeal of the Department of Unemployment Assistance's determination that a former employee qualifies for unemployment benefits, due to the former employee's voluntary resignation.

Significant Developments

- None to report

Matters Concluded

- The Department of Unemployment Assistance affirmed its prior determination that a terminated employee is indefinitely ineligible for benefits, thereby ruling in favor of the MWRA and denying the former employee benefits.

- The MCAD affirmed its prior dismissal of an employee's complaint of disability discrimination and retaliation.

- An arbitrator issued an award in favor of the MWRA, ruling that a union's grievance was not substantively arbitrable because the broad inherent management rights included in the enabling act grants the MWRA the right of assignment.

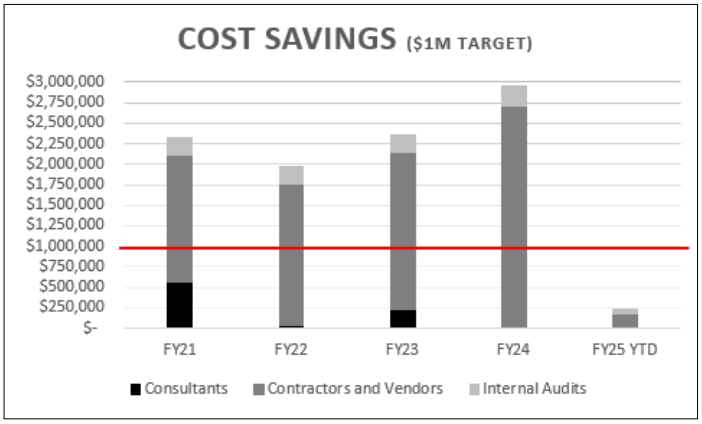
INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES

1st Quarter - FY25

Purpose

Internal Audit evaluates the effectiveness of internal controls and procedures and monitors the quality, efficiency and integrity of the Authority's operating and capital programs. Through our audits and reviews, we assess whether internal controls are functioning as intended and that only reasonable, allowable and allocable costs are paid to consultants, contractors and vendors.

Cost Savings	FY25 YTD
Consultants	$2,162
Contractors and Vendors	$170,057
Internal Audits	$61,486
Total	$233,705



Highlights

During the 1st quarter FY25, Internal Audit (IA) performed a consultative analysis of telework compliance which is nearing completion. In addition, IA initiated an audit of MWRA Inflow/Infiltration (I/I) Local Financial Assistance Program.

In addition, IA completed 1 incurred cost audit, 2 labor burden reviews, and 3 consultant preliminary reviews. There are 5 incurred cost audits and 3 labor burden reviews in process. IA also issued 25 indirect cost rate letters to consultants following a review of their consultant disclosure statements.

Status of Recommendations

During FY25, 6 recommendations were closed.

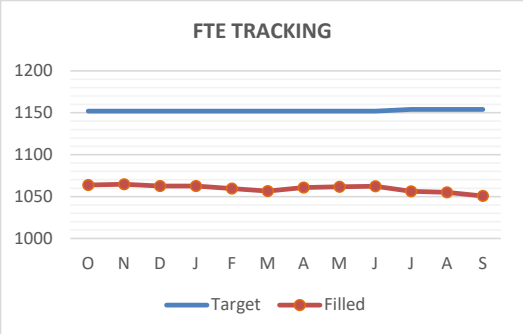
IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation and are generally targeted to be closed within 12 months of the audit report issue date.

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
Accounts Payable Process (3/14/2024)	2	4	6
MWRA Payroll (3/19/2024)	1	2	3
MIS Asset Management (6/28/2024)	2	5	7
Total Recommendations	**5**	**11**	**16**

