

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

for

Fourth Quarter FY2012

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
September 12, 2012

Board of Directors Report on Key Indicators of MWRA Performance Fourth Quarter FY2012

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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.

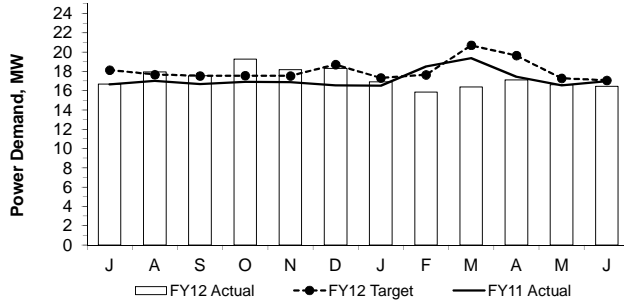
Frederick A. Laskey, Executive Director
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OPERATIONS AND MAINTENANCE

Deer Island Operations

4th Quarter - FY12

Total Power Demand

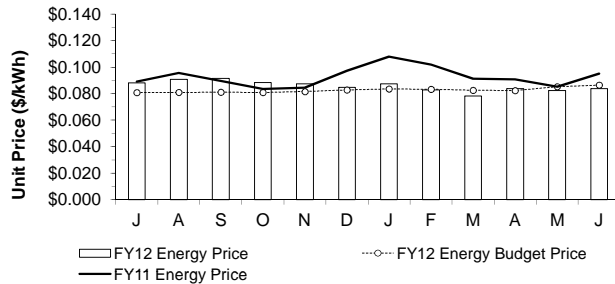


Total Power Demand in the 4th Quarter was 7% lower than the target for the quarter as Total Plant Flow was 24% lower-than-expected. Total Power Demand was 2% lower than in FY11 for the same period.

Overall in FY12, Total Power Demand was 4% lower than the target as Total Plant Flow was 6% lower-than-expected. The FY12 Total Power Demand was within 1% of the FY11 Total Power Demand.

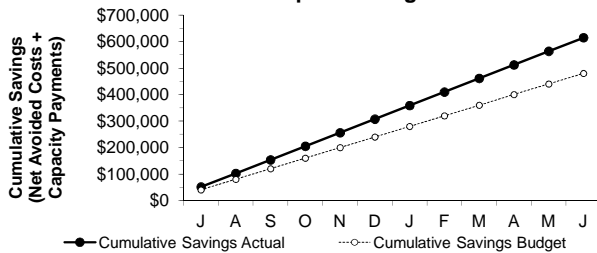
Total Energy Pricing

(includes spot energy price, ancillary costs, and NSTAR's transmission & distribution costs)



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 within 2% of the FY12 budget estimate and 8% lower than the 4th Quarter FY11 actual. The total energy price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges. Final year-to-date costs are estimated to be approximately \$331,281 (or 3.5%) more than budgeted for FY12 due to overall higher-than-expected total energy prices. Overall Total Power Demand for FY12 was slightly lower-than-expected.

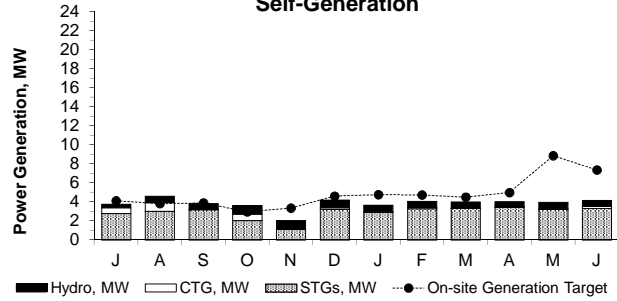
Load Response Program



Deer Island participates in the ISO-New England 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, Deer Island 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 \$614,842 at the end of FY12 compared to the budgeted savings of \$479,892. Also, an additional monthly amount of \$8,627 (included in the \$614,842 total) is expected to be received in July as part of a reconciliation payment ("true-up") for the FY12 contract year.

DITP participated in one demand response event this quarter on June 22.

Self-Generation

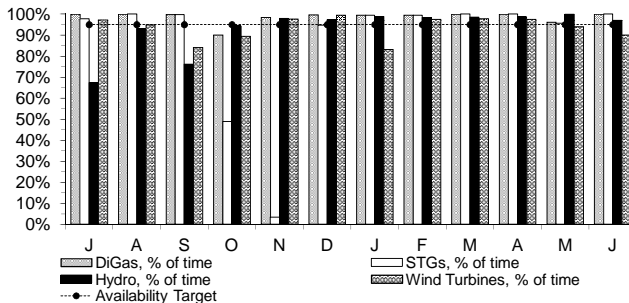


Power generated on-site was 38% below target for the 4th Quarter, 15% lower for FY12, mainly due to lower-than-expected generation by the CTGs and STGs. Generation by the Solar Panels was 44% higher than target for the quarter. Generation by the STGs, Hydro Turbines, and Wind Turbines were lower than their targets (by 21%, 13%, and 35%, respectively). STG generation was lower-than-expected as summer operating mode has not begun. The CTGs were not operated during severe wet weather events as was budgeted, since there were no severe storms this quarter, but were operated during peak system demand on June 21, to avoid the peak capacity charge, and during a demand response event on June 22. The CTGs were also operated briefly throughout the quarter for routine maintenance/checkout purposes. Monthly variances for Wind Turbine and Solar Panel generation are to be expected for the time being as we continue to compile historical monthly data for these units.

Note: While power generation by the Solar Panels and the Wind Turbines are not included in the graph (as the amounts generated cannot be seen within the current scale of this graph); 0.403 MW was generated by the Solar Panels and 0.513 MW was generated by the Wind Turbines in the 4th Quarter.

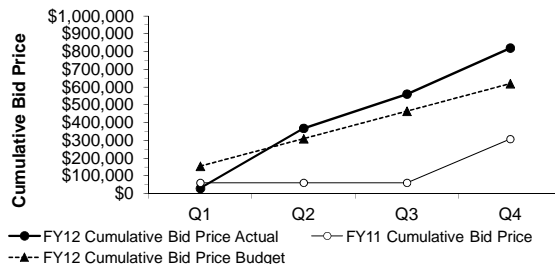
Self-Generation Equipment On-Line

(% of Time in Operation)



The DiGas, STGs, and Hydro Turbine systems all met their 95% Availability Target for the 4th Quarter. Wind Turbine availability for the 4th Quarter was within 1% of the 95% target due to lower than target availability in May and June as a result of scheduled maintenance on the Wind Turbines in the South Parking Lot.

MA Renewable Portfolio Standard

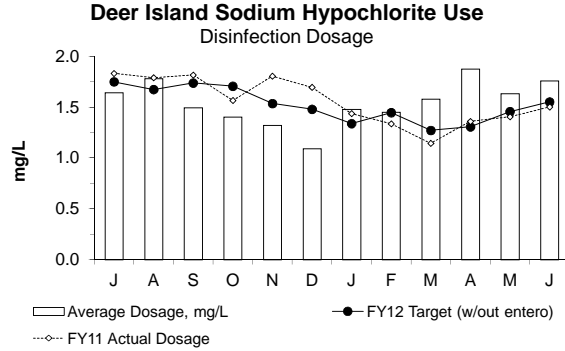
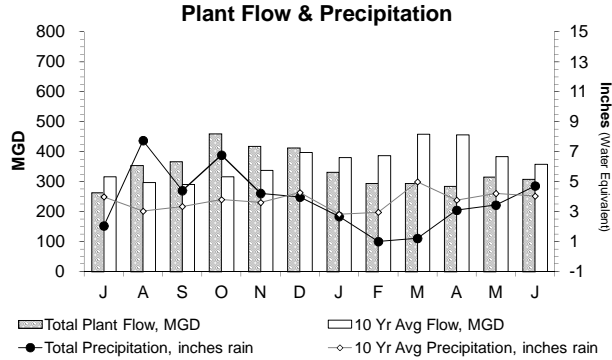


Bids were awarded in April for the sale of 45 Solar Renewable Energy Certificates (S-RECs) for a total value of \$20,682 and 5,140 Class I RECs for a total value of \$238,355. The value of the S-RECs is approximately 10 times higher than the current value of Class I RECs (for STG, hydro and wind).

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. The FY12 budgeted cumulative bid estimate at the end of FY12 is \$619,464 while the actual bid total is \$819,721.

Deer Island Operations

4th Quarter - FY12



The Total Plant Flow for the 4th Quarter was 24% lower than target (302.9 MGD actual vs. 399.2 MGD expected) as precipitation was 7% lower-than-expected for the quarter (11.23 inches actual vs. 12.01 inches expected). Total Plant Flow for the quarter is significantly lower than expected due to residual effects of the extremely dry conditions seen during the 3rd Quarter (mainly February and March).

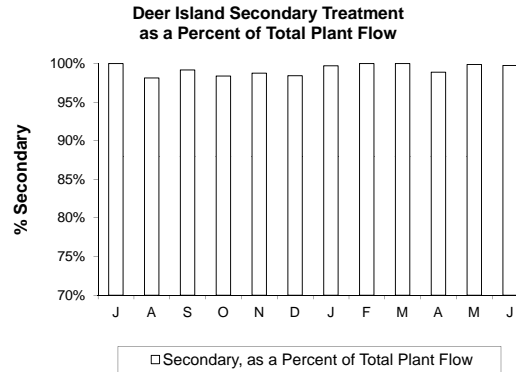
The disinfection dosing rate was 22% higher than the target for the 4th Quarter. The average dosing rate for the quarter was 1.76 mg/L compared to the target of 1.44 mg/L. Dosing was higher-than-expected due to a higher chlorine demand as a result of stronger wastewater from the lower plant flows over the last six (6) months. Overall, disinfection dosing was on target for FY12, while the actual sodium hypochlorite usage in gallons was 4.3% lower than target due to the 6% lower plant flow.

The FY12 Total Plant Flow was 6% below target while total precipitation was slightly above target by 1%.

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	0	0	0	100.0%	0.00
A	7	7	0	98.1%	27.25
S	3	3	0	99.2%	10.25
O	10	10	0	98.4%	43.94
N	5	5	0	98.8%	20.72
D	2	3	0	98.4%	28.35
J	2	2	0	99.7%	6.48
F	0	0	0	100.0%	0.00
M	0	0	0	100.0%	0.00
A	1	1	0	98.9%	11.27
M	1	1	0	99.9%	3.87
J	4	4	0	99.8%	7.58
Total	35	36	0	99.2%	159.7



There were a total of six (6) separate secondary blending events during the 4th Quarter of FY12; all were due to high plant flows resulting from heavy rain. There was a single secondary blending event each in April and in May and four (4) separate events in June.

Overall, 99.5% of the total plant flow to DITP received Secondary treatment during the 4th Quarter of FY12. The Maximum Secondary Capacity for the entire quarter was 700 MGD.

All six (6) blending events combined produced a total of 22.72 hours of blending and 124.4 Mgal of flow blended with secondary effluent.

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

Deer Island Operations & Maintenance Report

Environmental/Pumping:

The total precipitation of 11.23 inches for the 4th Quarter of FY12 was 7% lower than the 10-year average precipitation for the quarter of 12.01 inches. Measureable rain fell on 32 of the 91 days in the quarter. Total precipitation for the 4th Quarter of FY12 was also 7% lower than the FY11 precipitation of 12.03 inches during the same period.

The plant achieved a maximum average hourly flow rate of 1,031.5 MGD during the morning hours of April 23 as a result of a large storm system that brought heavy rain to the area with rainfall starting during the afternoon of April 22 and becoming very heavy through the overnight hours into April 23. A total of 2.52 inches of rain fell during the course of these two (2) days. Pumping and treatment operations continued without incident through this storm event, as well as throughout the entire quarter.

A new monthly average North System influent low flow record for April was set this quarter. The 188.10 MGD monthly average for North System influent flow broke the previous low flow record for April of 195.03 MGD. The 284.80 MGD monthly average Total Influent plant flow for April did not break the record but was very close to the previous record of 284.79 MGD set back in April 2006. Several other low plant flow records on DITP (post startup of the South System Pump Station in July 1998) were also broken last quarter in March.

Deer Island Operations

4th Quarter - FY12

Deer Island Operations & Maintenance Report (continued)

Secondary Treatment:

Annual turnaround maintenance was performed at the Cryogenic Oxygen Facility on DITP during the first two weeks of April. This turnaround maintenance is performed 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 for sometime in the fall.

Essential maintenance to re-wire the heaters, that in cold weather, warm the lubricating oils in the secondary reactor mixers in Secondary Batteries A and B was performed on April 17 (for Battery B) and on April 19 (for Battery A). This was necessary to correct a design flaw in the heaters' wiring system which could have potentially led to a wholesale failure of all 24 mixers within a battery. The essential maintenance involved rewiring these heaters that were connected to a single transformer and breaker to multiple breakers that are separated on different distribution buses. Flow to the specific secondary battery had to be suspended during the rewiring work, to allow the mixers to be taken offline, resulting in the temporary lowering of the secondary process limit from 700 MGD to 470 MGD. The flow was suspended for approximately three and-a-half (3-1/2) hours to Secondary B and for two (2) hours to Secondary Battery A. The work was performed during dry weather while plant flows were still well below the temporary lower secondary process limit of 470 MGD. The re-wiring work for both batteries was completed successfully and no impacts were observed in the secondary treatment process as a result of the temporary shutdown in these batteries.

Odor Control:

Activated carbon media was changed out for carbon adsorber (CAD) units #3, #4, and #6 in the East Odor Control (EOC) Facility, #6 in the West Odor Control (WOC) Facility, and #2 and #5 in the Residuals Odor Control (ROC) Facility during this quarter.

Energy:

Solar Power generation was 3.1% (0.403 MW) and Wind Turbine generation was 3.94% (0.513 MW) 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 buildings, in addition to the solar installation on the ground of the South Parking Lot. Wind Turbine power generation includes generation by the two wind turbines located in the South Parking Lot and intermittent generation during optimization and testing by the FloDesign wind turbine installed near the Hydro Power Plant. Wind Turbine generation was 24% lower than budgeted in FY12 and as compared to the FY11 Wind Turbine generation due mainly to wind speeds that were 10% lower in FY12 than in FY11. Overall, total power generated on-site by all the generating units accounted for 26.0% of Deer Island's total power demand for the 4th Quarter; 23.8% overall for FY12.

DITP staff performed a test to evaluate the DiGas system capacity on May 24. Sludge feed to the digesters was suspended for nine (9) hours during the day on May 23 in order to maximize the rate of digester gas production once sludge feed was resumed prior to initiating the DiGas capacity test. A record amount of digester gas was transported from the residuals digester area to the DITP Thermal Power Plant during this test. The results demonstrated that all three (3) available gas compressors (including the backup compressor) could be operated simultaneously at a flow of 268,000 Standard Cubic Feet per Hour (SCFH) for several hours to compress and transport the digester gas to the DITP Thermal Power Plant. It is likely that even higher gas flow could have been handled if more gas was available. Based on the results of this test, the third (backup) compressor, when available, could be turned on when gas production rises above 220,000 SCFH and it appears likely that gas production will continue to increase.

