MASSACHUSETTS **W**ATER **R**ESOURCES **A**UTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

for

Fourth Quarter FY2011

Q1	Q2	Q3	Q4

Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
September 14, 2011

Board of Directors Report on Key Indicators of MWRA Performance for Fourth Quarter FY2011

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This quarterly report is prepared by MWRA staff to track a variety of MWRA performance measures for routine review by MWRA's 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.

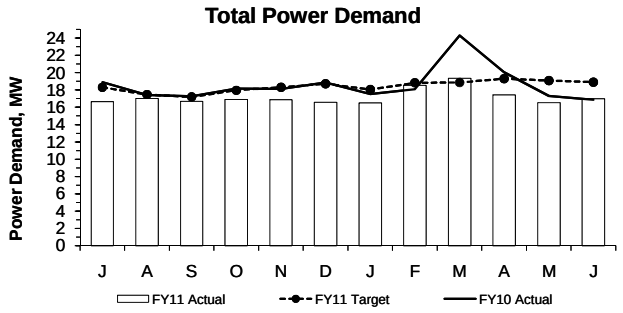
Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer

September 14, 2011

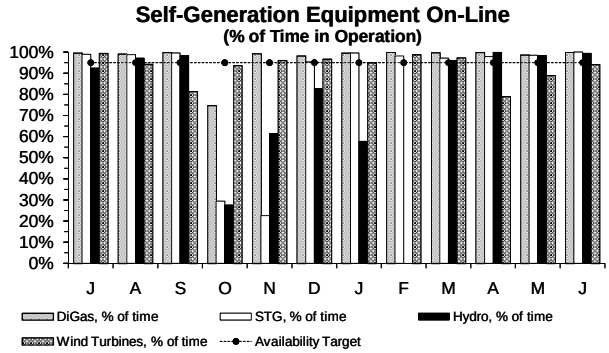
OPERATIONS AND MAINTENANCE

Deer Island Operations

4th Quarter - FY11

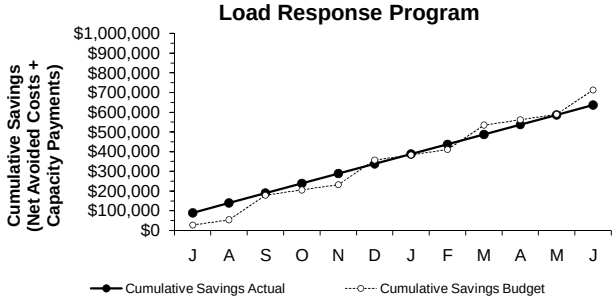


Total Power Demand in the 4th Quarter was 11% lower than target for the quarter, 7% lower for FY11. During the 4th Quarter, power demand for pumping alone was 10% lower than expected due to 13% lower than expected Total Plant Flow. Power demand for all other treatment processes were similar to or lower than expected for the quarter. Total Power Demand for pumping was 7% lower than expected in FY11 as Total Plant Flow was 9% lower than expected.



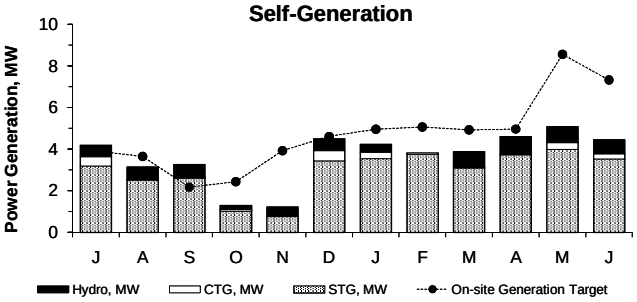
The DiGas, STG, and Hydro turbines all met their 95% Availability Target for the 4th Quarter. The Wind Turbines fell 7.7% below target. Wind Turbine 2 was off-line from April 20 to May 4 for troubleshooting and repair of the rear bearings of the main shaft assembly.

Please note the 95% Availability Target for the Wind turbines is a contractual annual availabililty target for the first contract year of Wind turbine operation, from April 27, 2010 through April 27, 2011 (and is not a monthly requirement target). The Wind turbines did meet this contractual 95% annual availability requirement.

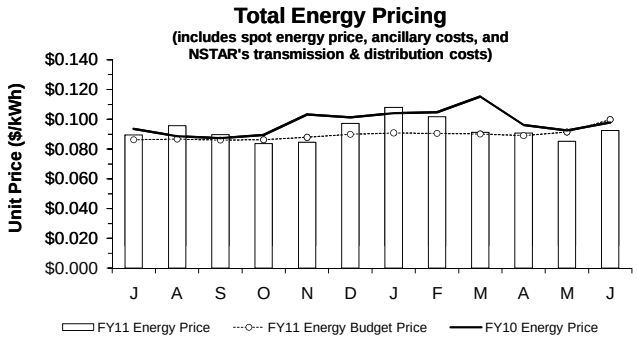


On June 16, DI participated in the only demand response test event requested during the 4th Quarter.

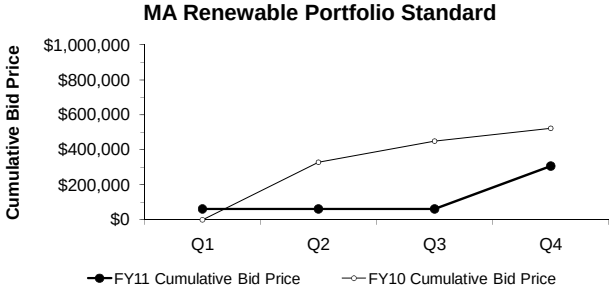
Deer Island participates in the ISO-New England's Load Response Programs. By agreeing to have its Combustion Turbine Generators available to run and thus relieve the New England energy grid of Deer Island's load during times of high energy demand or high pricing, MWRA receives monthly Capacity Payments from ISO-NE. When it runs the CTGs at ISO-NE's request, MWRA receives energy payments from ISO-NE and also avoids NSTAR transmission and distribution charges. "Net Avoided Cost" is the avoided NSTAR payments offset by the cost of running the CTGs, and the energy payments from ISO-NE. Cumulative savings are the sum of Net Avoided Costs and monthly Capacity Payments - totaling $636,084 through the 4th Quarter compared to the budgeted savings of $713,400.



Power generated on-site was 28% lower than target for the 4th Quarter, 16% lower for FY11. The lower-than-expected generation was due mostly to much-lower-than-expected generation by the CTGs. CTG operation for demand response events and for storm emergencies occurred much less than anticipated in the budget. DI operated the CTGs for 7.4 hours on June 9 in preparation for a storm. Generation by the STG and Wind Turbines were 9% and 23% below their targets for the quarter, respectively (see Maintenance Report following), while generation by the Solar Panels and the Hydro Turbines were similar to or exceeded their targets. Solar Power generation was 1.9% and Wind Turbine generation was 4.1% of the total power generated on-site for the 4th Quarter. Note: the power generation target includes targets for the Solar Panels and the Wind Turbines but their actual power generation is not included in the graph above.



Under DI's 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. Overall, the total energy price in the 4th Quarter was 4% lower than the budget estimate and 6% lower than the 4th Quarter FY10 actual. The total energy price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges. Please note the June total energy price is an estimate as the invoice has not been received.



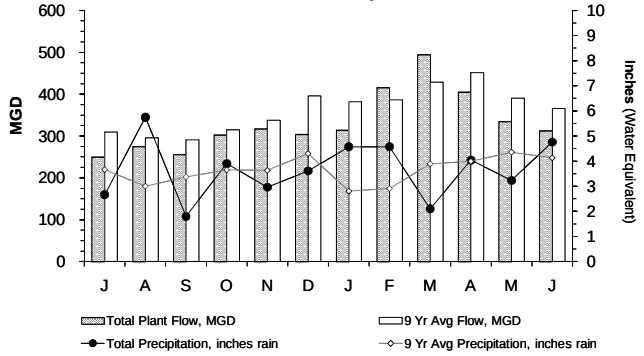
Bids were awarded in June for the sale of 20,026 Renewable Energy Certificates (RECs) for a total value of $245,919; no bids were received in April or May.

REC prices reflect the bid prices on the date that bids are accepted. Cumulative bid price reflects the total value of bids received to date. Bid prices have continued to decline over the last year due to the increased supply of renewable energy generation. For example, the average cost per REC in FY11 was $11.85 compared to $22.36 per REC in FY10. The FY11 budgeted cumulative bid estimate through June was $619,464 while the actual bid total for FY11 was $307,207.

Deer Island Operations

4th Quarter - FY11

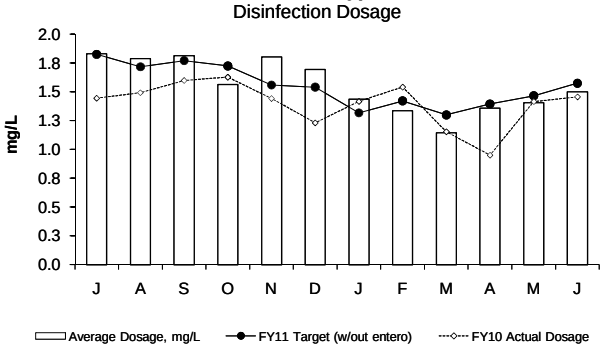
Plant Flow & Precipitation



The Total Plant Flow for the 4th Quarter was 13% lower than the 9-year average flow estimate (350.5 mgd actual vs. 402.6 mgd expected) as precipitation was 4% lower than expected for the quarter (12.03 inches actual vs. 12.47 inches expected). Total Plant Flow for FY11 was 9% lower than the 9-year average flow estimate even though precipitation was 1% higher than expected for FY11.

Deer Island Sodium Hypochlorite Use

Disinfection Dosage



The disinfection dosing rate was only slightly below target for the 4th Quarter. The average dosing rate of 1.42 mg/L was only 4% lower than the 1.48 mg/L expected.

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.

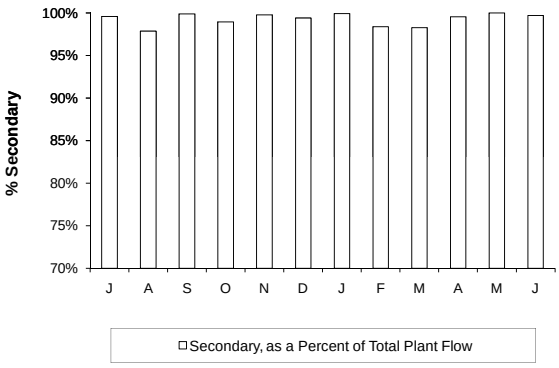
Secondary Blending Events

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
J	1	1	0	99.6%	4.5
A	3	3	0	97.9%	19.51
S	1	1	0	99.9%	2.24
O	2	2	0	99.0%	12.81
N	2	2	0	99.8%	5.62
D	1	1	0	99.4%	7.62
J	1	1	0	99.9%	3.28
F	2	2	0	98.4%	21.30
M	7	6	1	98.3%	48.71
A	3	3	0	99.5%	11.57
M	0	0	0	100.0%	0.00
J	3	3	0	99.7%	7.39
Total	26	25	1	99.3%	144.5

There were six separate blending events during the 4th Quarter all due to high plant flows resulting from heavy rain; three in April and three in June, resulting in a total of 18.96 hours of blending and 86.12 million gallons of primary-only treated flow blended with secondary effluent. There were no blending events in May as plant flow never reached the secondary maximum capacity limit.

Secondary permit limits were met at all times during the 4th Quarter.

Deer Island Secondary Treatment as a Percent of Total Plant Flow



Overall, 99.7% of the total plant flow to DITP received Secondary treatment during the 4th Quarter. The Maximum Secondary Capacity for the entire quarter was 700 mgd.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

Measureable rain fell on 42 of the 91 days in the quarter. The plant achieved a maximum average hourly flow rate of 953.5 mgd during the overnight hours of June 22 into June 23 as passing storms dropped a total of 1.99 inches of rain over these two days. Pumping and treatment operations continued without incident throughout these storm events, as well as throughout the entire quarter.

Primary and Secondary Treatment:

Progress on the major Primary and Secondary Clarifier Rehabilitation Project continued through the 4th Quarter. Rehabilitation work on a total of five Primary clarifiers and three Secondary clarifiers was in the process at the end of the 4th Quarter; 79% of all of the clarifiers have been completed.

Annual turnaround maintenance was performed at the Cryogenic Oxygen Facility during the first two weeks of April on roughly half of the components and systems in the facility and allows the remaining half of the facility to continue to operate and produce oxygen uninterrupted. This maintenance was performed on Cryo Train 2; the same maintenance is planned for the remaining systems sometime in the fall.

The Cryogenic Oxygen Facility began continuous operation of two cold boxes in early June as more oxygen is needed for the effective operation of the Secondary activated sludge process. More oxygen is needed in the summer as there is an increase in microbiological activity as a result of the warmer wastewater temperature.

Deer Island Operations & Maintenance Report (continued)

Primary and Secondary Treatment (continued):
Essential maintenance was performed and completed on the two flow control gates this quarter. Staff changed out all of the hydraulic gate valves for both gates with the help of the valve service vendor on April 27.

Residuals Treatment:
Module 3, Digester 3 was placed back into operation on April 1 after a broken mixer and several pressure reducing valves were replaced. Digester 2 was taken off-line on April 5 due to a broken mixer and remained off-line until the end of May when it was returned to service after mixer replacement.

Odor Control:
Staff changed out the carbon media on Carbon Adsorbers (CADs) 3 and 4 in the Secondary Odor Control Facility.

Energy:
Lumus Construction proceeded with the installation and troubleshooting of the new FloDesign wind turbine. This wind turbine, which is installed on the northern side of Deer Island in an area near the Hydro Power Plant, was erected on April 18 and has been intermittently operated throughout the 4th Quarter while FloDesign works on optimization and testing of the turbine.

On May 24, the communication line between NSTAR's K Street Power Station 385 in South Boston and its Station 132 on Deer Island experienced a failure that tripped all of the breakers within Station132 causing a complete power loss on Deer Island. As soon as the power disruption occurred, staff took immediate steps to start the back-up power source - the two CTGs, in accordance with the emergency action plan. The first CTG was activated within four minutes with wastewater pumping and other processes being restored by order of priority, along with the activation of the second CTG unit. A second partial power disruption occurred 86 minutes after the initial power loss due to a problem with under-voltage on one of the operating CTGs. Again, wastewater pumping was quickly restored and other equipment was gradually restarted. DITP was pumping approximately 370 mgd, approximately 25% of maximum plant capacity, at the time of the initial power loss. CTG activation occurred within expected response times and wastewater pumping was re-established at a record pace in comparison to previous plant-wide power outages. There were no raw sewage releases to the environment and no CSO or SSO activations as a result of the power outages.

As part of the larger Electrical Upgrade 3 Project, the bus duct for Substation 5A, which distributes medium-voltage power to the South System Pump Station's (SSPS) VFDs, is being replaced. The electrical distribution to the SSPS is configured with an “A” and “B” bus, which provides redundant power to the equipment. This bus duct replacement project began in late June and is estimated to take four weeks for each bus; 6-MW generators were installed to provide back-up power to either the “A” or the “B” bus in the unlikely loss of power at the local substation level.

Generation by the STG was 9% lower than target for the 4th Quarter due, in part, to lower-than-expected gas generation from anaerobic digestion (and thus, less gas available for use by the STG). Gas generation was reduced due to shorter sludge detention times in the digesters as a result of maintenance activities that occurred near the end of the 3rd Quarter and during the 4th Quarter, including struvite remediation in all of the digesters and digester mixer replacements in two of the digesters, which temporarily reduced the number of active digesters that were operated simultaneously.

Solar Power generation was 1.88% and Wind Turbine generation was 4.06% of the total power generated on-site for the 4th Quarter. Solar power generation includes solar installations on the roof of the Residuals Odor Control (ROC) Facility, Maintenance/Warehouse (M/W), and the Grit Facility building, in addition to the solar installation on the ground of the South Parking Lot. Please note, due to the absence of actual historical monthly data, the target generation for the Wind Turbines and for the solar panels on the M/W Building, the Grit Facility building, and the South Parking Lot are based on annual estimates that are evenly spread over the course of the year. Therefore, monthly variances from target generation are to be expected for all these units for the time being.

Clinton Wastewater Treatment Plant Operations & Maintenance Report

Rehabilitation of the Primary Tanks:
The plans and specifications for the rehabilitation of the primary tanks and equipment have been received from the consultant and staff are currently reviewing them to provide comments.

Pilot Plants:
The Clinton Plant had two pilot plants operating on site. These pilot plants' operations will evaluate the ability of the selected treatment technology (disc filters) to remove phosphorous to meet new NPDES permit-required levels. The new levels are significantly lower than current permit levels and require additional advanced treatment. The Phosphorous pilot study report has been received and is under review. Preliminary results look very favorable for the selected technology of disc filtration.

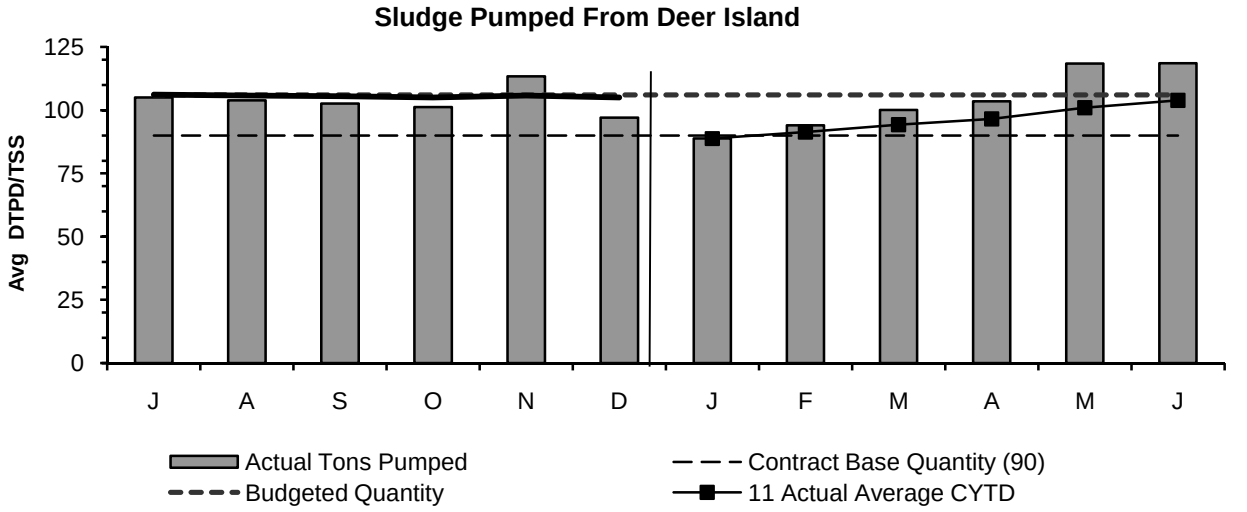
Inspection:
DEP performed a surprise inspection of the Clinton plant in June. The subsequent report by the DEP indicated the plant was operating satisfactorily; no action items were listed in the report.

Operations and Maintenance:
All monthly maintenance task orders were completed for the quarter. In addition, staff performed a number of repair/maintenance tasks around the plant including: changing the oil on all low-pressure blowers, and greasing and purging the motors in the Headworks Building; greasing the upper and lower bar rack and cleaning the manual bar rack; removing sections of broken cross collector chains and flights on Tank 1 in Primary; cleaning debris from the ball check valves on Plunger Pumps 1 and 2, and changing the wiper blades on the spray box on Belt Press 1, and replacing the packing on Piston Pump 1 in the Dewatering Building; flushing the soda ash feed line, replacing the sump pump in the soda ash slurry tank, changing the oil in the low-pressure air compressors, adjusting the soda ash feed auger, and painting the pump pedestals for the sodium hypochlorite and alum pumps in the Chemical Building; and repairing the condensate trap on the gas line and repacking Recirculation Pump 1 in the Digester Building.

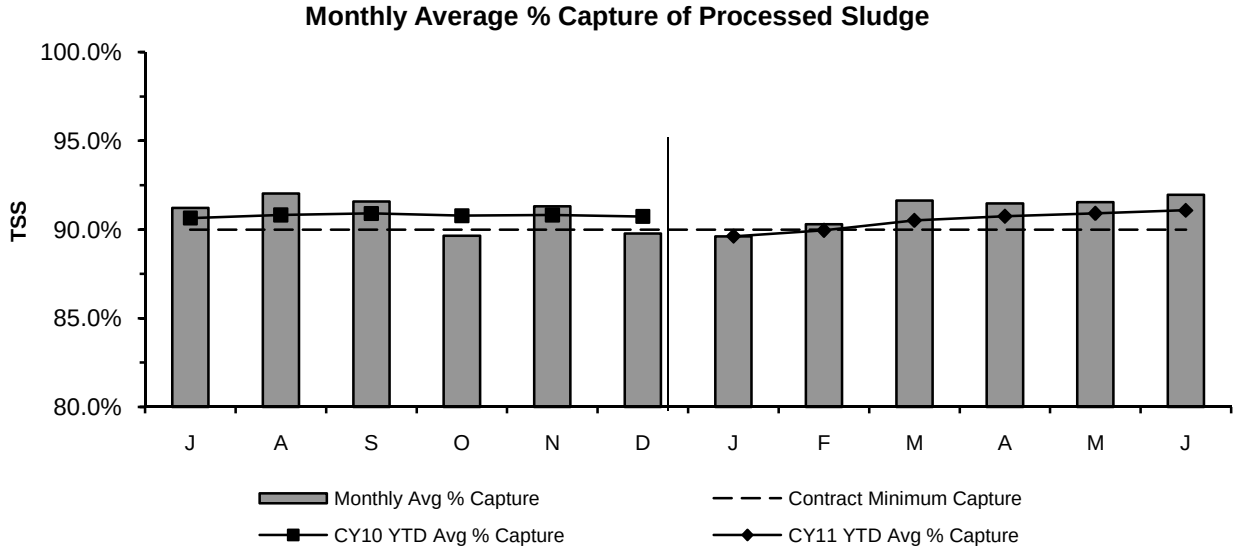
Deer Island Residuals

4th Quarter - FY11

MWRA pays a fixed monthly amount for the calendar year to process up to 90 DTPD/TSS as an annual average. The monthly invoice is based on 90 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. The base quantity of 90 DTPD/TSS was set for the 15-year term of the contract, even though, on average, MWRA processes more than 90 DTPD/TSS each year (FY11's budget is 106 DTPD/TSS).



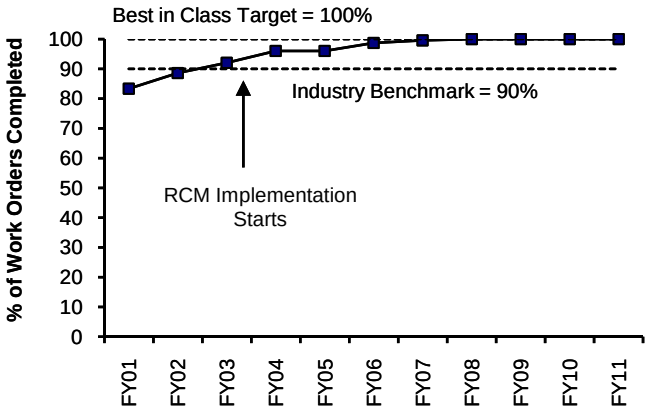
The average total quantity of sludge pumped from DITP to FRSA in the 4th Quarter was 113.5 DTPD, which is more than FY11's budget of 106 DTPD. The higher quantity is a result of more secondary sludge production due to warmer weather. The FY11 average was 103.9 DTPD; the projection for FY12 was reduced to 105.5 DTPD.



The contract requires NEFCo to capture at least 90% of the solids delivered to the Pelletizing Plant at FRSA; the solids capture rate for the 4th Quarter was 90.7%.

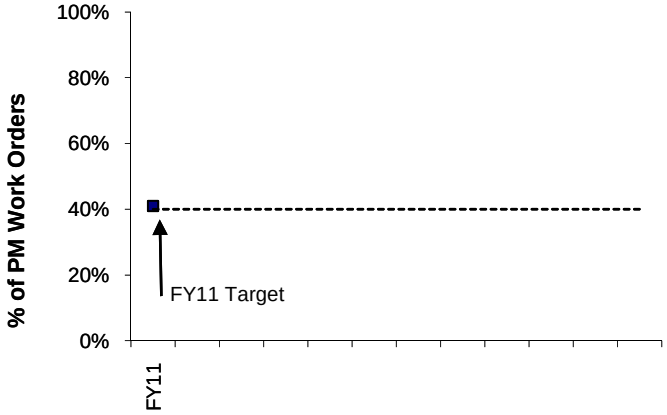
Deer Island Yearly Maintenance Metrics
Proactive and Productivity Measures p-1

Preventive Maintenance



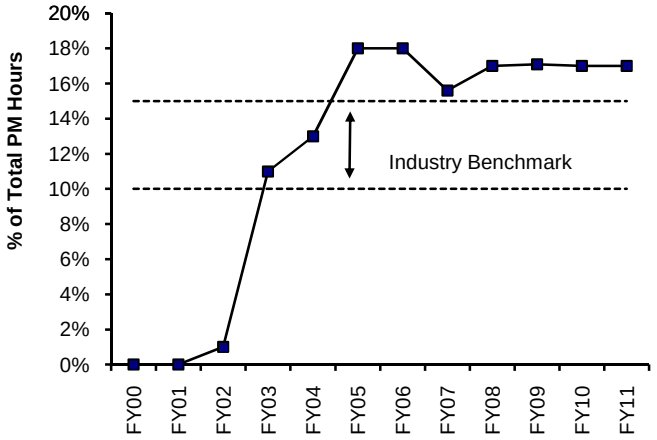
The industry benchmark is 90% Preventive Maintenance (PM) completion. Upon reaching the 90% goal in FY02, the goal was raised to the "best in class" standard of 100% PM completion. Since then, the percentage of PM work order completion has been trending upward. Reliability-Centered Maintenance (RCM) and PM optimization efforts have continue in FY11.
PM completion was 99.9% in FY11.

Preventive Maintenance Kitting



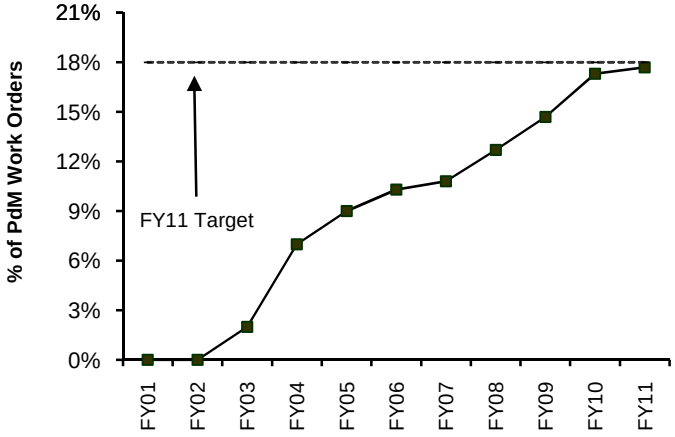
PM inventory items were loaded into Maximo so that parts for equipment could be assigned to PM work orders on a monthly basis. DITP reached the PM kitting goal in FY10. A new graph was developed in FY11 to track kitting of all maintenance work orders. In an effort to increase wrench time, staff have been fine tuning a process to "kit" all maintenance work orders. Kitting is considered a best practice by maintenance and reliability professionals and entails staging parts necessary to complete maintenance work. Kitting allows maintenance staff to spend more time "turning the wrench" than waiting for parts at the stockroom window.

Operations Light Maintenance PMs



The percentage of preventive maintenance work order hours completed by Operations staff (not maintenance staff) has increased from less than 1% in January 2002 to the current level of 17%. DI reached the industry benchmark range of 10-15% in April 2003 and has exceeded the goal through FY11. Operations completes approximately 590 PM work orders per month.

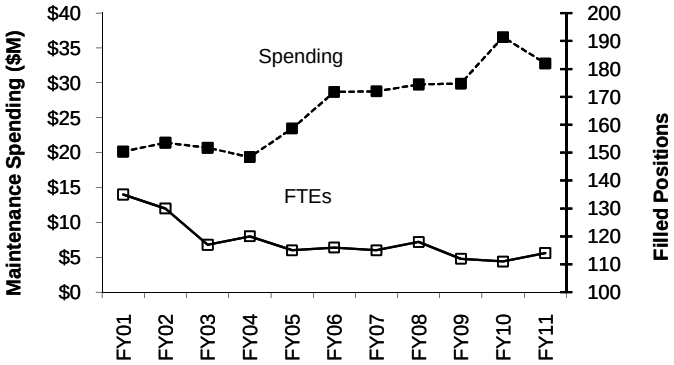
Predictive Maintenance



Predictive maintenance has steadily increased from 0% in FY02 to 18% in FY11. The increase in predictive maintenance was achieved through the expanded use of lubrication, vibration, thermography, and acoustic ultrasonic testing techniques. The Condition Monitoring Group continually reviews and investigates new opportunities and initiatives to expand condition monitoring testing and analysis. Every month, a "needs action" list is generated from the condition monitoring testing and analysis. These work orders are called condition based maintenance (CBM).