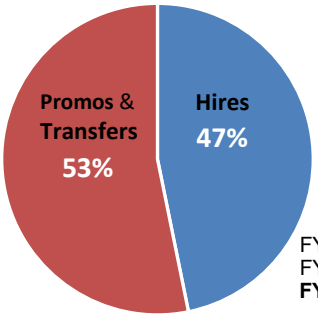
OTHER MANAGEMENT

Workforce Management

1st Quarter - FY25



Position Filled by Hires/Promos & Transfer for YTD



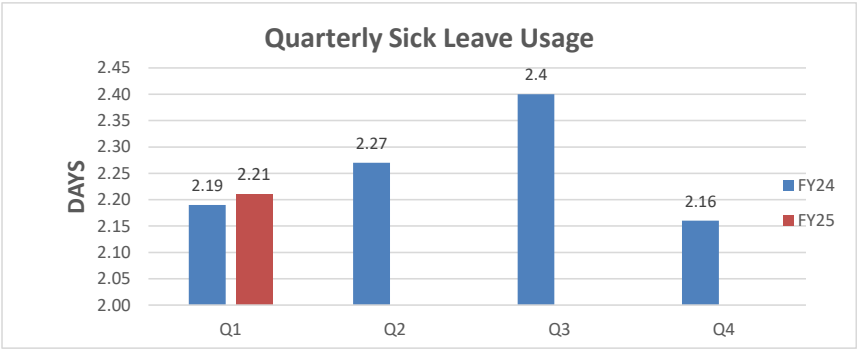
	Pr/Trns	Hires	Total
FY23	133 (59%)	91(41%)	224
FY24	117 (56%)	93 (44%)	210
FY25	25 (53%)	22 (47%)	47

FY25 Budget for FTE's = 1154
FTE's as of Sept = 1050.7
Tunnel Redundancy as of Sept 2024 = 9

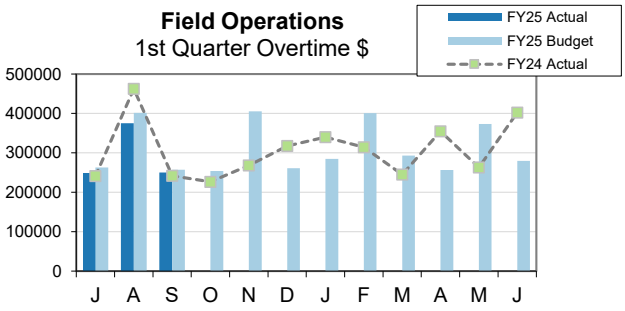
POSITION CHANGE by FY

FY	HIRES	PROMOS	TRANSFER	RETIRE	RESIGN	DISMISS	DECEASED
FY21	64	66	15	58	15	2	2
FY22	65	108	30	82	45	2	3
FY23	91	118	15	46	31	5	5
FY24	93	97	20	48	30	5	4
FY25*	22	20	5	26	8	0	0

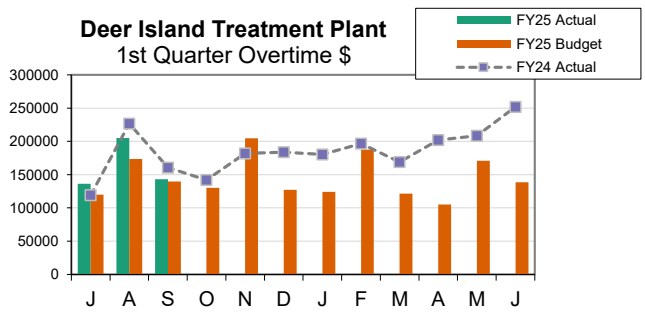
*** as of 9/30/2024**



Average quarterly sick leave for the 1st Quarter of FY25 has increased as compared to the 1st Quarter of FY24 (2.21 from 2.19)



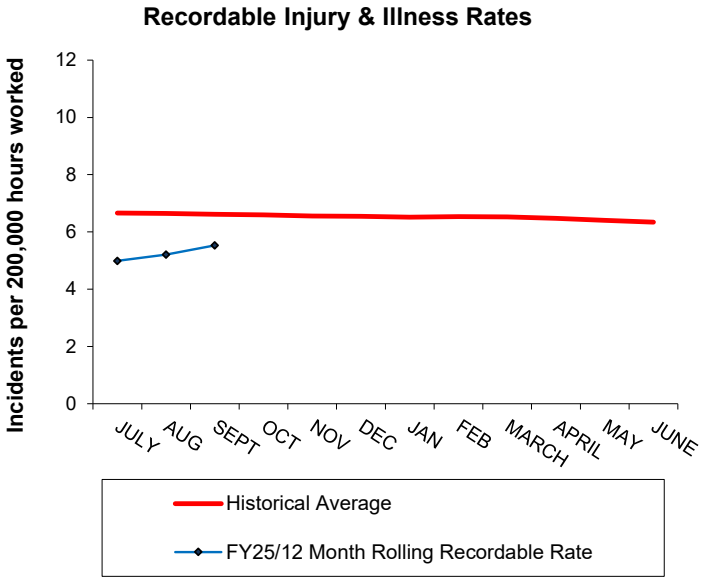
Total Overtime for Field Operations for First Quarter (Q1) (FY25) was $874k, which is $47k or 5.1% under budget. Lower than anticipated rain events contributed to lower spending in Q1. Rain events totaled $227k, or 49% of Emergency for FOD in Q1.Total Planned Scheduled/Deadline Maintenance was $254k, which was comprised of Work Completion OT of $32k; Planned Off Hours OT of $159k; Project Deadline OT of $26k, which all planned OT combined was over budget for Q1 by 7.5%. Operator Coverage OT for Q1 was $110k; Community Assistance, i.e., community water fountain support and as-needed cities and towns emergency assistance was $26k for the First Quarter (Q1) for FY25.