Annual overhaul maintenance on the two (2) CTGs began during the last week of May and was completed in mid-June with each CTG having to go through a thorough two (2) week maintenance period. The scope of work for this maintenance includes rolling out and inspecting the generator bearings and oil seals by the contractor and replacing them with new parts. Maintenance began on May 29 with the overhaul of CTG-1A, followed by the maintenance of CTG-2B, and required each generator to be locked out (but available for operation within two hours during the off shifts) the first week, then completely locked out and unavailable the second week during the bearing and oil seal replacement. Staff ensured the CTG was available for use if needed during the intervening weekends when no maintenance was being performed.

DITP staff installed Dissolved Oxygen (D.O.) probes in February 2011 to better monitor oxygen utilization in the secondary reactor process area. Because of their installation, staff has been able to slowly reduce oxygen generation to better match the secondary treatment oxygen demand to the point where DITP only needs to operate one cold box unit when historically it typically required two cold box units, saving on average 0.5 – 0.7 MW or 370,000 – 520,000 kwh monthly in cryogenic oxygen generation (cryo) energy demand alone. This revised control strategy was implemented in August 2011 of FY12. In FY12, cryo energy savings vs. DITP's 3-year historical performance has been in the order of 3,800,000 kwh due to this change. Additional modifications to secondary reactor mixer operation, reducing the number of mixers in operation per train with no impact to secondary capacity or NPDES permit compliance, has realized an additional savings of 3,400,000 kwh from historical use (the last 3-years of operation) for a total energy savings in the secondary process area of 7,200,000 kwh; an approximate savings of over \$600,000.

Regulatory:

Joe Su with the Massachusetts Department of Environmental Protection (MaDEP) performed two (2) site visits at DITP this quarter to discuss and review various provisions under DITP's Air Quality Operating Permit. A significant portion of these visits involved a detailed tour and overview of boiler operation, including an in-depth review of the boiler startup sequence. Other aspects of these visits involved tours of the wet chemical scrubber and carbon adsorption areas of each of the five (5) odor control treatment facilities, a review of the process control and compliance stack monitoring data, and the activated carbon status information, as well as a tour of the emissions flare system with a review of the operating data. Other emissions generating units that were reviewed and discussed during these visits included the parts washers, the stage II vapor recovery system, and a number of portable generators. These visits by MaDEP are for informational purposes in preparation for the renewal of the next operating permit.

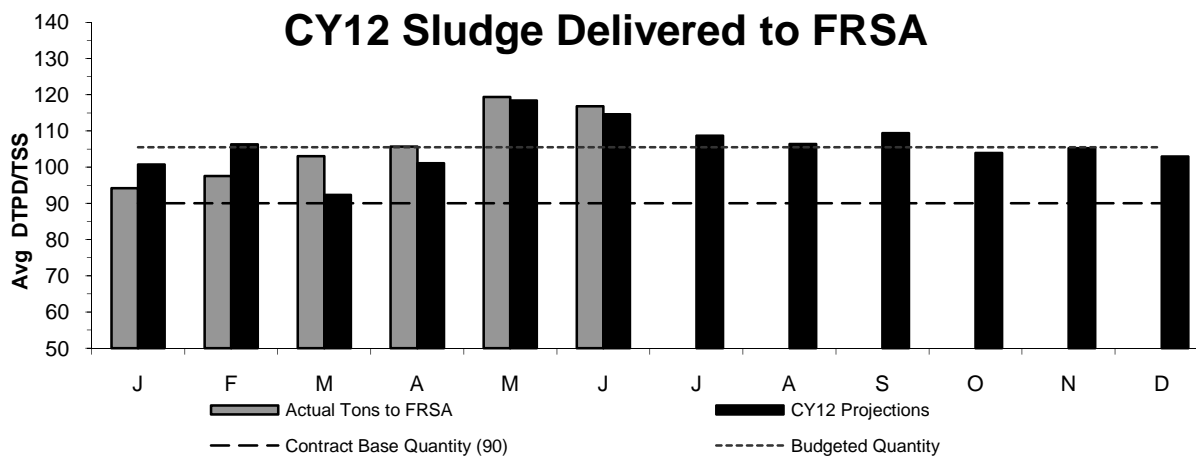
Clinton Wastewater Treatment Plant Operations and Maintenance Report:

The preliminary design report for the new phosphorous treatment system has been received and is being reviewed by MWRA. This new treatment process will be required to meet the much more stringent phosphorous limit contained in the new draft NPDES permit. The total cost for the project has increased due to the expanding of the project to include a new process water system, a redundant process train, a new polymer system, additional site work, 2 emergency generators, and a new diversion structure. The plant has continued to exceed the permitted flow limit for the eighth consecutive month (3.25 mgd for June with a limit of 3.01 mgd).

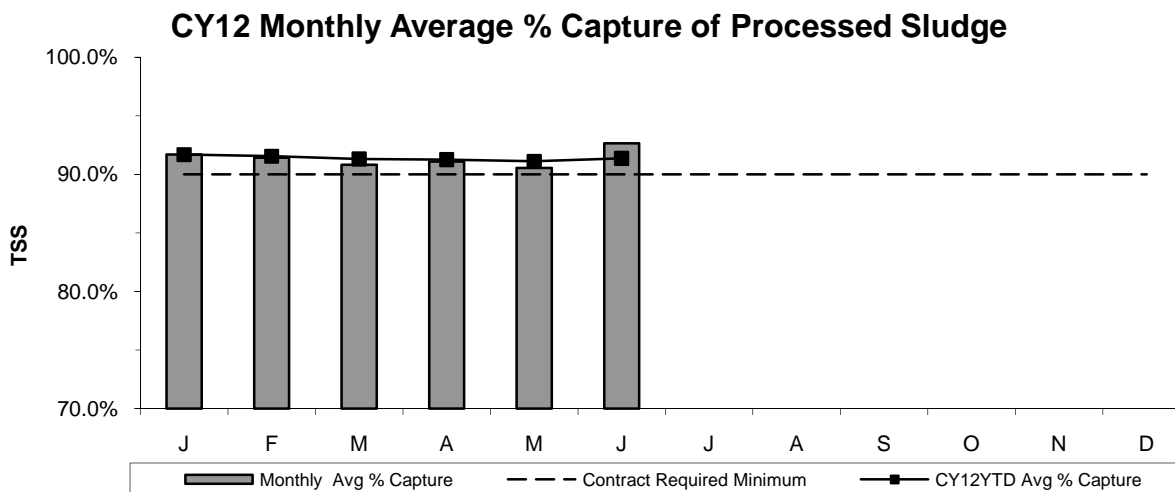
Deer Island Residuals

4th Quarter - FY12

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 (FY12's budget is 105.5 DTPD/TSS).



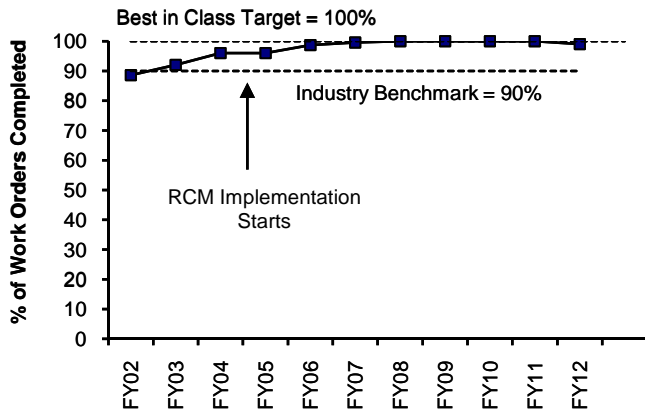
The total amount of sludge pumped to FRSA in June was more than projected. The total sludge sent to digestion this month was slightly higher than expected, approximately 7.8 TSS tpd more (3.0% variance), resulting in approximately 3.7 TSS tpd more sludge going to the sludge holding tanks assuming a solids destruction of roughly 48% this month.



The contract requires NEFCo to capture at least 90% of the solids delivered to the Biosolids Processing Facility in Quincy. The capture rate of solids in June was 92.64%.

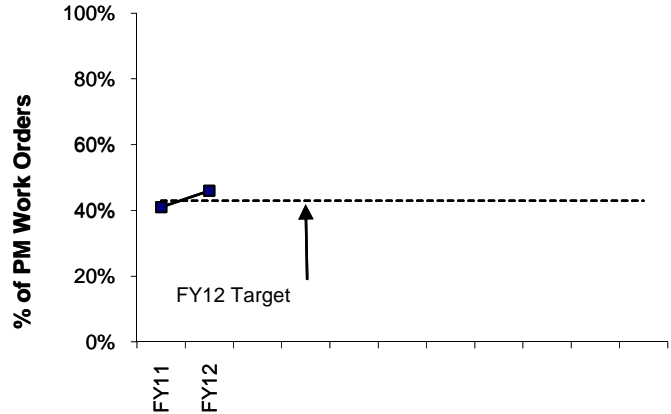
Deer Island Yearly Maintenance Metrics Proactive and Productivity Measures 4th Quarter - FY12

Preventive Maintenance



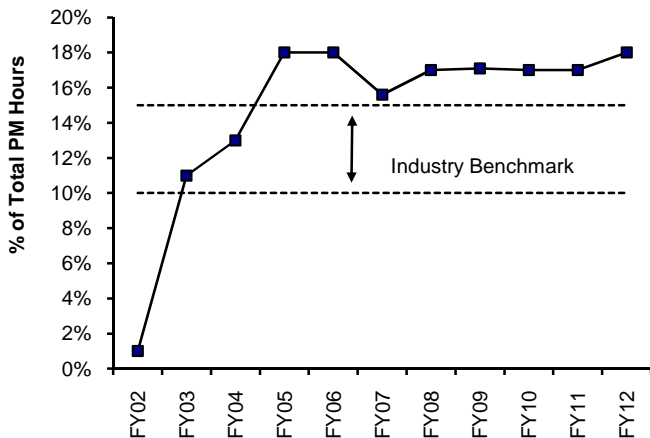
The industry benchmark is 90% Preventive Maintenance (PM) completion. Upon reaching the 90% goal in FY02, the goal was raised to the "best in class" standard of 100% PM completion. Since then, the percentage of PM work order completion has been at 99% or higher. Reliability-Centered Maintenance (RCM) and PM optimization efforts have continued in FY12. PM completion rate was 99% in FY12.

Preventive Maintenance Kitting



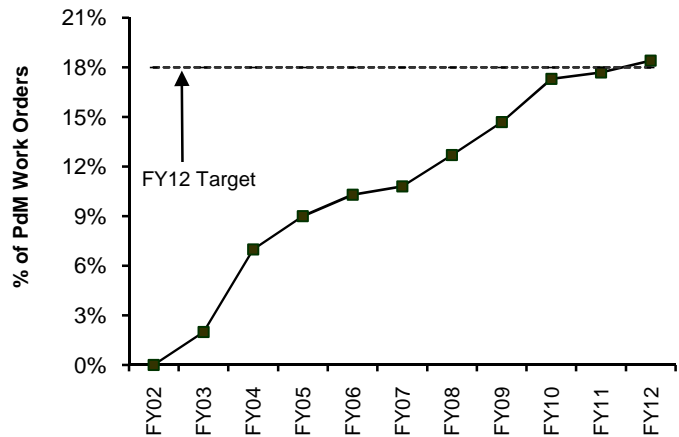
PM inventory items were loaded into Maximo so that parts for equipment could be assigned to PM work orders on a monthly basis. DITP reached the PM kitting goal in FY10. A new graph was developed in FY11 to track kitting of all maintenance work orders. In an effort to increase wrench time, staff have 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" and less time waiting for parts at the stockroom window.

Operations Light Maintenance PMs



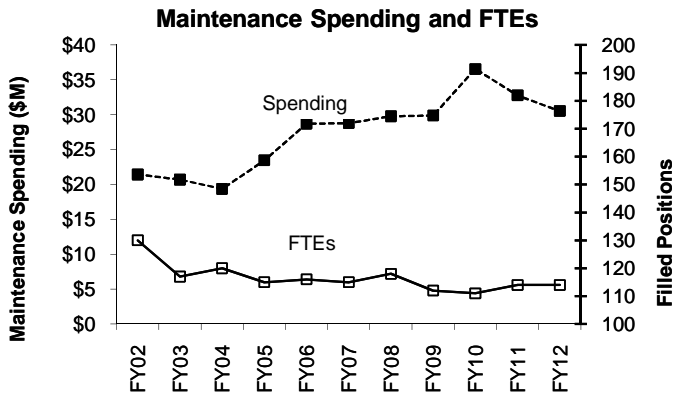
The percentage of preventive maintenance work order hours completed by Operations staff (not maintenance staff) has increased from less than 1% in January 2002 to the current level of 18%. DI reached the industry benchmark range of 10-15% in April 2003 and has exceeded the goal through FY12. Operations completes approximately 600 PM work orders per month.

Predictive Maintenance



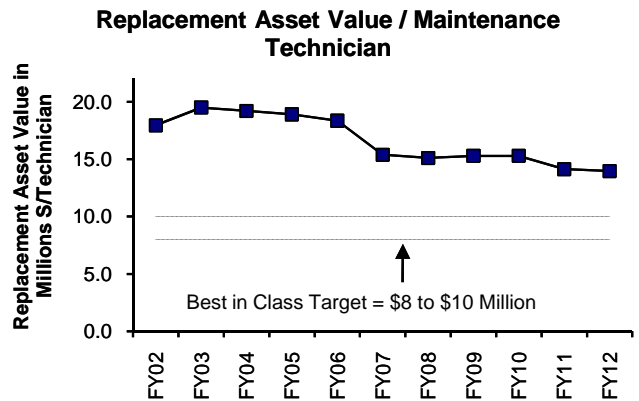
Predictive maintenance has steadily increased from 0% in FY02 to 18% in FY12. The increase in predictive maintenance was achieved through the expanded use of lubrication, vibration, thermography, and acoustic ultrasonic testing techniques. The Condition Monitoring Group continually reviews and investigates 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.

Deer Island Yearly Maintenance Metrics Overall Maintenance Program Measures 4th Quarter - FY12



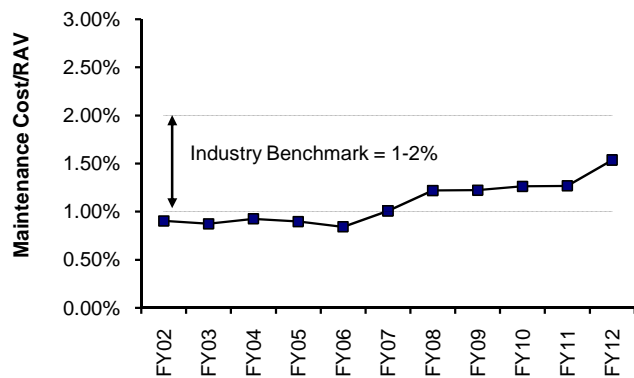
The number of Full-time Equivalent positions or FTEs steadily decreased from FY02 thru FY09 through staff attrition. Maintenance has been successful in meeting its goals through implementation of numerous maintenance efficiencies including Operations staff performing light maintenance, cross-functional training and flexibility, and Reliability Centered Maintenance.