Deer Island Yearly Maintenance Metrics
Overall Maintenance Program Measures p-2

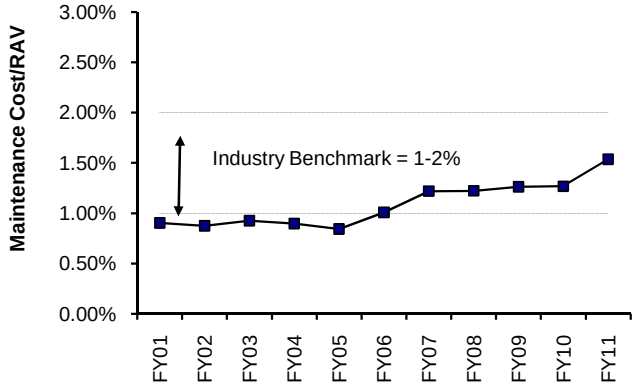
Maintenance Spending and FTEs



The number of Full-time Equivalent positions or FTEs has steadily decreased over time through staff attrition. Maintenance has been successful in meeting its goals through implementation of numerous maintenance efficiencies including Operations staff performing light maintenance, cross-functional training and flexibility, and Reliability Centered Maintenance.

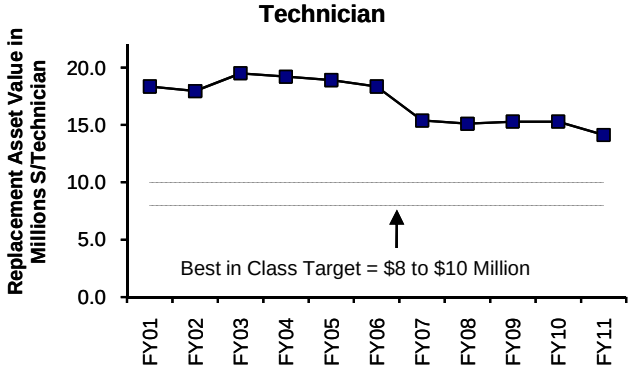
The maintenance spending is actual annual maintenance spending and large asset replacements (equipment costs only). Maintenance spending will continue to ensure proper maintenance of plant assets as the plant ages and obsolete equipment needs replacement. In FY11, overall spending was lower than FY10 due to some significant CIP projects that were initiated and completed in FY10. Some of the capital replacement projects included electrical equipment upgrades, heat loop, and roofs.

Maintenance Cost / Replacement Asset Value



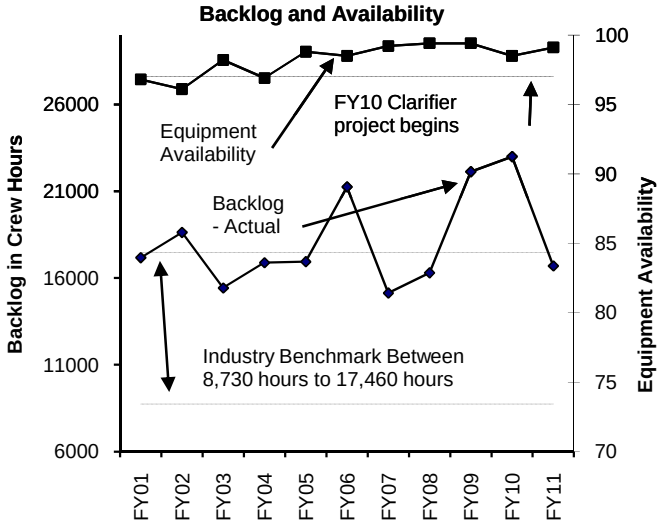
The industry benchmark for annual maintenance spending is between 1% to 2%. The plant's replacement asset value was calculated to be approximately $2.3 billion dollars. DITP's current maintenance spending is within the target range. The increase is due the Primary and Secondary Clarifier rehab. project. Additional spending is expected to be required as the plant ages and additional equipment replacements are required.

Replacement Asset Value / Maintenance Technician



DITP has adopted a "best in class" target of $8-$10 Million/Technician for its maintenance staffing. DITP exceeds the target at this time. DITP has been trending down. As the plant ages and additional maintenance is required, additional technicians will be required to provide adequate care for plant assets. In FY11, additional outside services supplemented maintenance staffing resulting in a slightly higher value.

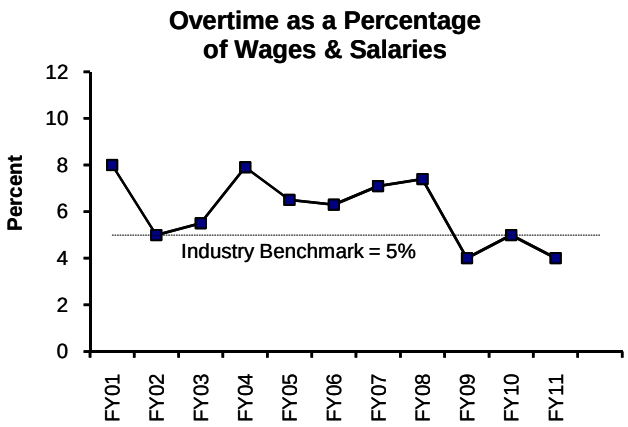
Backlog and Availability



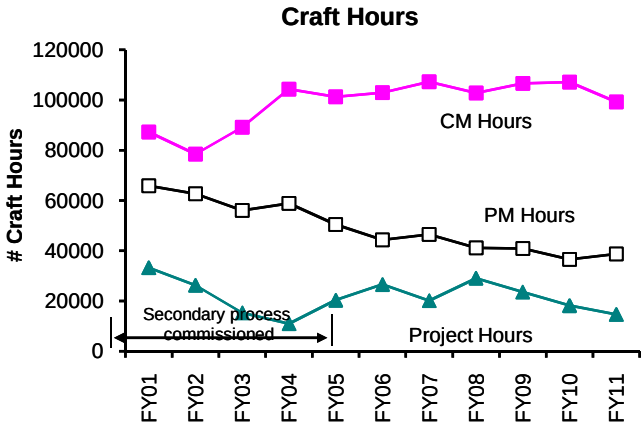
The industry benchmarks for equipment availability is 97% and maintenance backlog is between 8,730 to 17,460 hours, respectively. The equipment availability goal has been met the last nine years and was 99.1% for FY11.

The total average backlog for FY11 was 16,693 hours and is within the industry benchmark. The significant decrease in backlog from FY10 is directly attributable to the filling of three vacancies, which accounted for more available work hours in FY11 compared to the previous year.

Deer Island Yearly Maintenance Metrics
Overall Maintenance Program Measures p-3

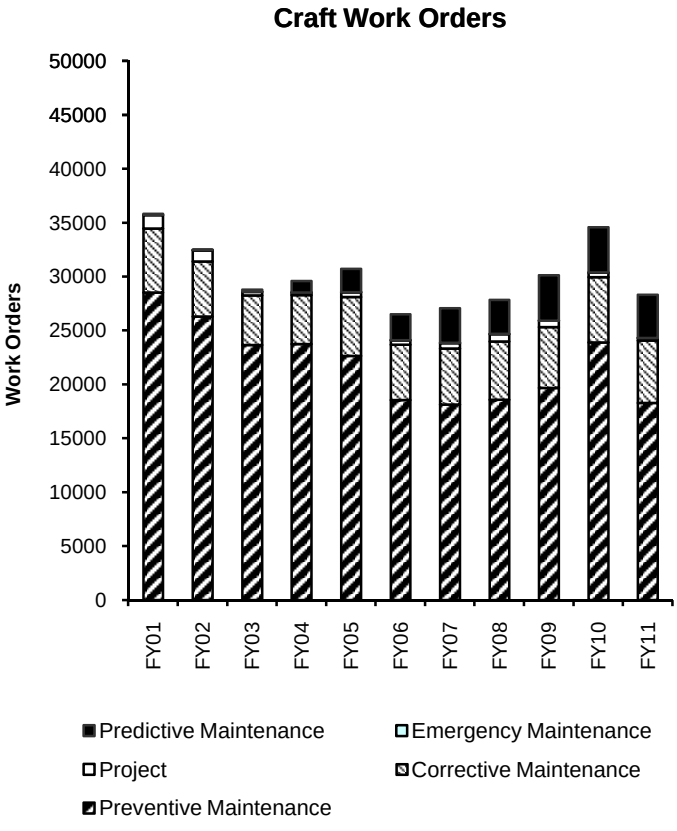


In trying to reach the industry benchmark, management has taken steps to reduce overtime spending by limiting overtime to service or repair critical equipment and systems only. DITP was on or under budget from FY09 through FY11. As of FY09, due to the uncertain nature of storm coverage overtime, storm coverage overtime is not included in the tracking above.



Optimization of the PM program through the transfer of some light maintenance tasks to Operations staff (17% of PM hours at the end of FY11), elimination of duplicate work orders, decreasing PM frequency due to equipment history and performance, completion of a PM Optimization effort in FY05, and RCM recommendations, which are still on-going have resulted in a significant decrease (27,208 hours) of PM craft hours from FY01 to FY11. Corrective Maintenance (CM) hours have shown slight decrease this year.

The slight decrease in hours is also from the Condition Monitoring techniques being applied, which allow maintenance to monitor and test equipment using technology that takes less time and is less intrusive.

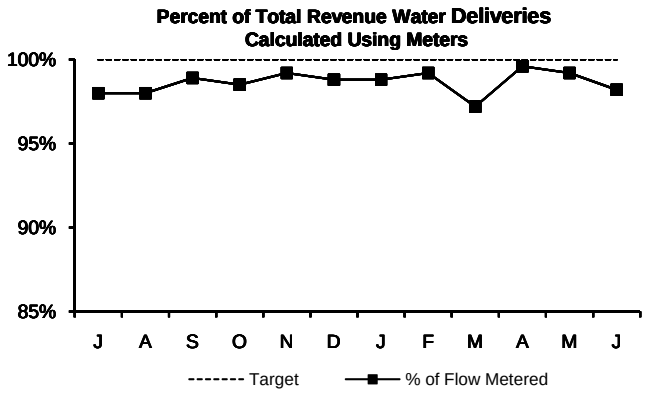


During FY11, the number of total work orders decreased from FY10 but are more in line with previous years. The work orders in work types such as PM, CM, and Project have all shown a decrease. The most significant reduction has been in Project work orders due to primarily the increase in capital projects on Deer Island.

Operations Division Metering

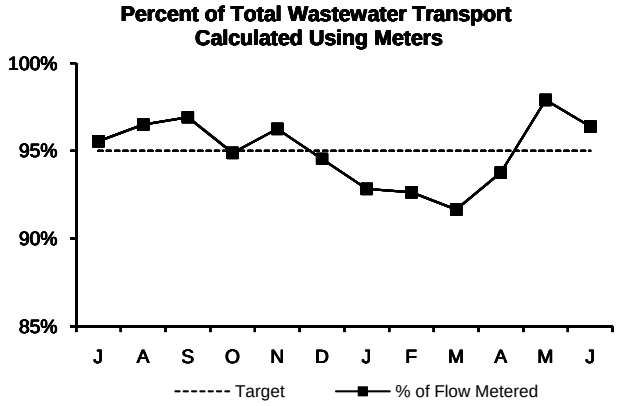
4th Quarter - FY11

WATER METERS

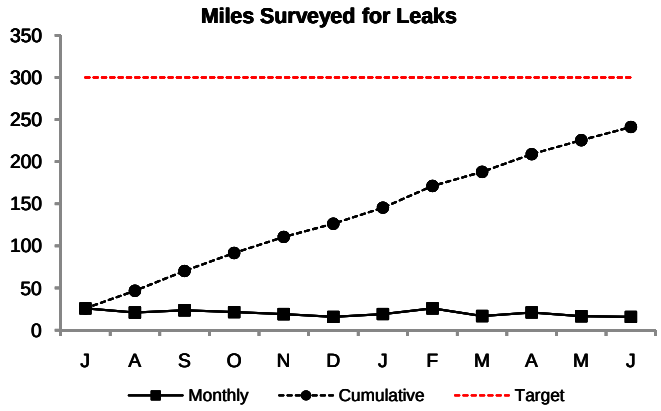


The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. In the 4th Quarter, meter actuals accounted for 99% of flow; only 1% of total revenue water deliveries were estimated. The following is the breakdown of estimations:
In-house and Capital Construction Projects - 0.10%
Instrumentation Failure - 0.90%

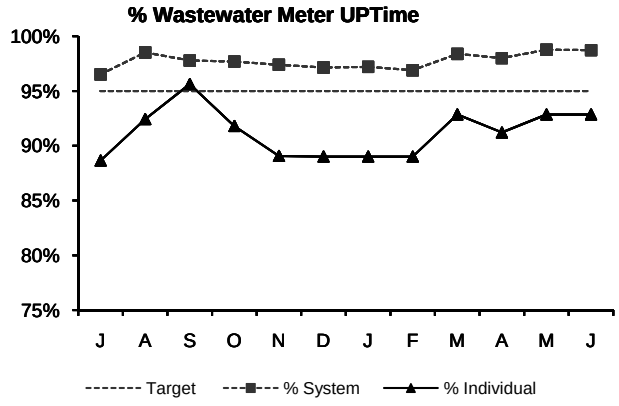
WASTEWATER METERS



The target for revenue wastewater transport calculated using meters is 95%. Estimates are generated for meters missing data due to instrument failure and/or erratic meter behavior. Estimates are produced using data from previous time periods under similar flow conditions. In the 4th Quarter, meter actuals accounted for 96% of flow; 4% of wastewater transport was estimated.



Staff inspected 53.26 miles of MWRA water mains in the 4th Quarter. The final total for FY11 was 241.16 miles, shy of the program's goal of 300 miles. The mileage target for leak detection survey was not met due to staffing shortages on the day shift, which is the group that performs the cross-country leak detection.



For the 4th Quarter, out of a possible 1,589,952 data points, only 23,797 points were missed resulting in a system-wide up time of 98.5%. Of the 182 revenue meters installed, 14 experienced down time greater than the 5% target resulting in a 92.3% individual meter uptime. Down time in the 4th Quarter is defined as any individual meter having less than 2,766.3 data points.

Water Distribution System

Month	J	A	S	O	N	D	J	F	M	A	M	J
Leaks Detected	0	0	1	0	0	0	2	1	0	0	2	1
Leaks Repaired	0	0	1	0	0	0	2	1	0	0	1	1
Backlog	0	0	0	0	0	0	0	0	0	0	1	1
Avg. Lag Time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.0**	**1.8**	**1.8**	**1.8**	**3.2**	**7.6**

In the 4th Quarter, three leaks were detected and two were repaired. Thus, the backlog at the end of FY11 is one. The one leak that carried over into FY12 is minor in nature, and requires a coordinated, scheduled isolation of two pipeline sections. The leak will be repaired in early FY12. The Pipeline Program's goal is to repair all leaks found during the fiscal year. However, if the goal cannot be reached due to restrictions, isolations, communities, or degree of difficulty, then the goal is to have not more than two leaks outstanding at year's end.

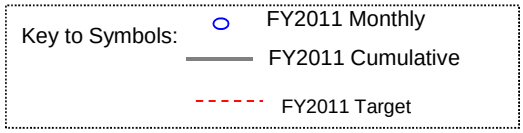
Water Distribution System Valves

4th Quarter - FY11

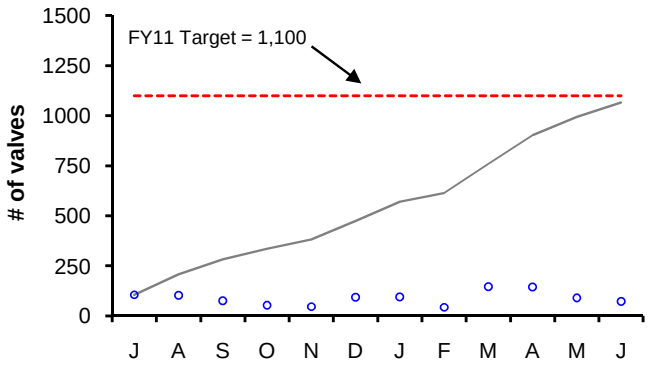
Background

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.

Type of Valve	Inventory #	Operable Percentage	
		FY11 to Date	FY11 Targets
Main Line Valves	2,083	95.4%	87%
Blow-Off Valves	1,193	93.4%	94%
Air Release Valves	1,335	92.0%	92%
Control Valves	48	100.0%	92%

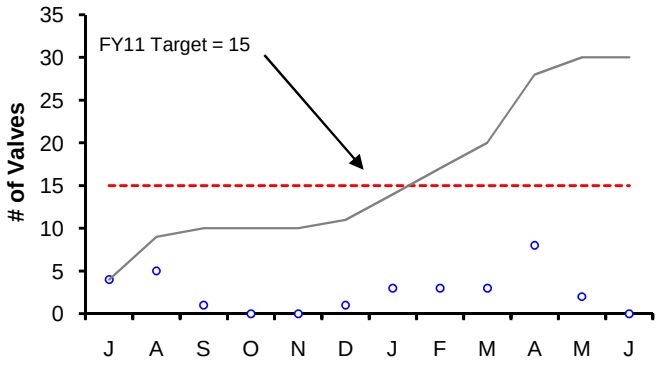


Main Line Valves Exercised



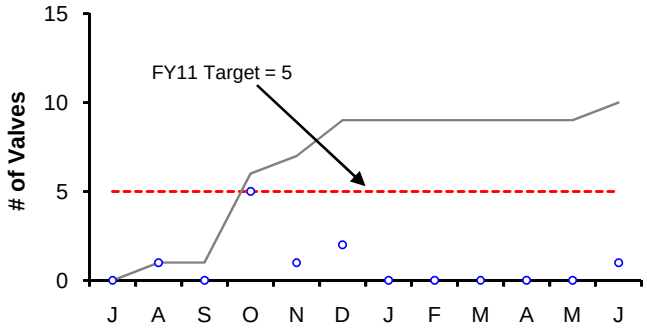
During the 4th Quarter, staff exercised 306 main line valves bringing the final total for the fiscal year to 1,065, just under the goal of 1,100.

Main Line Valves Replaced



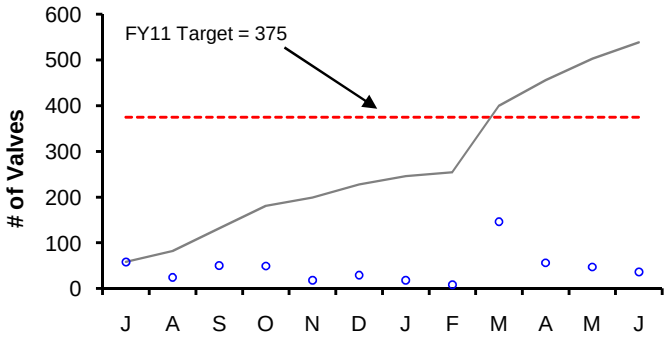
During the 4th Quarter, staff replaced 10 main line valves bringing the final total for FY11 to 30, double to intended goal.

Blow-Off Valves Replaced



Staff replaced one blow-off valve during the 4th Quarter, which brings the final total for FY11 to 10, double the program's goal of five.

Blow-Off Valves Exercised



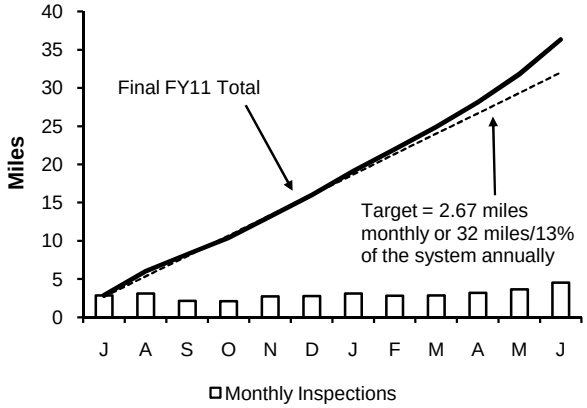
During the 4th Quarter, staff exercised 139 blow-off valves bringing the final total for the fiscal year to 539, well above the goal of 375.

Wastewater Pipeline and Structure Inspections and Maintenance

4th Quarter - FY 11

Inspections

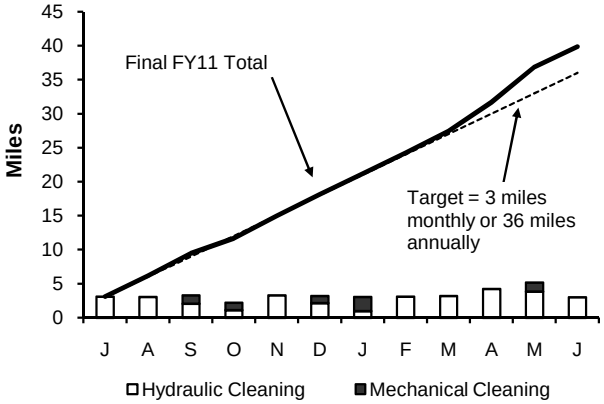
Pipeline Inspections



Staff internally inspected 11.46 miles of MWRA sewer pipeline during the 4th Quarter. The year-end total for FY11 was 36.34 miles, exceeding the goal of 32 miles. Community Assistance was provided to the Town of Winthrop; staff inspected 120 linear feet of 12-inch-diameter sewer for the town this quarter.

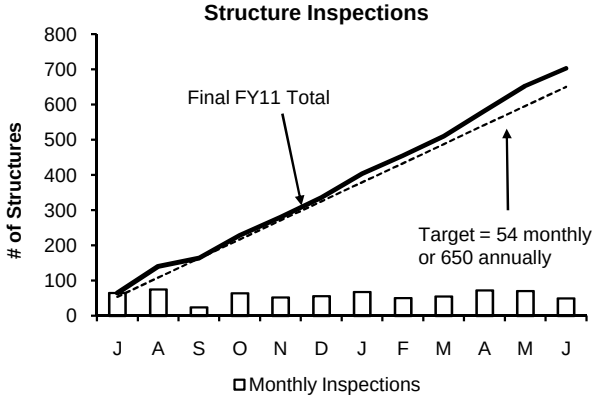
Maintenance

Pipeline Cleaning



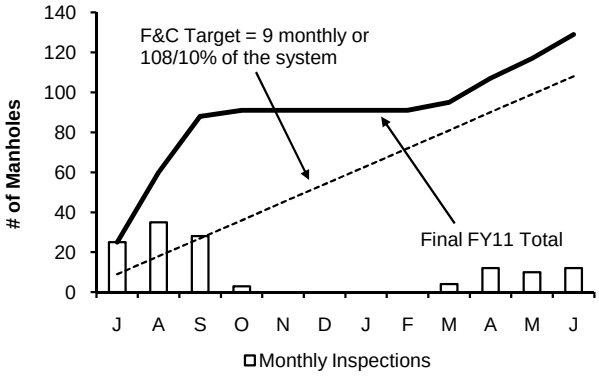
Staff cleaned 10.91 miles of MWRA's sewer system and removed 37 cubic yards of grit and debris during the 4th Quarter, bringing the final total for FY11 to 39.88, which exceeds the goal of 36 miles. No Community Assistance was provided this quarter.

Structure Inspections



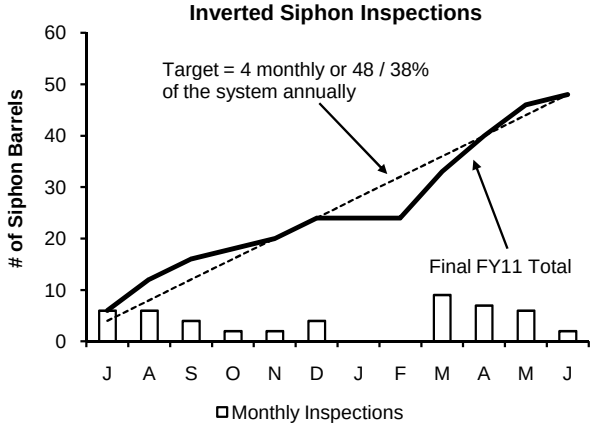
Staff inspected the 12 CSO structures each month during the quarter (36 inspections) and performed 157 additional manhole/structure inspections, bringing the final total for the fiscal year to 703, exceeding the program's goal of 650.

Manhole Rehabilitation



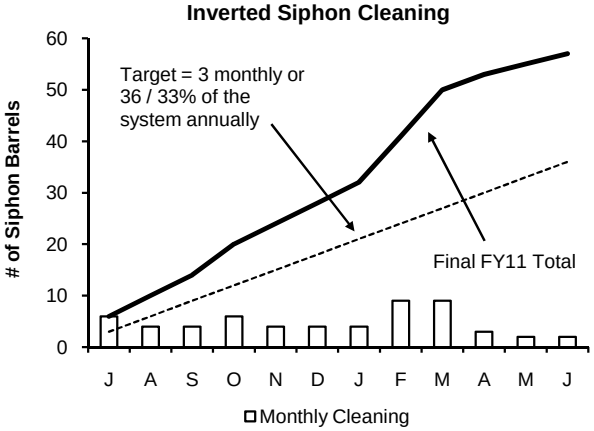
Staff replaced 34 frames and covers during the 4th Quarter bringing the final year-end total for FY11 to 129, which exceeds the program's goal of 108.

Inverted Siphon Inspections



Staff inspected 15 siphon barrels in the 4th Quarter, which brings the final year-end total for FY11 to the program's goal of 48.

Inverted Siphon Cleaning

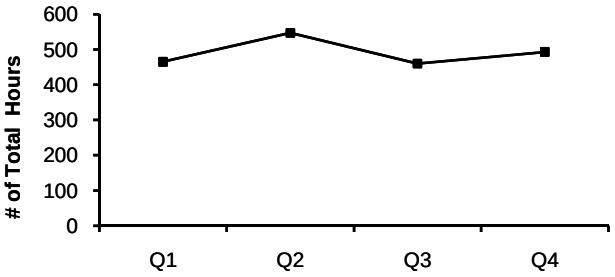


During the 4th Quarter, staff cleaned seven siphon barrels. The final year-end total for FY11 was 57, well above the FY11 goal of 36.

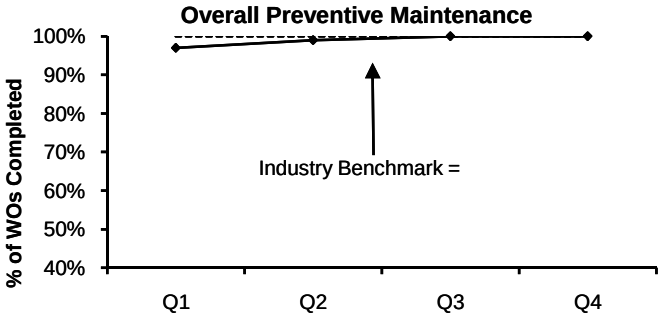
Field Operations' Metropolitan Equipment & Facility Maintenance

4th Quarter - FY11

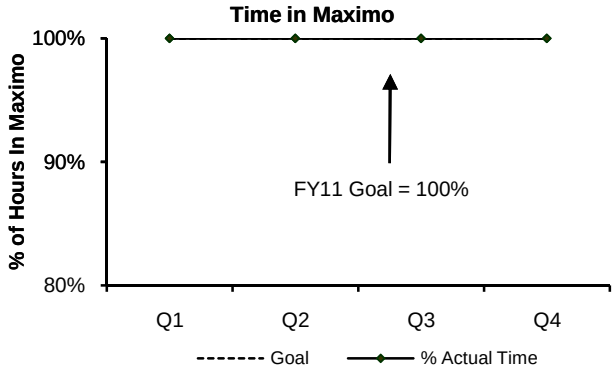
Staff are continuing with several maintenance and productivity initiatives; Operators performing light maintenance tasks is one of those productivity initiatives. This frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



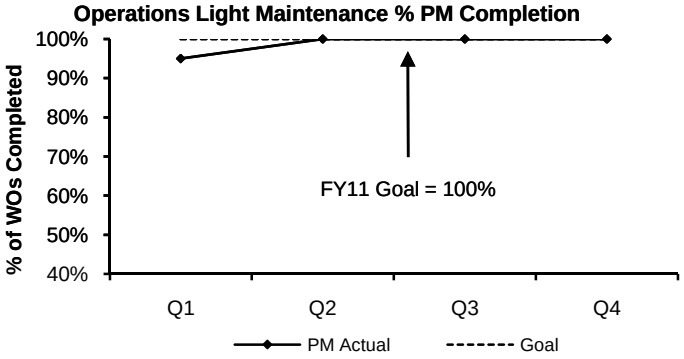
Operations staff averaged 493 hours of preventive maintenance during the 4th Quarter, an average of 19% of the total PM hours for the 4th Quarter, above the industry benchmark of 10% to 15% of total PM hours, which varies from month to month.