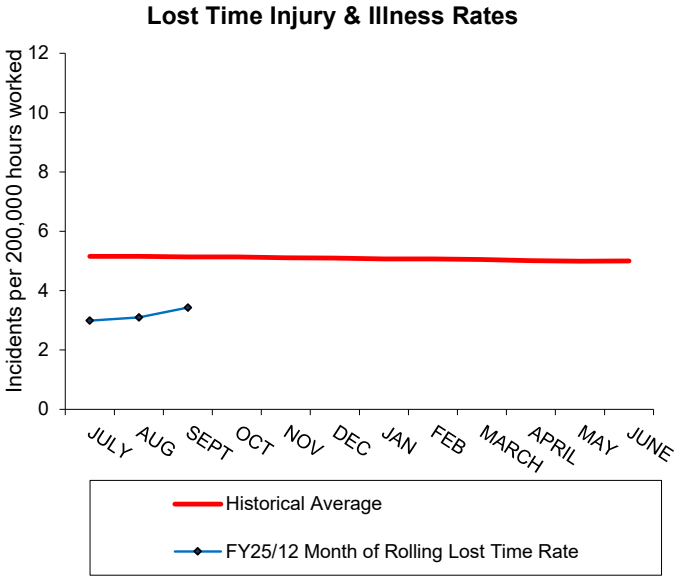


Total overtime for Deer Island for the first quarter (Q1) (FY25) was $485k, which is $51k or 11.9% over budget -due to higher than anticipated Planned/Unplanned of $75k - driven by Maintenance $21k, Thermal $18k & Wastewater Ops $17k. Shift Coverage was $11k driven by Wastewater Ops $44k offset by Thermal ($33k). Storm Coverage ($35k).

Workplace Safety

1st Quarter - FY25





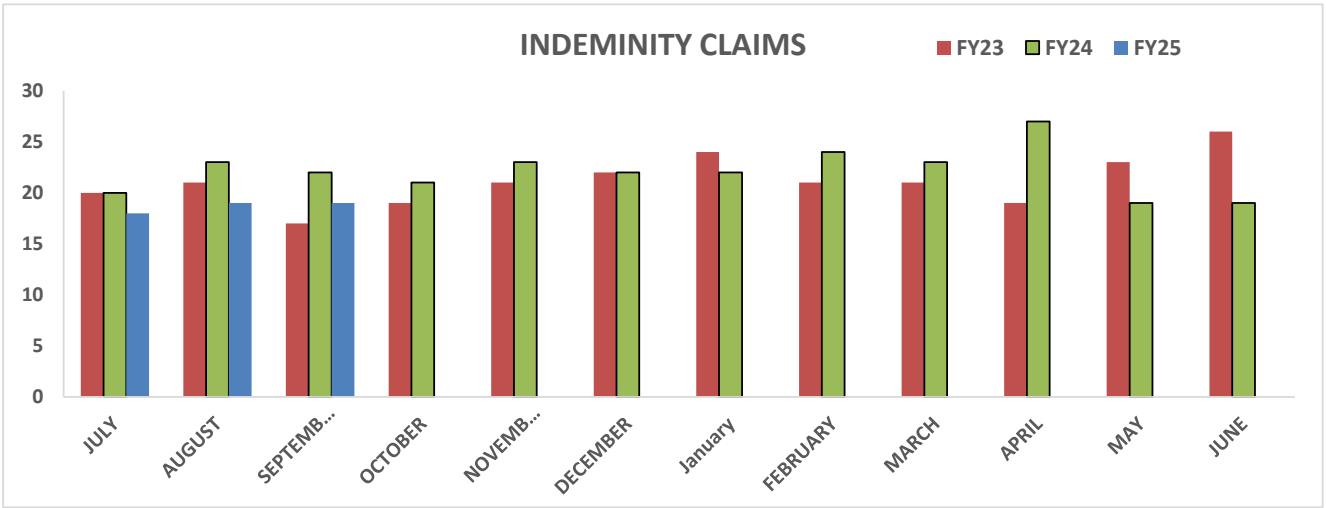
1 “Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. Each month this rate is calculated using the previous 12 months of injury data.