The maintenance spending graph shows actual annual maintenance spending and large asset replacements (equipment costs only). Maintenance budgeting will continue to evaluate proper preventive maintenance of plant assets and requirements for replacement of obsolete equipment to insure plant operates at maximum efficiency. In FY12, overall spending was lower than FY11 due to some significant CIP projects that were completed in FY10. Some of the capital replacement projects included electrical equipment upgrades, heat loop, and roof replacements. The Clarifier rehabilitation project (\$58M) was also on-going during that period.

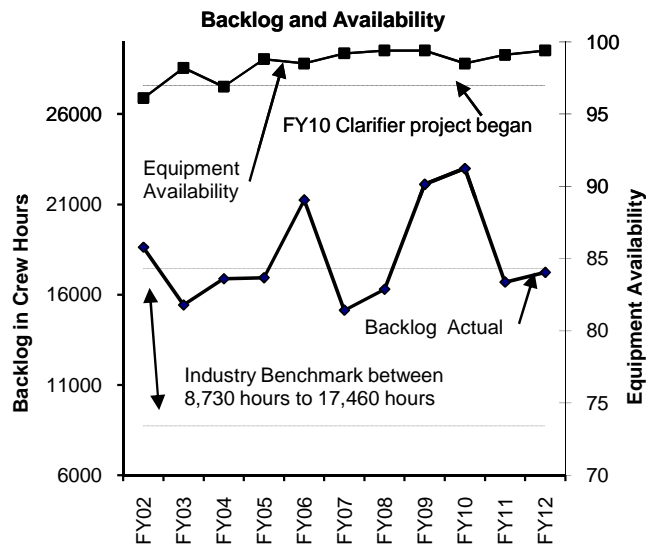


DITP has adopted a "best in class" target of \$8-\$10 Million/Technician for its maintenance staffing. DITP exceeds the target at this time although the trend continues downward. As the plant ages and additional projects and replacements are required, additional staffing needs will be assessed.

Maintenance Cost / Replacement Asset Value



The industry benchmark for annual maintenance spending is between 1% to 2% of replacement asset value. 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. Additional spending is expected to be required as the plant ages and additional equipment replacements are required. The maintenance spending includes \$12.5 million in CEB together with CIP spending which included projects such as Clarifier Rehabilitation (\$58M), Electrical Upgrades (\$15M) and Digester Pipe replacement (\$10M).



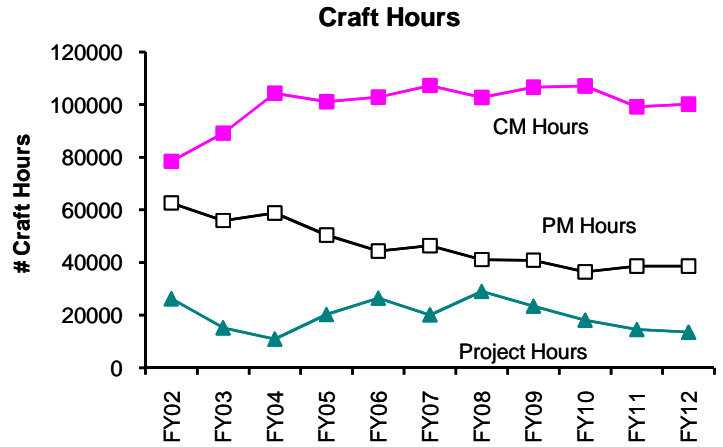
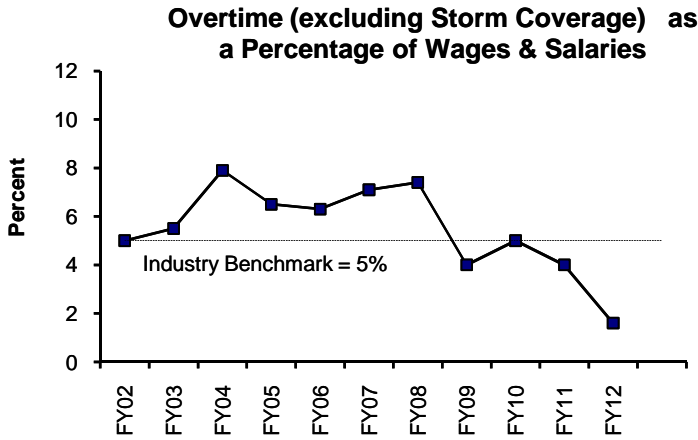
The industry benchmarks for equipment availability is 97% and maintenance backlog based on current staffing levels is between 8,730 to 17,460 hours, respectively. The equipment availability met or exceeded the goal for the last ten years and was 99.4% for FY12.

The total average backlog for FY12 was 17,230 hours and is within the industry benchmark. The slight increase in backlog from FY11 was due to staffing availability primarily associated with industrial accidents and medical leave. Management continues to prioritize work and closely monitor our backlog.

Deer Island Yearly Maintenance Metrics

Overall Maintenance Program Measures

4th Quarter - FY12



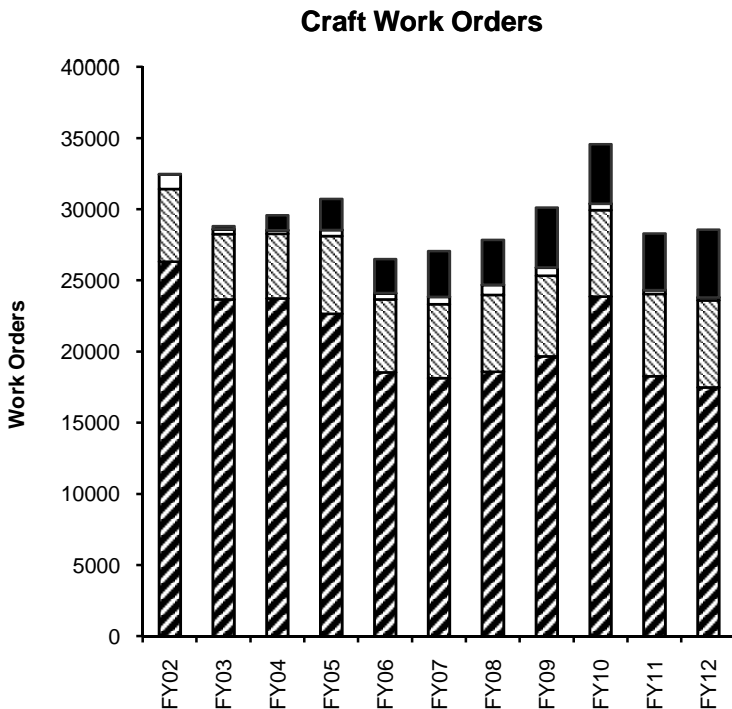
Management is working toward keeping overtime within the industry benchmark. DITP maintenance overtime was 1.6% for FY12. Management has taken steps to reduce overtime spending by limiting overtime to repair critical equipment and systems only. DITP has been under benchmark from FY09 through FY12.

Optimization of the PM program through the transfer of some light maintenance tasks to Operations staff (18% of PM hours at the end of FY12), elimination of duplicate work orders, decreasing PM frequency due to equipment history and performance, completion of a PM Optimization efforts in FY05, and Reliability Centered Maintenance (RCM) recommendations has resulted in a significant decrease (24,019 hours) in maintenance staff PM craft hours from FY02 to FY12. Corrective Maintenance (CM) hours has shown a slight increase of 975 hours this year due to HVAC equipment failures attributed to the corrosive environment. Project Maintenance hours continues to show a decline as an increasingly amount of project work is being handled through CIP projects.

Condition Monitoring techniques are being applied, which allow maintenance to monitor and test equipment using technology that takes less time and is less intrusive.

During FY12, total the number of total work orders held steady from the previous year.

A continued reduction in Project work orders is due primarily to the increase in capital projects.



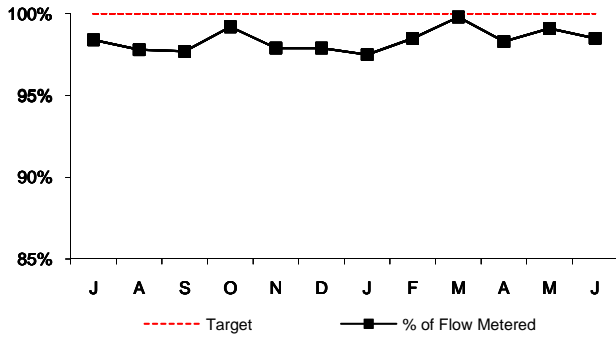
- Predictive Maintenance
- Project
- Preventive Maintenance
- Emergency Maintenance
- Corrective Maintenance

Operations Division Metering

4th Quarter - FY12

WATER METERS

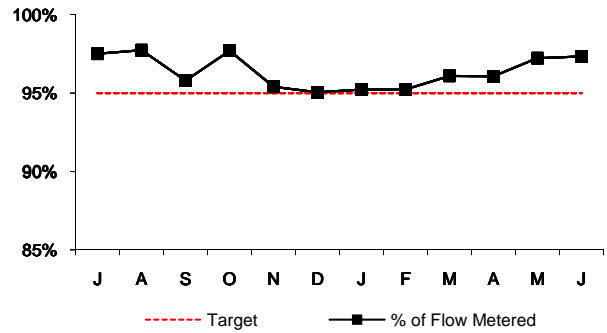
Percent of Total Revenue Water Deliveries Calculated Using Meters



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. During the 4th Quarter of FY12, meter actuals accounted for 98.6% of flow; only 1.4% of total revenue water deliveries were estimated. The following is the breakdown of estimations:
 In-house and Capital Construction Projects - 0.2%
 Instrumentation Failure - 1.2%

WASTEWATER METERS

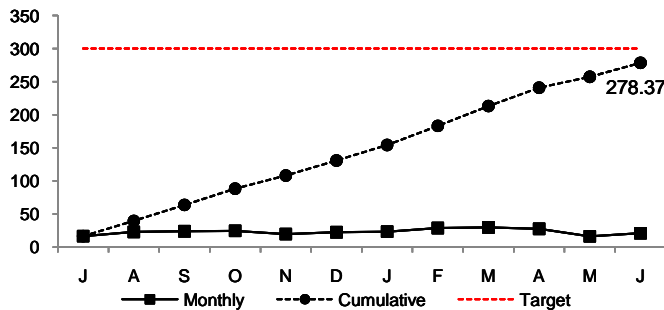
Percent of Total Wastewater Transport Calculated Using Meters



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. During the 4th Quarter of FY12, meter actuals accounted for 96.88% of flow; 3.12% of wastewater transport was estimated.

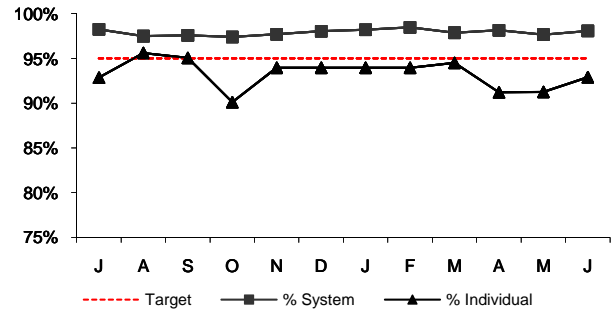
WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



During the 4th Quarter of FY12, 65.26 miles of water mains were inspected; this brings the YTD total to 278.37, just below the target of 300.

% Wastewater Meter Uptime



During the 4th Quarter of FY12, out of a possible 1,595,808 data points, only 32,613 points were missed resulting in a system-wide up time of 98%. Of the 183 revenue meters installed, on average 15 meters per month experienced down time greater than the 5% target resulting in a 91.8% of individual meters meeting the target. For the 4th Quarter of FY12, down time for an individual meter is defined by any individual meter having on average less than 2766.3 data points out of a potential 2,912 data points.

Water Distribution System

Month	J	A	S	O	N	D	J	F	M	A	M	J
Leaks Detected	0	0	0	0	0	4	2	2	1	2	2	1
Leaks Repaired	0	1	0	0	0	4	0	2	1	2	3	2
Backlog	1	0	0	0	0	0	2	2	2	2	1	0
Avg. Lag Time	31.0	47.0	47.0	47.0	47.0	13.2	13.0	15.5	20.3	22.6	22.7	23.0

During the 4th Quarter of FY12, 5 leaks were detected and all of them were repaired. Additional repairs during the 4th Quarter of FY12 included the leak at Riverside in Medford (Section 57) originally detected in January, and also the leak located out on the Saugus Channel under the General Edwards Bridge (Section 56) originally detected in February. These leaks were repaired on April 20th and June 27th respectively. However, Section 56 remains out of service because another leak was found on the line at the bridge in July.

During FY12 fourteen (14) leaks were detected and repaired. The one extra repair was a Newton leak (on Section 24) that carried over from FY11. It was repaired in the first quarter. Three of the FY12 leak repairs (Section 57, Section 56 and Section 24) took more than 1 month to repair. These repairs required a more complex coordination of resources which significantly increased our year end average lag time.

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.