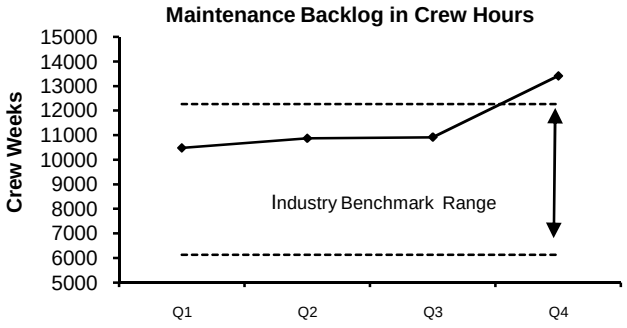
The Field Operations Department's (FOD) preventive maintenance goal for FY11 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 4th Quarter.



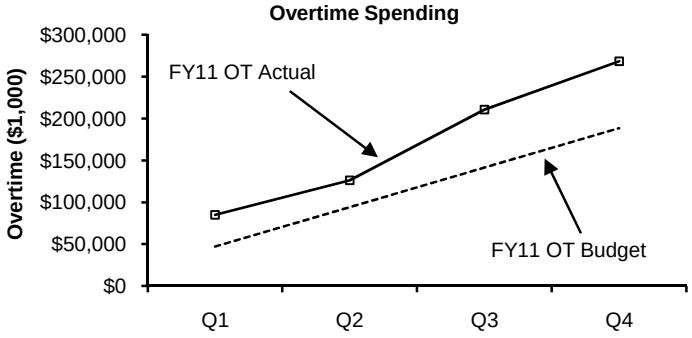
To ensure accurate data in the Maximo database, 8 hours of staff time each day must be entered into Maximo. The FY11 goal is 100%; 100% of time was entered in the 4th Quarter.



Operations' FY11 PM goal is completion of 100% of all PM work orders work orders assigned. Operations completed an average of 100% of PM orders in the 4th Quarter.



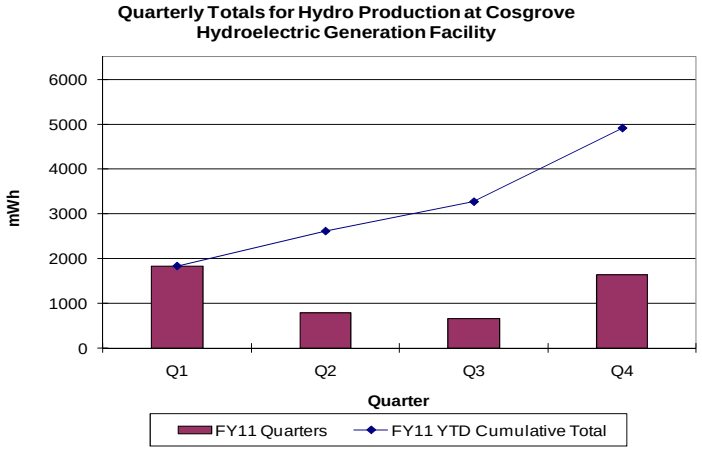
The 4th Quarter backlog average is 13,408 hours. The backlog is high due to a shortage of electrical staff (FOD is in the process of hiring of additonal electrical staff). Management's goal is to continue to control overtime and still stay within the industry

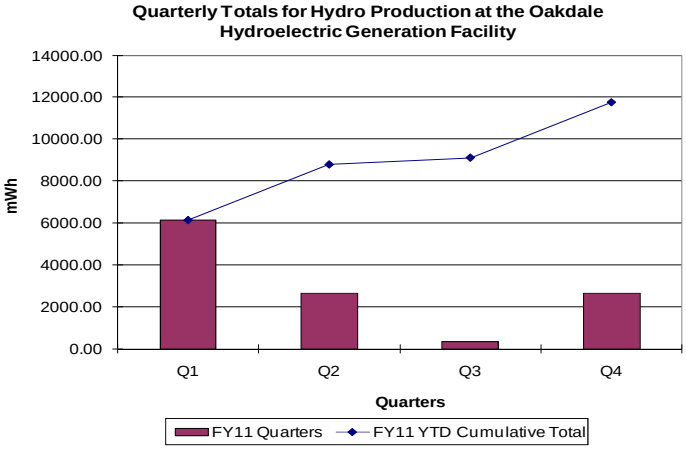


Maintenance overtime was $80K over budget for FY11. Overtime spending was $11k over budget for the 4th Quarter. Overtime was used to complete emergency repairs due to a variety of critical operational needs as well as staff coverage during multiple wet-weather events.

Field Operations Hydroelectric Generation Quarterly Report

4th Quarter - FY11





In the 4th Quarter, the Cosgrove Hydroelectric Station generated a net of 1,644 MWh, nearly the same amount that was generated during the same quarter in FY10. The revenue generated at Cosgrove in the 4th Quarter was $73,233 bringing the FY11 total revenue generated at Cosgrove to $242,415.

In the 4th Quarter, the Oakdale Station's hydroelectric plant generated a net of 2633 MWh, which was 23% less power than was generated during the same quarter in FY10. The revenue generated at Oakdale in the 4th Quarter was $113,054 bringing the total FY11 revenue generated at Oakdale to $797,162.

(Oakdale's operating protocol dictates that power is generated when water is transferred from Quabbin to Wachusett unless conditions result in flows that are in excess of generating capability.)

Loring Road Hydroelectric Project: Under the American Recovery and Reinvestment Act for Green Infrastructure projects, MWRA received$1.525 million in stimulus funding from SRF for this project, and in addition, received $275,000 for construction from the Massachusetts Clean Energy Center. The turbine generator was delivered on November 16. The 30-Day Acceptance Test began in late April and was successfully completed in late May. The unit is now fully operational and power generation results will be provided in the Q1, FY12 Orange Notebook.

Carroll Water Treatment Plant (CWTP) Photovoltaic: Under the American Recovery and Reinvestment Act for Green Infrastructure projects, MWRA received $1.5 million in stimulus funding from SRF for a 480-kW solar power system at the CWTP. A Notice to Proceed (NTP) was issued in January 2010 and work was complete by the end of the 3rd Quarter. The system is now operational, tied into the grid, and MWRA is receiving credits for the power that is being generated.

Southborough: An audit of the Southborough facility recommended a review of the HVAC system. Staff completed that work and have recommended the installation of an energy management system similar to the one being installed at the Chelsea Facility. Staff continue to work with NSTAR and a contractor to evaluate the work necessary to implement this project and determine the appropriate incentive from NSTAR resulting from the projected energy savings. Specifications were being developed for this project in the 4th Quarter.

Wind Power: Under the American Recovery and Reinvestment Act for Green Infrastructure projects, MWRA received $4.75 million in stimulus funding from SRF for a wind turbine at the DeLauri Pump Station. MWRA issued an NTP for the Design/Build of a 370-foot turbine in March 2010. Work is on-going and staff expect the turbine to be installed and tested by the 2nd Quarter of FY12. (Current status since Q4: ship transporting turbine is now in the Bahamas and staff are tracking its progress.)

CWTP Energy Audit: Installation of boiler controls for energy savings was evaluated for CWTP and is being implemented.

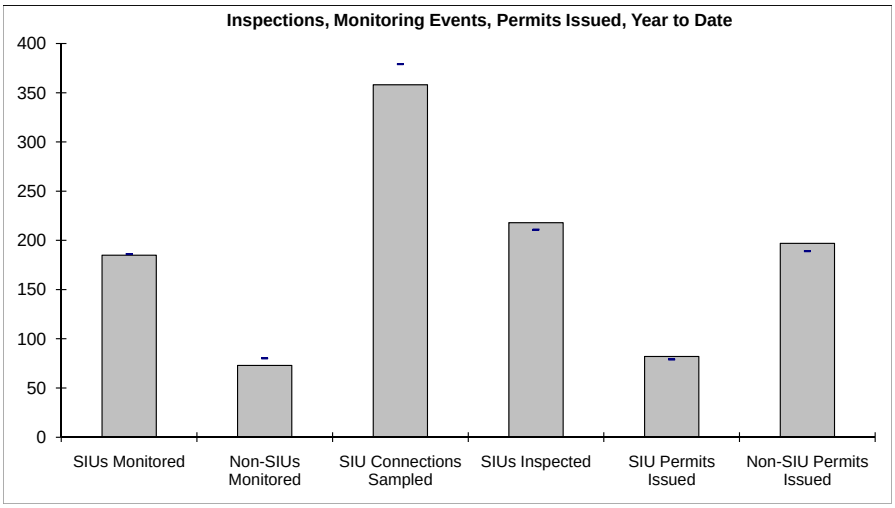
Chelsea Facility Energy Audit: The detailed audit of the Chelsea facility recommended installing an Energy Management System (EMS) for the Admin. Building, along with some equipment updates. Specifications for the EMS were completed in the 4th Quarter and are being reviewed by Procurement. NSTAR has agreed to provide a $168,000 incentive to MWRA for the installation of the EMS. In addition, LED lighting was installed in parking areas of the Chelsea Facility in the 4th Quarter. NSTAR has committed to providing a $46,000 incentive toward the cost of this project.

Energy Audit of Eight FOD Facilities: MWRA staff identified multiple facilities that would benefit from a comprehensive energy audit. The focus of this energy audit was lighting, HVAC, pumps, and motors. Implementation of the audit recommendations began at the end of the 1st Quarter of FY11 and is on-going.

Energy Audit of Fourteen FOD Facilities: Audits of 14 additional FOD facilities began in the 1st Quarter of FY11 and were completed by the end of the 4th Quarter.

Toxic Reduction and Control

4th Quarter - FY11



EPA Required SIU Monitoring Events
for FY11: 186
YTD : **185**

Required Non-SIU Monitoring Events
for FY11: 80
YTD : **73**

SIU Connections to be Sampled
For FY11: 379
YTD: **358**

EPA Required SIU Inspections
for FY11: 211
YTD: **218**

SIU Permits due to Expire
In FY11: 79
YTD: **82**

Non-SIU Permits due to Expire
for FY11: 189
YTD: **197**

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. The year-end number fell one short of the FY11 goal because the actual number of SIUs with flow fluctuated during the year. MWRA sampled every SIU with flow during the year, at every sample location with flow. Non-SIU monitoring events also fell short of the goal because of the closure or status change of some non-SIUs.

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 at any given time. During the course of the year, some SIUs do not discharge and cannot be monitored. TRAC's monitoring plan requires one additional sampling event for 40% of the SIUs and two additional sampling events for 10% of the SIUs. TRAC also monitors one-third of the non-SIUs each year. The number of SIUs inspected reflects the total number of facilities that were inspected throughout the year that were determined to be SIUs at some time during the year. The number of actual inspections exceeds the number of required inspections because of SIU status changes throughout the year. For example, some SIUs closed prior to year-end and were inspected before they closed; others were added and inspected prior to the end of the fiscal year.

SIU and Non-SIU permits are issued with durations of two to five years, depending on the category of industry, varying the number of permits that expire in a given year.

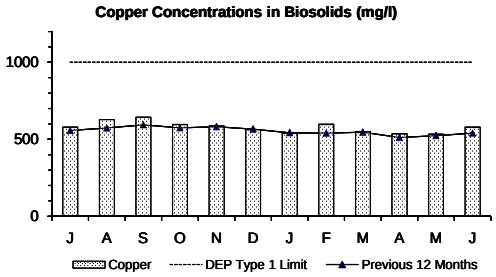
TRAC met all of EPA's sampling and monitoring requirements in FY11.

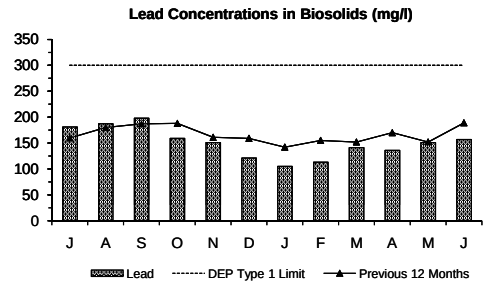
Number of Days to Issue a Permit								
	0 to 120		121 to 180		181 or more		Total Permits Issued	
	SIU	Non-SIU	SIU	Non-SIU	SIU*	Non-SIU	SIU	Non-SIU
Jul	2	5	0	0	0	0	2	5
Aug	0	13	1	1	3	6	4	20
Sep	4	19	0	1	2	2	6	22
Oct	5	9	0	0	0	2	5	11
Nov	3	13	0	3	0	4	3	20
Dec	3	11	0	1	1	3	4	15
Jan	3	17	0	0	0	1	3	18
Feb	7	10	0	1	1	7	8	18
Mar	9	13	0	2	0	6	9	21
Apr	7	7	0	2	1	3	8	12
May	9	21	0	1	2	2	11	24
Jun	19	5	0	1	0	5	19	11
% YTD	87%	73%	1%	7%	12%	21%	82	197

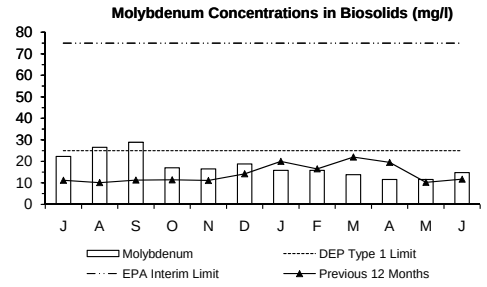
EPA requires MWRA to issue or renew 90% of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10% of SIU permits to be issued within 180 days. In the 4th Quarter, three SIU permits were issued beyond 180 days, two of which were because staff were awaiting completion of modifications to facilities that would result in permit changes.

Copper, lead, and molybdenum are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer. Cooling tower usage typically causes a seasonal spike in molybdenum concentrations due to the blowdown on large AC systems that use corrosion inhibitors containing molybdenum. Levels drop again following the end of the cooling season. The hotter the season, the higher the spike. TRAC has an ongoing program to persuade cooling tower operators to switch to phosphate-based corrosion inhibitors.

During FY09 and FY10, MWRA met DEP's Type 1 Molybdenum limit for the entire year. However, in August and September of FY11, the average concentrations of molybdenum exceeded the state standard for unrestricted use as a fertilizer within Massachusetts. Newspapers reported that summer 2010 was the hottest on record in the Northeast and the increase in molybdenum levels would appear to support that fact. In October, the levels returned to below the state limit and have remained below through the fourth quarter of FY2011. Staff will review MWRA's voluntary program and evaluate whether or not a regulatory program is needed to control molybdenum levels.







Field Operations Highlights

4th Quarter - FY11

Western Water Operations & Maintenance

- Carroll Water Treatment Plant (CWTP): Staff shut down the plant for Phase 1 of the Redundant Gaseous Oxygen (GOX) Project. The contractor replaced both of the existing GOX pressure reducing valves. During the shutdown, staff completed annual electrical preventive maintenance on transformers and panels that cannot be isolated while the plant is in operation. Staff installed the isolation spool piece to the blow-off and flushed the 30-inch line feeding the Marlborough Pumping Station. Staff also replaced the knife gate on Soda Ash Silo 6 with a new style that will prevent a product from binding the knife within its guides, which was a problem with the older style valve.

- MetroWest Water Supply Tunnel (MWWST): Staff replaced a 16-inch butterfly valve at the riser shaft that feeds Framingham's Grove Street Pumping Station. Staff discovered the original valve had failed while attempting to shut down the feed line so that Framingham's contractor could install new piping and valves that would allow the connection of temporary pumps that would be used while the station is being rehabilitated.

- Sudbury Reservoir: As part of the dam safety remedial work, staff removed more than 100 trees at the base of the Sudbury Dam, including stumps. Once complete, they backfilled, loamed and seeded the area. Staff also installed a temporary vent in the gatehouse as a test to see if venting would improve flow at the bell mouth. The test was successful and material is being purchased to install a permanent vent. Staff also completed masonry repairs to the bell mouth.

Metro Water Operations & Maintenance

- Incidents: Staff responded to a number of incidents during the quarter, including, a leak on the Section 26 pipe crossing above the Fox Hill Bridge on the Saugus/Lynn line, a water main break on Broadway in Cambridge, a leak on Section 80 in Wellesley, and a leak on Saugus' system.

- Water Pipeline Program: Several major projects were completed during the quarter. The first was the Northern Intermediate High (NIH) Site 2 emergency connection between Winchester and Woburn at Ridge Street and Waltham Street. The work involved the installation of eight-inch-diameter piping and four new valves. Site 6, NIH emergency connection site piping and valve work was performed during the quarter in Stoneham in front of the Gillis Pump Station. The work included installation of new 36-inch pipe, several large thrust blocks, fittings, couplings, and six new valves.

- Valve Program: Valve staff supported the Section 107 and Sections 18/50/51 CIP Projects during the quarter. Work for Section 107 included isolation of Section 22 in the Dorchester Lower Mills area. Service to the Southern High Service area remains normal with the portion of Section 22 isolated for construction. Valve Staff also isolated Section 13 at the Gillis Pump Station for the Site 6 work noted above. Valve staff worked with Norwood Water staff to replace a broken Norwood valve at Meter 163. The standby Pressure Reducing Valve (PRV) on Section 108 was temporarily put into service for the work at Meter 163. The normal supply configuration to Norwood though Meter 163 was returned to service when the valve work was completed.

- Loring Road Covered Storage Facility Hydro Turbine Generator Installation: The 30-day test of the new hydro turbine was re-started on April 19. The turbine ran as expected during the test with a few instrumentation issues occurring (which were resolved). The test was completed on May 19. Third- party testing was completed on May 26. The turbine continues to run well. It is generally running between 22.5 and 22.9 mgd, producing an average power output of 180 to 190 kilowatts per hour.

- Mass DOT Fast 14 Bridge Replacement Contract: Staff participated in the planning with Mass DOT for the Fast 14 Bridge Replacement Project on I-93 in Medford Inspection staff were on site from Friday evening through Monday morning for both weekends in June when work was being performed on the northbound bridges over Section 57 on Riverside Avenue and Section 18 on Valley Street in Medford. No damage occurred to either of the water lines as a result of the work.

Wastewater Operations & Maintenance

- South Boston CSO Storage Facility and Pump Station: Staff attended start-up meetings, coordination meetings, and a Human/Machine Interface (HMI) Display/Control Strategy Review Meeting; reviewed Standard Operating Procedures (SOPs) and vendor training documentation; and provided comments/amendments on the SOPs/Training materials. Operations staff also inspected the diversion chambers along the North Dorchester Bay storage conduit.

- Spill Prevention Control & Countermeasures (SPCC) Inspections: Operations and the Real Property Department performed SPCC Inspections at Cottage Farm CSO, Prison Point CSO, and Braintree- Weymouth Pump Station. DEP requires that inspections be performed monthly with records placed on-site in EAP cabinets and in the Operations Program Manager's Office for reference and recommendation tracking.

- Somerville Marginal CSO Tour for Tufts University: Operations and Engineering staff gave a tour of the Somerville Marginal CSO to a group of Tufts teachers and students who are conducting an impact study on the effects of climate change on the collection systems in the City of Somerville.

- Tornado Watch: Operations personnel staffed the Emergency Operations Control Center on June 1 when tornados struck parts of Massachusetts.

TRAC

- Permitting: Staff met with representatives of EPA and Massachusetts DEP on April 6 to discuss issues associated with Sewer Use Discharge Permits authorizing Massachusetts DOT to discharge tunnel wash water from the Ted Williams and Central Artery Tunnels. The current permits require the installation of diversion valves that will allow stormwater and groundwater to be diverted to the storm system when the tunnels are not being washed. DEP and EPA are concerned about the quality of the stormwater and groundwater and have indicated that they may not allow the discharge to the storm system. MWRA's regulations prohibit the discharge of stormwater and groundwater. Discussions are continuing.

- Annual SIU Meetings: TRAC staff held its Annual Meetings for Significant Industrial Users (SIUs) at the CWT Plant on April 12, 13, and 14. TRAC uses these meetings to inform its most significant permittees about MWRA's activities and issues related to compliance with their permits. This year, the meetings, which were attended by 98 of MWRA's industrial contacts, representing approximately 85 industries, included presentations about and tours of the water treatment plant, as well as presentations about pretreatment program requirements.

Metro Equipment and Facility Maintenance

Equipment Maintenance Program

- DeLauri Screen Rehabilitation: In-house staff started the rehabilitation of the Screen 2. The chain, rakes, gearbox, and repairs to the bar rack are being replaced. This screen is expected to be completed in early July.

- Belmont VFD Replacement: The VFD for Pump 2 failed and required replacement; a new VFD was purchased and MWRA Electricians installed it.

- Braintree Weymouth Pump Replacement: Pump 3 was removed and rebuilt in May; Mechanics and Electricians re-installed the rebuilt pump.

- Newton Street Pump Motor 3 Failure: The pump motor failed and a spare replacement motor was installed by the Electricians.

- Headworks Repairs: Numerous repairs were completed in June at Columbus Park, Ward Street, Chelsea Creek, and Nut Island.

Grounds/Custodial Maintenance

- Station Cleaning: Completed spring parking lot sweeping at all facilities, readied the North Dorchester Bay Station for opening ceremony.

Metro Equipment and Facility Maintenance (Continued)

- Tree Removal/Landscaping: Trimmed trees and vegetation at Braintree Weymouth and High Fells, and completed lawn maintenance at Commercial and Fox Pint, Outfall 205 and 205A, Waban, Loring Road, Hayes Pump Station and Gillis Pump Station. Continued to cut easements as scheduled. Assisted in the Mystic River Clean-up.

Facility Maintenance

- Facility Maintenance Support Activities: Staff constructed a brick wall at the DeLauri Pump Station; replaced frames and covers at Arlington Section 52, Natick Section 632 and Medford Section 106; erected staging at New Neponset, Ward Street, Hayes Pump Station, Caruso, Cottage Farm, and Nut Island; removed graffiti from Bellevue Tank and Chestnut Hill Reservoir; and power washed the façade of the Chelsea Administration Building.

- Painting: Staff primed and painted sections at Belmont Pump Station, DeLauri, Gillis Pump Station, a new grit line at Chelsea Headworks, and air vents in Sections 78 and 95 in Brookline.

Operations Support

Operations Engineering

- Development of Emergency Response Plan Training Program: Staff continued to develop a comprehensive annual emergency plan training program to comply with DEP requirements. This training will be provided for MWRA staff and a version of the training will also be provided to staff from MWRA's water communities. For CY2011, a draft schedule has been prepared and announcements are being drafted for distribution to the communities. This training program will be continued annually thereafter in a series of sessions spread throughout the year.

Metering and Monitoring

- New Facility Startups: SCADA staff participated in start-up testing at North Dorchester Bay CSO Project and Loring Road Hydropower.

- Meter Systems: Staff have begun implementing the system-wide Rosemount flow transmitter replacement with a newer generation that allows a wider, accurate span. Staff are also converting water meter data collection to wireless transmission, which will reduce costs.

- Cyber Assessment: Staff continued participating in an internal cyber security audit covering the SCADA system and MIS's administrative networks.

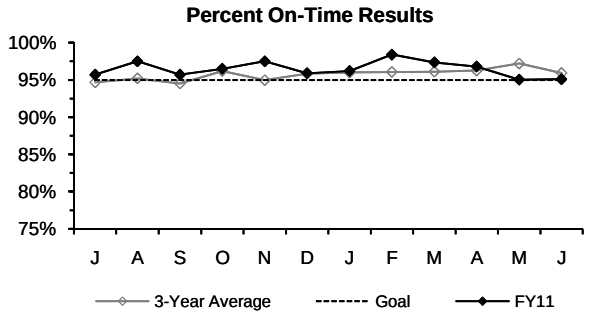
Water Quality Assurance

- Online Water Quality Monitoring: Staff continued working on updating the distribution water quality monitoring analyzer system. Four of the new S::CAN units have been installed to date and three have been made operational via SCADA. Central data collection strategy and the associated server installation are now scheduled for August and a training program is currently being finalized. Staff continued implementing the associated data collection network with Verizon; field surveys are scheduled for July.

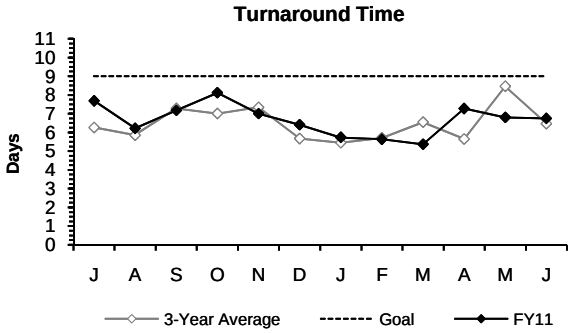
Sampler Training: Staff completed delivering the biennial sampler training for community sampling staff in May with well over 100 trainees.

Laboratory Services

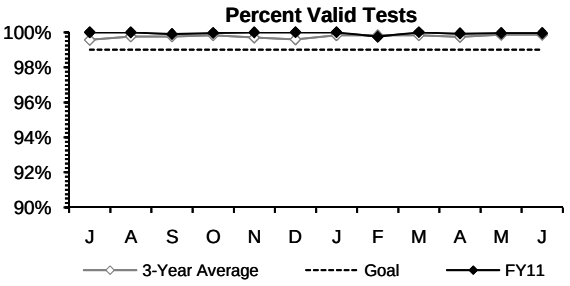
4th Quarter - FY11



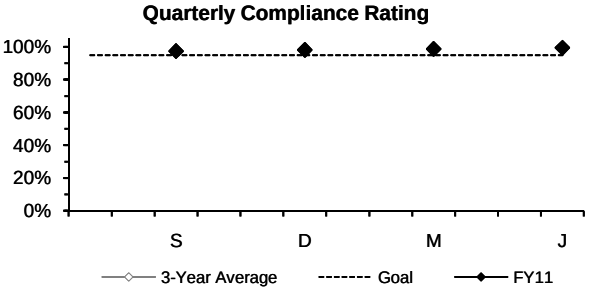
The Percent On-Time measurement met the 95% goal for each month of the 4th Quarter.



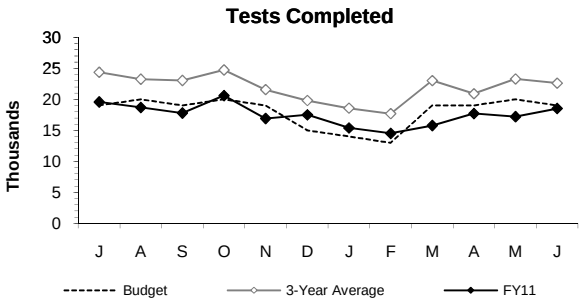
Turnaround Time was faster than the 9-day goal each month of the quarter.



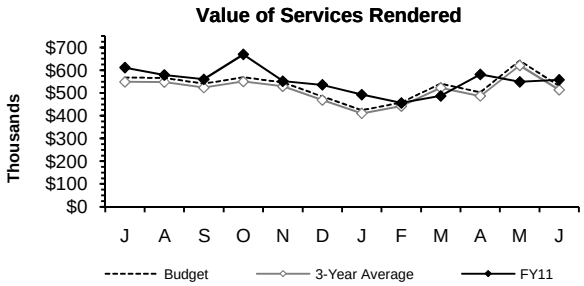
The Percent Valid Tests measurement stayed above the 99% goal each month during the 4th Quarter.



An audit of data review at all five lab locations found good compliance with requirements. Compliance audits are performed in September, December, March, and June.



The Tests Completed measurement was below the seasonally adjusted budget goal each month during the 4th Quarter due to differences in test counting between the old and new LIMS. The 3-Year Average is based on the old LIMS test-counting scheme.



The Value of Services Rendered was above the seasonally adjusted budget projection for two months of the quarter.

Highlights:

Quality Assurance: DLS passed 410 of 416 annual Proficiency Test parameters on the first try (98.6%). Retests are needed on only six parameters to maintain DEP laboratory certification. Received renewed laboratory certifications for Chelsea, Quabbin, Southborough, and the Central Lab.

Clinton: Completed testing samples from the phosphorus pilot treatment study. These results will be used to design the new treatment process that will be needed for the anticipated requirements of the new NPDES permit.