2 "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness. Each month this rate is calculated using the previous 12 months of injury data.

3 The “Historical Average” is computed using the actual MWRA monthly incident rates for FY04 through FY24

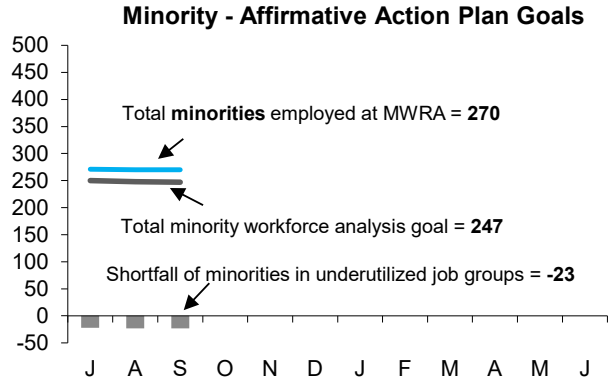
WORKERS COMPENSATION HIGHLIGHTS

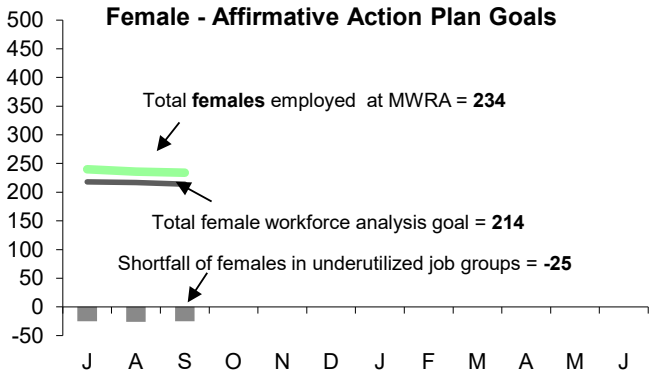
	1st Quarter Information		
	New	Closed	Open Claims
Lost Time	2	2	29
Medical Only	3	5	106
Report Only	4	4	
	QYTD		FYTD
Regular Duty Returns	4		4
Light Duty Returns	1		1
Indeminity payments as of Seotenber 2024 included in open claims listed			19



MWRA Job Group Representation

1st Quarter - FY25





Highlights:

At the end of Q1 FY25, 5 job groups or a total of 23 positions are underutilized by minorities as compared to 7 job groups for a total of 23 positions at the end of Q1 FY24; for females 8 job groups or a total of 25 positions are underutilized by females as compared to 6 job groups or a total of 27 positions at the end of Q1 FY24. During Q1, 9 minorities and 4 females were hired. During this same period 6 minorities and 12 females were terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 9/30/2024	Minorities as of 9/30/2024	Achievement Level	Minority Over or Underutilized	Females As of 9/30/2024	Achievement Level	Female Over or Underutilized
Administrator A	23	4	3	1	10	6	4
Administrator B	25	5	6	-1	8	10	-2
Clerical A	23	9	5	4	18	17	1
Clerical B	22	6	3	3	3	6	-3
Engineer A	82	17	21	-4	19	23	-4
Engineer B	58	21	14	7	18	11	7
Craft A	115	19	24	-5	0	4	-4
Craft B	123	24	24	0	0	5	-5
Laborer	59	17	15	2	5	2	3
Management A	86	18	19	-1	32	25	7
Management B	35	10	7	3	5	8	-3
Operator A	63	4	16	-12	4	7	-3
Operator B	67	22	11	11	4	2	2
Professional A	29	8	8	0	15	13	2
Professional B	164	52	49	3	71	56	15
Para Professional	39	14	10	4	15	11	4
Technical A	46	17	11	6	6	7	-1
Technical B	5	3	1	2	1	1	0
Total	**1064**	**270**	**247**	**46/-23**	**234**	**214**	**45/-25**