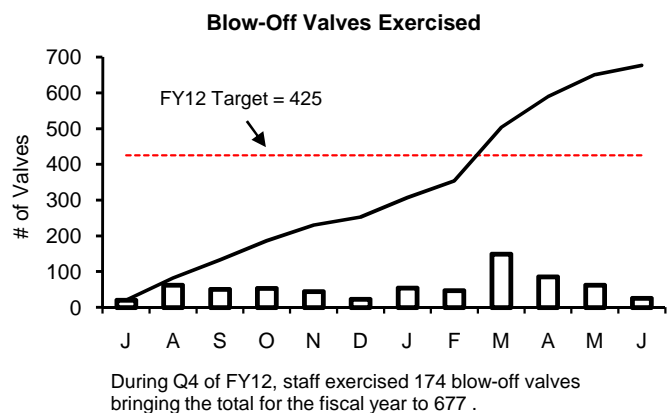
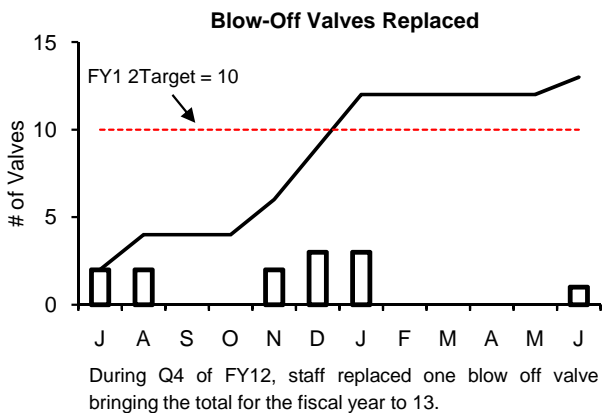
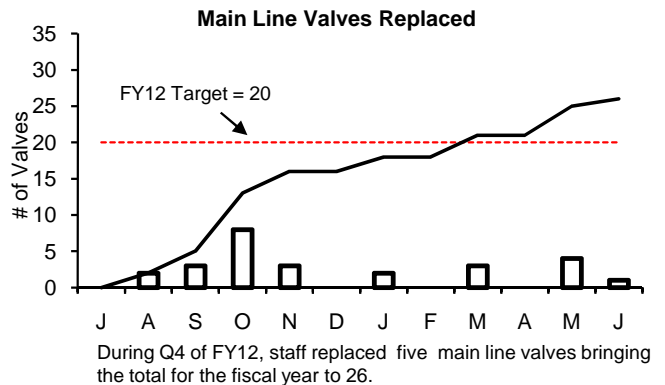
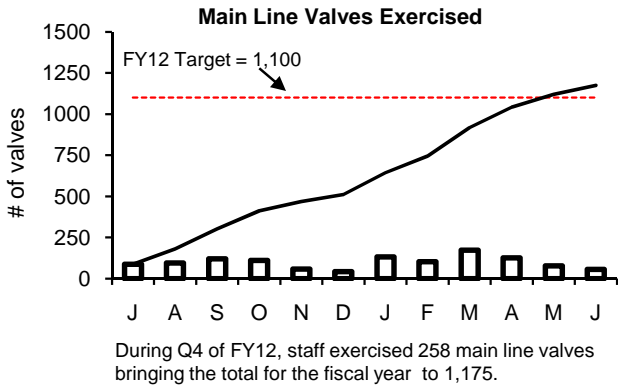
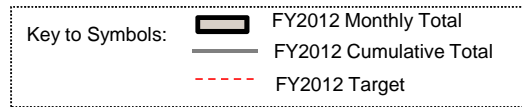
Water Distribution System Valves

4th Quarter - FY 12

Background

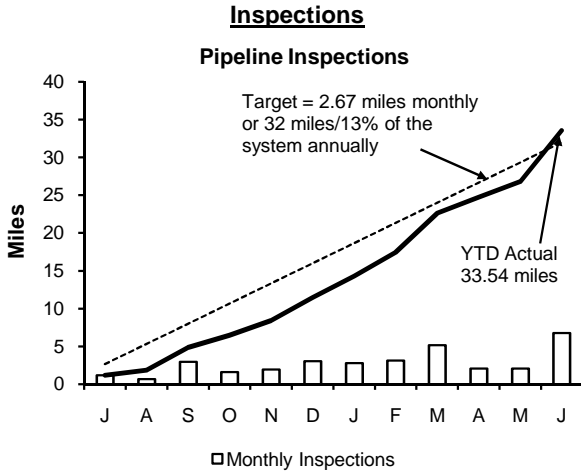
Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but 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	
		FY12 to Date	FY12 Targets
Main Line Valves	2,092	96.8%	92%
Blow-Off Valves	1,206	92.9%	94%
Air Release Valves	1,335	93.0%	92%
Control Valves	48	100.0%	95%

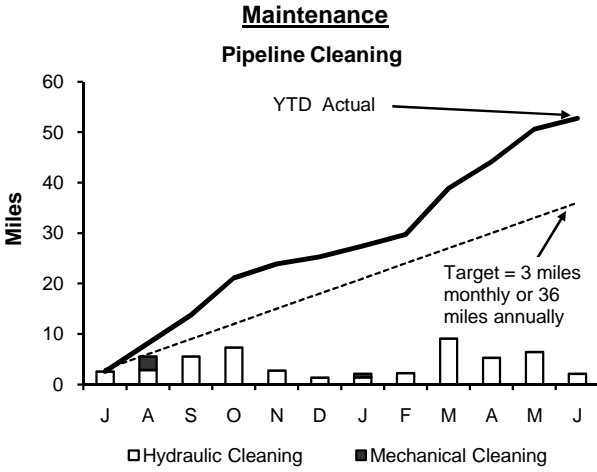


Wastewater Pipeline and Structure Inspections and Maintenance

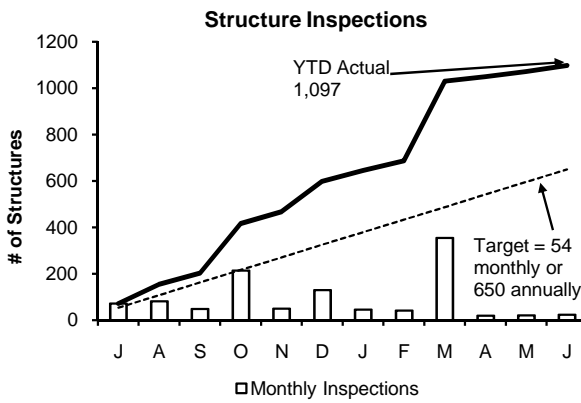
4th Quarter - FY 12



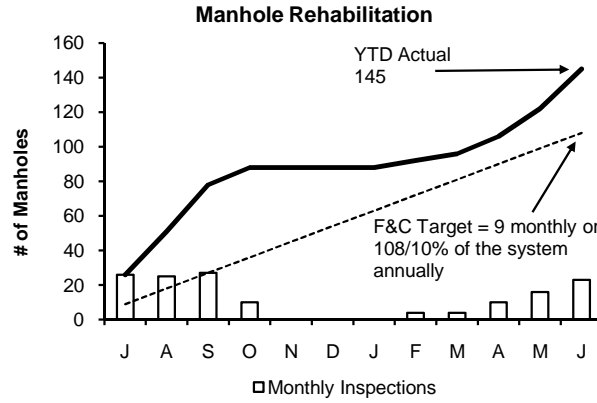
Staff internally inspected 10.94 miles of MWRA sewer pipeline during this quarter. The year-end total for FY 12 is 33.54 miles. Community Assistance was provided to the city of Somerville; 1,210 linear feet (0.23 miles) of local 8" diameter sewer was inspected this quarter.



Staff cleaned 13.19 miles of MWRA's sewer system and removed 49 yards of grit and debris during this quarter, bringing the year-end total to 52.74 miles. Community Assistance was provided to the city of Waltham, resulting in 200 linear feet (0.04 miles) of local sewer cleaning.



Staff inspected the 36 CSO structures and performed 31 additional manhole/structure inspections during this quarter, the year -end total is 1,097 inspections.

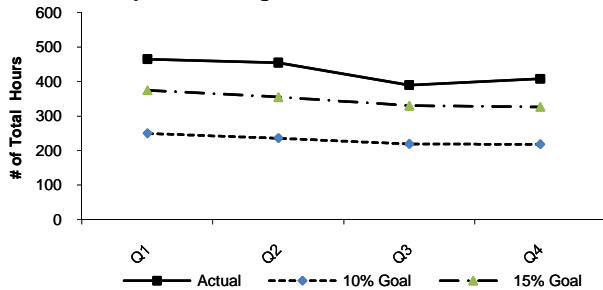


Field Operations' Metropolitan Equipment & Facility Maintenance

4th Quarter - FY12

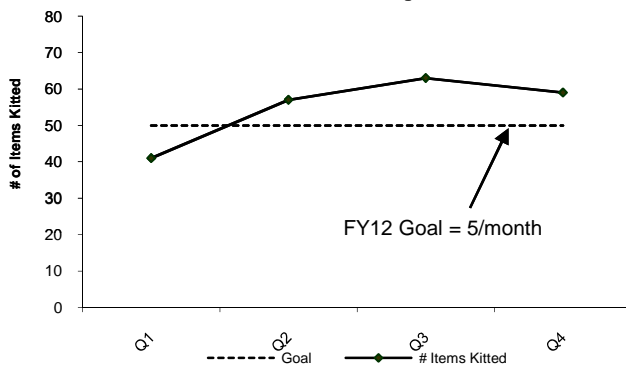
Staff are continuing with several maintenance and productivity initiatives; The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.

Operations Light Maintenance PM Hours



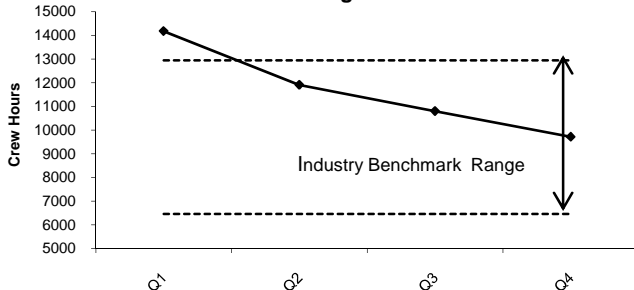
Operations staff averaged 408 hours of preventive maintenance during the 4th Quarter, an average of 19% of the total PM hours for the 4th Quarter and 19% for FY12, which is above the industry benchmark of 10% to 15%.

Items Kitted Utilizing Maxim



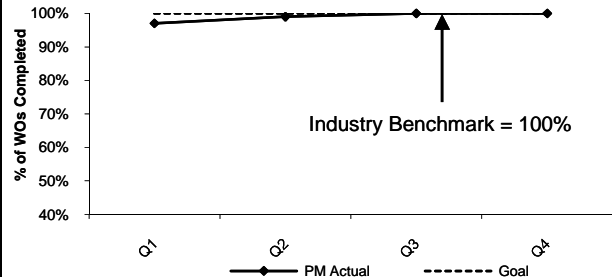
In an effort to more efficiently complete work, maintenance staff and work coordination staff have utilized the Lawson/Maxim interface to better kit stock and non stock material. The goal for FY12 is to "kit" 50 stock and non stock items total per month. An average of 59 items were kitted for the 4th Quarter and 55 items for FY12 which exceeds the goal.

Maintenance Backlog in Crew Hours



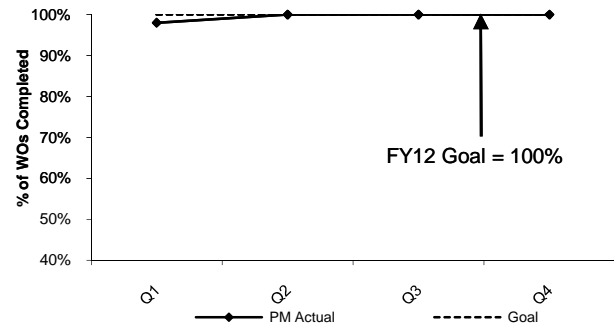
The 4th Quarter backlog average is 9,711 hours. The Mechanical backlog is above the industry average due to the addition of multiple projects including the Alewife Screens and Nut Island Conveyor repairs. Management's goal is to control overtime and still stay within the industry benchmark of 6450 to 12,940 hours.

Overall Preventive Maintenance



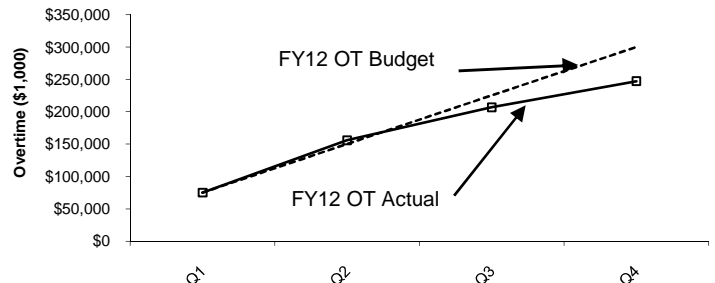
The Field Operations Department (FOD) preventive maintenance goal for FY12 is 100% of all PM work orders. Staff completed 100% of all PM work orders in the 4th Quarter.

Operations Light Maintenance % PM Completion



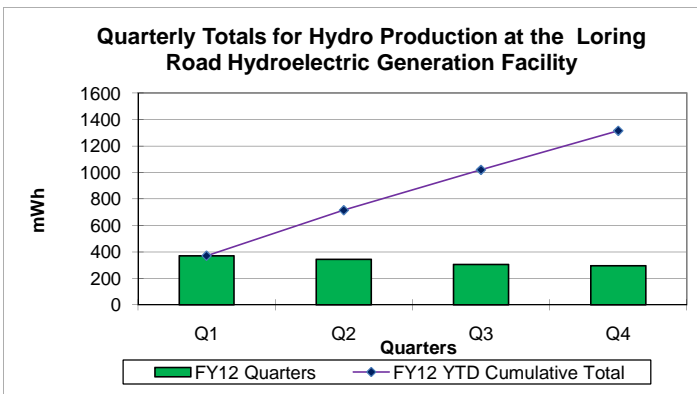
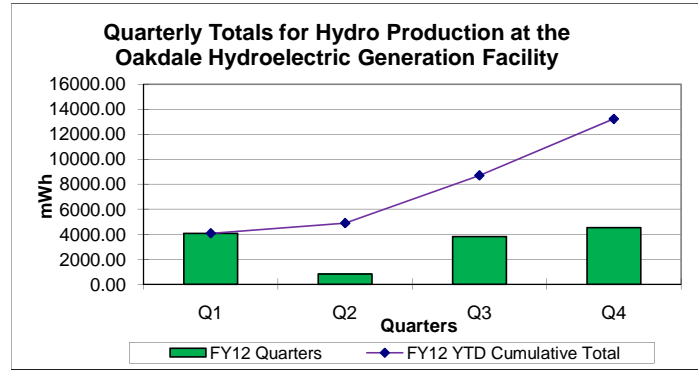
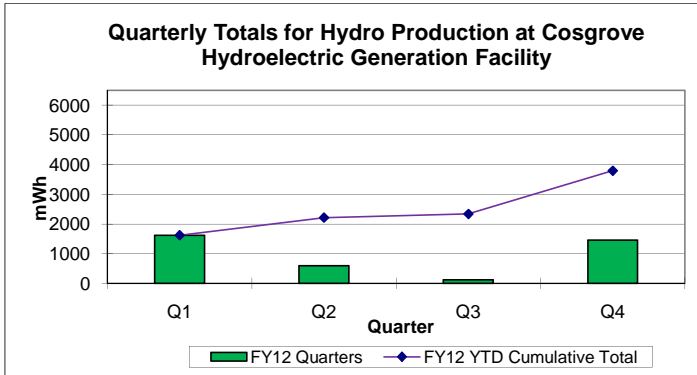
Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY12 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work orders in the 4th Quarter.

Overtime Spending



Maintenance overtime was \$34k under budget for the 4th Quarter and \$53k under budget for FY12. Overtime was used to complete emergency repairs due to a variety of critical operational needs as well as coverage for wet weather.

Field Operations Hydroelectric Generation Quarterly Report 4th Quarter - FY12



In the 4th Quarter, the **Cosgrove Hydroelectric Station** generated a net of 1454 MWh; approximately 13% less than was generated during the same quarter in FY11. The revenue generated at Cosgrove in the fourth quarter was \$44,613 exclusive of Renewable Energy Certificates.

In the 4th Quarter, the **Oakdale Hydroelectric Station** generated a net of 4523 MWh; approximately 42% more power than was generated during the same quarter in FY11. (Power is generated when water is transferred from Quabbin to Wachusett.)

In the 4th Quarter, the **Loring Road** hydroelectric 200 kW station generated 296 MWh. Power is generated as water conveyed from Norumbega to the Loring Road storage tanks is reduced in pressure and the energy available in this pressure reduction is captured by the new turbine. The facility operates continuously. Some power is consumed on site, with the bulk exported to the grid.