ENQUAD: DLS completed special samples from Mass. Bay to track concentrations of *Alexandrium* (Red Tide). Participated in the annual Harbor and Outfall Monitoring technical meeting and the Outfall Monitoring Science Advisory Panel meeting. Tested fat particle samples from two wet-weather Mass. Bay net tows as part of the new requirements for the Harbor and Outfall Monitoring program.

TRAC: Provided guidance on sample preservation and testing for Acrolein for an industrial investigation.

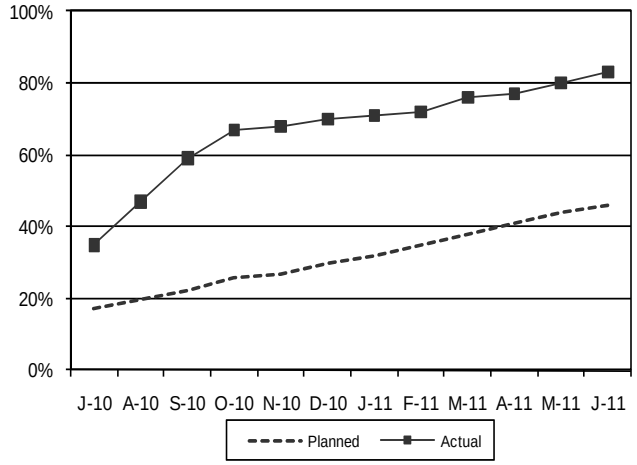
Water Quality Assurance: Completed samples from the large semi-annual Lead and Copper Rule project. All communities met the lead action limit. Tested water quality complaint samples from Boston. Tested bacteria samples from Nahant after a pipe break and repair. DLS is providing bacteria isolates to a Water Research Foundation project to be used in a genetic library of coliform bacteria for the EPA total coliform method evaluation study. Provided feedback to DEP on its upgraded program for electronic reporting of drinking water lab results.

Outside Customers: Provided bacteria results in support of the Charles River swim.

CONSTRUCTION PROGRAMS

Projects In Construction – 1
June 2011
(Progress Percentages based on Construction Expenditures)

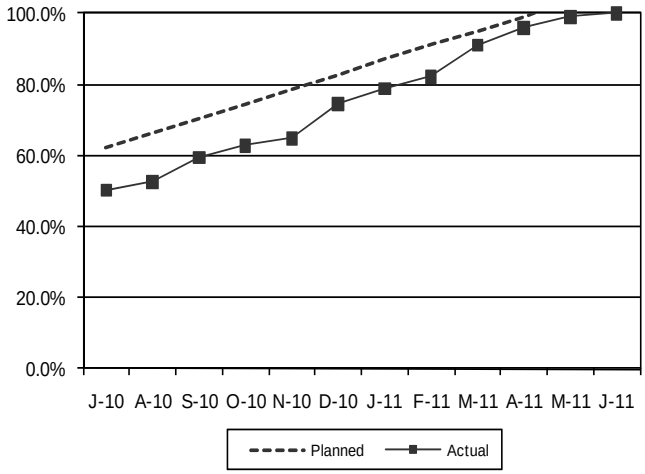
Southern Spine Water Mains Rehabilitation - Section 107
Progress - June 2011



Project Summary: This project for Section 107 includes the removal of 17,000-linear feet (lf) of 24-inch water main, installation of 9,400-lf of new 48-inch water main, replacement of three revenue meters, and the cleaning and lining of 1,000-lf of 24-inch & 1,500-lf of 48-inch water main.

Status and Issues: The contractor successfully pressure tested Section 107, a 48" ductile iron pipe, and two 24" BFV's. All of the 48" DIP in Milton has now passed pressure testing at 150 psi. Manhole frames and covers were recessed along Adams Street in Milton between Fr. Carney and Brooke Road in preparation of paving. More crews along with favorable weather in early 2010 has put the contract ahead of schedule.

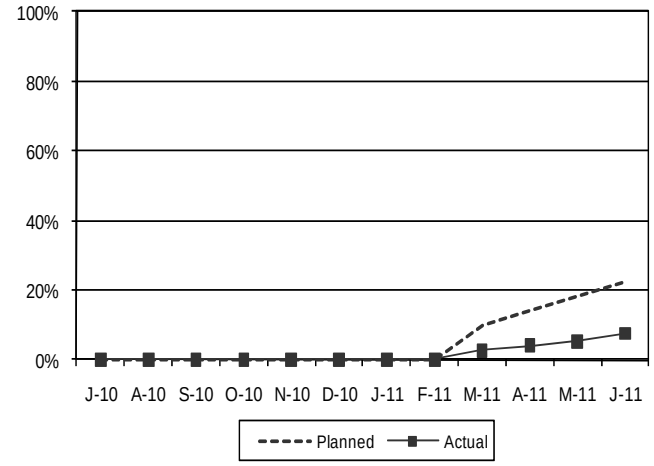
North Dorchester Bay Pump Station and Sewers
Progress - June 2011



Project Summary: Construction of 15-MGD CSO pump station, approximately 3,200 linear feet of 24-inch force main and 640 linear feet of 30-inch gravity sewers and appurtenant work.

Status and Issues: The ribbon cutting ceremony was held on June 23rd. The facility received a temporary Certificate of Occupancy and has been turned over and is being operated by the MWRA. The contractor is working to address punch list items, which include: completing SCADA checkouts, reprogramming RWW/DW pumps, dry/wet checkout of influent slide gates and balancing of HVAC system.

Lynnfield/Sagus Pipelines
Progress - June 2011

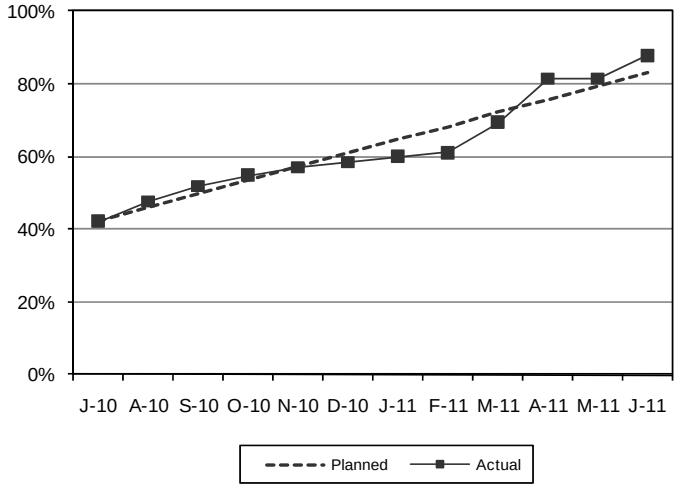


Project Summary: Installation of MWRA water mains including 1,800 linear feet of 36-inch pipe and 4,700 feet of 24-inch pipe. Project also includes 6,000 linear feet of 12-inch pipeline for the Town of Saugus. Pipeline construction is located along Route 1 in Saugus.

Status and Issues: The contractor began the installation of 280 LF of 24" ductile iron pipe on Route 1 southbound. The contractor installed a groundwater treatment system on Route1 ROW with Mass DOT approval, a week later, the system had to be removed per Mass DOT as a result of abutter complaints.

Projects In Construction – 2
June 2011
(Progress Percentages based on Construction Expenditures)

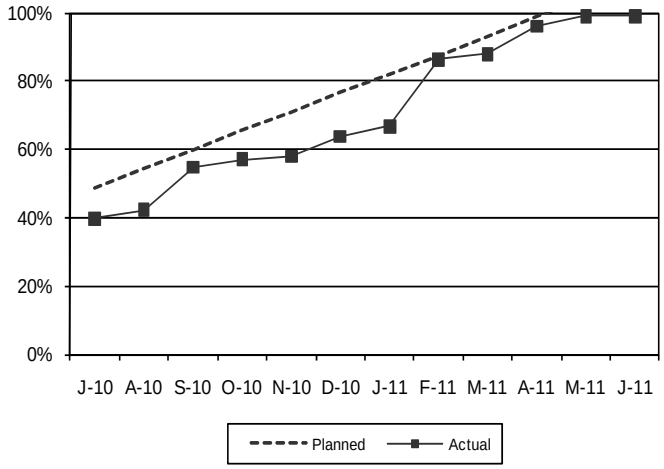
Section 18, 50 & 51 Rehabilitation in Medford/Somerville
Progress - June 2011



Project Summary: This project is one of the Shaft 7 to WASM 3 phases (CP-5) and provides for the rehabilitation of valves and 15,000 linear feet of 48, 20 and 16-inch pipe in Medford and Somerville including replacement of revenue Meter 32 in Somerville.

Status and Issues: On Section 18, no work was performed in June. The contractor excavated and demolished the existing Section 65 and Section 51 connection and installed a 36" valve and a new 36" x 24" tee. They also excavated and demolished the existing section 12 and 51 connection. Section 51, 12W and 16W were disinfected and the line was placed back into service on June 8th. On Section 50, all construction work is complete.

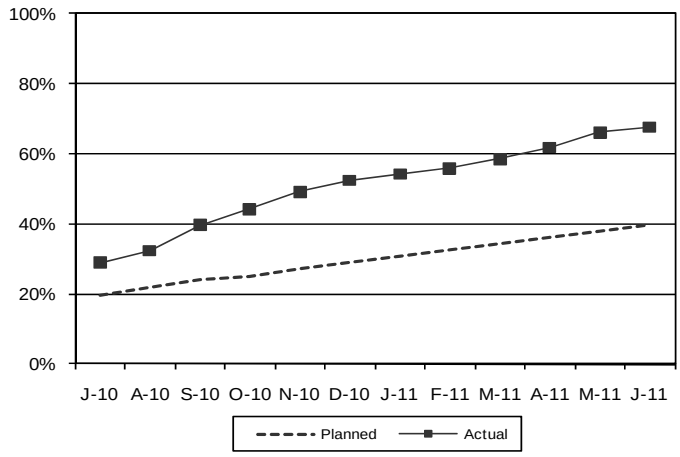
North Dorchester Bay Ventilation Building
Progress - June 2011



Project Summary: Construction of a ventilation building, interconnection to the NDB storage tunnel maintenance access structure at BOS-087 and final restoration of the -087 work area.

Status and Issues: The ribbon cutting ceremony took place on June 23rd. The facility is awaiting the final inspection of the fire protection system from the BFD and the final top coarse of bituminous concrete in the yard. All other systems are complete and operational.

Hultman Aqueduct Interconnections Project
Progress - June 2011



Project Summary: This project includes rehabilitation construction to the Hultman Aqueduct to provide redundancy to the MetroWest Tunnel from Southborough to Weston by adding five new MetroWest/Hultman interconnections, two surge relief structures, 13.5 miles of internal rehabilitation and 15 miles of external access work.

Status and Issues: The contractor completed placing and welding of 120" piping through walls at N-3 and the installation of 3 – 120" BVs and began pressure testing. SCADA testing began for the new components at VC-Ls. Restored the work area east of Ridgeway Rd as required by the Weston Conservation Commission.

CSO CONTROL PROGRAM

4th Quarter - FY11

As of June 30, 2011, 29 of the 35 projects in MWRA's Long-Term CSO Control Plan are complete, including the North Dorchester Bay (South Boston) CSO Storage Tunnel and Related Facilities project, which MWRA brought into full environmental benefit in May 2011. Four CSO projects are in construction, including Cambridge's CAM004 Stormwater Outfall and Wetland Basin (Contract 12), which is part of MWRA's Alewife Brook CSO control plan. MWRA plans to commence design of the remaining two projects in April 2012: Outfall MWR003 Gate and Floatables Control/Rindge Ave. Siphon Relief and Outfall SOM01A Interceptor Connection Relief and Floatables Control, both also related to Alewife Brook. (NOTE: On July 14, 2011, Judge Stearns accepted MWRA's motion to revise certain Schedule Seven milestones for the Alewife Brook CSO projects.)

Project	Court Milestones in Schedule Seven (Shaded milestones are complete)			Status as of June 30, 2011
	Commence Design	Commence Construction	Complete Construction	
North Dorchester Bay Storage Tunnel and Related Facilities	Aug 97	Aug 06	May 11	MWRA completed the work necessary to bring the $224 million North Dorchester Bay CSO Storage Tunnel and related facilities project into its intended environmental function. Since May 4, 2011, MWRA has been operating the tunnel and facilities as intended to achieve the environmental benefits of the project in accordance with MWRA's overall $267 million CSO Control Plan for North Dorchester Bay and the beaches of South Boston and in compliance with Schedule Seven.
Brookline Sewer Separation	Nov 06	Nov 08	Jul 13	The Town of Brookline has made substantial construction progress since awarding its $16.6 million second contract in January 2011 for the $25.9 million Brookline Sewer Separation project. On Monmouth Street, the contractor completed the micro-tunnel boring machine (MTBM) entry and exit shafts and a 500-linear-foot MTBM drive to install a 57-inch-diameter sanitary sewer and is installing an additional 175 feet of 57-inch-diameter sanitary sewer and a special structure to connect the new sewer to MWRA's Charles River Valley Sewer Interceptor at Monmouth and St. Mary's streets. On St. Mary's Street, the contractor has completed most of the necessary utility relocations, is completing MTBM entry and exit shafts, and is preparing to make a 600-foot MTBM drive(s) to install an 18-inch sanitary sewer. On Beacon Street, the contractor has completed some of the utility relocation work, as well as MTBM entry and exist shafts at Borland Street and Kent Street, respectively, and continues work to construct a special structure on MWRA's South Charles River Relief Sewer interceptor. In the meantime, since completing internal inspections of CSO Outfall MWR010 in 2010, MWRA has issued a task order for final design services associated with the cleaning of sediments from the outfall and the removal of old tide gate structures that will no longer be needed. MWRA plans to award and complete the cleaning and rehabilitation contract in 2012. All of the related Town of Brookline and MWRA work is scheduled to be complete by January 2013, ahead of the July 2013 milestone in Schedule Seven.
Reserved Channel Sewer Separation	Jul 06	May 09	Dec 15	In December 2010, BWSC completed the first of nine planned construction contracts for the $62.3 million Reserved Channel Sewer Separation project. BWSC is making progress with three additional construction contracts it commenced in fall 2010, and a fourth additional contract it commenced in April 2011. All work is scheduled to be complete by December 2015 in compliance with Schedule Seven.

Project		Court Milestones in Schedule Seven (Shaded milestones are complete)			Status as of June 30, 2011
		Commence Design	Commence Construction	Complete Construction	
Cambridge/ Alewife Brook Sewer Separation	CAM004 Outfall and Wetland Basin (Contract 12)		Apr 11	Apr 13	Cambridge issued a partial Notice to Proceed for construction of the CAM004 stormwater outfall and detention basin project ("Contract 12") in April 2011. It was then able to secure all remaining private property easements and rights of entry and issue the full Notice to Proceed on May 23, 2011. This $14.8 million contract ($2.3 million MWRA share) has a completion date April 25, 2013. Construction activities to date are associated with the relocation of gas, electric, and communication lines that cross the Little River to make room for the construction of the new stormwater detention wetland. The entry and exit pits for the horizontal drilling for the new utility alignment have been excavated on respective sides of the river and horizontal drilling is underway.
	CAM004 Sewer Separation	Jan 97	Jul 98 Sep 12	Dec 15	Cambridge completed four initial construction contracts for this project several years ago and plans to award three additional contracts to complete the work. Cambridge continues to make progress with design activities and plans to award the next construction contract in September 2012, in compliance with Schedule Seven.
	MWR003 Gate and Rindge Ave. Siphon	Apr 12	Aug 14	Oct 15	MWRA plans to commence design of this Alewife Brook project in April 2012, in compliance with Schedule Seven. Staff are currently preparing the scope of services and procurement documents.
	SOM01A Connection Relief and Floatables Control	Apr 12	Sep 13	Jun 14	
Other CSO Related Work					
South Dorchester Bay Sewer Separation Post-Construction Inflow Removal		N/A	N/A	N/A	BWSC continues to pursue additional stormwater inflow removal (i.e., downspout disconnections) from the sanitary sewer system in order to mitigate the remaining risks of sewer system flooding in large storms. Design and flow metering activities are underway. BWSC expects to receive inflow removal recommendations in early 2012.
Lower Dorchester Brook Sewer Regulator Relocation and Sewer Separation		N/A	N/A	N/A	In August 2010, BWSC issued the Notice to Proceed for construction in the low-bid amount of $5,997,447.50, of which $1,452,882 is eligible for MWRA funding. BWSC and MWRA agreed to a cap on MWRA funding for this project of $2,030,000. BWSC's contractor has installed 340 linear feet of 15-inch and 18-inch storm drain, two major pile-supported drainage structures on Massachusetts Avenue at the entrance to NStar's property, and a stormwater particle separator for pollution reduction. The contractor continues with construction of the CSO regulator that is being relocated to the Boston Main Interceptor (BMI). The contract completion date has been extended from May 2011 to August 2011, in part, due to a change order adding a structural liner for a portion of the BMI.

CIP Expenditures
4th Quarter FY11

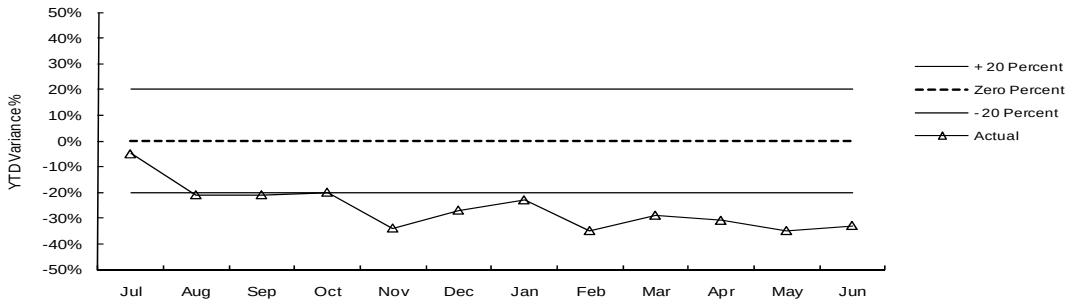
The Year-To-Date variances are highlighted below:

FY11 Capital Improvement Program Expenditure Variances through June by Program ($000)				
Program	**FY11 Budget Through June**	**FY11 Actual Through June**	**Variance Amount**	**Variance Percent**
Wastewater	130,436	92,004	(38,432)	-29%
Waterworks	58,191	38,896	(19,295)	-33%
Business and Operations Support	18,623	8,384	(10,239)	-55%
Total	**$207,250**	**$139,284**	**($67,966)**	**-33%**

Underspending within Wastewater is primarily attributable to lower awards for the Reserved Channel Sewer Separation and Prison Point HVAC Upgrades contracts, lower awards and delays of the second Brookline Sewer Separation contract and Cambridge Sewer Separation Contract 12, less Engineering Services during construction for the North Dorchester Bay Tunnel, final contract costs for the East Boston Branch Relief Sewer were less than anticipated, timing of work for DI Electrical Equipment Upgrade 3, VFD Replacements, delays in Process Information Control System construction, Switchgear Replacement, Digester Modules 1&2 Pipe Replacement contracts, timing of CSO Land Easements, and Primary & Secondary Clarifier work expected in FY11 was completed in FY10. This was partially offset by accelerated progress on the Heat Loop Pipe Replacement, greater community requests for grants and loans, and Braintree-Weymouth land settlement occurring sooner than originally anticipated. Underspending within Waterworks is primarily due to lower community requests for loans, timing of Watershed Land purchases, delay in schedule and lower award for Lynnfield Pipeline Construction 2, Carroll Water Treatment Plant Ancillary Modifications schedule change, and re-scheduling Quabbin Aqueduct Inspection work to be part of the Winsor Station Upgrades project. This was partially offset by accelerated schedule and contractor progress on the Lower Hultman Aqueduct Rehabilitation (CP6A) contract and progress on the Southern Spine Section 107 Phase 2 project.

CIP Expenditure Variance

Total FY11 CIP Budget of $208,000,000.



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 6/30/11	$165 million
Unused capacity under the debt cap:	$524 million
Estimated date for exhausting construction fund without new borrowing:	May-12
Estimated date for debt cap increase to support new borrowing:	FY2013
Commercial paper outstanding:	$144 million
Commercial paper capacity:	$350 million
Budgeted FY11 capital spending*:	$199 million
Projected FY10 grant and SRF receipt:	$13 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results

4th Quarter - FY11

Background

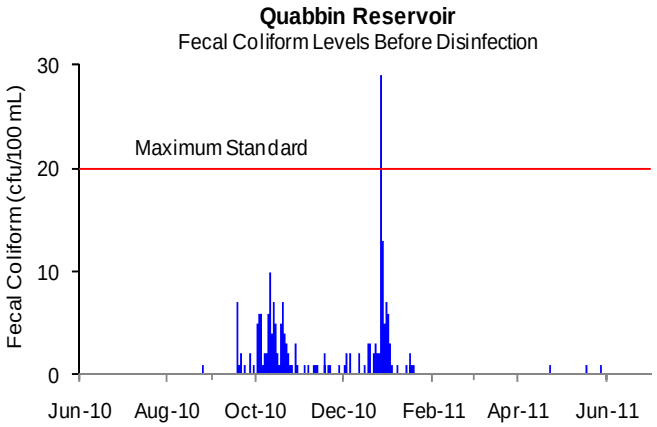
Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal coliform, a subclass of the coliform group, are identified by their growth at temperatures comparable to those in the intestinal 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.

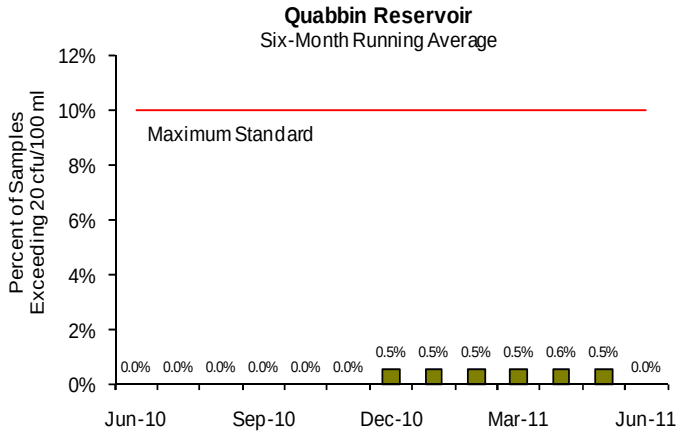
Sample Site: Quabbin Reservoir

Quabbin Reservoir water is sampled at the Ware Disinfection Facility's (WDF) raw water tap before being treated and entering the CVA system.

All samples collected during the 4th 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.





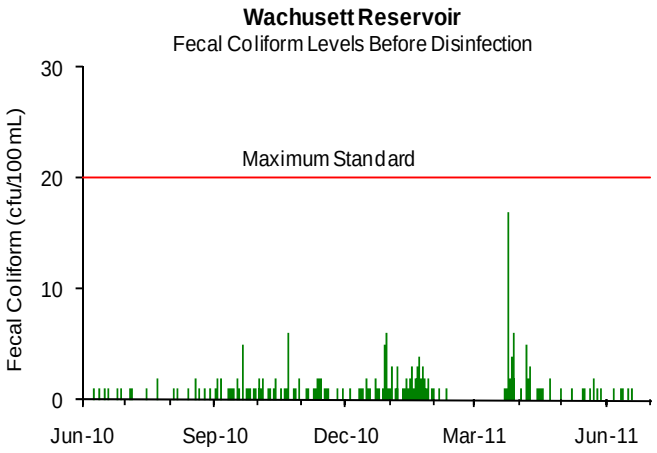
Sample Site: Wachusett Reservoir

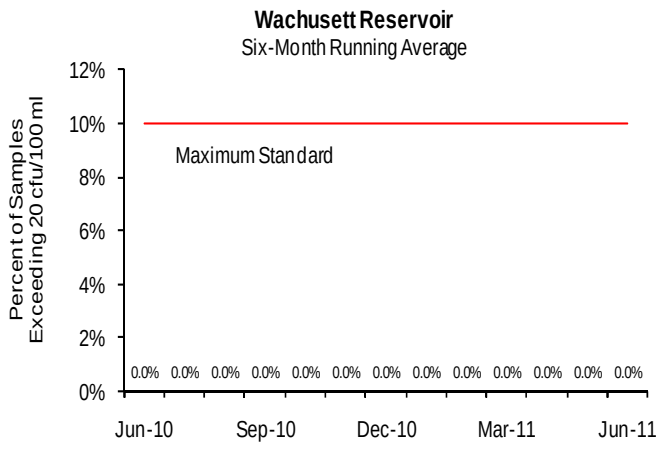
Wachusett Reservoir water is sampled at the CWTP's raw water tap in Marlborough before being treated and entering the MetroWest/Metropolitan Boston systems.

Fecal coliform levels tend to increase during the winter because when water bodies near Wachusett ice over, waterfowl seek open water. Many roost at Wachusett, which tends to freeze later in the year than smaller ponds nearby. DCR has an active bird harassment program to move the birds away from the intake area.

All samples collected during the 4th Quarter were below 20 cfu/100ml.

For the current six-month period, 0% of the samples exceeded a count of 20 cfu/100ml.





Source Water – Turbidity

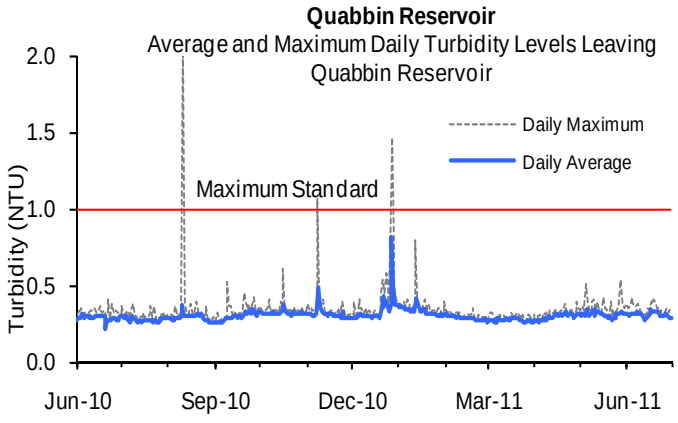
4th Quarter – FY11

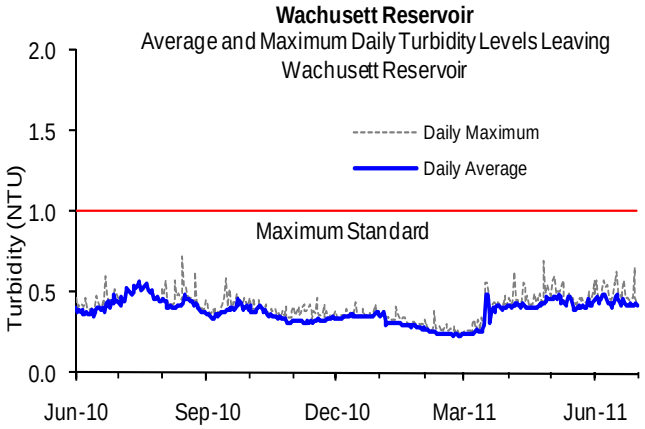
Background

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 chlorine demand or may protect bacteria from the disinfectant effects of chlorine, thereby interfering with the disinfectant residual throughout the distribution system.

There are two standards for turbidity: all water must be below 5 NTU (Nephelometric Turbidity Units), and water only can be above 1 NTU if it does not interfere with effective disinfection.

Turbidity of Quabbin Reservoir water is monitored continuously at the Ware Disinfection Facility (WDF) before chlorination. Turbidity of Wachusett Reservoir is monitored continuously at the Carroll Water Treatment Plant before ozonation. Maximum turbidity results at Quabbin and Wachusett were within DEP standards for the quarter.