AACU Candidate Referrals for Underutilized Positions

Job Group	Job Title	# of Vacancies	Requisition Internal/ External	Promotions/ Transfers	AACU Referral External	Position Status = New Hire/Promotion
Clerical B	Warehouse Material Handler	1	Ext.	0	0	NH = WM
Engineer A	Program Mgr, Metro Meter Maint	1	Int.	1	0	PROMO= WM
Engineer A	Program Manager, Ops Engineering	1	Int.	1	0	PROMO= WM
Engineer A	Sr Prog Mgr Tech Support Qual	1	Int./Ext.	1	0	PROMO= WF
Engineer A	Proj Engineer, Monitor&Control	1	Ext.	0	0	NH = WM
Craft A	M & O Specialist	1	Ext.	0	0	NH = WM
Craft A	Unit Supervisor-HVAC	1	Int./Ext.	1	0	PROMO= WM
Craft B	Heavy Equipment Operator	2	Int./Ext.	1	0	NH=WM, PROMO= WM
Craft B	HVAC Technician	1	Ext.	0	0	NH = HM
Craft B	Motor Equipment Repairman	1	Ext.	0	0	NH = WM
Craft B	Plumber/Pipefitter	1	Ext.	0	0	NH = WM
Management A	Sr Program Manager	1	Int./Ext.	1	0	PROMO= WM
Management A	Prog Mgr, Environmental Monitoring	1	Int./Ext.	1	0	PROMO = WM
Management B	Operations Supervisor	1	Int./Ext.	1	0	PROMO = WM
Technical A	Sr Scada Maint Technician	1	Int./Ext.	1	0	PROMO = WM
Technical A	Data Management Coord	1	Int./Ext.	1	0	PROMO= WM

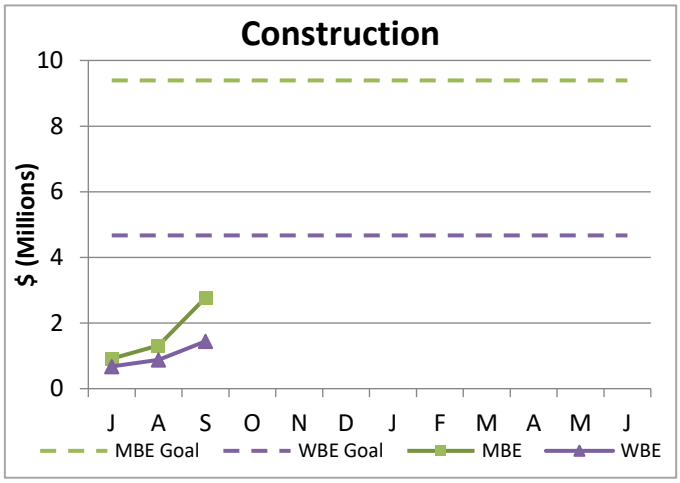
Minority/Women-Owned Business Enterprise (MBE/WBE) Expenditures

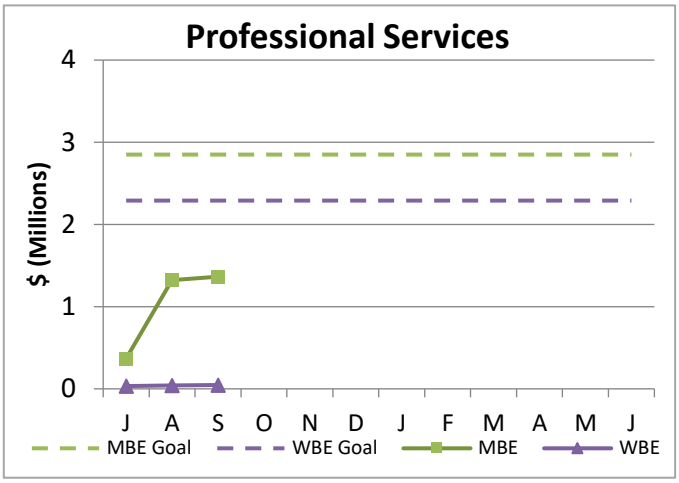
1st Quarter – FY25

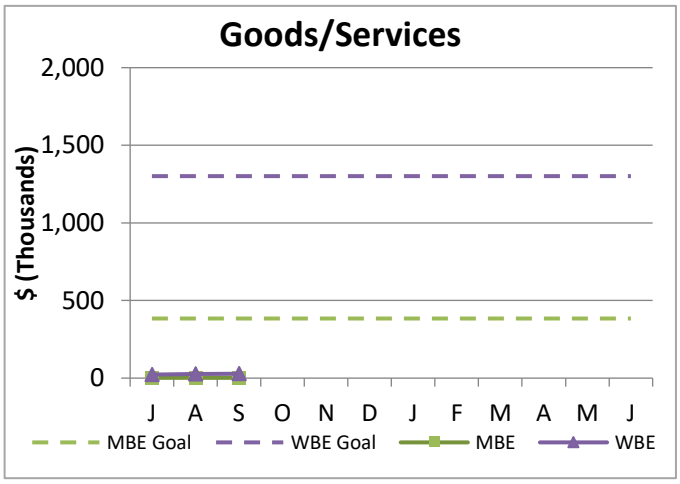
MBE/WBE targets are set based on annual MWRA expenditure forecasts for construction, professional services, and goods/services. Percentage goals are applied to 85% of the total construction and 75% of the total professional services projected spending for the year. Certain projects that do not meet the established monetary thresholds and/or have limited opportunities for subcontracting have been excluded as they have no MBE/WBE spending goals.