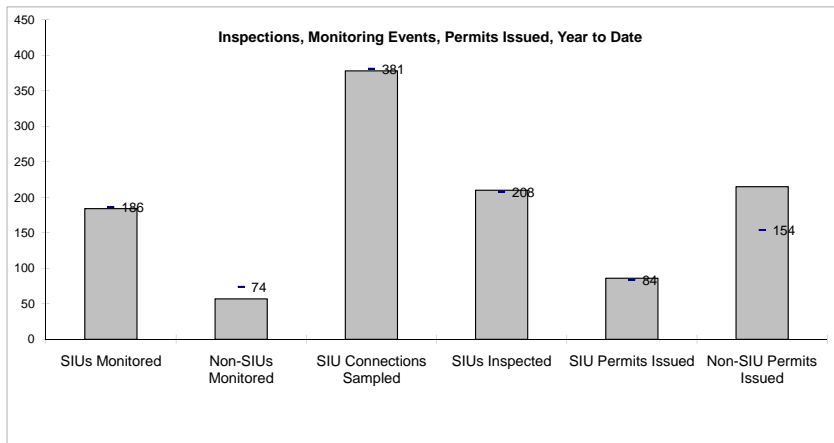
Southborough: An audit of the Southborough facility recommended a review of the HVAC system. Staff completed that work and have recommended the installation of an energy management system similar to the one being installed at the Chelsea Facility. NSTAR has committed to providing a \$30,000 incentive to this project based on the projected energy savings. This project falls under the requirements of the Green Communities Act since it would be under \$100,000. The work is expected to begin in September 2012.

Chelsea Facility: The detailed audit of the Chelsea facility recommended installing an Energy Management System for the Admin. Building along with some equipment updates. NSTAR has agreed to provide a \$168,000 incentive to MWRA for the installation of the EMS. The project was bid and a contract was awarded during the second quarter of FY12. Work began in the third quarter of FY12 and is expected to be completed during the first quarter of FY13.

Energy Audits and Implementation of Audit Recommendations at FOD Facilities: MWRA staff identified multiple facilities that would benefit from a comprehensive energy audit. Audits of 24 facilities were performed in two phases from FY10 through the first quarter of FY12. The focus of these energy audits were lighting, HVAC, pumps, and motors. Implementation of the audit recommendations began at the end of the 1st Quarter of FY11 and are on-going. VFDS on the HVAC systems and scrubber pumps at Ward Street and Columbus Park Headworks were installed during the 4th quarter of FY12. Energy efficient lighting was installed at Prison Point during the fourth quarter also. Audits of an additional 6 facilities began in the second quarter of FY12 and are on-going. Audits of two of the six were completed in the fourth quarter of FY12.

Toxic Reduction and Control

4th Quarter - FY 2012



EPA Required SIU Monitoring Events for FY12: 186
YTD: **184**

Required Non-SIU Monitoring Events for FY12: 74
YTD: **57**

SIU Connections to be Sampled For FY12: 381
YTD: **378**

EPA Required SIU Inspections for FY12: 208
YTD: **210**

SIU Permits due to Expire In FY12: 84
YTD: **86**

Non-SIU Permits due to Expire for FY12: 154
YTD: **215**

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. One SIU had no discharge during the year, and one SIU with multiple sample locations had one connection not sampled because of a communication issue. Two other connections had no discharges during the year.

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 also monitors one-third of the non-SIUs each year. Non-SIU monitoring events fell short of goals because of staff turnover, but these facilities, sampled once every three years, can be completed in FY13 and 14 with no regulatory impact. 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. MWRA inspected 100% of SIUs (including 2 new SIUs) and sampled 99% of the SIUs with flow during the 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. More SIU and non-SIU permits were issued than expected for one of two reasons: they were new permittees, or their existing permits expired in the previous year (FY11).

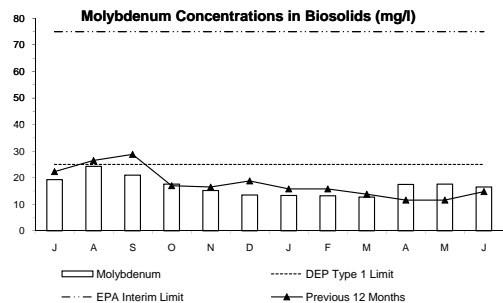
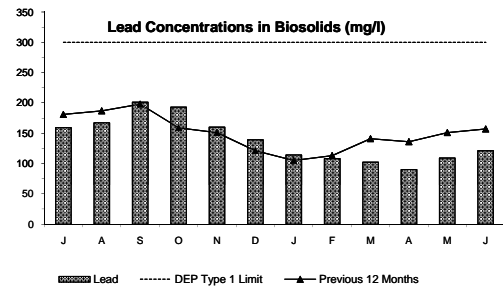
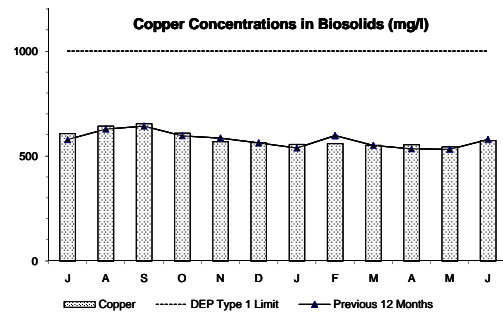
	Number of Days to Issue a Permit						Total Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	5	10	0	0	0	4	5	14
Aug	4	13	4	2	0	5	8	20
Sep	2	11	1	2	0	3	3	16
Oct	13	18	0	2	0	3	13	23
Nov	9	20	0	1	0	1	9	22
Dec	2	16	1	2	0	0	3	18
Jan	2	23	0	1	0	0	2	24
Feb	5	14	0	1	0	4	5	19
Mar	10	7	1	0	0	2	11	9
Apr	4	9	1	2	0	0	5	11
May	10	23	0	0	0	2	12	25
Jun	8	13	0	0	2	1	10	14

% YTD	86%	82%	9%	6%	2%	12%	86	215
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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. One SIU permit was held longer than 120 days and two were held longer than 180 days while staff gathered the necessary information to draft the appropriate permits. Four non-SIU permits were held longer than 120 or 180 days while awaiting payment, and one was held while staff gathered information to draft the appropriate permit. For the year, 86% of SIU permits were issued within 120 days, and 97% within 180 days.

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.

Levels were lower than standards for the 4th Quarter of FY 2012.



Field Operations Highlights – Orange Notebook Bullets

4th Quarter – FY12

Western Water Operations and Maintenance

CWTP: The treatment plant was returned to full plant operation after the completion of winter maintenance and flow control was returned to Valve Chamber E-1. Staff replaced the knife gates on Soda Ash Silos #3 and #4 with a new style gate that is less susceptible to binding, and replaced the heater elements in both oxygen trim heaters. Also, staff witnessed shop testing of CWTP UV Reactors at Calgon's manufacturing facility in Pennsylvania.

MWWST: Staff participated in the isolation and draining of a portion the MetroWest Tunnel, including the valves at Shaft 5A, Loring Road Storage Tanks and Norumbega Storage Tanks, to support the Hultman Interconnections Contractor during the internal welding of the pipe couplings between Shaft W and the valve chamber. When the work was completed, the isolated portion of the tunnel was returned to service.

Wachusett Dam: Staff supported the contractor during emergency repairs of the Angle Pattern Sleeve Valve in the Lower Gatehouse, which had pinholes at the weld of the effluent flange. While the valve was out of service, the regulatory release to the Nashua River was made by adjusting the tip elevation of the crest gate.

Hultman Aqueduct: The Hultman Interconnections Contractor completed work on the Lower Hultman from the Bifurcation Valves to the new Valve Chamber 5A-2, including the majority of the branch line. Disinfection was completed and staff provided support with activation of the line. Staff isolated and drained the Upper Hultman from the CWTP to Shaft 4 in Southborough as part of the new CP-6B work, and participated in the initial inspection of the Upper Hultman from the 120-inch butterfly valves near Shaft C to Shaft 1.

Chicopee Valley Aqueduct: Staff discovered a small leak associated with a 36-inch "Y" fitting near where the CVA crosses the Swift River. There is a 2-inch drain line at the bottom of the fitting that is believed to be the source of the leak. Staff have exercised the up and down stream isolation valves and ordered repair pieces as a contingency while an engineered solution is pursued.

Metro Water Operations & Maintenance

Lynn Raw Water Line Drilling Incident: On April 24, a drilling contractor working for Mass DOT on Walnut Street in Saugus hit a 30" Lynn Water and Sewer Commission (LWSC) raw water main. Initially, it was thought to be the 8" MWRA pipeline to the Lynnfield Pump Station. MWRA, Saugus, and LWSC Staff all initially responded. LWSC hired a contractor to repair the main.

Section 85 Excavation Incident: On April 30, a contractor working for the City of Revere cut into MWRA Section 85 with a pipe saw to see if it was an abandoned line. The subsequent leak in the 36" Pre-stressed Concrete Cylinder Pipe was isolated as soon as it was reported, with no service impacts. A repair saddle was installed by the MWRA Pipeline Staff. The line was returned to service on Friday, May 11.

Shaft 9A Leak: On May 3, water was reported surfacing near Shaft 9A in Malden. A leak was found on an 8" flanged valve, downstream of the isolation valves at the top of the shaft. The line was isolated, the valve was removed, a new valve was installed and the line was reactivated. Several bolts were found to be corroded on the valve bonnet, allowing the water to escape. Additional inspections have been and will continue to be performed to check the balance of the piping at the site.

Waltham Sewer and Water Main Issue: On Saturday, May 12, the City of Waltham experienced a sewer, then a water main issue requiring MWRA assistance. Wastewater Pipeline Staff first mobilized a 6" pump used to bypass the sewer line, and Metro Operations Staff deployed the Mobile Disinfection Unit to assist with disinfection of the affected water main.

Water Tank Inspections: The majority of the Metropolitan water storage tanks were inspected during the quarter. All were found to be in very good condition, with two minor exceptions. A 2" threaded plug was found missing on the Deer Island tank, and a 1" corrosion hole was found on the vertical section of the top vent on the Turkey Hill Tank. Both issues were resolved.

Wastewater Operations & Maintenance

ISO-NE Electrical Demand Response Program: Operations continues to support the ISO-NE Electrical Demand Response Program. As part of an initial system test, Ward Street, Chelsea Creek and Columbus Park Headworks were all called upon by the Constellation Electric Utility to operate independently of the electric supply grid by utilizing their back-up diesel driven electrical generators. Operations Staff ensured electrical generation equipment was available within 30 minutes as required and successfully operated for this test.

Emergency Spill Response: Operations Staff participated in an inter-department and inter-agency Spill Response Training Exercise on June 5th to demonstrate a coordinated response effort. Operations Staff also participated in a scheduled Emergency Spill Response Meeting that discussed ongoing efforts for ensuring the necessary capacity when responding to potential spill hazards. Equipment items and on-site storm drain locations were identified for continued investigation. Future joint meetings are planned as updated response efforts are implemented.

Training: Staff have begun required Annual Right to Know (RTK) Training. This training informs all staff of the proper material identification and related personal safety protections when handling or using any chemicals found at a facility, and provides information regarding chemical classifications, labeling and Material Safety Data Sheets (MSDS) as required by State and Federal Agencies. Biannual Spill Prevention Control and Countermeasures (SPCC) Refresher Training has also begun to provide staff with necessary information regarding oil spill or release detection and the related prevention and response SOPs. Operations staff continue to perform the DEP required SPCC Inspections at Cottage Farm CSO, Prison Point CSO and Braintree Weymouth Pump Station.

Alewife Brook Pump Station Rehabilitation-Contract No. 7034: Operations Staff met with Engineering & Construction Staff and the design engineer and contractors to evaluate by-pass pumping operations options at the Alewife Brook Pump Station. This joint effort will assist both the ongoing engineering design, as well as the facility operation requirements for maintaining continuous operation during planned construction activities. Operations will continue to provide support throughout all phases of this project.

MWR010 Cleaning Project: The project will clean the MWR010 outfall in preparation of Brookline's future use to convey storm water upon completion of their Sewer Separation Project. The contractor performed a preliminary survey of the construction site, initiated rodent control, removed the BU Beach Area Berm, prepared the staging area for the contractor equipment, installed their downstream weir wall, removed the existing stop logs and downstream tide gates, dewatered the conduit and started to evacuate the muck from the conduit.

Inspections: Staff inspected 10.94 miles of MWRA Sewer Interceptors; 36 Combined Sewer Overflow (CSO) structures and 31 other structures; and 18 siphon barrels. Community Assistance was provided to the City of Somerville to inspect 1.26 miles of local sewers.

Pipe Maintenance: Staff cleaned 13.19 miles of MWRA pipelines, removing 49 cubic yards of grit and debris; replaced 49 frames and covers; and cleaned 11 Siphon Barrels. Community Assistance was provided to Waltham to clean 200 feet of local sewer.

TRAC

Annual Significant Industrial User (SIU) Meetings: Approximately 95 people attended MWRA's Annual Meetings in April at the Pelletizer Plant in Quincy. Attendees enjoyed a detailed overview of the process and subsequent tours. Following the tours, the SIU's Representatives were provided with useful information to aid in maintaining compliance with their permits.

Framingham Extension Sewer (FES) Monitoring: In May, TRAC Monitoring Staff began collecting samples in the FES communities. Samples will be collected during one week each month through November at six locations to gauge the impact of industrial, municipal and MWRA actions to reduce the formation of sulfide and minimize odor and corrosion in the FES and downstream interceptors. June sampling was coordinated with Wastewater Operations Staff who were testing out a new chemical aimed at reducing the generation of sulfide.

Permits-Group Permit for Food Processors: During May, TRAC Staff sent biannual compliance reports to approximately 90 food processing companies throughout the sewer district. They are required to report every other June on their operations during the previous two calendar years. The compliance reports are due on July 2nd. TRAC Staff audit 20% of the group permit holders every year.

Metro Equipment and Facility Maintenance

Water Pump Stations: The Surge Valve for Pump #3 at the Lexington PS was replaced with a more reliable one by Pipeline Crew, Electricians and Plumbers. Four sump pumps and an associated electrical conduit at the Gillis PS were corroded because of the harsh conditions of the chambers. MWRA Electricians removed the existing electrical conduit and wiring, installing new galvanized conduit and wiring. MWRA installed new sump pumps and returned pumps to service.

Nut Island: The #1 Screening Conveyor was rebuilt, including all new drums, shafts, rollers, bearings and belts. The two-speed motor for the #4 Odor Control Fan failed. The motor was sent out for rebuilding, and the motor frame was cleaned, new vibration dampeners installed and the belt tensioners rebuilt. The plug valves used to dewater the vortexes were difficult to operate. MWRA Mechanics replaced 5 of the 6 valves. The 6th which operates properly will be changed at a future date.

Grinders: The #2 grinder at Braintree/Weymouth was found to have worn lower teeth. The grinder was removed and replaced with a spare grinder. The original grinder was sent out for rebuild. Grinder #1 will be replaced once the rebuilt grinder is returned. The #1 Grinder at the Hingham Pump Station was worn and in need of replacement. A spare grinder was installed and put into service. The old grinder will be rehabilitated and become the spare. The Screening Grinder for Prison Point failed. The spare grinder was installed by Mechanics and wired by Electricians. The used grinder was sent out for rebuild.