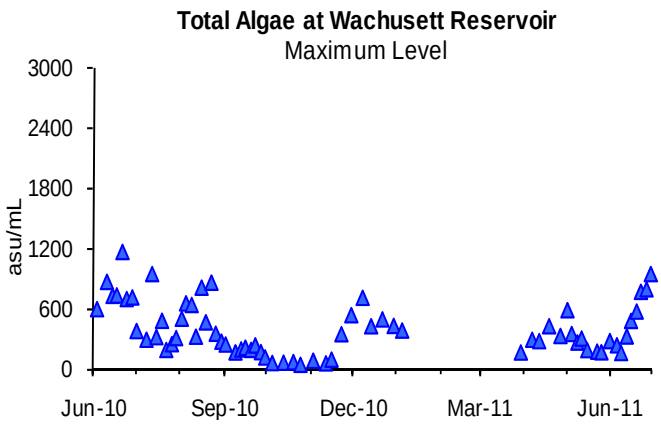


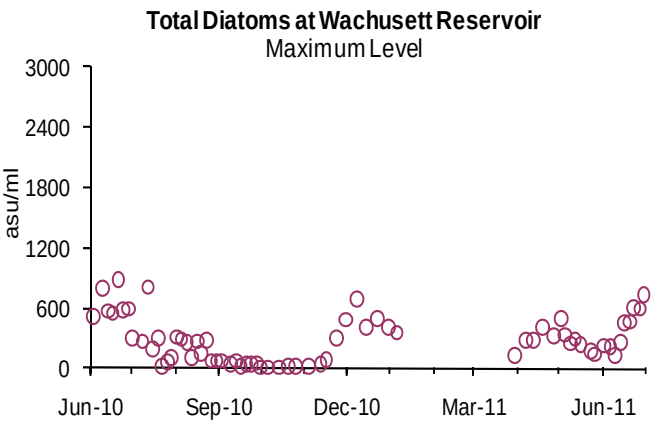
Source Water – Algae

Algal levels in Wachusett 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 reservoir 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 4th Quarter, there were no complaints related to algae reported from local water departments.





Treated Water – Disinfection Effectiveness

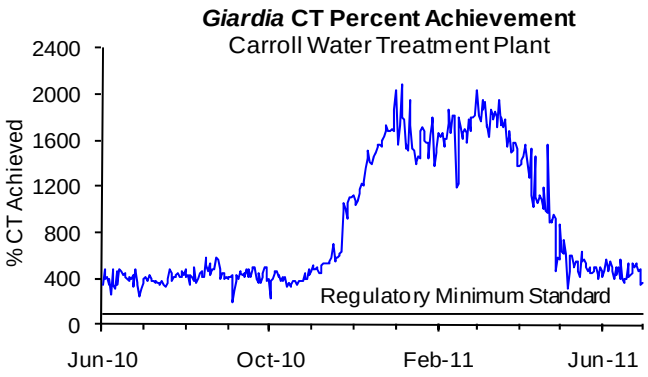
4th Quarter - FY11

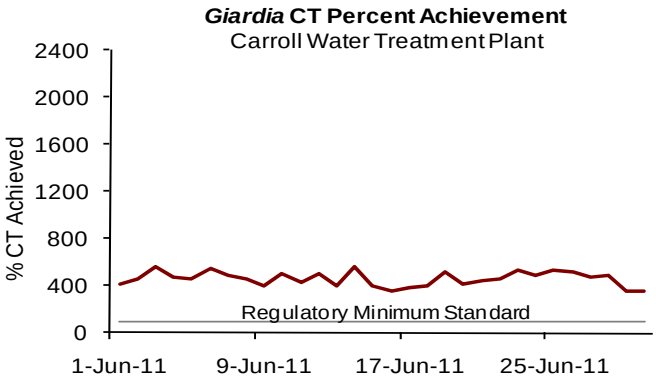
Background

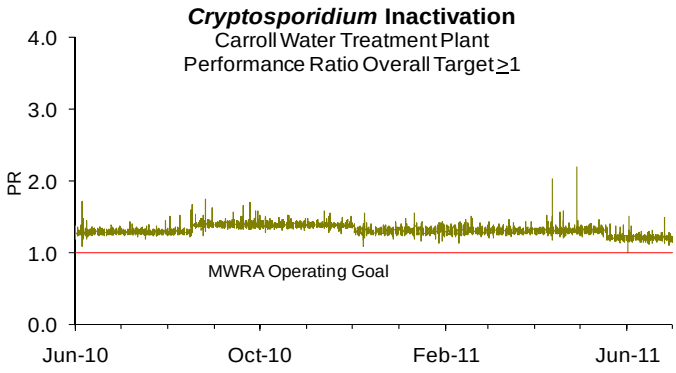
At the Carroll Water Treatment Plant (CWTP), MWRA reports on both regulatory required 99.9% inactivation for *Giardia* (reported as "CT"), and its voluntary operating goal of 99% inactivation for *Cryptosporidium*. MWRA calculates hourly CT inactivation rates and reports daily CT inactivation rates at maximum flow, as specified by EPA regulations. The concentration (C) of the disinfectant over time (T) yields a measure of the effectiveness of disinfection. CT achievement for *Giardia* assures CT achievement for viruses, which have a lower CT requirement. The required CT for ozonated water varies with water temperature. Compliance with the *Giardia* standard is expressed as percent of required CT achieved; 100% is the minimum allowed. To avoid confusion with regulatory requirements, inactivation of *Cryptosporidium* is reported as Performance Ratio (PR); a PR of 1 demonstrates inactivation of 99% of *Cryptosporidium* based on site-specific data.

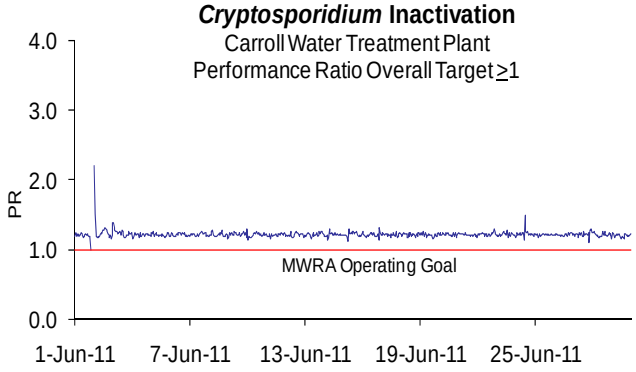
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- 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.
- MWRA's operating goal to meet a PR of 1 was met for every hour of the quarter.
- Ozone dose at the CWTP varied between 2.3 to 2.9 mg/L for the quarter.



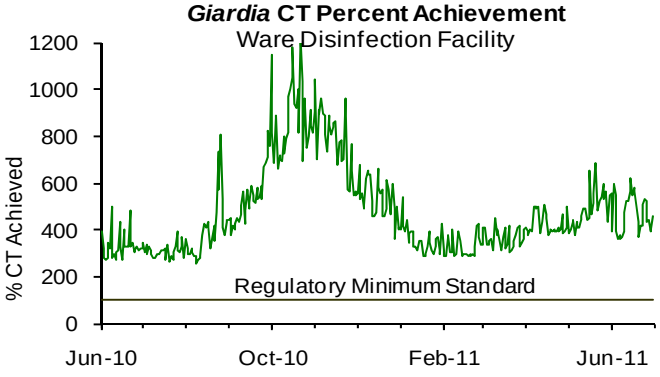


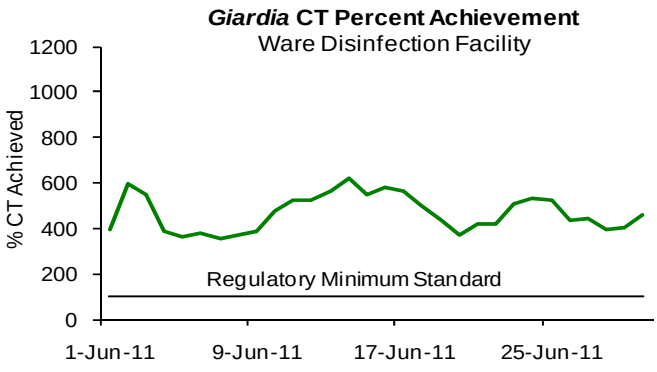




Quabbin Reservoir at Ware Disinfection Facility (CVA Supply):

CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter, as well as every day for the last fiscal year. On May 17, the chlorine dose was raised from 1.3 mg/L to 1.4 mg/L; on May 20, the chlorine dose was raised again to 1.5 mg/L.



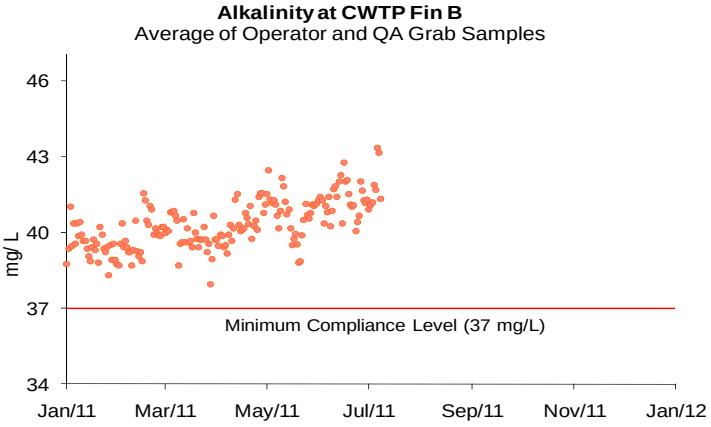


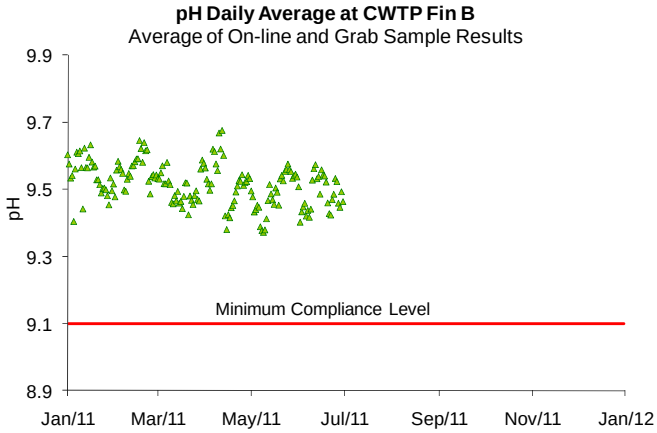
Treated Water – pH and Alkalinity Compliance

4th Quarter - FY11

MWRA adjusts the alkalinity and pH of Wachusett water 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 samples have a minimum compliance level of 9.1 for pH and 37 mg/L for alkalinity. Samples from 27 distribution system taps 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.

Distribution system samples were collected on June 22 and 23, 2011; sample pH ranged from 9.3 to 9.5 and alkalinity ranged from 40 to 43 mg/L. No sample results were below DEP limits for this quarter.





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

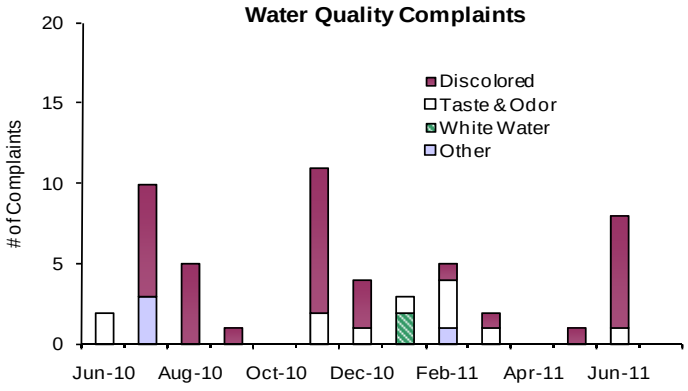
Background

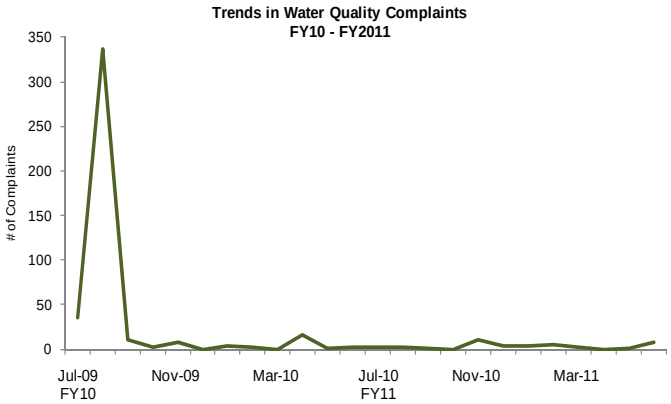
MWRA collects information on water quality complaints that typically fall into four categories: 1.) discoloration due to MWRA or local pipeline work; 2.) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3.) white water caused by changes in pressure or temperature that traps 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.

Outcome

Communities reported nine complaints during the 4th Quarter compared to 19 complaints for 4th Quarter of FY10. Of the nine complaints this quarter, eight were for "discolored water" and one was for "taste and odor." The discolored water complaints were related to community issues.





Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

4th Quarter – FY11

While all communities collect bacteria samples for the Total Coliform Rule (TCR), 41 systems (including Deer Island and Westborough State Hospital) use MWRA's Laboratory for TCR compliance testing. These systems collect samples for bacteriological analysis and measure water temperature and chlorine residual at the time of collection. The other 10 MWRA customer communities (including Lynn's GE plant) have their samples tested elsewhere and these towns should be contacted directly for their monthly results.

There are 139 sampling locations for which MWRA is required to report TCR results. These locations include a subset of the community TCR locations, as well as sites along MWRA's transmission system, water storage tanks, and pumping stations.

The TCR requires that no more than 5% of all samples may be total coliform positive in a month (or that no more than one sample be positive when less than 40 samples are collected each month). Public notification is required if this standard is exceeded.

Escherichia coli (*E.coli*) is a specific coliform species that is almost always present in fecal material and whose presence indicates potential contamination of fecal origin. If *E.coli* are detected in a drinking water sample, this is considered evidence of a critical public health concern. Additional testing is conducted immediately and joint corrective action by DEP, MWRA, and the community is undertaken. Public notification is required if follow-up tests confirm the presence of *E.coli* or total coliform. 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 4th Quarter, seven of the 5,742 community samples (0.12% system-wide) submitted to MWRA labs for analysis tested positive for coliform (Winthrop – in April; Chelsea, Framingham, Waltham, Wellesley – in June). Winthrop violated the TCR in April. Of the 2,161 (0.19%) MWRA samples taken, four tested positive for total coliform; no sample tested positive for *E.coli*. All 41 systems that submitted chlorine residual data maintained an average disinfectant residual of at least 0.2 mg/L. Only 1.9% of samples had any results with a disinfectant residual lower than 0.2 mg/L for the quarter.

TCR results by Community

Town	Samples Tested for Coliform (a)	Total Coliform # (%) Positive	E.coli % Positive	Public Notification Required?	Minimum Chlorine Residual (mg/L)	Average Chlorine Residual (mg/L)
ARLINGTON	179	0 (0%)	0.0%		0.44	1.70
BELMONT	104	0 (0%)	0.0%		0.76	1.69
BOSTON	728	0 (0%)	0.0%		0.95	2.10
BROOKLINE	221	0 (0%)	0.0%		0.04	1.87
CHELSEA	173	1 (0.58%)	0.0%	No	1.21	1.82
DEER ISLAND	52	0 (0%)	0.0%		1.74	1.94
EVERETT	130	0 (0%)	0.0%		0.90	1.12
FRAMINGHAM	220	1 (0.45%)	0.0%	No	0.22	1.97
HANSCOM AFB (Bedford) (b)	27	0 (0%)	0.0%		0.15	1.34
LEXINGTON	117	0 (0%)	0.0%		1.21	1.96
LYNNFIELD	18	0 (0%)	0.0%		0.66	1.34
MALDEN	195	0 (0%)	0.0%		1.30	1.40
MARBLEHEAD	72	0 (0%)	0.0%		0.34	1.77
MARLBOROUGH (b)	127	0 (0%)	0.0%		1.15	1.80
MEDFORD	221	0 (0%)	0.0%		1.01	1.74
MELROSE	117	0 (0%)	0.0%		0.01	1.02
MILTON	96	0 (0%)	0.0%		1.41	1.77
NAHANT	35	0 (0%)	0.0%		0.04	1.40
NEEDHAM (b)	123	0 (0%)	0.0%		0.03	0.80
NEWTON	276	0 (0%)	0.0%		0.89	1.85
NORTHBOROUGH	64	0 (0%)	0.0%		0.05	1.04
NORWOOD	117	0 (0%)	0.0%		0.42	1.70
QUINCY	299	0 (0%)	0.0%		0.41	1.72
READING	130	0 (0%)	0.0%		0.71	1.74
REVERE	195	0 (0%)	0.0%		1.22	1.90
SAUGUS	104	0 (0%)	0.0%		1.23	1.84
SOMERVILLE	286	0 (0%)	0.0%		0.98	2.18
SOUTH HADLEY FD1 (c)	48	0 (0%)	0.0%		0.03	0.40
SOUTHBOROUGH	30	0 (0%)	0.0%		0.66	1.77
STONEHAM	91	0 (0%)	0.0%		1.34	1.92
SWAMPSCOTT	48	0 (0%)	0.0%		0.51	1.71
WAKEFIELD (b)	143	0 (0%)	0.0%		0.25	1.29
WALTHAM	222	2 (0.90%)	0.0%	No	1.02	1.95
WATERTOWN	130	0 (0%)	0.0%		0.19	1.85
WELLESLEY (b)	111	1 (0.90%)	0.0%	No	0.07	0.67
WESTBORO HOSPITAL	15	0 (0%)	0.0%		0.07	0.83
WESTON	51	0 (0%)	0.0%		0.85	1.94
WILMINGTON (b)	87	0 (0%)	0.0%		1.38	1.90
WINCHESTER (b)	65	0 (0%)	0.0%		0.12	1.01
WINTHROP	79	2 (2.53%)	0.0%	Yes	0.27	1.33
WOBURN (b)	196	0 (0%)	0.0%		0.11	1.02
Total:	5742	7 (0.10%)	0.0%			
MASS. WATER RESOURCES AUTHORITY (d,e)	2161	4 (0.19%)	0.0%		0.02	1.84

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

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

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

(d) MWRA sampling program includes a subset of community TCR sites as well as sites along the transmission system, tanks and pumping stations.

(e) MWRA total coliform and chlorine residual results include data from 125 community pipe locations as described above. In most cases these community results are accurately indicative of MWRA water as it enters the community system; however, some are clearly strongly influenced by local pipe conditions. Residuals in the MWRA system are typically between 1.0 and 2.8 mg/L.

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

4th Quarter - FY11

Background

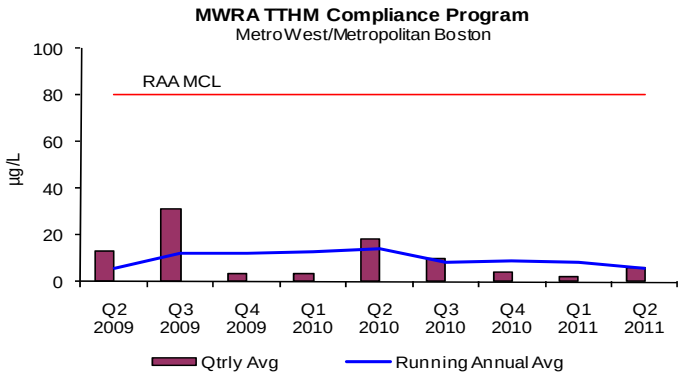
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. TTHMs and HAA5s are of concern due to their potential adverse health effects at high levels. EPA's running annual average (RAA) standard is 80 ug/L for TTHMs and 60 ug/L for HAA5s. The switch from chlorine to ozone for primary disinfection and the consolidation of treatment has lowered DBP formation and results are now more uniform. DEP requires that compliance samples be collected quarterly. Partially served communities are responsible for their own compliance monitoring and reporting, and must be contacted directly for their results.

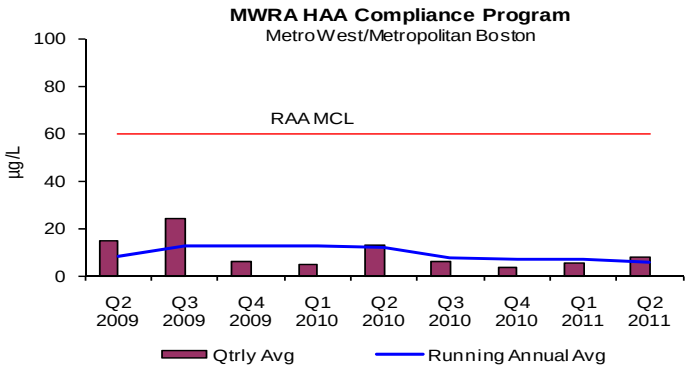
Absorbance, measured as UV-254, is a surrogate measure of reactive organic matter. Regulated DBPs have dropped to very low levels with the CWTP coming on-line. However, UV-254 levels remain useful for estimating ozone dosage and serving as a trigger for Quabbin transfer consideration.

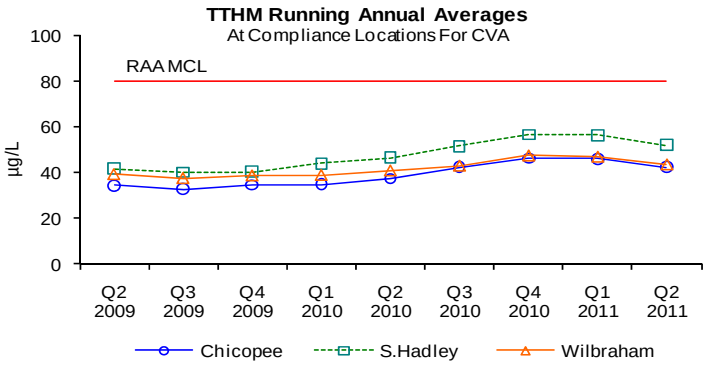
Bromate is tested monthly per DEP requirements for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA's RAA MCL standard for bromate is 10 ug/L.

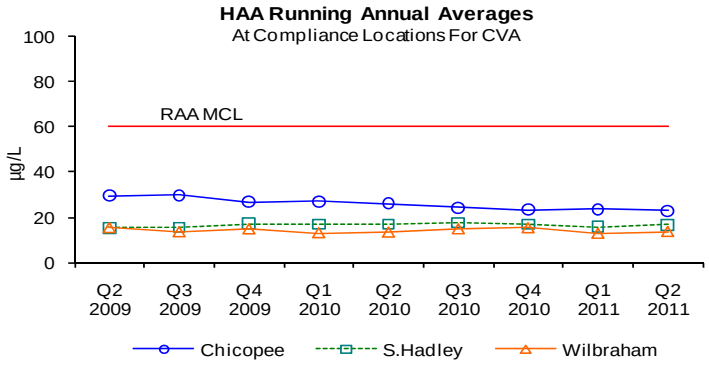
Outcome

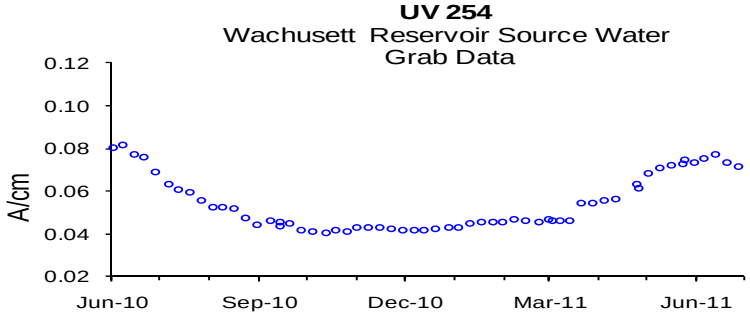
The RAA for TTHMs and HAA5s for MWRA's Compliance Program (represented as the line in the top two graphs below) remained below current standards. The RAA for TTHMs = 5.7 ug/L; HAA5s = 5.5 ug/L. CVA's DBP levels continue to be below current standards. UV-254 levels are currently around 0.07 A/cm. The current RAA for Bromate = 0.0 ug/L.











Water Supply and Source Water Management

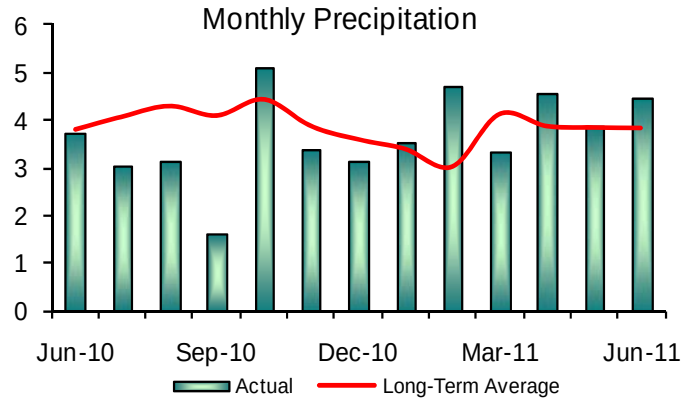
4th Quarter - FY11

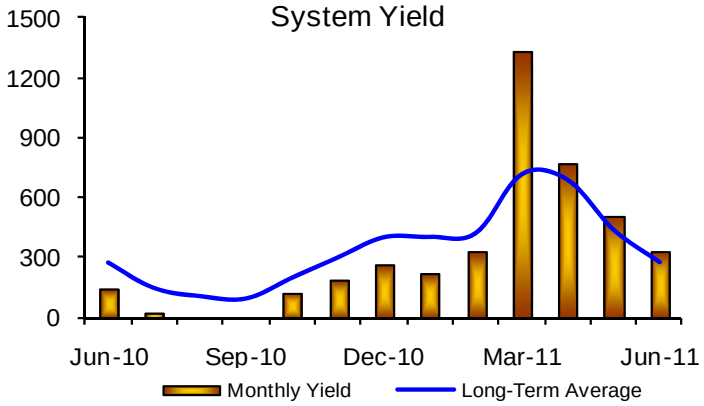
Background

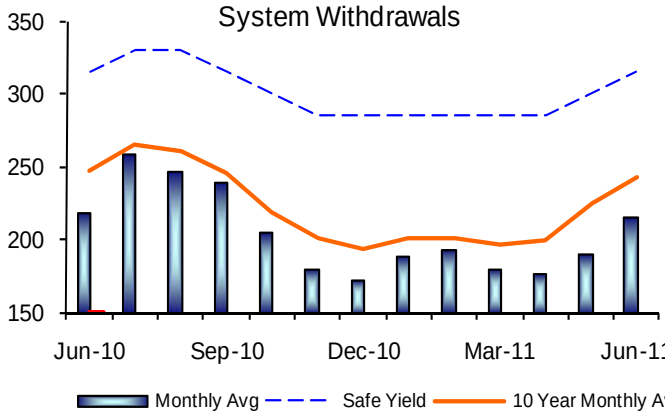
A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir 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.

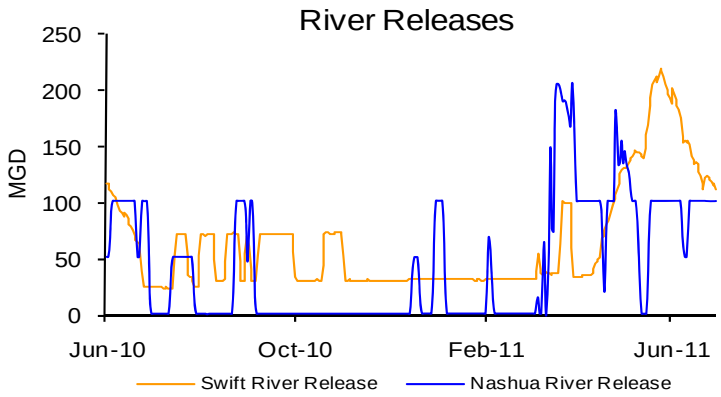
Outcome

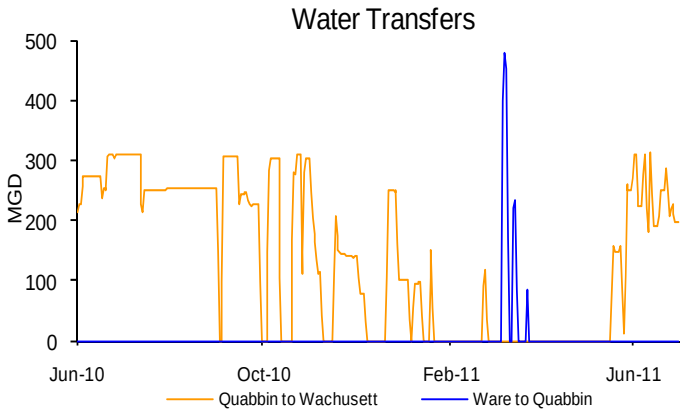
Quabbin Reservoir level remains above the normal operating range for this period of the year. The reservoir was at 98.5% of capacity as of June 30, 2011; a 2.7% increase for the quarter, which represents an increase of more than 11 billion gallons of storage. Precipitation and System Yield were above their respective long-term averages. System Withdrawals continue to be below the long-term average.