Construction: 7.24% MBE / 3.6% WBE Professional Services: 7.18% MBE / 5.77% WBE

Spending goals for Goods and Services are based on the average spending of MBE/WBE dollars during the previous 5 years. MBE/WBE percentage goals are established according to an internal 2002 Availability Analysis and MassDEP's annual Availability Analysis. Consistent with this guidance, Non-Professional Services are included in Goods/Services category.







MBE					WBE			
FY25 YTD		FY24			FY25 YTD		FY24	
Amount	% of goal	Amount	% of goal		Amount	% of goal	Amount	% of goal
$2,769,786	29.5%	$1,701,938	22.1%	Const.	$1,442,198	30.9%	$3,086,463	80.5%
$1,364,739	47.9%	$1,366,350	29.7%	Prof. Svcs.	$46,621	2.0%	$201,066	5.4%
$1,724	0.4%	$123,536	30.3%	Goods/Svcs.	$28,060	2.2%	$1,031,507	75.7%
$4,136,249	32.8%	$3,191,824	25.1%	**Totals**	$1,516,879	18.4%	$4,319,036	48.6%

MWRA FY25 CEB Expenses

1st Quarter – FY25

As of September 2024, total expenses are $211.1 million, $5.8 million or 2.7% lower than budget, and total revenue is $224.9 million, $0.9 million or 0.4% over the estimate, for a net variance of $6.7 million.

Expenses –

Direct Expenses are $70.6 million, $4.6 million or 6.1% under budget.

- **Wages & Salaries** were $4.5 million under budget or 14.1%. Regular pay is $4.5 million under budget, due to lower head count, and timing of backfilling positions. YTD through September, the average Full Time Equivalent (FTE) positions were 1,068 or 100 below the 1,168 FTE's budgeted.
- **Ongoing Maintenance** expense was $1.2 million over budget or 13.1% due to higher than anticipated project spending as Plant & Machine Services were $2.0 million over budget primarily due to timing of Deer Island Treatment Plant annual boiler maintenance.
- **Professional Services** expense was $519k under budget or 18.2% primarily due to lower Other Professional Services and Lab Testing & Analysis, which are under budget by $249k and $140k, respectively.
- **Other Materials** expense was $485k over budget or 40.1% primarily due to greater than anticipated Computer Hardware purchases, which were $363k over budget.
- **Fringe Benefits** expenses are $379k under budget or 5.5%, primarily due to lower spending for Health Insurance of $364k, reflecting the lower than budgeted head count. As of September FTEs were 100 below budget.
- **Utilities expenses** are under budget by $348k million or 5.1%, reflecting lower electricity spending of $445k. This underspending is due to lower T&D pricing from Eversource at DITP of $233k and reduced demand at Field Operations of $224k due to fewer wet weather events.

Indirect Expenses were $29.7 million, $342k or 1.1% below budget due to lower than budgeted Watershed Reimbursement of $318k.

Capital Finance Expenses totaled $110.8 million, $835k under budget or 0.7%. The positive variance was a result of lower than budget variable interest expense of $835k due to lower than anticipated interest rates.

Revenue and Income –

Total Revenue and Income is $224.9 million, $0.9 million or 0.4% over the estimate. The favorable variance was driven by Investment Income of $7.4 million, $831k over the budget due to higher than budget interest rates.