Equipment Cooling: The VFD Room at Alewife and the Electrical and VFD Room at DeLauri have a history of overheating in the summer and tripping out the VFDs. A 20-ton A/C unit was installed at Alewife and a 25-ton portable trailer mounted A/C unit was installed at DeLauri by MWRA Electricians, HVAC Technicians, Carpenters and Masons.

Cottage Farm Gate: MWRA Water Valve Crews changed out the gate valve which allows flow to Ward Street. This new valve setup allows remote operation from the Wastewater OCC.

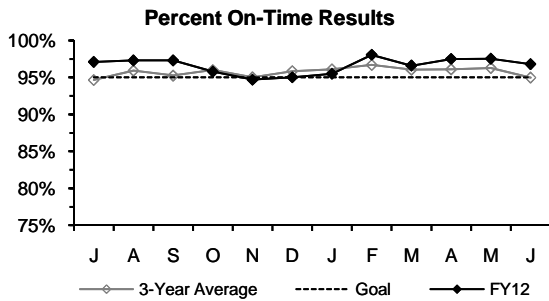
Operations Support

National Level Exercise Cyber Drill: Staff participated in the FEMA Training Exercise held on June 5-8, 2012. This major drill featured operational impacts on both water and sewer systems and cyber impacts on MWRA IT systems as part of a simulated cyber attack on critical infrastructure.

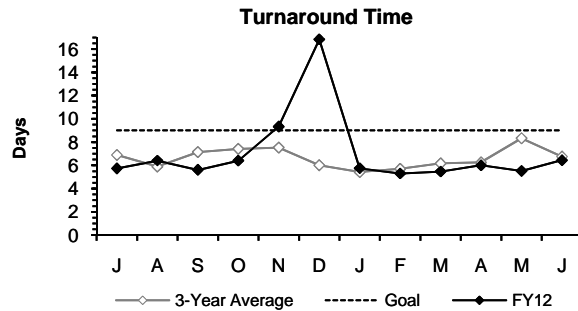
Meter Systems: Staff have begun implementing Rosemount flow transmitter replacement system-wide with a newer generation that allows a wider accurate span. Staff are also converting water meter data collection to wireless transmission to cut costs.

Online Water Quality Monitoring: Staff continued working on updating the distribution water quality monitoring analyzer system. Eleven units have been installed and made operational via SCADA through June and several more are in progress. Response SOPs are being developed for alarm response when the system is fully operational. Planned startup of alarm monitoring is summer 2012.

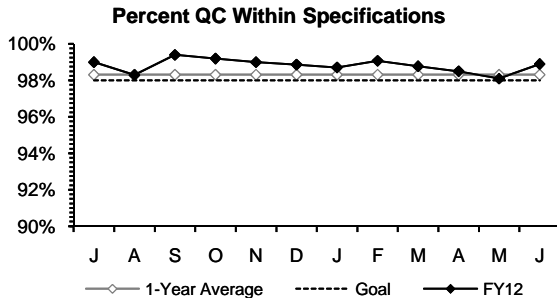
Laboratory Services 4th Quarter - FY12



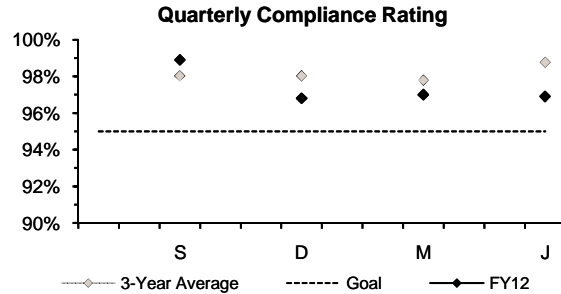
The Percent On-Time measurement exceeded the 95% goal each month of the quarter.



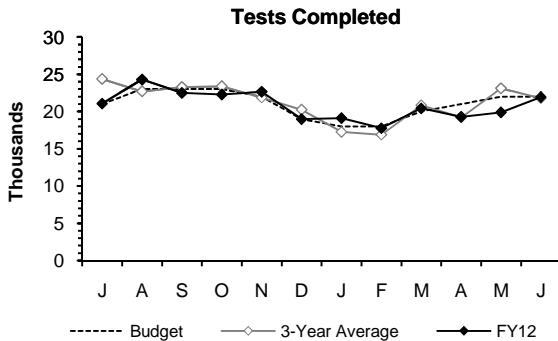
Turnaround Time was faster than the 9-day goal each month of the quarter.



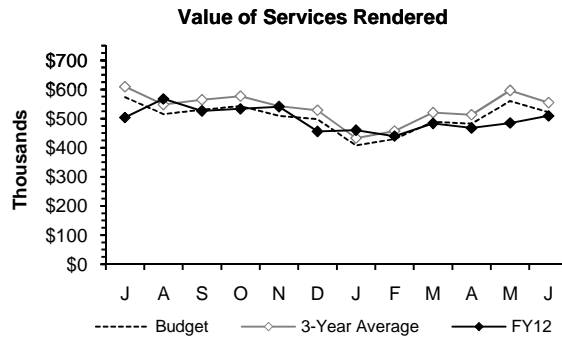
Percent of QC tests meeting specifications exceeded the 98% goal each month of the quarter. The 1-year average is based on the new LIMS results.



An audit of all five lab locations on SOPs found good compliance with procedures. Compliance audits are performed in September, December, March, and June.



The Tests Completed was slightly below the seasonally adjusted budget goal for the quarter. FY12 will be a transition year for this metric between the old and the new LIMS.



Value of Services Rendered was slightly below the seasonally adjusted budget projection for the quarter. FY12 will be a transition year for this metric between the old and new LIMS.

Highlights: The on-site construction work to replace six chemical fume hoods used to prepare samples for metals testing at the Central Lab has been extended into July to address an unanticipated electrical issue on the roof. The new fume hoods and the lab's casework are made of polypropylene plastic to prevent samples to be tested for metals from getting contaminated in the lab.

Quality Assurance: DEP performed a certification audit of the Central Lab in May. No major deficiencies were noted in the draft audit report. The few minor deficiencies are being rectified to meet a July deadline. Working on implementing the changes to approved wastewater methods in EPA's recent Methods Update Rule.

DITP: Provided assistance collecting check samples during fuel deliveries. The samples are archived and used if there is a disagreement regarding the characteristics of the fuel.

ENQUAD: Collected special harbor samples for Red Tide and tested Red Tide nutrient samples from Boston Harbor and Mass. Bay. Participated in the Harbor and Outfall Monitoring annual science meeting.

TRAC: Discussed changes to cyanide sampling and preservation based on EPA's Methods Update Rule. Working on implementing a new field quality control sample to demonstrate adequate cyanide preservation.

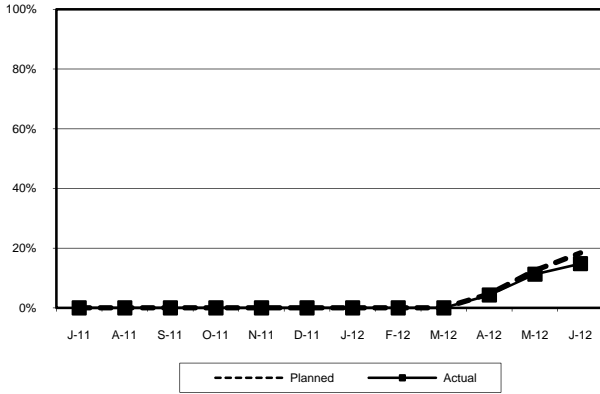
Water Quality Assurance: The use of Colilert for testing Total Coliform Rule samples began in January. For the first six months there were no E. coli positive and only a few Total Coliform positive sample out of about 12,000 samples.

Outside Customers: Beach testing has begun 5 days a week for the Boston Harbor beaches and once a week for Revere and Winthrop beaches.

CONSTRUCTION PROGRAMS

Projects In Construction 4th Quarter FY12 (Progress Percentages based on Construction Expenditures)

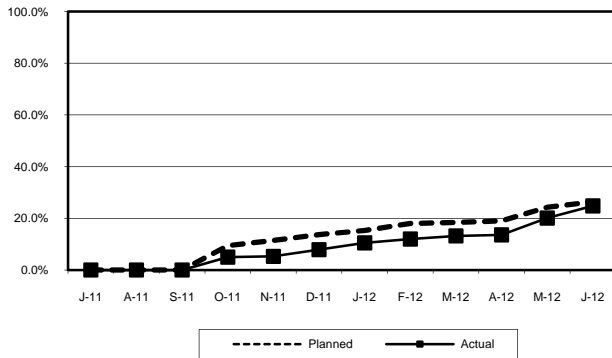
Hultman Aqueduct Interconnection CP-6B
Progress – June 2012



Project Summary: This project includes the replacement and rehabilitation of valves and piping in the Shaft 4 Headhouse, adjoining aqueduct chamber and the sections of the Hultman Aqueduct located in Marlborough and Southborough.

Status and Issues: Through June, the Contractor continued repairing internal joints on the Upper Hultman and suspended removal of PRV in the Shaft 4 building. On-going work includes the selective demolition of pipes and valves in the Shaft 4 building.

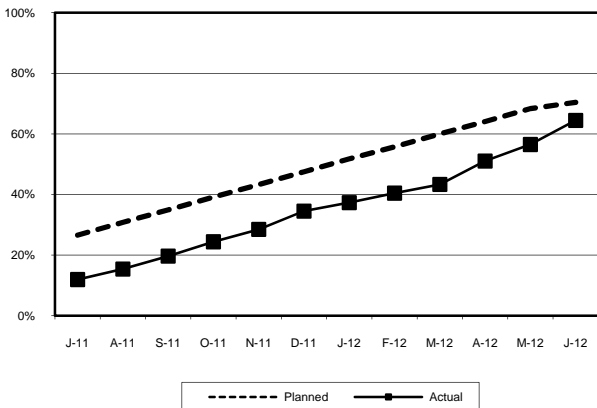
UV Disinfection Facilities CWTP
Progress – June 2012



Project Summary: In accordance with the EPA's requirement to have two primary methods of disinfection, the Authority will add an Ultraviolet (UV) light disinfection process at the Carroll Water Treatment Plant, which will render Cryptosporidium inactive.

Status and Issues: Through June, the Contractor continued with installation of rebar, formwork and concrete for slabs, stairs, and baffle walls on both the A & B sides. Contractor also continued with installation of various electrical conduits, bridge crane support brackets, and waterproofing of UV room walls.

Lynnfield/Saugus Pipelines
Progress - June 2012

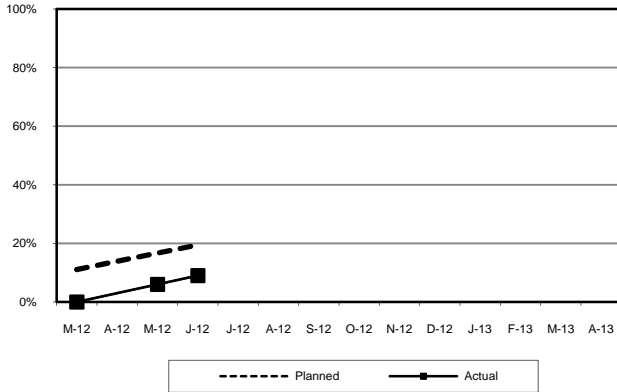


Project Summary: Installation of MWRA water mains including 1,800 linear feet of 36-inch pipe and 4,700 feet of 24-inch pipe. Project also includes 6,000 linear feet of 12-inch pipeline for the Town of Saugus. Pipeline construction is located along Route 1 in Saugus.

Status and Issues: The Contractor installed on Route 1 South along Hawkes Pond, 510 ft of 12" and 591 ft of 24" DIP. They completed the tie in of a 12" line at Lynnfield Water District Pumping Station and completed instrument piping in the new meter vault. Also they had to cross under Lynn's 30" raw water line, found in direct conflict with 24" main.

Projects In Construction 4th Quarter FY12 (Progress Percentages based on Construction Expenditures)

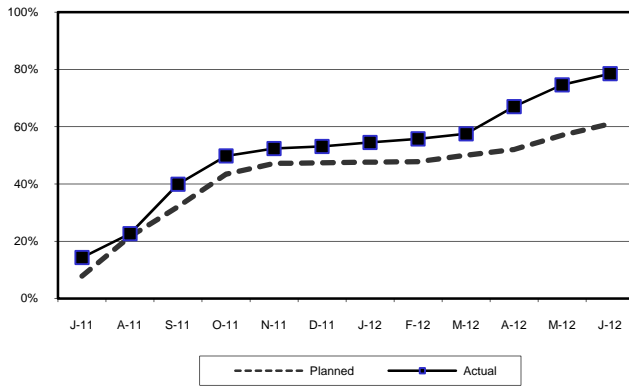
**Spot Pond Water Storage Facility
Progress – June 2012**



Project Summary: This is a design/build project for the construction of two, 10 million-gallon covered concrete storage tanks and a buried pump station, which will provide back-up redundancy for the Northern High and Northern Intermediate High distribution service areas.

Status and Issues: In June, the design build team submitted the 100% design package. The excavation and transportation of excavated materials began on June 11th. The phase 1 excavation to elevation 210 and the phase 2 excavation to elevation 195 were both completed during the month.

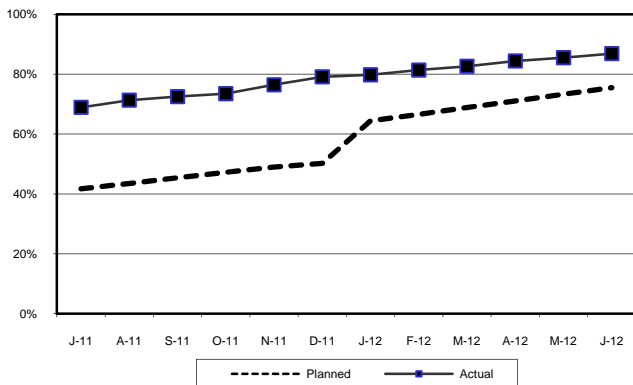
**Phase 7 Valve Replacement
Progress – June 2012**



Project Summary: This project consists of the replacement of 10 blow-off and 10 main line valves and the rehabilitation of various meters throughout the Authority's water distribution system.

Status and Issues: During June, the Contractor completed work on Perkins Street and Meter 48 is now in service. The redesign of the Kennedy Drive valve and blowoff has been completed. Work is shutdown during summer peak demand and will resume in September.

**Hultman Aqueduct Interconnections Project
Progress - June 2012**



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: As of June, the Contractor completed excavation, installed an 84" valve at W-5 at Loring Road and continued welding butt straps. They began the installation of permanent security fencing around VC-5A-1 and 5A-2 and removed the temporary steel bridge over the Hultman. Started preparation of River Road work site for work to occur in the fall.

CSO CONTROL PROGRAM
4th Quarter - FY12

As reported last quarter, 29 of the 35 projects in MWRA's Long-Term CSO Control Plan are complete and 4 CSO projects are in construction. On March 30, 2012, MWRA commenced design of the remaining two projects – Outfall MWR003 Gate and Floatables Control/Rindge Ave. Siphon Relief and Outfall SOM01A Interceptor Connection Relief and Floatables Control – which are both related to Alewife Brook. Progress of ongoing and planned work to complete the CSO plan is described below.