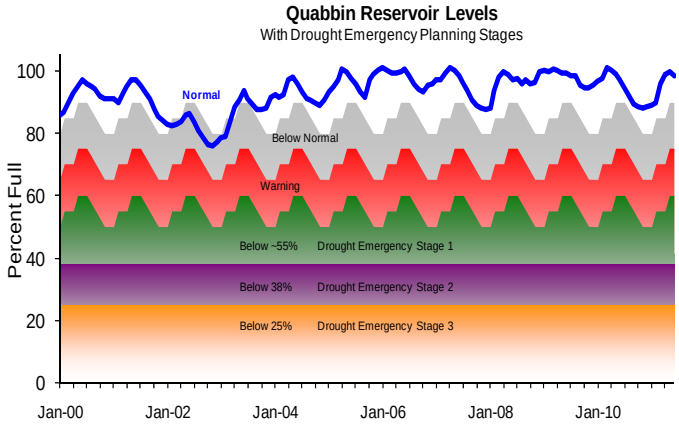












WASTEWATER QUALITY

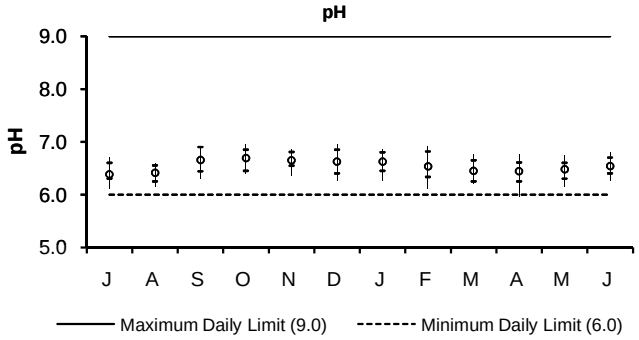
NPDES Permit Compliance: Deer Island Treatment Plant

4th Quarter - FY11

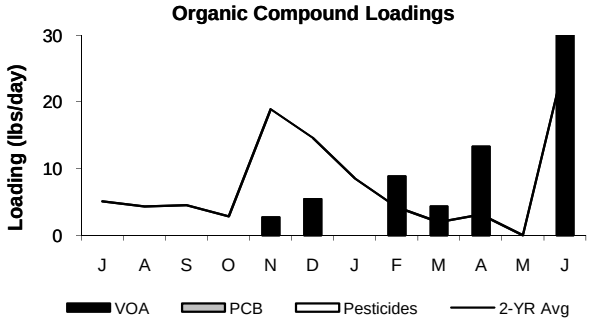
NPDES Permit Limits

Effluent Characteristics		*Units*	*Limits*	*April*	*May*	*June*	*4th Quarter Violations*	*FY11 YTD Violations*
Dry Day Flow:		mgd	436	279.6	281.3	312.3	0	0
cBOD:	Monthly Average	mg/L	25	7.2	4.8	4.2	0	0
	Weekly Average	mg/L	40	9.3	6.4	5.1	0	0
TSS:	Monthly Average	mg/L	30	11.7	6.8	6.6	0	0
	Weekly Average	mg/L	45	16.2	7.5	8.0	0	0
TCR:	Monthly Average	ug/L	456	40	40	40	0	0
	Daily Maximum	ug/L	631	40	40	40	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	21.1	29.0	29.2	0	0
	Weekly Geometric Mean	col/100mL	14000	9.0	12.5	7.0	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	6.0-6.8	6.2-6.8	6.3-6.8	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Mysid Shrimp	%	50	>100	>100	>100	0	0
	Inland Silverside	%	50	>100	>100	>100	0	0
Chronic Toxicity:	Sea Urchin	%	1.5	50	100	100	0	0
	Inland Silverside	%	1.5	100	100	100	0	0

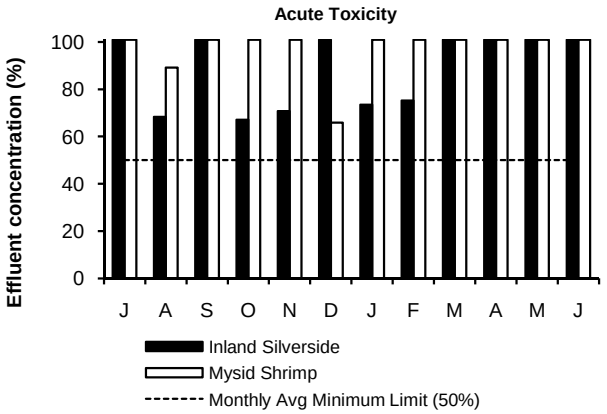
There were no permit violations at the Deer Island Treatment Plant during the 4th Quarter, or during all of FY11.



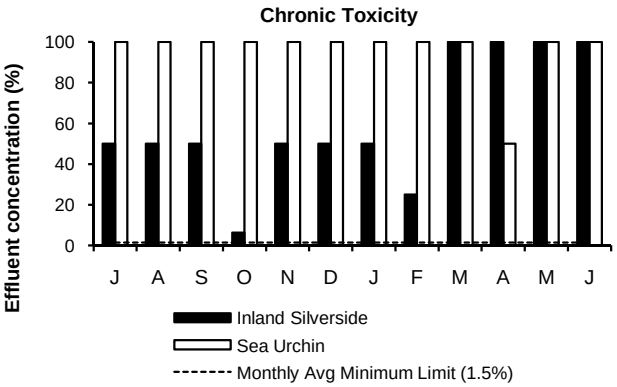
pH is a measure of the alkalinity or acidity of the effluent. Fluctuations in pH do not have an adverse effect on marine environments. Because of the pure oxygen used in the activated sludge reactor, the effluent pH tends to be at the lower pH range. pH measurements for the 4th Quarter were within the daily permit limits.



An important wastewater component to be monitored in the effluent is organic compounds, including volatile organic acids, pesticides, and polychlorinated biphenyls. The secondary treatment process has significantly reduced organic compound loadings in the effluent stream. The June VOA loading spike was caused by one high measurement of acetone, a degradation by-product of secondary treatment. Acetone is not a priority pollutant.



The acute toxicity test simulates the short-term toxic effects of chemicals in wastewater effluent on marine animals. The test measures the concentration (percent) of effluent that kills half the test organisms within four days. The higher the concentration of effluent required, the less toxic the effluent. For permit compliance, the effluent concentration that causes mortality to mysid shrimp and inland silverside must be at least 50%. Acute toxicity permit limits were met for the 4th Quarter for both the inland silverside and mysid shrimp.



Typically, effects of chronic exposures differ from those of acute exposures. Because of this, chronic toxicity responses are not necessarily related to acute toxicity. The chronic toxicity test simulates the long-term toxic effects of chemicals in wastewater effluent on marine animals. To meet permit limits, 1.5% of the effluent must show no observed effect on the growth and reproduction of the test species. Chronic toxicity permit limits were met for the 4th Quarter for both the inland silverside and sea urchin.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant

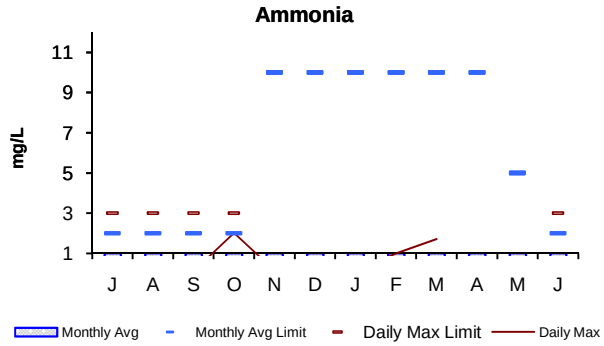
4th Quarter - FY11

NPDES Permit Limits

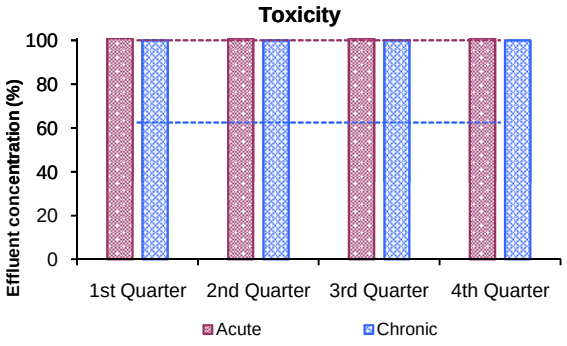
Effluent Characteristics		*Units*	*Limits*	*April*	*May*	*June*	*4th Quarter Violations*	*FY11 YTD Violations*
Flow:		mgd	3.01	2.59	2.64	2.67	0	6
BOD:	Monthly Average:	mg/L	20	4.8	4.6	3.5	0	0
	Weekly Average:	mg/L	20	5.2	4.8	5.3	0	0
TSS:	Monthly Average:	mg/L	20	4.5	4.8	4.1	0	0
	Weekly Average:	mg/L	20	5.6	5.3	5.8	0	0
pH:		SU	6.5-8.3	6.9-7.6	7.1-7.7	7.2-7.6	0	0
Dissolved Oxygen:	Daily Minimum:	mg/L	6	9.0	9.0	7.8	0	0
Fecal Coliform:	Daily Geometric Mean:	col/100mL	400	4.3	4.9	4.4	0	0
	Monthly Geometric Mean:	col/100mL	200	2.7	2.9	2.8	0	0
TCR:	Monthly Average:	ug/L	50	0	0	0	0	0
	Daily Maximum:	ug/L	50	0	0	0	0	0
Total Ammonia Nitrogen:	6/1 - 10/31							
	Monthly Average:	mg/L	2.0	0.1	0.1	0.1	0	0
	Daily Maximum:	mg/L	3.0	0.1	0.1	0.5	0	0
Copper:	Monthly Average:	ug/L	20	5.0	5.5	6.1	0	0
Phosphorus:	May 1 - Oct 31							
	Monthly Average:	mg/L	1.0	N/A	0.7	0.6	0	0
Acute Toxicity:	Daily Minimum:	%	100	*N/A	*N/A	>100	0	0
Chronic Toxicity:	Daily Minimum:	%	62.5	*N/A	*N/A	100	0	0

There were no permit violations in the 4th Quarter at the Clinton Treatment Plant.

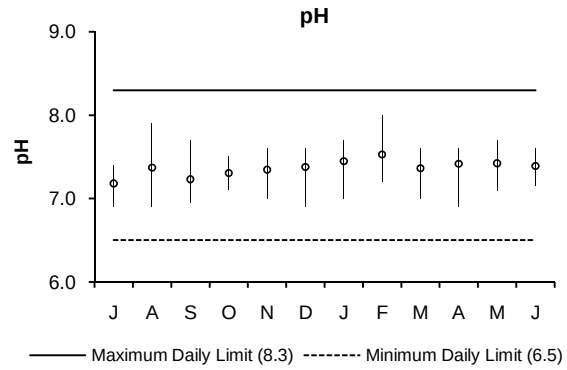
*Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



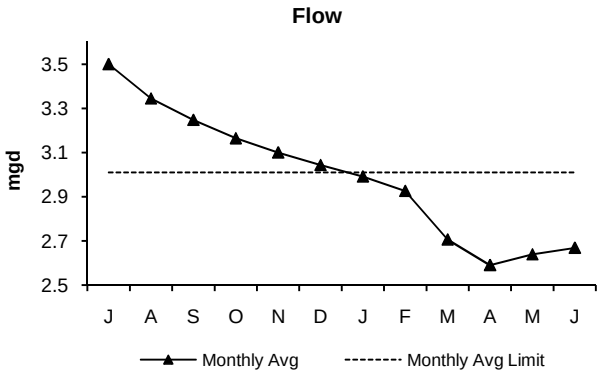
The 4th Quarter's monthly average and daily maximum concentrations were below the permit limits. The monthly average and daily maximum limits for the period of November 1 - March 31 are 10 mg/L and 35.2 mg/L, respectively. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential eutrophication.



Acute and chronic toxicity testing simulates the short- and long-term toxic effects of chemicals in wastewater effluent on aquatic animals. For permit compliance, the effluent concentration that causes mortality to the daphnid in acute and chronic testing must be at least >100% and 62.5%, respectively. Toxicity limits were met during the 4th Quarter.



pH is a measure of the alkalinity or acidity of the effluent. All daily pH results for the 4th Quarter were within the range set by the permit.



The graph depicts the average monthly flow, measured in million gallons per day, entering the plant. The average monthly flows during the 4th Quarter were below the NPDES permit limit.

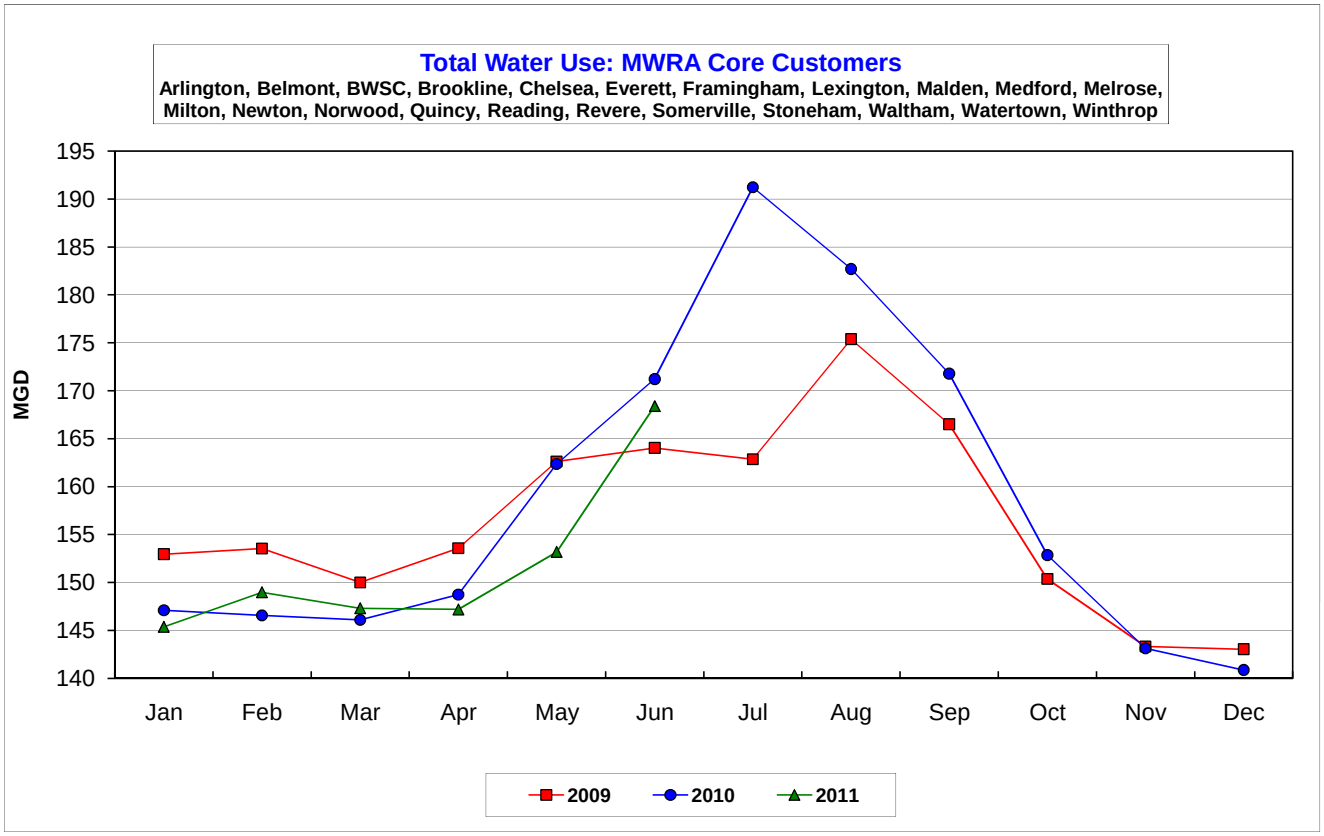
COMMUNITY FLOWS AND PROGRAMS

Massachusetts Water Resources Authority

Water Supplied: MWRA Core Communities

MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
2009	152.955	153.548	150.008	153.576	162.628	164.037	162.866	175.388	166.509	150.376	143.335	143.043	**156.543**
2010	147.109	146.572	146.104	148.736	162.362	171.224	191.222	182.708	171.780	152.865	143.132	140.875	**158.824**
2011	145.371	148.982	147.314	147.188	153.188	168.384	0.000	0.000	0.000	0.000	0.000	0.000	**151.717**

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2009	4,741.614	4,299.349	4,650.244	4,607.285	5,041.476	4,921.104	5,048.836	5,437.043	4,995.272	4,661.647	4,300.060	4,434.327	**57,138.257**
2010	4,560.379	4,104.007	4,529.220	4,462.067	5,033.225	5,136.713	5,927.887	5,663.942	5,153.392	4,738.813	4,293.973	4,367.117	**57,970.734**
2011	4,506.504	4,171.487	4,566.737	4,415.643	4,748.836	5,051.512	0.000	0.000	0.000	0.000	0.000	0.000	**27,460.720**

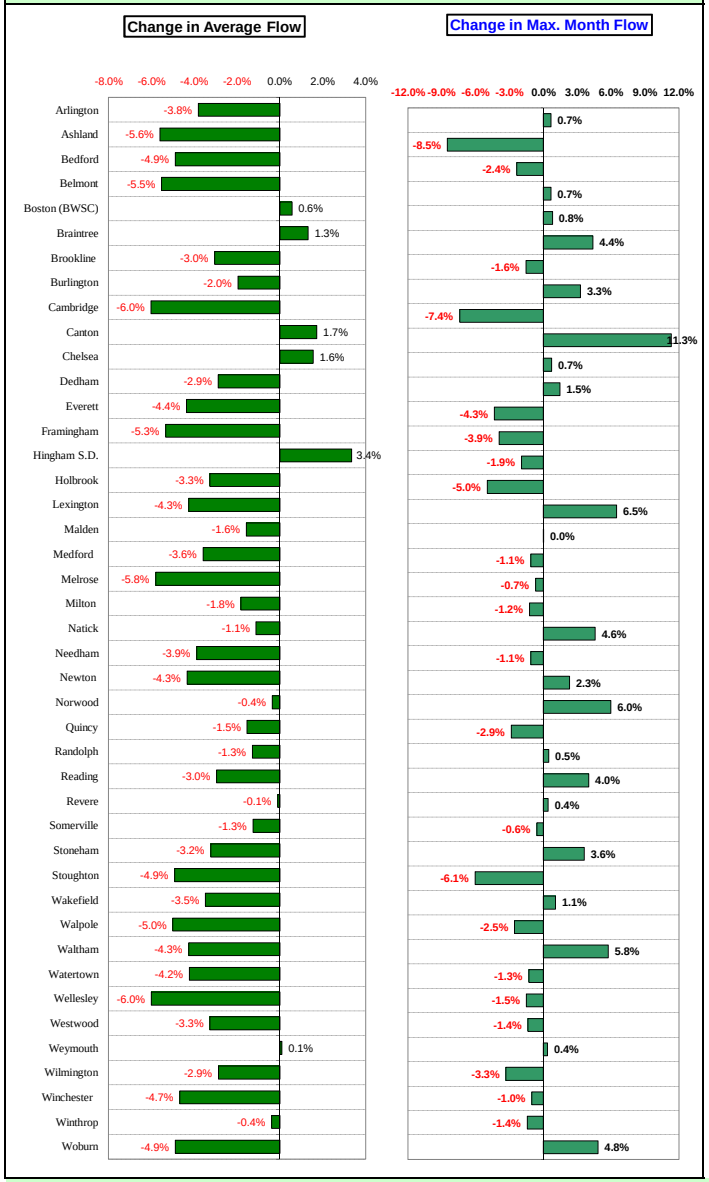


Following the cool and extremely wet first quarter of 2010, the increased water use in the summer of 2010 was consistent with the hot weather. Water use returned to the low usage pattern's we have been seeing the past few years with December 2010 recording the lowest system usage in MWRA history.

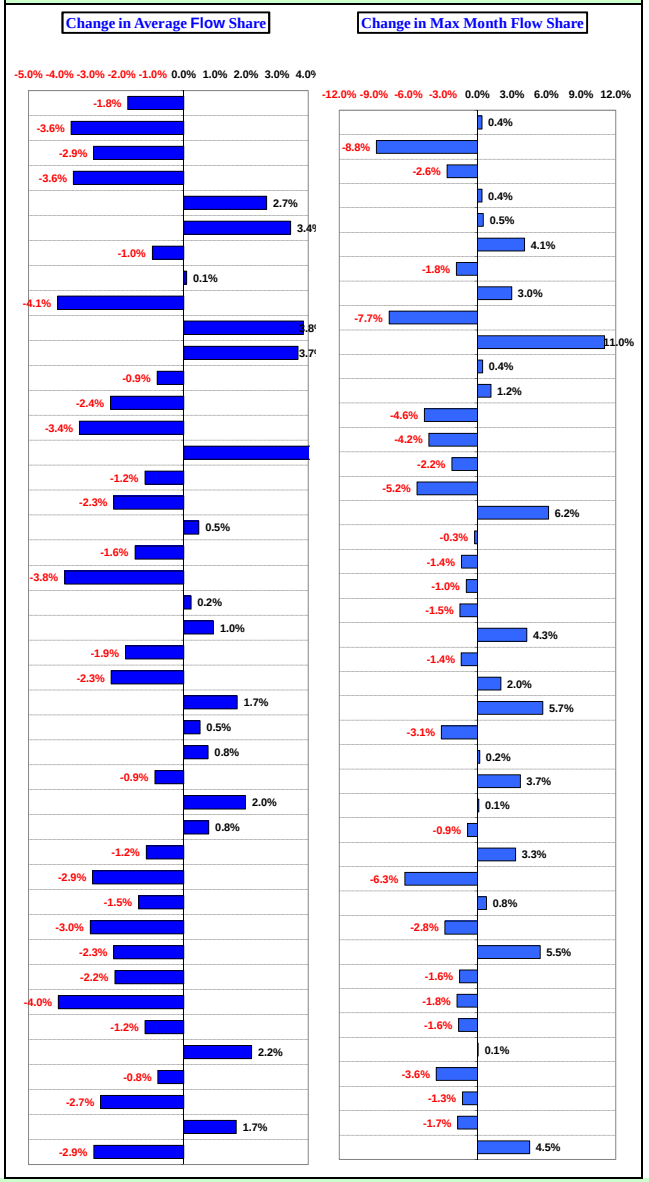
Water use for first five months 2011 remained low before tracking upward with the warm and dry weather.

How Projected CY2011 Community Wastewater Flows Could Effect FY2013 Sewer Assessments [1,2,3]

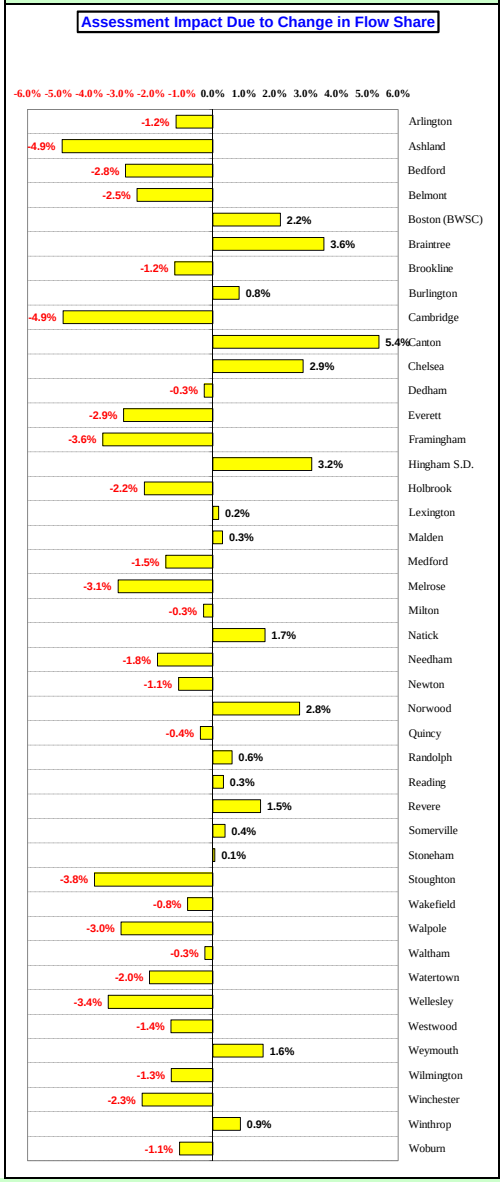
The flow components of FY2013 sewer assessments will be calculated using a 3-year average of CY2009 to CY2011 wastewater flows compared to FY2012 assessments that used a 3-year average of CY2008 to CY2010 wastewater flows.



But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2009 to CY2011 flow share compared to CY2008 to CY2010 flow share, compared to all other communities in the system.



The chart below illustrates the change in assessment due to flow share changes. [4]



Notes:

[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 CY2008 to CY2011 average wastewater flows as of 08/12/11. Flow data is preliminary and subject to change pending additional MWRA and community review.**

[3] **CY2008 to CY2010 wastewater flows based on actual meter data. CY2011 flows based on actual meter data for January to June and projected flows for July to December.**

[4] **Represents the assessment impact resulting from the changes in average and maximum wastewater flow shares.**

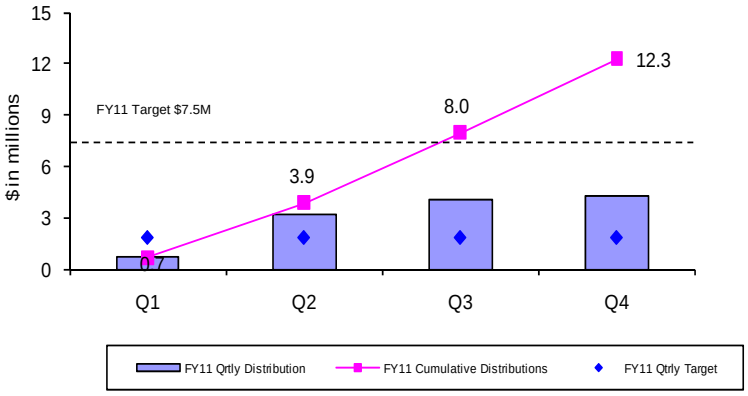
Community Support Programs

4th Quarter - FY11

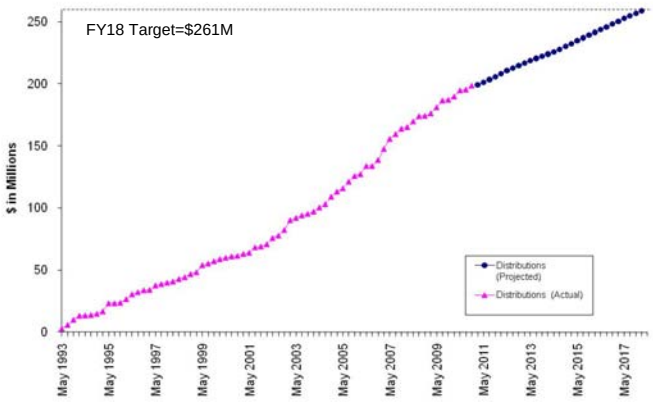
Infiltration/Inflow Local Financial Assistance Program

MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides $260.75 million in grants and interest-free loans (average of about $10 million per year from FY93 through FY18) 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. Interest-free loans are repaid to MWRA over a five-year period beginning one year after distribution of the funds.

FY11 Quarterly Distributions of Sewer Grant/Loans



I/I Local Financial Assistance Program Distribution FY93-FY18

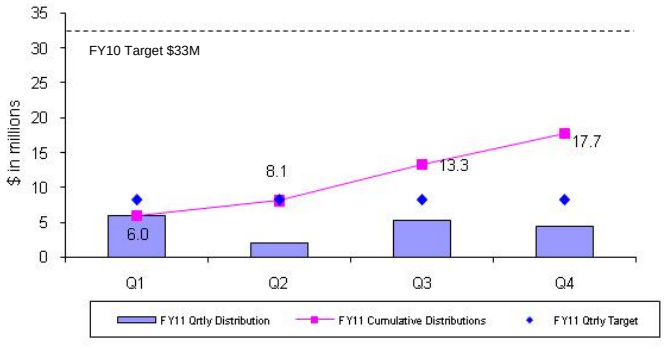


During the 4th Quarter, $4.3 million in financial assistance (45% grants and 55% interest-free loans) was distributed to fund local sewer rehabilitation projects in Burlington, Chelsea, Stoneham, and Wellesley. Total grant/loan distribution for FY11 was $12.3 million. From FY93 through the 4th Quarter of FY11, all 43 member sewer communities have participated in the program and more than $207 million has been distributed to fund more than 400 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY18 and community loan repayments will be made through FY23. All scheduled community loan repayments have been made.