	Sep 2024 Year-to-Date			
	Period 3 YTD Budget	Period 3 YTD Actual	Period 3 YTD Variance	%
EXPENSES				
WAGES AND SALARIES	$ 31,682,818	$ 27,205,421	$ (4,477,397)	-14.1%
OVERTIME	1,520,033	1,460,401	(59,632)	-3.9%
FRINGE BENEFITS	6,838,587	6,459,730	(378,857)	-5.5%
WORKERS' COMPENSATION	518,359	557,331	38,972	7.5%
CHEMICALS	5,678,227	5,368,244	(309,983)	-5.5%
ENERGY AND UTILITIES	6,783,712	6,435,842	(347,870)	-5.1%
MAINTENANCE	9,426,931	10,661,722	1,234,791	13.1%
TRAINING AND MEETINGS	149,667	69,010	(80,657)	-53.9%
PROFESSIONAL SERVICES	2,847,216	2,327,837	(519,379)	-18.2%
OTHER MATERIALS	1,208,965	1,694,291	485,326	40.1%
OTHER SERVICES	8,575,697	8,389,778	(185,919)	-2.2%
TOTAL DIRECT EXPENSES	**$ 75,230,212**	**$ 70,629,607**	**$ (4,600,603)**	**-6.1%**
INSURANCE	$ 1,117,761	$ 1,093,588	$ (24,173)	-2.2%
WATERSHED/PILOT	4,880,952	4,563,216	(317,736)	-6.5%
HEEC PAYMENT	1,838,571	1,838,568	(3)	0.0%
MITIGATION	455,891	455,891	-	0.0%
ADDITIONS TO RESERVES	476,570	476,570	-	0.0%
RETIREMENT FUND	21,264,519	21,264,519	-	0.0%
POST EMPLOYEE BENEFITS	-	-	-	---
TOTAL INDIRECT EXPENSES	**$ 30,034,264**	**$ 29,692,352**	**$ (341,913)**	**-1.1%**
STATE REVOLVING FUND	$ 20,037,575	$ 20,037,575	$ -	0.0%
SENIOR DEBT	74,535,452	74,535,452	-	0.0%
DEBT SERVICE ASSISTANCE	-	-	-	---
CURRENT REVENUE/CAPITAL	-	-	-	---
SUBORDINATE MWRA DEBT	16,271,421	16,271,421	-	0.0%
LOCAL WATER PIPELINE CP	-	-	-	---
CAPITAL LEASE	804,265	804,265	-	0.0%
VARIABLE DEBT	-	(834,845)	(834,845)	---
DEFEASANCE ACCOUNT	-	-	-	---
DEBT PREPAYMENT	-	-	-	---
TOTAL CAPITAL FINANCE EXPENSE	**$ 111,648,713**	**$ 110,813,868**	**$ (834,845)**	**-0.7%**
TOTAL EXPENSES	**$ 216,913,189**	**$ 211,135,827**	**$ (5,777,361)**	**-2.7%**
REVENUE & INCOME				
RATE REVENUE	$ 213,872,000	$ 213,872,000	$ -	0.0%
OTHER USER CHARGES	2,971,172	3,035,035	63,863	2.1%
OTHER REVENUE	635,352	651,647	16,295	2.6%
RATE STABILIZATION	-	-	-	---
INVESTMENT INCOME	6,527,772	7,359,087	831,315	12.7%
TOTAL REVENUE & INCOME	**$ 224,006,296**	**$ 224,917,769**	**$ 911,472**	**0.4%**

Cost of Debt
1st Quarter – FY25

MWRA borrowing costs are a function of the fixed and variable tax exempt interest rate environment, the level of MWRA's variable interest rate exposure and the perceived creditworthiness of MWRA. Each of these factors has contributed to decreased MWRA borrowing costs since 1990.

Average Cost of MWRA Debt FYTD

Fixed Debt ($2.79 billion)	3.25%
Variable Debt ($343.7 million)	3.83%
SRF Debt ($675.81 million)	1.78%
Weighted Average Debt Cost ($3.32 billion)	3.04%

Most Recent Senior Fixed Debt Issue
April 2024

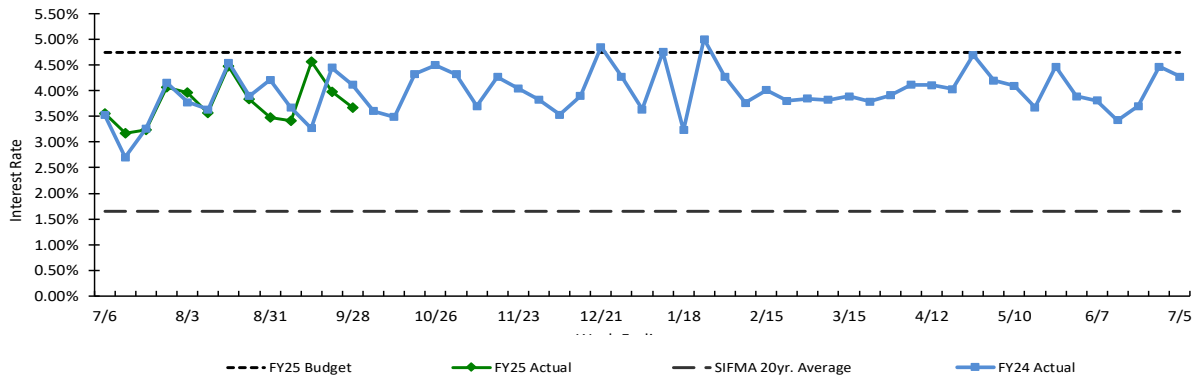
2024 Series B and C ($445.5 million)	3.49%