Project	Court Milestones in Schedule Seven (Shaded milestones are complete.)			Status as of June 30, 2012															
	Commence Design	Commence Construction	Complete Construction																
Brookline Sewer Separation	Nov 06	Nov 08	Jul 13	<p>The \$26.0M Brookline sewer separation project comprises three construction contracts. All work is scheduled to be complete by July 2013, in compliance with Schedule Seven.</p> <p><u>Town of Brookline Sewer Separation Contract 1</u> Brookline attained substantial completion of its \$1.4M first construction contract in January 2010. It involved the installation of 5,658 linear feet of new storm drain.</p> <p><u>Town of Brookline Sewer Separation Contract 2</u> The \$16.6M second construction contract, which Brookline commenced in January 2011, was approximately 70% complete as of 6/30/12. This contract involves the installation of 3,790 linear feet of storm drain and 1,290 linear feet of sanitary sewer by open trench method and 4,550 linear feet of sanitary sewer by micro-tunneling. Town of Brookline expects the work to be complete by December 2012.</p> <p><u>MWRA Outfall MWR010 Cleaning Contract</u> MWRA issued Notice to Proceed on 4/6/12, and the work is scheduled to be complete by September 2012.</p>															
Reserved Channel Sewer Separation	Jul 06	May 09	Dec 15	<p>BWSC continues to make construction progress with five of nine planned contracts for the \$64.3 million Reserved Channel Sewer Separation project.</p> <table border="0"> <tr> <td>Contract 1 - CSO outfall rehab</td> <td>\$ 4.0M</td> <td>Complete</td> </tr> <tr> <td>Contract 2 – sewer separation</td> <td>\$ 6.9M</td> <td>Complete</td> </tr> <tr> <td>Contract 3A – sewer separation</td> <td>\$ 9.9M</td> <td>85% complete</td> </tr> <tr> <td>Contract 3B – sewer separation</td> <td>\$10.9M</td> <td>30% complete</td> </tr> <tr> <td>Contract 7 – pavement restoration</td> <td>\$ 1.2M</td> <td>Complete</td> </tr> </table> <p>BWSC awarded its \$6.8 million Contract 8 (pavement restoration 2) on April 26, 2012. Notice to proceed with Contract 8 is pending receipt of the DEP's approval under SRF regulations. Contract 8 includes roadway resurfacing associated with sewer separation contracts 3A, 3B and 4. On June 14, 2012, BWSC received construction bids for its estimated \$10.6 million Contract 4, which is the last of the major Reserved Channel sewer separation contracts. Contract 4 involves sewer separation in two areas totaling 182 acres tributary to outfalls BOS076, BOS078 and BOS079. BWSC plans to commence construction of Contract 4 in September 2012 and complete the work by June 2015. In the meantime, BWSC continues with the design of the remaining contracts – Contract 5 (existing sewer cleaning and lining) and Contract 6 (downspout disconnections), both of which BWSC plans to award in 2013. BWSC plans to complete all work for the Reserved Channel sewer separation project by December 2015, in compliance with Schedule Seven.</p>	Contract 1 - CSO outfall rehab	\$ 4.0M	Complete	Contract 2 – sewer separation	\$ 6.9M	Complete	Contract 3A – sewer separation	\$ 9.9M	85% complete	Contract 3B – sewer separation	\$10.9M	30% complete	Contract 7 – pavement restoration	\$ 1.2M	Complete
Contract 1 - CSO outfall rehab	\$ 4.0M	Complete																	
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Contract 7 – pavement restoration	\$ 1.2M	Complete																	

Project		Court Milestones in Schedule Seven (Shaded milestones are complete.)			Status as of June 30, 2012
		Commence Design	Commence Construction	Complete Construction	
Cambridge/ Alewife Brook Sewer Separation	CAM004 Outfall and Wetland Basin		Apr 11	Apr 13	Cambridge continues to make progress with construction of the \$16.1 million CAM004 stormwater outfall and wetland basin (\$3.6 million MWRA share), which Cambridge commenced in April 2011. The contract was more than 65% complete as of 6/30/12. During the past quarter, Cambridge completed the construction and stabilization of the perimeter berms and final grading at the forebay of the wetland basin and the installation of headwall structures between the forebay and the wetland basin and at the wetland basin outlet. Cambridge also made significant progress with ongoing excavation and grading within the 3.4-acre basin and with ongoing stabilization of the perimeter berms. In addition, Cambridge has commenced the vegetative plantings. Cambridge has also completed installation of the box culvert (stormwater outfall) sections across 55 Wheeler Street, across the parking lots at 150/180 Cambridge Park Drive, and at 125 Cambridge Park Drive. Cambridge continues with the construction of the Belmont Crossing Structure that will allow the box culvert to pass over MWRA's interceptor pipes behind 125 Cambridge Park Drive. Cambridge expects to complete the outfall and wetland basin in April 2013, in compliance with Schedule Seven.
	CAM004 Sewer Separation	Jan 97	Jul 98	Dec 15	Cambridge completed four initial construction contracts for this project several years ago and plans to award three additional contracts (contracts 8A, 8B and 9) to complete the work. Cambridge has completed final design of Contract 8A and recently advertised the contract for construction bids. Cambridge plans to issue the Notice to Proceed with Contract 8A by September 2012, in compliance with Schedule Seven. Cambridge commenced final design of Contract 8B in May 2012 and continues with the field investigations that will support design of Contract 9, which Cambridge plans to commence in 2013.
			Sep 12		
	MWR003 Gate and Rindge Ave. Siphon	Apr 12	Aug 14	Oct 15	On March 30, 2012, MWRA issued the Notice to Proceed with Contract 6952, which includes preliminary design, final design and engineering services during construction for these last two projects in MWRA's long-term CSO control plan. Field investigations and hydraulic model updating and verification are underway.
SOM01A Connection Relief and Floatables Control	Sep 13		Jun 14		
Other CSO Related Work					
South Dorchester Bay Sewer Separation Post-Construction Inflow Removal	N/A	N/A	N/A	<p>BWSC continues to investigate alternatives for removing additional stormwater inflow from its Dorchester Interceptor or otherwise relieving hydraulic conditions in the interceptor during extreme storms following the closing of its CSO regulators with completion of the South Dorchester Bay sewer separation in 2007. BWSC presented the initial results of its investigations to MWRA in February 2012 and is continuing with a flow metering program and performing additional hydraulic modeling and system analysis to define the causes of system flooding and determine preferred hydraulic relief solutions. BWSC plans to issue an interim report on the results of this analysis later this summer and a final report with recommendations by the end of 2012.</p> <p>BWSC attained substantial completion of its \$6.0 million construction contract for Lower Dorchester Brook Sewer improvements, which included the relocation of CSO regulator RE-070/11-2 and sewer separation in a portion of the South Bay area. The work was partially funded by MWRA and was intended to lower CSO discharges to BWSC's Dorchester Brook Conduit and help attain the level of CSO control in MWRA's long-term control plan for Fort Point Channel. With the regulator relocation and sewer separation work now complete, stormwater runoff from an approximately 150-acre area no longer impacts BWSC's interceptor system.</p>	

CIP Expenditures 4th Quarter –FY12

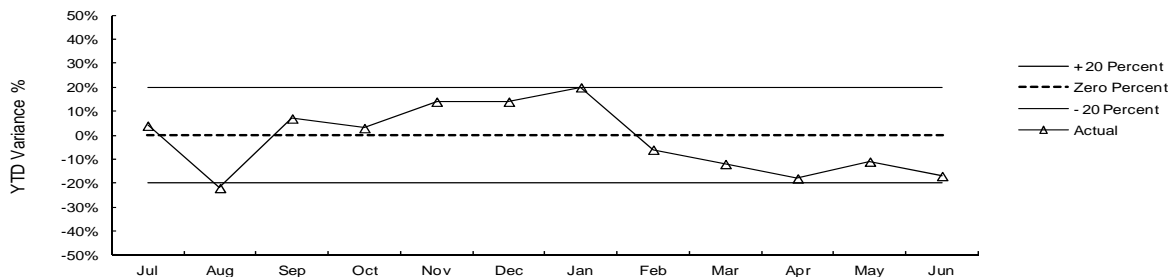
The Year-To-Date variances are highlighted below:

FY12 Capital Improvement Program Expenditure Variances through June by Program (\$000)				
Program	FY12 Budget Through June	FY12 Actual Through June	Variance Amount	Variance Percent
Wastewater	87,628	75,752	(11,875)	-14%
Waterworks	67,611	55,318	(12,293)	-18%
Business and Operations Support	9,858	6,576	(3,282)	-33%
Total	\$165,097	\$137,646	(\$27,451)	-17%

Underspending within Wastewater is due to: lower than budgeted award for the North Main Pump Station VFD Replacement, delays in Clarifier Flushing System, Expansion Joint Repair Construction 2, Barge Berth & Facility Replacement, Miscellaneous VFD Replacements, Process Information Control System (PICS), Digester Modules 1 & 2 Pipe Replacement, Centrifuge Back-drive Replacement, Electrical Equipment Upgrade Construction 4, and less than anticipated CSO land easement expense due to favorable negotiation of temporary easement lease terms. This was partially offset by timing of payments for Reserved Channel and Brookline Sewer Separation contracts, greater than anticipated community requests for grants and loans, greater than budgeted spending on North Dorchester Dewater Pump Station and Sewers due to timing and unanticipated work, and progress on Section 156 Rehabilitation Design/Build contract. Underspending in Waterworks is due to: lower award for the Spot Pond Storage Facility Design/Build contract, lower than anticipated community requests for loans, and delays in Gillis Pump Station Improvements, Sudbury Aqueduct Preliminary Design/Resident Engineer Inspection/Massachusetts Environmental Protection Agency Review and Oakdale Phase 1A Electrical Construction contracts. This was partially offset by contractor progress on the Reading Stoneham Interconnections, Carroll Water Treatment Plant Ultraviolet Disinfection, Lower Hultman Aqueduct Rehabilitation (CP6A), Dam Safety Modifications and Repairs, and timing of work for the Lynnfield/Saugus Pipeline Construction 2 project.

CIP Expenditure Variance

Total FY12 CIP Budget of \$165,497,000.



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 6/30/2012	\$241 million
Unused capacity under the debt cap:	\$507 million
Estimated date for exhausting construction fund without new borrowing:	May-13
Estimated date for debt cap increase to support new borrowing:	FY2020
Commercial paper outstanding:	\$144 million
Commercial paper capacity:	\$350 million
Budgeted FY12 capital spending*:	\$157 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results

4th Quarter – FY12

Background

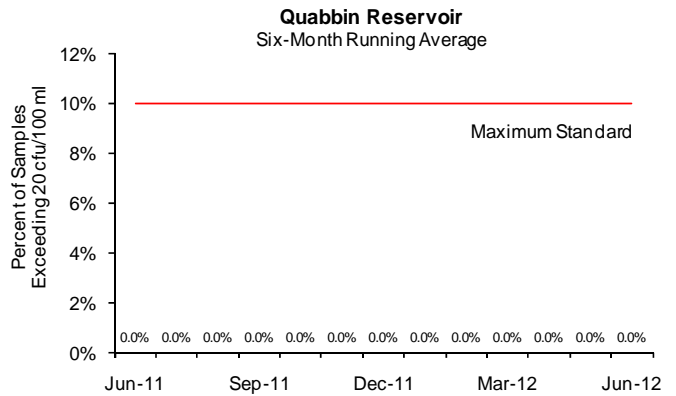
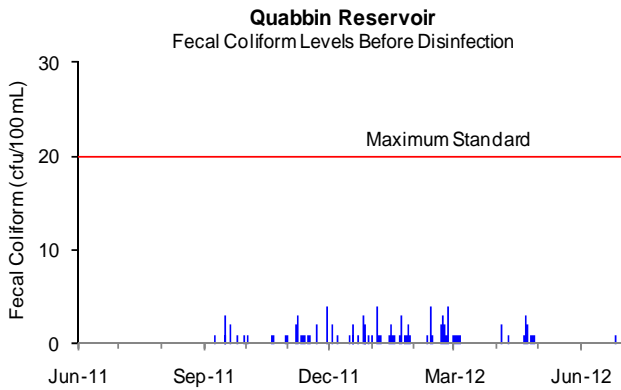
Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal coliform, a subclass of the coliform group, are identified by their growth at temperatures comparable to those in the intestinal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



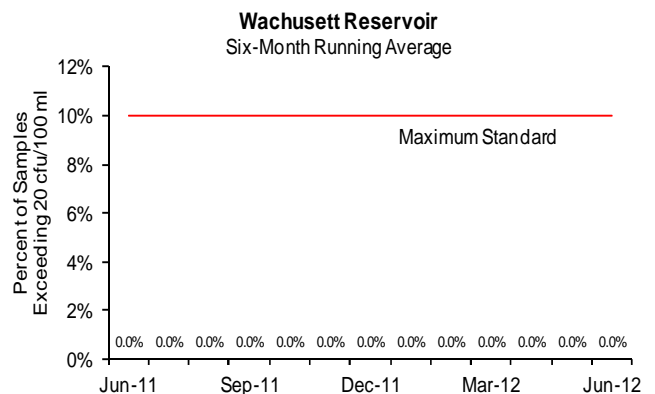
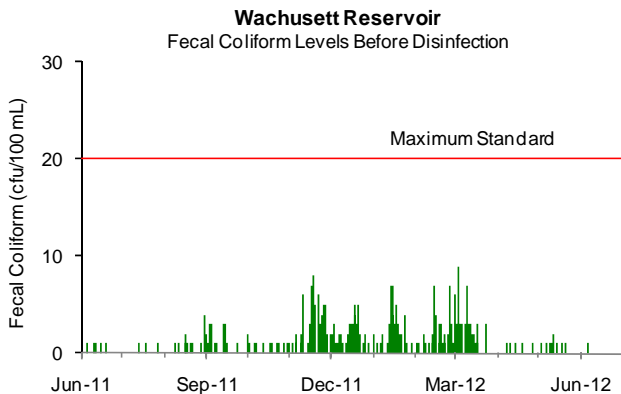
Sample Site: Wachusett Reservoir

Wachusett Reservoir water is sampled at the CWTP 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

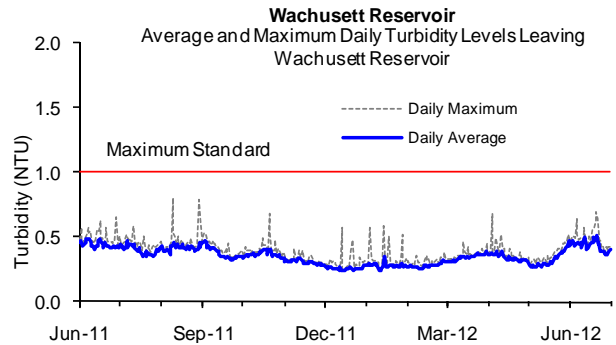
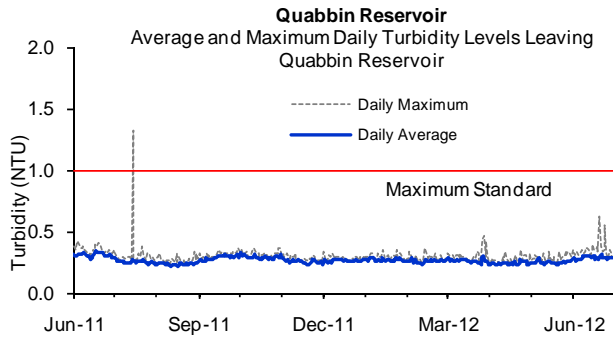
4th Quarter – FY12

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.