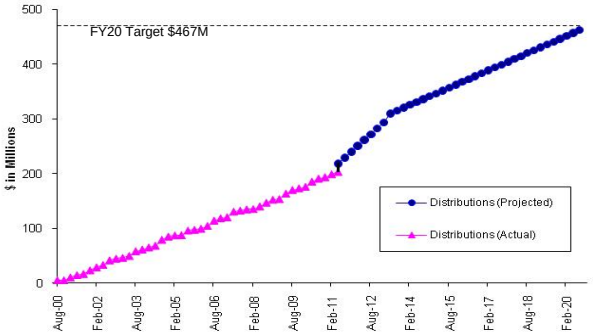
Water Local Pipeline and Water System Assistance Programs

MWRA's Local Pipeline and Water System Assistance Programs (LPAP and LWSAP) provide $467 million in interest-free loans (an average of about $23 million per year from FY01 through FY20) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. 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's 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.

FY11 Quarterly Distributions of Water Loans



Local Pipeline and Water System Assistance Programs Distribution FY01-FY20



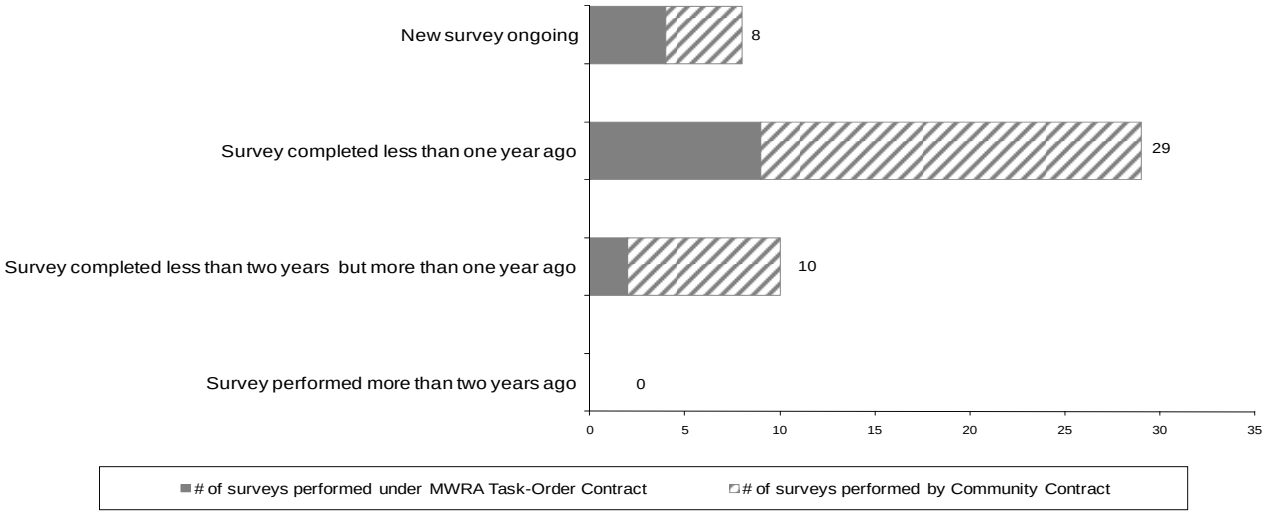
During the 4th Quarter, $4.4 million in interest-free loans was distributed to fund local water projects in Belmont, Boston, Chelsea, Dedham-Westwood, Nahant, and Quincy. Total loan distribution for FY11 was $17.7 million. From FY01 through the 4th Quarter of FY11, more than $203 million has been distributed to fund 238 local water system rehabilitation projects in 35 MWRA member water communities. Distribution of the remaining funds has been approved through FY20 and community loan repayments will be made through FY30. All scheduled community loan repayments have been made.

Community Support Programs

4th Quarter - FY11

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 systems 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. The contract, which has been competitively procured (3-year low bid contract), takes advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid by MWRA and the costs are billed to the community the following year. During the 4th Quarter, 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 210 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor and outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, toilet leak detection dye tabs, and instructions), 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. For FY11, the target for educational brochures has been lowered and the target for low-flow fixtures has been increased based on distribution trends over the last few years.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	150,000	8,152	19,802	43,645	42,901	114,500
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	2,615	1,313	4,287	2,760	10,975
Toilet Leak Detection Dye Tablets	------	8,218	1,651	3,708	4,393	17,970

BUSINESS SERVICES

Procurement: Purchasing and Contracts

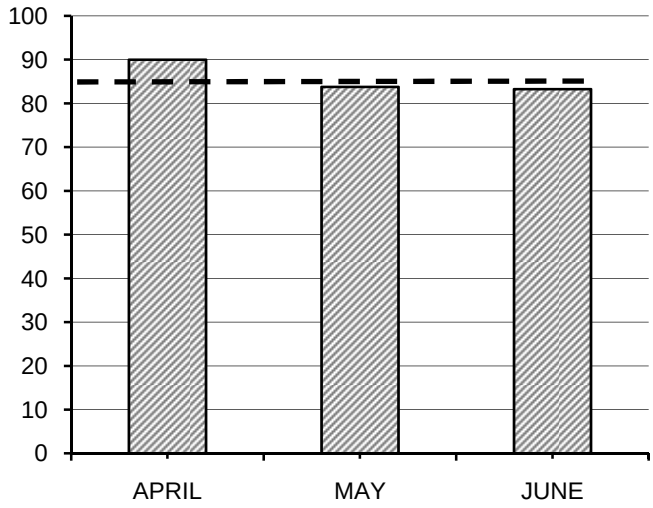
Fourth Quarter FY11

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

Outcome: Processed 86% of purchase orders within target; Avg. Processing Time was 6.72 days vs. 6.48 days in Qtr 4 of FY10. Processed 78% (25 of 32) contracts within target timeframes; Avg. Processing Time was 111 days vs. 40 days in Qtr 4 of FY10.

Purchasing

Purchase Orders - Percent in Target



	NO.	TARGET	PERCENT IN TARGET
$0 - $500	1059	4 DAYS	85.9%
$500 - $2K	882	7 DAYS	90.5%
$2K - $5K	184	10 DAYS	69.6%
$5K - $10K	92	25 DAYS	80.4%
$10K - $25K	79	30 DAYS	78.5%
$25K - $50K	25	60 DAYS	80.0%
OVER $50K	40	80 DAYS	72.5%

- Purchasing Unit processed 2361 purchase orders, 172 fewer than the 2533 processed in Qtr 4 of FY10, for a total value of $14,690,872 vs. a dollar value of $12,176,658 in Qtr 4 of FY10.

- The target was not achieved for the$2k - $5k category due to vendor sourcing and scope changes and delays in finalizing specifications, the $10k - $25k category because of an extended review of bids and the over $50k category due to extended end user product evaluation and a re-bid.

Contracts, Change Orders and Amendments

- Seven contracts were not processed within target timeframes. Reasons included: extended qualification review and contractor delay complying with documentation requirements; project prioritization; delay to maximize competition; a hold until the services were needed; extended pre-bid review and contractor delay in submitting documents.

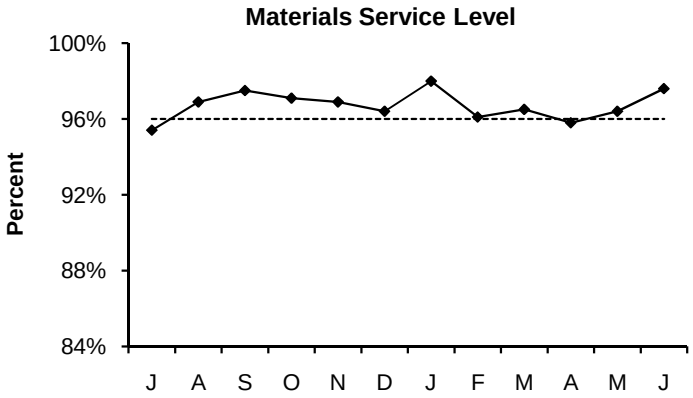
- Procurement processed thirty-two contracts with a value of $40,105,719 and three amendments with a value of $11,590,793.

- Forty-two change orders were executed during the period, but several were large balancing change orders at the end of jobs, and are recorded as credits or negative numbers. The dollar value of all non-credit change orders during Qtr 4 of FY11 was $1,575,291 and the value of credit change orders was ($1,539,075).

- In addition, staff reviewed 103 proposed change orders and 54 draft change orders.

Materials Management

4th Quarter, FY11



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 8,694 (96.7%) of the 8,991 items requested in Q4 from the inventory locations for a total dollar value of $1,322,580.

Inventory Value - All Sites

Inventory goals focus on:

- Maintaining optimum levels of consumables and spare parts inventory
- 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 FY11 goal is to reduce consumable inventory from the July '10 base level ($7.35 million) by 2.0% (approximately $147,061), to $7.20 million by June 30, 2011 (see chart below). Materials Management has exceeded that goal.

Items added to inventory this quarter include:

- Deer Island – multi range regulator, plugs, fittings and power booster for Liquid Train; faucet cartridge, AC drive, bulbs, relay and limit switch for Core; transmitters, wire and squeegees for grit channels for Residuals.
- Chelsea – Derian reducer, magnetic valve, generator, shaft assembly, spiral gear set for FOD; wheel bearing, tire sensor, brake hose, inverter, batteries for VMM; transmitters and transducer for SCADA; motor, assembly switch and submersible pump for Work Order Coordination Group.
- Southboro – power supply and colorimeter module for Carroll Water Treatment Plant; valve rebuild kit, cpvc couplings, motor oil and electrical switches for Maintenance.

Property Pass Program:

- Audits were conducted at Chelsea VMM, Chelsea Tech Base, SCADA, Chelsea Metering, TRAC, Sewer Maintenance and Chelsea Paint Shop during Q4.
- Numerous obsolete computers and scanners have been received into property pass as surplus. Disposition is being handled as part of our ongoing recycling efforts.
- Scrap revenue received to date for the quarter amounted to $15,112.

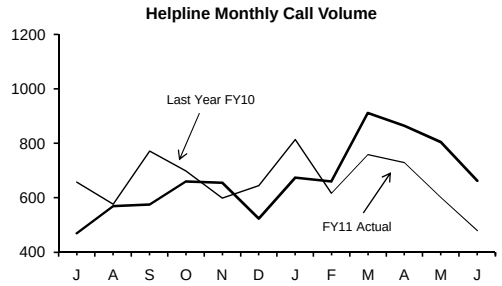
Items	Base Value July-10	Current Value w/o Cumulative	Reduction / Increase To
Consumable Inventory Value	7,353,045	6,793,503	-559,542
Spare Parts Inventory Value	6,888,860	6,879,562	-9,298
Total Inventory Value	14,241,905	13,673,065	-568,840

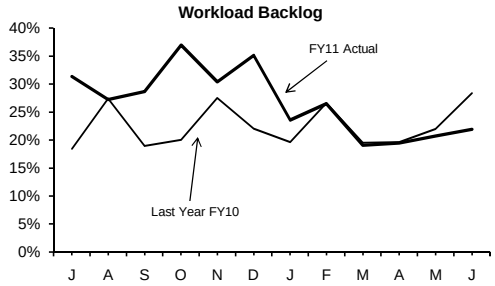
Note: New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

MIS Program
4th Quarter FY11

Operations

Highlights:



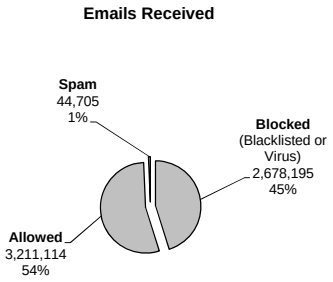


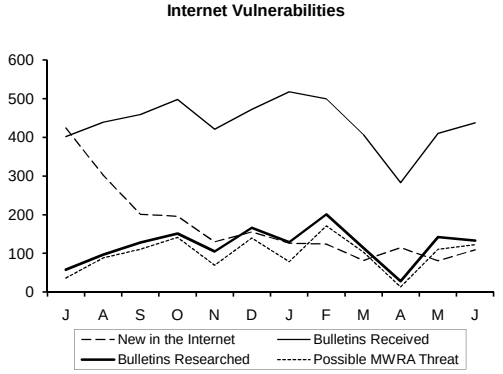
Performance

- Call volume for Q4 peaked in April and is an increase of 1.07% from Q4 last year. For Q4 the backlog peaked in June and is slightly above the targeted benchmark of 20%. The mix of calls for the quarter indicate issues with password resets and software configuration request due to the PC Rollout.

Business System Plan

- MWRA issues a RFQ/P for a 5-Year Information Technology Strategic Plan. This effort is scheduled to begin in Mid July.
- Cyber Security: During Q4, staff pushed security fixes and updates to desktops and servers throughout the quarter in order to protect against the 89 newly revealed vulnerabilities.
- LANDesk Antivirus quarantined 33 distinct viruses from 56 MWRA computers. MWRA's systems are current with anti-virus providers' signatures for all known malware.
- VPN upgrade: Received and inventoried 3 Sonicwall Secured Socket Layer (SSL) Virtual Private Network (VPN) devices. These devices will provide an upgrade to MWRA's existing Remote Access solution utilized by staff over the Internet. Two appliances will be installed in Chelsea providing a high availability solution, while the 3rd appliance will be installed at Deer Island Treatment Plant as a Disaster Recovery (DR) solution.
- PC Rollout: 780 New PCs deployed as of Q4.





Applications/Training/Records Center

Area	Significant Accomplishments
Reverse 911	Tested the custom interface for MWRA's R911 application (Communicator! NXT) on IE6, IE7, IE9 and XP machines and also at the Chelsea EOC and updated the test plan. User training and implementation is scheduled for Q1-FY12.
GIS	The GIS Flex web viewer, with both Water and Sewer data, has been finalized. Widgets have been configured and tested. This viewer has been demonstrated to MIS Senior staff. The viewer has been released to specific staff for comment and additional demonstrations will be scheduled. This viewer is seen as a major step toward migrating casual GIS users from the complexity of the desktop application (ArcMap) to the relatively intuitive web environment.
TELOG	Installed and configured "SQL Server 2008 R2 Standard" for the Meter and Monitoring group to support the Telog upgrade initiative. The existing database stores flow related data (i.e. MGD, Velocity, Level) from our sewer transport Telog meters. This new database will be expanded to include the clean water Telog flow data which is used for billing purposes.
SCADA	Updated the SCADA station uptime Excel spreadsheet to include a graph allowing easier identification of historical communication outages. The spreadsheet was developed to report on the reliability of the current communication network from remote SCADA stations to the control room. Since the spreadsheet uses PI data, the results are conservative.
MAXIMO	Completed the base install of Maximo 7.1.1.8 on a development server. This installation contains the utilities required to update Maximo from version 6.x to 7.1.1.8. Now that the base install is complete, the update to version 7.5 can begin.
Library & Records Center	The Library distributed 3,328 (12,911 YTD) articles through current awareness emails and retrieved 50 (281 ytd) articles from periodicals, interlibrary loans, and online services. Catalog additions included 25 books (106 YTD). Research included 56 requests in Q4 (260 YTD) related to engineering, health and safety, science, historical, business and legal topics. Training on the new Records Retention Schedule was completed by 76 employees (Department Records Managers/Officers) in Q4 prior to sending out reports listing records eligible for disposition for staff reviews beginning in Q1 FY12.
IT Training	For the quarter, 117 staff attended 4 classes and 9 workshops. In FY11, 648 staff have attended 55 classes and 68 workshops. 31% of the workforce have attended at least one instructor led class . The focus was on MS Office in support of the agency-wide application upgrade. Also, a combination of 14 on-line courses were accessed by a total of 133 staff.

Legal Matters
4th Quarter FY2011

PROJECT ASSISTANCE

COURT AND ADMINISTRATIVE ORDERS

- **Boston Harbor Litigation and CSO:** Drafted and filed motion and memorandum to amend schedule seven by deleting certain milestones related to the long-term CSO control plan for Alewife Brook. Drafted and filed quarterly compliance and progress report and reviewed and filed CSO quarterly report.

- **NPDES:** Drafted letter notifying EPA and DEP of the bypass of secondary treatment at DITP during essential maintenance.

- **Administrative Order (Cottage Farm CSO Treatment Facility):** Drafted and submitted letter to DEP requesting substitution of supplemental environmental project that was required as part of Administrative Consent Order and Penalty related to oil spill at the Cottage Farm CSO treatment facility.

- **Administrative Consent Order (DITP power outages):** Reviewed and submitted updated semi-annual Consultant's Deer Island Energy Recommendation Tracking Sheet to DEP and EPA.

REAL ESTATE AND CONTRACT AND OTHER SUPPORT

- **Weston Water Main:** Provided support and guidance regarding potential litigation claims arising out of the water main break on May 1, 2010 and other litigation strategy issues.

- **Hultman Aqueduct Interconnector Project:** Drafted and finalized the Electric Service Agreement with NStar to provide service to the Hultman Aqueduct in Weston, Massachusetts.

- **Censar Payments:** Drafted combined Release and Indemnification Agreement to be signed in consideration for payment.

- **Charlestown Pump Station/DeLauri Wind Turbine:** Drafted and finalized the Electric Service Agreement with NStar necessary to connect the Wind Turbine to the electrical grid.

- **Fore River Railroad:** Drafted letter informing a landowner of its encroachment on property of the Fore River Railroad located in Braintree, Massachusetts. Drafted and finalized an amendment to the agreement for the MBTA's development of a pedestrian crossing of the Fore River Railroad right-of-way in the Fore River Shipyard.

- **Purchasing Issues:** Negotiated purchase order terms with new prospective provider (Praxair, Inc.) of carbon dioxide for the John Carroll Water Treatment Plant.

- **Miscellaneous:** Reviewed and approved thirty-six (36) Section 8(m) Permits and one (1) Direct Connect Permit.

ENVIRONMENTAL

- **Statutes/Regulations - Amendments:** Provided guidance to staff on seven (7) new, amended or proposed state and federal regulation and policy document that may affect MWRA activities, reviewed all federal and state laws and regulation that pertain to hazardous materials transportation to determine which might be applicable to MWRA activities, advised on a request to DEP for a two (2) year extension to complete the capital improvements to the Ware Disinfection Facility.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

Five demands for arbitration were filed.

Matters Concluded

Received an arbitrator's decision in favor of a MWRA on the grounds that the MWRA did not violate Article 23 when it terminated the grievant.

Received a dismissal from the MCAD for lack of probable cause of a charge of discrimination on the basis of race and color.

Settled an arbitration regarding the suspension of an employee.

LITIGATION/TRAC

New Lawsuits

During the Fourth Quarter of FY 2011, two new lawsuits were reported.

Nydia Woods and Gabriel Woods v. Malden Water Department, Massachusetts Water Resources Authority and The City of Malden: This is a claim for damage to real property and personal property allegedly caused by a backup or leak of sewer and/or storm water pipes on December 12, 2008, into the plaintiffs' home in Malden, MA. Plaintiffs allege that their basement was flooded with raw sewage water approximately three feet deep. Plaintiffs allege that there had been prior leaks from the same pipes into neighbors' homes. Plaintiffs further allege that the flooding was caused by improper connection of storm drains into the sewer lines. Plaintiffs seek to recover $6,290 for cleaning and expenses to repair and restore their finished basement, and in excess of $20,000 for lost personal property.

MWRA v. JF Shea Co., Inc., et al: On June 10, 2011, MWRA filed this civil action, which seeks the recovery of monetary damages incurred by MWRA arising out of a major water main break in May 2010. The complaint seeks compensation for all damages resulting from the break, including property damage caused to its waterworks system, for property damage to land features upon real property owned by MWRA or under MWRA's care, custody and control, property damage to banks and the channel bed of the Charles River, the value of treated, potable water lost as a result of the break, and for all other compensable costs associated with the time of its employees and of outside consultants and contractors.

Significant Developments

William Davison, et al. v. MWRA: This is an action for damages resulting from the taking by the MWRA of easements in Suffolk County by eminent domain. The property is located at 1625 VFW Parkway, West Roxbury, MA. On or about April 13, 2005, the MWRA made a taking of temporary and permanent easements to construct, inspect, repair, renew, replace, operate and maintain a sewer line in and under certain parcels of land owned by Plaintiffs and shown as Parcels 2P and 3P on a plan entitled MWRA Easement Plan for upper Neponset Valley Replacement Sewer MWRA Sewer Sections 685 and 686 West Roxbury, MA dated March 2005. On May 25, 2011 a Pre-trial conference was held; a Final Pre-trial Conference will be held on October 6, 2011 and a Trial by Jury is scheduled for October 14, 2011.

(Former Employee) v. MWRA: In May 2010, Suffolk Superior Court denied without prejudice MWRA's Motion for Summary Judgment in this employment discrimination case. The court ruled that the MWRA could re-file the Motion for Summary Judgment at the close of discovery. The MWRA has re-filed an expanded Motion for Summary Judgment on May 31, 2011 in this matter and is awaiting expected opposition papers from plaintiff.

(Former Employee) v. MWRA and (Union): In this action, plaintiff is challenging his termination. Plaintiff was terminated pursuant to a Last Chance Agreement executed by the employee and the Union. As to defendant MWRA, plaintiff alleged wrongful termination/discharge in violation of public policy; breach of section 301 of the Labor Relations Act, unfair labor practices in violation of National Labor Relations Act; breach of implied covenant of good faith and fair dealing; and breach of implied contract. As to defendant Union, plaintiff alleged breach of duty of fair representation and breach of contract. MWRA filed a Motion to Dismiss and it was allowed by the Court on June 17, 2011.

Closed Cases

Two lawsuits were reported closed during the Fourth Quarter FY 2011.

Chutehall Construction Company, Ltd v. Commonwealth of Massachusetts and MWRA: This is an action to collect $11,347.17 and costs relative to a TRAC penalty against Chutehall for discharging ground and storm water from a construction site to the sewer

without a permit. After several years of litigation and appeals, Chutehall has paid all sums due to MWRA. MWRA filed a final Stipulation of Dismissal on April 21, 2011 to all the defendants.

(Former employee) v. MWRA, et al.: This was an action brought by an MWRA employee who had been on extended unpaid leave. The suit against the MWRA alleged instances of retaliation and failure to promote under a number of theories including the "whistleblower" and civil rights statutes. Plaintiff alleged that the MWRA and his supervisor retaliated against him as a result of his having reported a series of health, safety and environmental violations at his workplace to regulatory officials, none of which could be substantiated. The employee also alleged that chronic work-related stress caused him to leave his job involuntarily for health reasons. The matter has been settled and the employee has retired.

Subpoenas During the Fourth Quarter of FY 2011 three new subpoenas were received and three subpoenas were pending at the end of the Fourth Quarter FY 2011.

Public Records During the Fourth Quarter of FY 2011 sixteen new public records requests were received and twelve requests were closed at the end of the Fourth Quarter FY 2011.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of Jun 2011	As of Mar 2011	As of Dec 2010
Construction/Contract/Bid Protest (other than BHP)	4	4	3
BHP Claims/Contract Cases	0	0	0
Tort/Labor/Employment	8	8	8
Environmental/Regulatory/Other	1	1	1
Eminent Domain/Real Estate	2	2	2
total – all defensive cases	**15**	**15**	**14**
Affirmative Cases: MWRA v. (current employee) MWRA v. J. F. Shea Co., Inc., et al.	2	2	2
Other Litigation matters (restraining orders, etc.)	0	0	0
total – all pending lawsuits	**17**	**17**	**16**
Significant claims not in suit: Giaquinto/Geico Automobile Accident Claims	2	2	2
Bankruptcy	4	4	4
Wage Garnishment	9	9	7
TRAC/Adjudicatory Appeals	2	2	3
Subpoenas	3	1	1
TOTAL – ALL LITIGATION MATTERS	37	35	33

TRAC/MISC.

New Appeals: No new appeals were received in the 4th Quarter FY 2011.

Settlement by Agreement of Parties No cases were settled by Agreement of Parties in the 4th Quarter FY 2011.

Stipulation of Dismissal No cases were dismissed by Stipulation of Dismissal.

Notice of Dismissal Fine paid in full No cases were dismissed by Notice of Dismissal, fine paid in full.

Tentative Decisions No Tentative Decisions were issued in the 4th Quarter FY 2011.

Final Decisions No Final Decisions were issued during the 4th Quarter FY 2011.

Internal & Contract Audit Program
4th Quarter FY11

Highlight

CONSTELLATION NEW ENERGY (Completed: May 23, 2011)

A review was conducted of two Authority contracts with Constellation NewEnergy for the Purchase and Supply of Electric Power to the MWRA Interval Accounts covering the periods February 2005 to November 2007 (Contract OP-31) and November 2007 through November 2010 (Contract OP-71).

The audit found that the Authority was charged for more variable load electricity than it should have been, since no adjustment was made for facilities under their Base Block allocation. The audit resulted in a total of $723,114 in savings, including a credit of $458,681, waiver of an estimated $208,000 in unbilled charges, waiver of $43,489 in late charges, and correction of $12,943 in billing errors.

Status of Open Audit Recommendations (8 recommendations closed in the 4th quarter)

The Internal Audit Department follows up on open recommendations on a continuous basis. All pending recommendations have target implementation dates. When a recommendation has not been acted on in 48 months the appropriateness of the recommendation is re-evaluated during a subsequent audit. On closed assignments 98% of recommendations have been implemented.

Report Title (date)	Recommendations Pending Implementation	Closed Recommendations
Boston Water & Sewer Commission CSO Financial Assistance Agreement (9/18/09)	1	2
Construction Change Order Pricing (12/31/09) *	5	0
Chelsea Data Center Physical Controls (5/5/10)	1	10
Review of Emergency Action Plans (6/30/10)	3	4
Warehouse Practices (9/30/10)	3	6
Controls of Permalogers, Tools & Equipment (2/14/11)	3	5
Facility Card Access Controls (2/22/11)	7	13
Review of TRAC Operations (5/19/11)	4	2
Review of the Town of Brookline's Compliance with the CSO Financial Assistance Agreement (5/24/11)	3	0
Total Recommendations	**30**	**42**

***** Recommendations are associated with an updated construction manual with a target completion of Dec 31, 2011.

Audit Savings

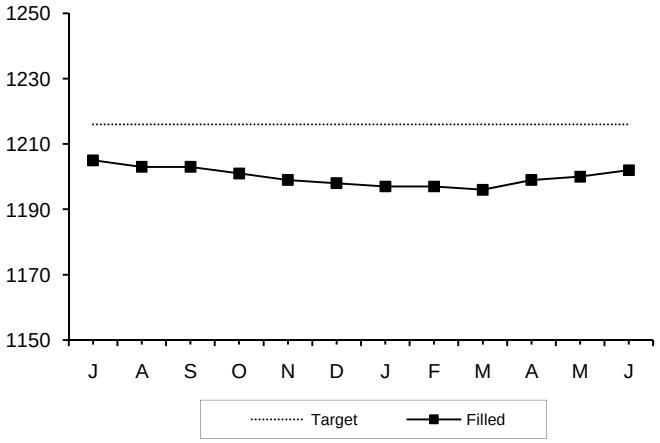
The Internal Audit Department's target is to achieve at least $1 million in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of work in prior years.

Savings	FY07	FY08	FY09	FY10	FY11	TOTAL
Consultants	$358,341	$55,901	$316,633	$194,238	$520,176	$1,445,289
Contractors & Vendors	$637,378	$2,147,311	$1,262,088	$599,835	$3,129,538	$7,776,150
Internal Audits	$183,840	$0	$438,027	$206,282	$152,478	$980,627
Total	**$1,179,559**	**$2,203,212**	**$2,016,748**	**$1,000,355**	**$3,802,192**	**$10,202,066**

OTHER MANAGEMENT

Workforce Management
4th Quarter - FY11

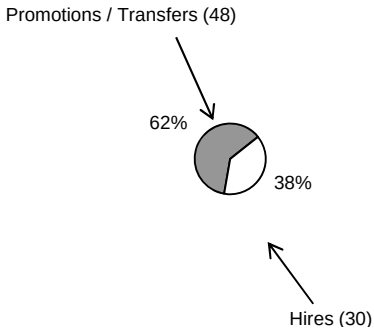
Filled Position Tracking



FY11 Target for Filled Positions = 1216

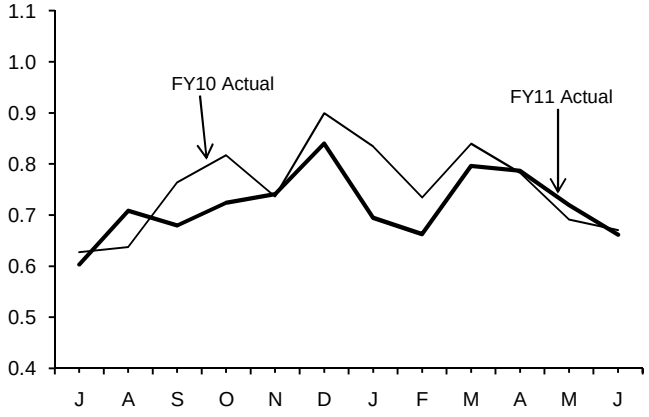
Filled Positions as of June 2011 = 1202

Positions Filled by Hires/Promotions FY11



	Pr/Trns	Hires	Total
FY08	63 (62%)	39(38%)	102
FY09	63 (73%)	23(27%)	86
FY10	66 (76%)	21(24%)	87

Average Monthly Sick Leave Usage Per Employee



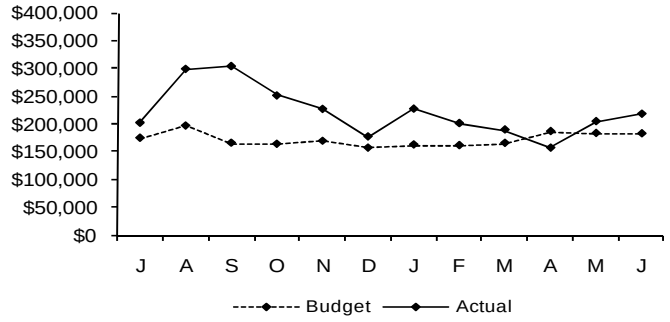
In FY11, the average monthly sick leave usage of **.**7181 has decreased 4.60% from **.**7527 the same time last year.