Bond Deal	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB	2011B
Rate	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%	4.14%	4.45%
Avg Life	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	16.4 yrs	18.8 yrs

Bond Deal	2011C	2012AB	2013A	2014D-F	2016BC	2016D	2017BC	2018BC	2019BC	2019EFG	2020B	2021BC	2023BC	2024BC
Rate	3.95%	3.93%	2.45%	3.41%	3.12%	2.99%	2.98%	3.56%	2.82%	2.66%	2.33%	2.56%	3.35%	3.49%
Avg Life	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8yrs	11.2 yrs	11.7yrs	11.9yrs	9.73 yrs.	15.6 yrs	12.2 yrs	10.45 yrs	10.53 yrs

Weekly Average Variable Interest Rates vs. Budget

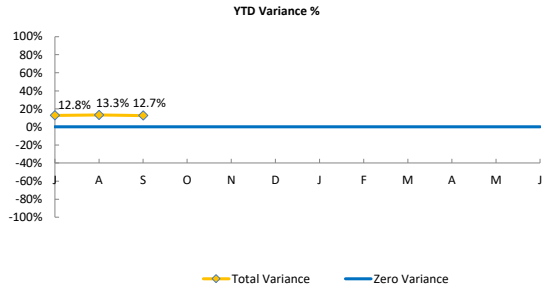
MWRA currently has eight variable rate debt issues with $343.7 million outstanding, excluding commercial paper. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In September, the Securities Industry and Financial Markets Association rate ranged from a high of 4.210% to a low of 2.840% for the month. MWRA's issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate rise as compared to fixed rate debt. z



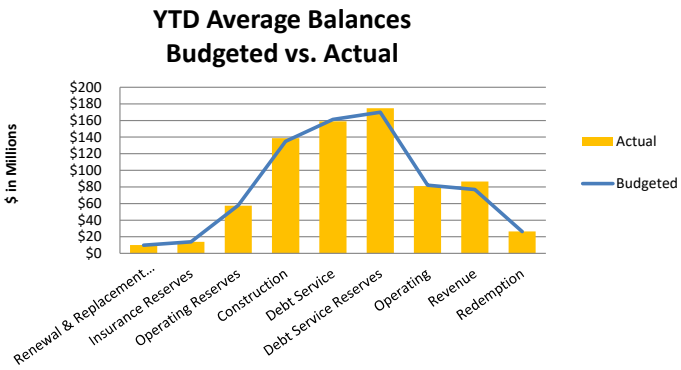
Investment Income

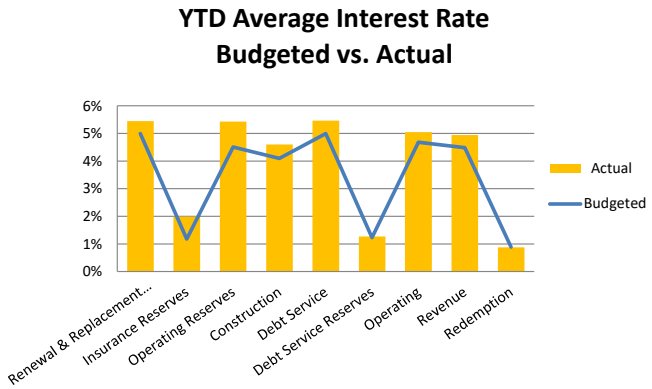
1st Quarter – FY25

- YTD variance is 12.7%, $831 thousand, over budget due primarily to higher than budgeted interest rates.



	YTD BUDGET VARIANCE			
	($000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Renewal & Replacement Reserves	$0	$11	$11	8.8%
Insurance Reserves	$0	$28	$28	69.1%
Operating Reserves	-$3	$131	$128	19.9%
Construction	$38	$166	$204	15.0%
Debt Service	-$29	$182	$153	7.7%
Debt Service Reserves	$15	$17	$32	6.3%
Operating	-$14	$84	$70	7.4%
Revenue	$103	$102	$205	24.1%
Redemption	$0	$0	$0	-0.7%
Total Variance	$111	$721	$831	12.7%





Monthly