	Number of Employees	FY11 YTD	Annualized Total	Annual FMLA %	FY10 Actual
A&F	194	8.01	8.01	23.3%	N/A
Aff. Action	7	7.63	7.63	11.5%	N/A
Executive	4	3.29	3.29	28.9%	3.96
Int. Audit	8	4.47	4.47	44.7%	N/A
Law	18	9.95	9.95	8.9%	10.03
OEP	5	5.74	5.74	0.0%	N/A
Operations	935	8.87	8.87	20.4%	9.26
Planning	21	4.69	4.69	1.3%	6.08
Pub. Affs.	13	8.15	8.15	18.9%	N/A
MWRA Avg	**1205**	**8.64**	**8.64**	**20.4%**	**9.03**

Percent of sick leave usage attributable to Family and Medical Leave Act (FMLA) leave is 20.4% ending June 30, 2011.

Field Operations

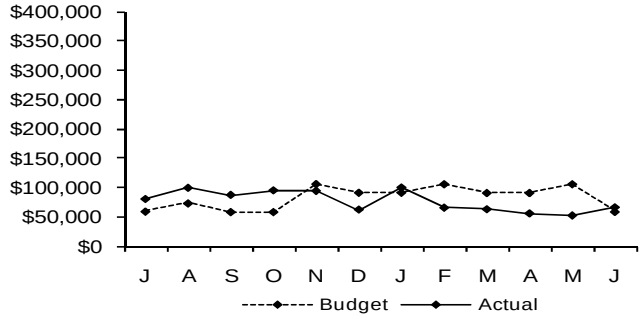
Overtime Expenditure Variance



Field Operations' total overtime spending in the 4th Quarter was $579,007, which was $29K or 5% over budget, mainly due to emergency coverage for wet-weather events in June.

Deer Island Treatment Plant

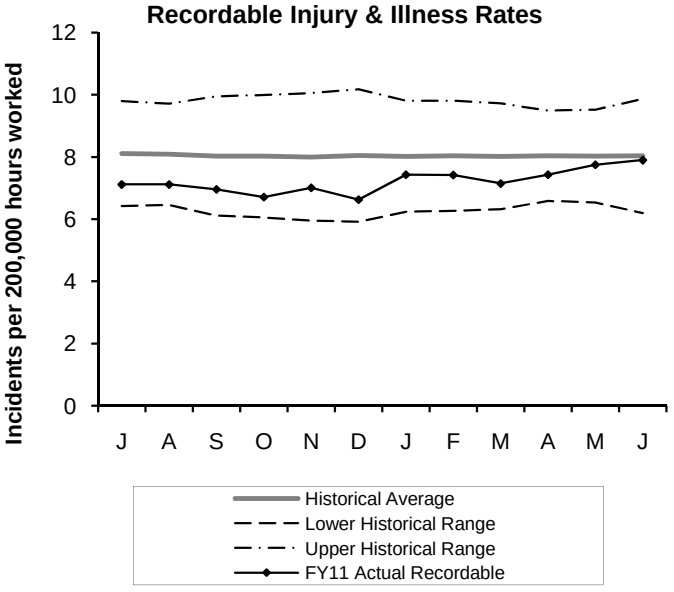
Overtime Expenditure Variance

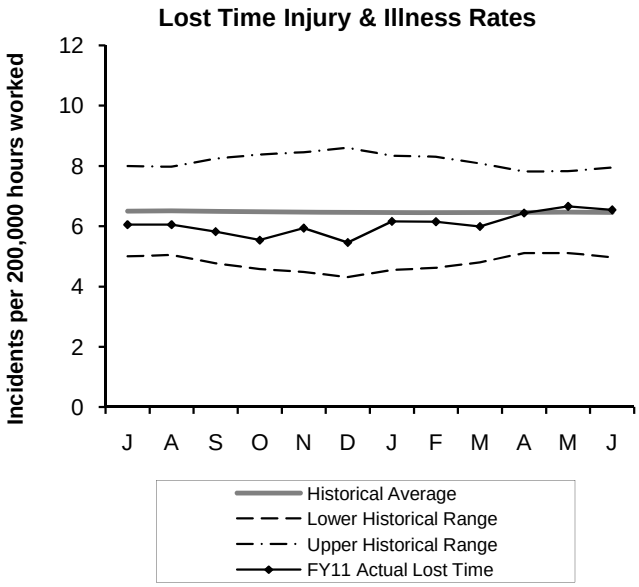


Deer Island's overtime spending in the 4th Quarter was $172,909 or (32.5%) under budget. The underspending was mainly due to less- than-anticipated storm coverage and less planned maintenance needs than anticipated.

Workplace Safety

4th Quarter FY11





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.

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.

3 The “Historical Average” is computed using the actual MWRA monthly incident rates for FY99 through FY10. The “Upper” and “Lower Historical Ranges” are computed using these same data – adding and subtracting two standard deviations respectively. FY11 actual incident rates can be expected to fall within this historical range.

Workers Compensation Claims Highlights

	New	Closed	Open Claims
Lost Time	6	19	50
Medical Only	50	47	50
	New		**YTD Returns**
Light Duty Returns	1		2

Highlights / Comments

Light Duty Returns

none

Regular Duty Returns

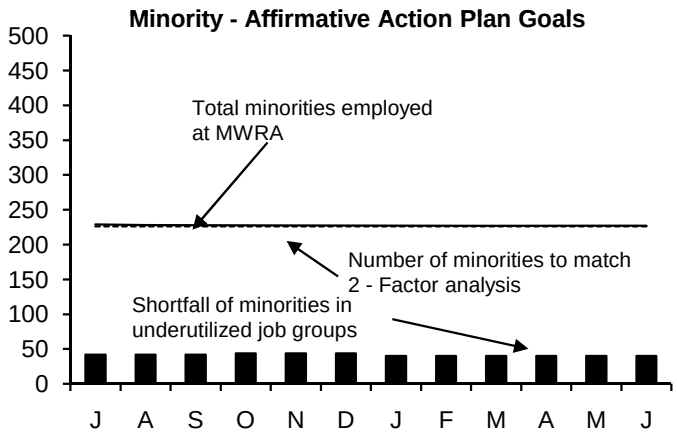
9 employees returned to their regular postions from IA.

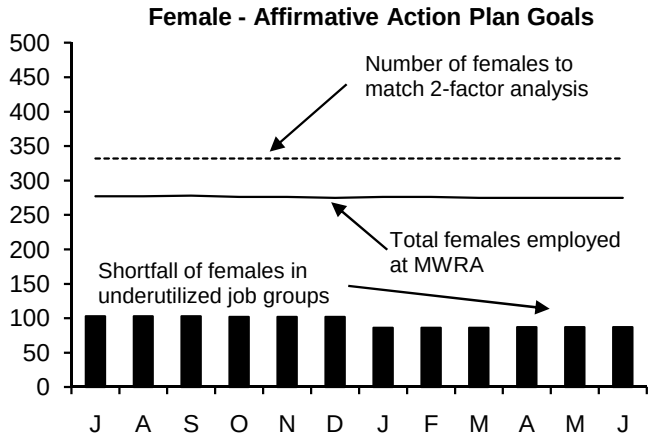
2 employees cleared to RTW from IA immediately went on FMLA for non work related reasons.

1 employee returned to their regular postion from light duty.

MWRA Job Group Representation

4th Quarter FY11





Highlights:

At the end of Q4 FY11, 7 job groups or a total of 40 positions are underutilized by minorities as compared to 8 job groups or a total of 44 at the end of Q4 FY10; for females 12 job groups or a total of 87 positions are underutilized by females as compared to 13 job groups or a total of 106 at the end of Q4 FY10. During Q4, 0 minorities and 0 females were hired. During this same period, 0 minorities and 0 females terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 6/30/2011	Minorities as of 6/30/2011	Achievement Level	Minority Over or Under Under utilized	Females As of 6/30/2011	Achievement Level	Female Over or Under Under utilized
Administrator A	16	3	2	1	2	5	-3
Administrator B	23	0	4	-4	6	6	0
Clerical A	47	21	11	10	41	11	30
Clerical B	35	9	9	0	16	3	13
Engineer A	82	16	14	2	11	15	-4
Engineer B	47	9	4	5	6	23	-17
Craft A	117	14	21	-7	0	2	-2
Craft B	152	29	25	4	3	10	-7
Laborer	65	15	10	5	4	4	0
Management A	107	18	17	1	33	37	-4
Management B	56	10	12	-2	14	27	-13
Operator A	67	5	8	-3	2	4	-2
Operator B	69	7	10	-3	4	3	1
Para Professional	58	11	25	-14	27	51	-24
Professional A	36	2	9	-7	22	16	6
Professional B	167	40	32	8	77	81	-4
Technical A	53	16	10	6	5	10	-5
Technical B	9	2	2	0	2	4	-2
Total	**1206**	**227**	**225**	**36/-40**	**275**	**312**	**50/-87**

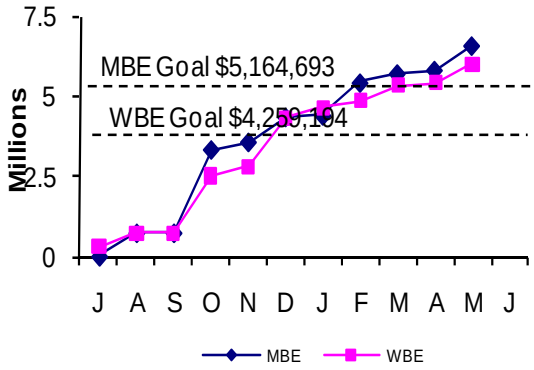
AACU Candidate Referrals for Underutilized Positions

Job Group	Title		# of Vac	Requisition Int. / Ext.	Promotions/ Transfers	AACU Ref. External	Position Status
Craft B	Heavy Equipment Operator		2	0	0	0	Pending
Engineer B	Jr. Civil Engineer		1	0	0	0	Pending
Management B	Construction Coordinator		1	0	0	0	Pending

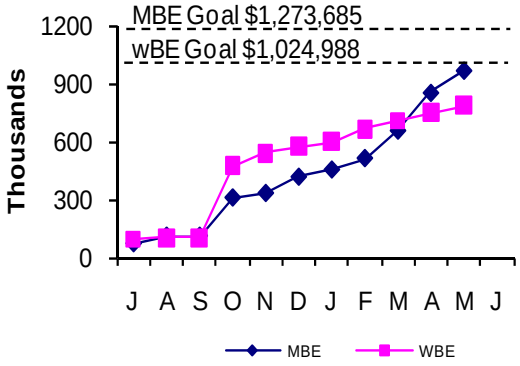
MBE/WBE Expenditures
Fourth Quarter 2011

Background: MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. MBE/WBE percentage goals, resulting from a 2002 Availability Analysis, are applied to the MWRA CIP and CEB expenditure forecasts. As a result of the Availability Analysis, the category of Non-Professional Services is included in Goods/Services. Consistent with contractor reporting requirements, MBE/WBE expenditure data is available through May.

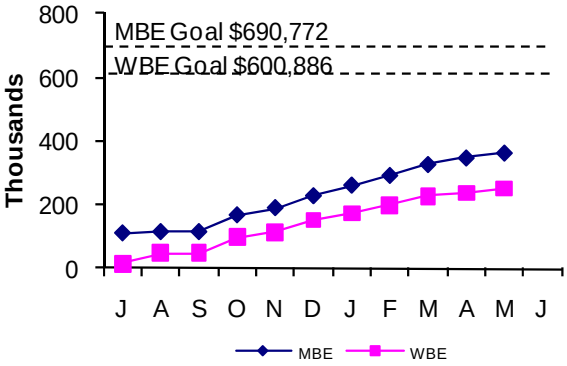
Construction



Professional



Goods/Services



FY11 spending and percentage of goals achieved, as well as FY10 performance are as follows:

	MBE				WBE			
	FY11 Year-to-Date		FY10		FY11 Year-to-Date		FY09	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Construction	6,584,183	127.5%	5,267,811	69.1%	5,992,386	140.7%	9,419,315	148.9%
Professional Svc.	967,102	75.9%	1,516,786	134.7%	783,672	76.5%	921,543	101.8%
Goods & Svcs.	362,816	52.5%	514,900	72.5%	250,792	41.7%	386,870	62.6%
Total	**$7,914,101**	**111.0%**	**$7,299,497**	**77.2%**	**$6,386,768**	**119.4%**	**$10,727,728**	**136.7%**

MWRA FY11 CEB Expenses through 4th Quarter FY11

	June 2011 Year-to-Date					
	Period 12 YTD Budget	Period 12 YTD Actual	Period 12 YTD Variance	%	FY11 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	$ 91,151,296	$ 88,505,698	$ (2,645,598)	-2.9%	$ 91,151,296	97.1%
OVERTIME	3,310,659	3,899,297	588,638	17.8%	3,310,659	117.8%
FRINGE BENEFITS	17,995,660	17,357,067	(638,593)	-3.5%	17,995,660	96.5%
WORKERS' COMPENSATION	1,870,000	2,228,175	358,175	19.2%	1,870,000	119.2%
CHEMICALS	9,797,118	8,697,048	(1,100,070)	-11.2%	9,797,118	88.8%
ENERGY AND UTILITIES	23,314,734	21,977,294	(1,337,440)	-5.7%	23,314,734	94.3%
MAINTENANCE	28,759,673	27,964,126	(795,547)	-2.8%	28,759,673	97.2%
TRAINING AND MEETINGS	231,783	127,569	(104,214)	-45.0%	231,783	55.0%
PROFESSIONAL SERVICES	5,961,508	5,638,342	(323,166)	-5.4%	5,961,508	94.6%
OTHER MATERIALS	4,612,316	4,327,538	(284,778)	-6.2%	4,612,316	93.8%
OTHER SERVICES	22,607,937	23,551,456	943,519	4.2%	22,607,937	104.2%
TOTAL DIRECT EXPENSES	**$ 209,612,684**	**$ 204,273,610**	**$ (5,339,072)**	**-2.5%**	**$ 209,612,684**	**97.5%**
INSURANCE	$ 2,586,000	$ 1,002,044	$ (1,583,956)	-61.3%	$ 2,586,000	38.7%
WATERSHED/PILOT	24,744,920	24,709,345	(35,575)	-0.1%	24,744,920	99.9%
BECo PAYMENT	4,174,256	3,875,371	(298,885)	-7.2%	4,174,256	92.8%
MITIGATION	1,518,401	1,474,834	(43,567)	-2.9%	1,518,401	97.1%
ADDITIONS TO RESERVES	(407,581)	(407,581)	-	0.0%	(407,581)	100.0%
RETIREMENT FUND	5,342,856	5,342,856	-	0.0%	5,342,856	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	-	---
TOTAL INDIRECT EXPENSES	**$ 37,958,852**	**$ 35,996,869**	**$ (1,961,983)**	**-5.2%**	**$ 37,958,852**	**94.8%**
DEBT SERVICE	$ 354,326,676	$ 360,157,926	$ 5,831,250	1.6%	$ 354,326,676	101.6%
DEBT SERVICE ASSISTANCE	-	-	-	---	-	---
TOTAL DEBT SERVICE	**$ 354,326,676**	**$ 360,157,926**	**$ 5,831,250**	**1.6%**	**$ 354,326,676**	**101.6%**
TOTAL EXPENSES	**$ 601,898,212**	**$ 600,428,405**	**$ (1,469,805)**	**-0.2%**	**$ 601,898,212**	**99.8%**
REVENUE & INCOME						
RATE REVENUE	$ 569,800,000	$ 569,800,000	$ -	0.0%	$ 569,800,000	100.0%
OTHER USER CHARGES	7,065,350	7,218,642	153,292	2.2%	7,065,350	102.2%
OTHER REVENUE	4,693,216	7,335,377	2,642,161	56.3%	4,693,216	156.3%
RATE STABILIZATION	5,029,744	5,029,744	-	0.0%	5,029,744	100.0%
INVESTMENT INCOME	15,309,902	15,193,091	(116,811)	-0.8%	15,309,902	99.2%
TOTAL REVENUE & INCOME	**$ 601,898,212**	**$ 604,576,853**	**$ 2,678,642**	**0.4%**	**$ 601,898,212**	**100.4%**

As of June 2011, total revenue was $604.6 million, $2.7 million more than budget. Total expenses were $600.4 million, $1.5 million or 0.2% less than budget, resulting in a net variance of $4.2 million.

Expenses –

- **Direct Expenses** are $204.3 million, $5.3 million or 2.5% less than budget.
- **Wages and Salaries** are $2.6 million or 2.9% underspent due to less filled positions than budgeted, higher leave balance accrual use, and more employees out on work related injury or unpaid leave status than anticipated.
- **Utilities** are underspent by $1.3 million or 5.7% due to less than projected need for Diesel Fuel of $762k at Deer Island, Electricity of $533,000 and Natural Gas of $103,000.
- **Chemicals** are $1.1 million or 11.2% less than budget due to lower usage and pricing of Sodium Hypochlorite of $497,000 at DITP, Sodium Bisulfite of $302,000 and Liquid Oxygen of $107,000 due to lower usage, offset by higher usage of Nitrazyme of $128,000 in the Framingham Extension Relief Sewer for odor control.
- **Other Services** are $943,000 or 4.2% over budget due to Other Services of $1.6 million mainly for GASB 49 accrual for remediation expenses of $1.5 million.
- **Maintenance** is $796,000 or 2.8% underspent year-to-date mostly related to service contracts. Services are underspent by $2.8 million while materials are overspent by $2.0 million.
- **Fringe Benefits** are $639,000 or 3.5% under budget for lower Health Insurance of $448,000, Dental Insurance of $93,000, Medicare of $53,000, and Unemployment Insurance of $39,000.
- **Overtime** is $589,000 or 17.8% over budget mainly for emergencies such as the Shaft 5A leak, hurricane preparations, and snow removal.
- **Workers' Compensation** is $358,000 or 19.2% higher than budget mostly driven by projected reserve requirements contingent upon the number and severity of the cases and effect of any settlements.
- **Professional Services** is $323,000 or 5.4% under budget due to the Information Technology Study of $200,000 and Staffing Study of $155,000, offset by higher spending for Lab and Testing of $641,000 due to delays in the harbor and monitoring scope revisions related to the NPDES permit.
- **Other Materials** is $285,000 or 6.2% under budget due to Computer Hardware of $386,000, offset by higher spending for vehicle purchases of $130,000.
- **Indirect Expenses** are $36.0 million, $2.0 million or 5.2% under budget due to lower Insurance claims of $1.5 million and premiums of $120,000, and lower Watershed Reimbursements of $36,000.
- **Debt Service Expenses** totaled $360.2 million, $5.8 million or 1.6% over budget due to higher senior and subordinate debt of $32.1 million due to defeasance offset by lower variable interest rates and favorable swap receipts and liquidity contract variances of $15.6, SRF loan receipts of $7.5 million, and lower use of local water pipeline funding of $3.1 million.

Revenue and Income –

- **Total Revenue / Income** for June was $604.6 million, $2.7 million more than budget due to higher net Non-Rate Revenue of $2.8 of which $1.4 million is related to FEMA reimbursement for FY10 wet weather costs.

Cost of Debt
4th Quarter FY11

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.

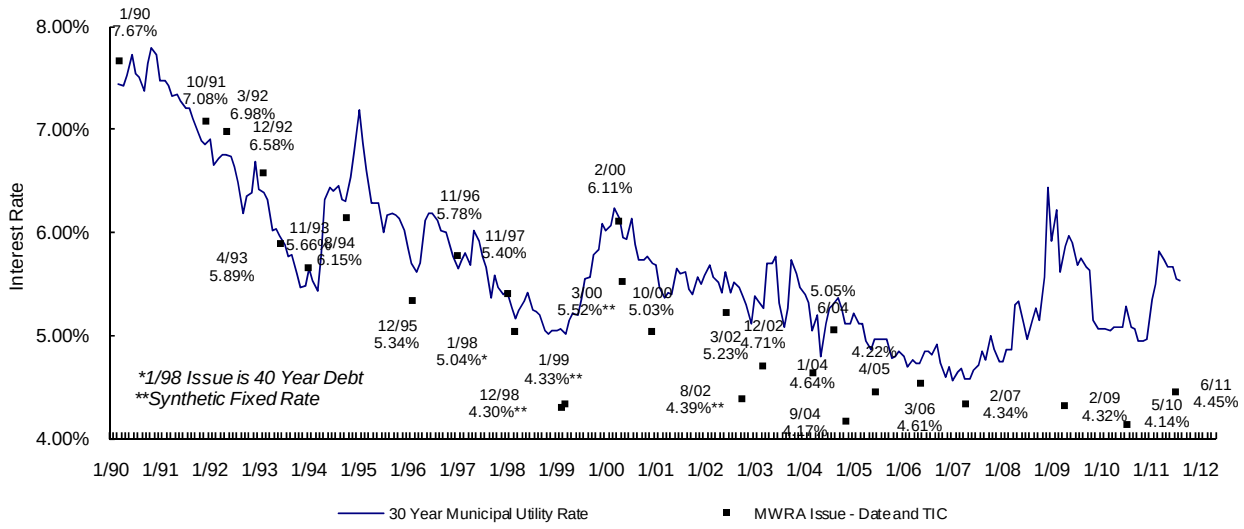
Average Cost of MWRA Debt

Fixed Debt ($4,026)	4.55%
Variable Debt ($554)	1.08%
SRF Debt ($1,071)	1.07%
Weighted Average Debt Cost ($5,611)	3.55%

Most Recent Senior Fixed Debt Issue
May 2011

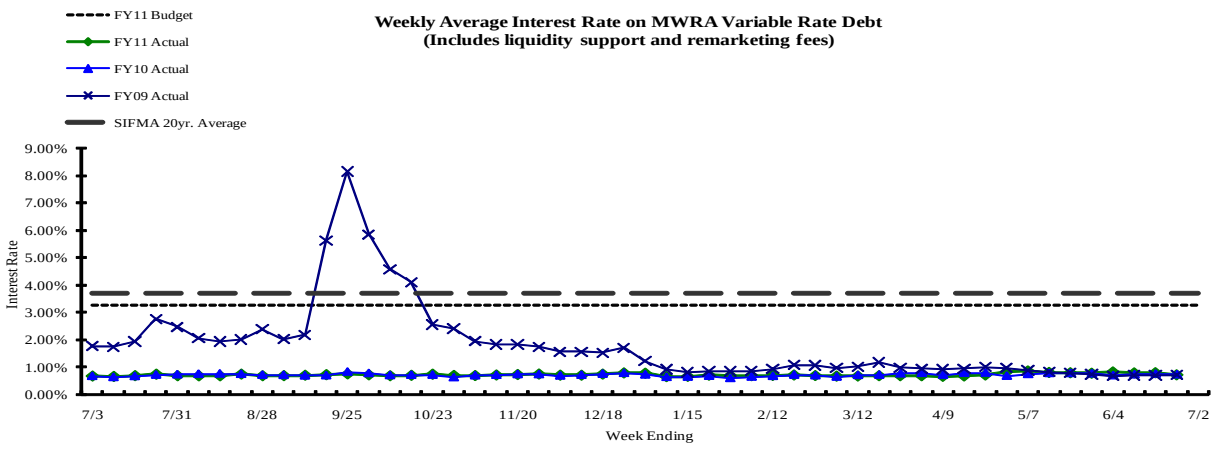
2011 Series B ($284)	4.45%

MWRA Fixed Rate Debt vs. 30 Year Municipal Utility Interest Rate



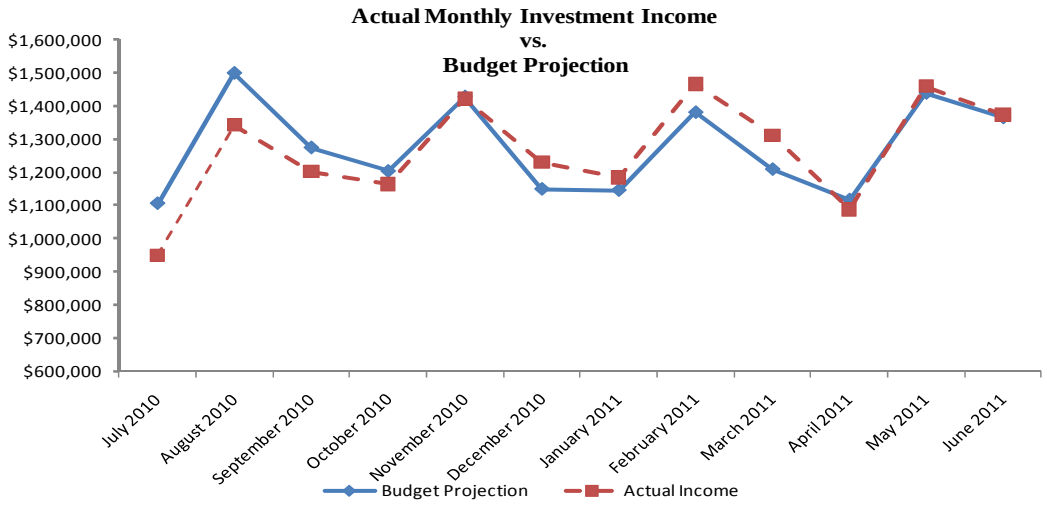
Weekly Average variable Interest Rates vs. Budget

MWRA currently has nine variable rate debt issues with $1.3 billion outstanding, excluding commercial paper. Of the nine outstanding series, five have portions which have been swapped to fixed rate. 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 June, SIFMA rates fluctuated with a high of 0.15% and a low of 0.11%. MWRA's issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate risk as compared to fixed rate debt.

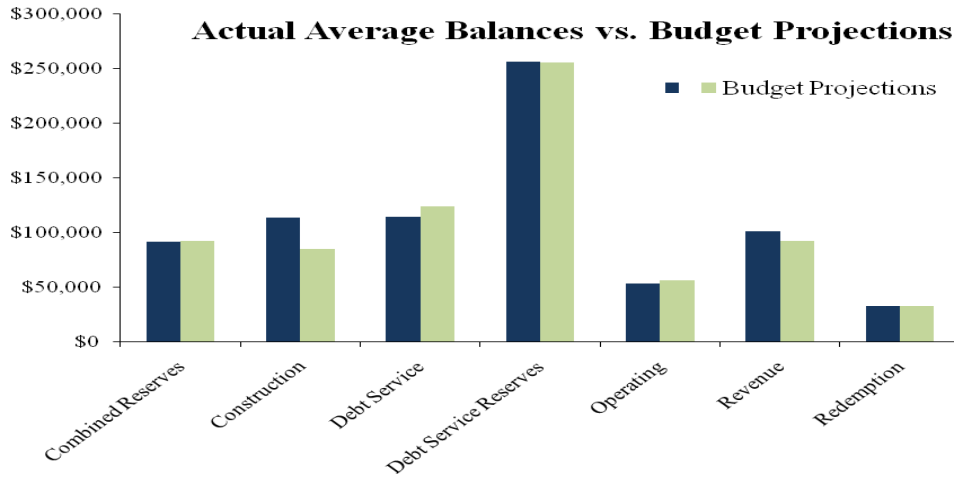


Investment Income
4th Quarter FY11

The chart provides an overview of actual combined investment income numbers versus the budget projections.



The chart below shows the budgeted average account balances versus the actual average balances through June.



The chart below depicts long term and short term investment balances.