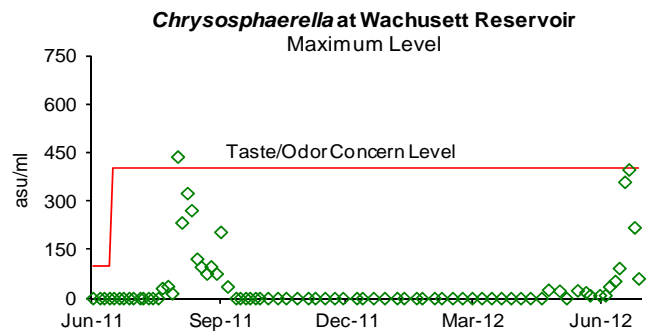
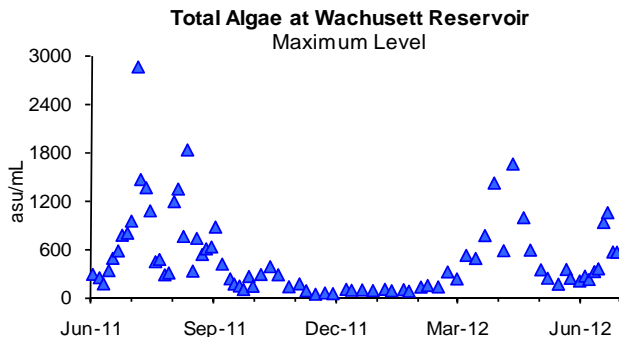


Source Water – Algae

Algae 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 algicide. 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. Wachusett Reservoir was treated with copper sulfate on June 19 to control the growth of *Chryso-sphaerella*, a taste and odor causing algae species.



Treated Water – Disinfection Effectiveness

4th Quarter – FY12

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.

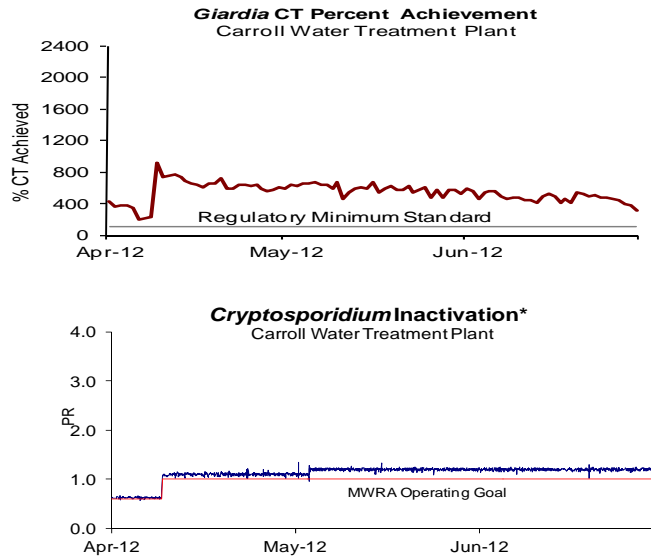
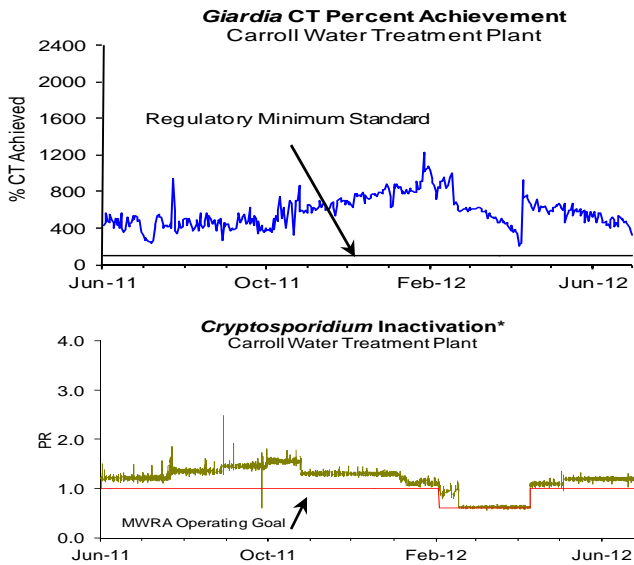
- MWRA was not be able to fully meet our voluntary 2-log *Cryptosporidium* inactivation target during the winter period due to the UV construction project from February 2 through April 8, 2012. This change in treatment was reviewed and approved by the Massachusetts Department of Environmental Protection as part of its permitting for this project. The lowest PR achieved for the month of April was 0.6, which provides 93.7% *Cryptosporidium* inactivation.

- The PR target was raised to 1.0 on April 9 when CWTP went back to full plant status.

- On May 4, the hourly average PR level dropped to 0.95 between 6 AM to 7 AM when the ozone generators were rotated for maintenance. There were no compliance concerns.

- MWRA's operating goal to meet a *Cryptosporidium* PR of 1 was met for every hour in June.

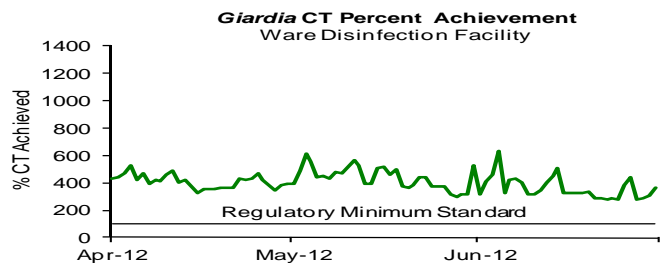
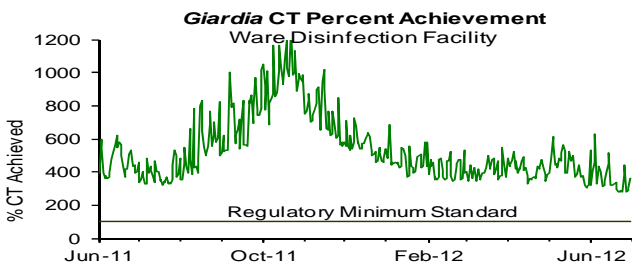
- Ozone dose at the CWTP varied between 2.6 to 3.3 mg/L for the quarter.



Note: Performance Ratio Overall Target for *Cryptosporidium* inactivation was raised from ≥ 0.6 to ≥ 1.0 on April 9, 2012.*

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. The chlorine dose at Ware Disinfection Facility (WDF) is adjusted in order to achieve MWRA's target of ≥ 0.75 mg/L at Ludlow Monitoring Station. The chlorine dose at WDF varied between 1.4 mg/L to 1.5 mg/L for the quarter.

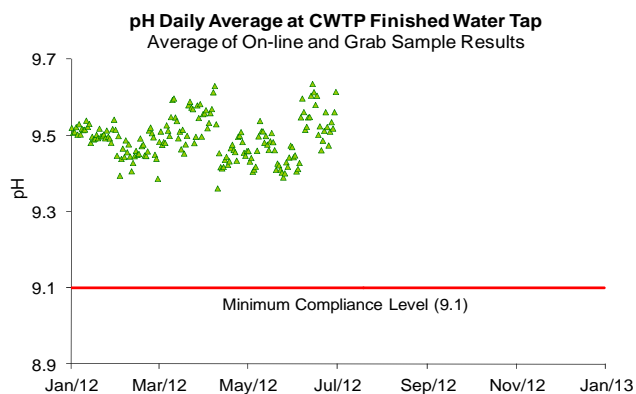
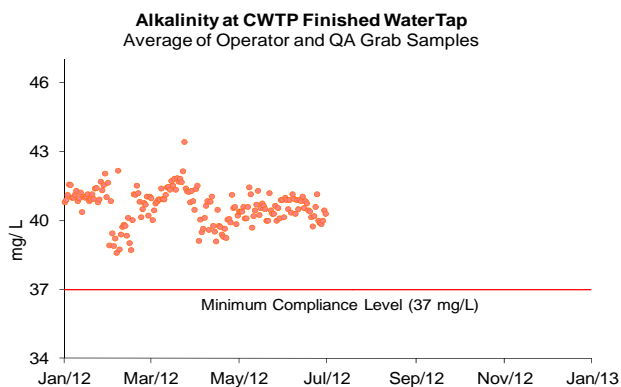


Treated Water – pH and Alkalinity Compliance

4th Quarter – FY12

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 12 and 13, 2012. Distribution system sample pH ranged from 9.1 to 9.5 and alkalinity ranged from 39 to 42 mg/L. No sample results were below DEP limits for this quarter.



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

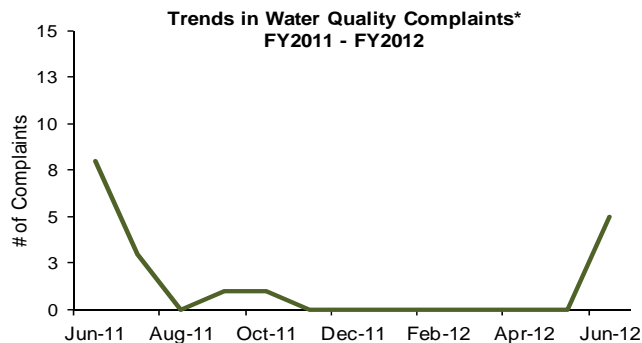
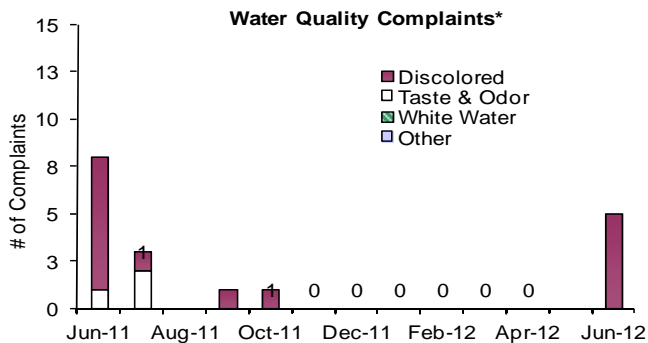
Background

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's practice has been to tabulate and classify customer complaints received through several mechanisms, including direct contacts received by MWRA staff via phone, web or e-mail and from routine telephone calls made to each community to incorporate all complaints received by them.

Outcome

Communities reported 5 complaints during the quarter compared to 9 complaints for the 4th Quarter of FY11. Of these complaints, 5 were for "discolored water".



* Outgoing calls to communities were interrupted during a portion of FY12 and resumed during Q1 FY13, thus, some results are not directly comparable with historical data.

Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

4th Quarter – FY12

While all communities collect bacteria samples for the Total Coliform Rule (TCR), 42 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, six of the 5,851 community samples (0.10% system-wide) submitted to MWRA labs for analysis tested positive for coliform (Boston – in May; Bedford, Stoneham, Wellesley – in June). Of the 1,933 (0.05%) MWRA samples taken, one tested positive for total coliform. No sample tested positive for *E.coli*. Bedford violated the TCR in June. All 42 systems that submitted chlorine residual data maintained an average disinfectant residual of at least 0.2 mg/L. Only 3.5% 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	182	0 (0%)	0.0%		0.02	1.32
BEDFORD	102	3 (2.94%)	0.0%	Yes	0.02	0.53
BELMONT	104	0 (0%)	0.0%		0.26	1.49
BOSTON	784	1 (0.13%)	0.0%	No	0.39	1.80
BROOKLINE	221	0 (0%)	0.0%		0.06	1.74
CHELSEA	169	0 (0%)	0.0%		1.21	1.68
DEER ISLAND	58	0 (0%)	0.0%		1.27	1.75
EVERETT	130	0 (0%)	0.0%		0.06	1.08
FRAMINGHAM	216	0 (0%)	0.0%		0.22	1.69
HANSCOM AFB (Bedford) (b)	27	0 (0%)	0.0%		0.00	1.06
LEXINGTON	117	0 (0%)	0.0%		0.98	1.80
LYNNFIELD	18	0 (0%)	0.0%		0.15	1.04
MALDEN	195	0 (0%)	0.0%		1.31	1.45
MARBLEHEAD	72	0 (0%)	0.0%		0.16	1.40
MARLBOROUGH (b)	126	0 (0%)	0.0%		1.03	1.83
MEDFORD	220	0 (0%)	0.0%		0.78	1.66
MELROSE	118	0 (0%)	0.0%		0.02	0.73
MILTON	96	0 (0%)	0.0%		0.84	1.52
NAHANT	30	0 (0%)	0.0%		0.08	1.26
NEEDHAM (b)	124	0 (0%)	0.0%		0.09	0.84
NEWTON	277	0 (0%)	0.0%		0.32	1.69
NORTHBOROUGH	48	0 (0%)	0.0%		0.12	1.35
NORWOOD	108	0 (0%)	0.0%		0.01	1.30
QUINCY	298	0 (0%)	0.0%		0.08	1.58
READING	131	0 (0%)	0.0%		0.01	1.35
REVERE	195	0 (0%)	0.0%		0.11	1.70
SAUGUS	96	0 (0%)	0.0%		0.67	1.71
SOMERVILLE	287	0 (0%)	0.0%		1.00	1.81
SOUTH HADLEY FD1 (c)	48	0 (0%)	0.0%		0.06	0.44
SOUTHBOROUGH	30	0 (0%)	0.0%		0.20	1.56
STONEHAM	95	1 (1.05%)	0.0%	No	0.69	1.80
SWAMPSCOTT	48	0 (0%)	0.0%		0.33	1.42
WAKEFIELD (b)	143	0 (0%)	0.0%		0.28	1.07
WALTHAM	216	0 (0%)	0.0%		0.32	1.73
WATERTOWN	130	0 (0%)	0.0%		0.73	1.76
WELLESLEY (b)	110	1 (0.91%)	0.0%	No	0.05	0.75
WESTBORO HOSPITAL	15	0 (0%)	0.0%		0.04	0.24
WESTON	48	0 (0%)	0.0%		1.11	1.99
WILMINGTON (b)	87	0 (0%)	0.0%		0.50	1.79
WINCHESTER (b)	65	0 (0%)	0.0%		0.15	1.16
WINTHROP	72	0 (0%)	0.0%		0.27	1.03
WOBURN (b)	195	0 (0%)	0.0%		0.09	0.99
Total:	5851	6 (0.10%)	0.0%			
MASS. WATER RESOURCES AUTHORITY (d,e)	1933	1 (0.05%)	0.0%	No	0.02	1.68

(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 – FY12

Background

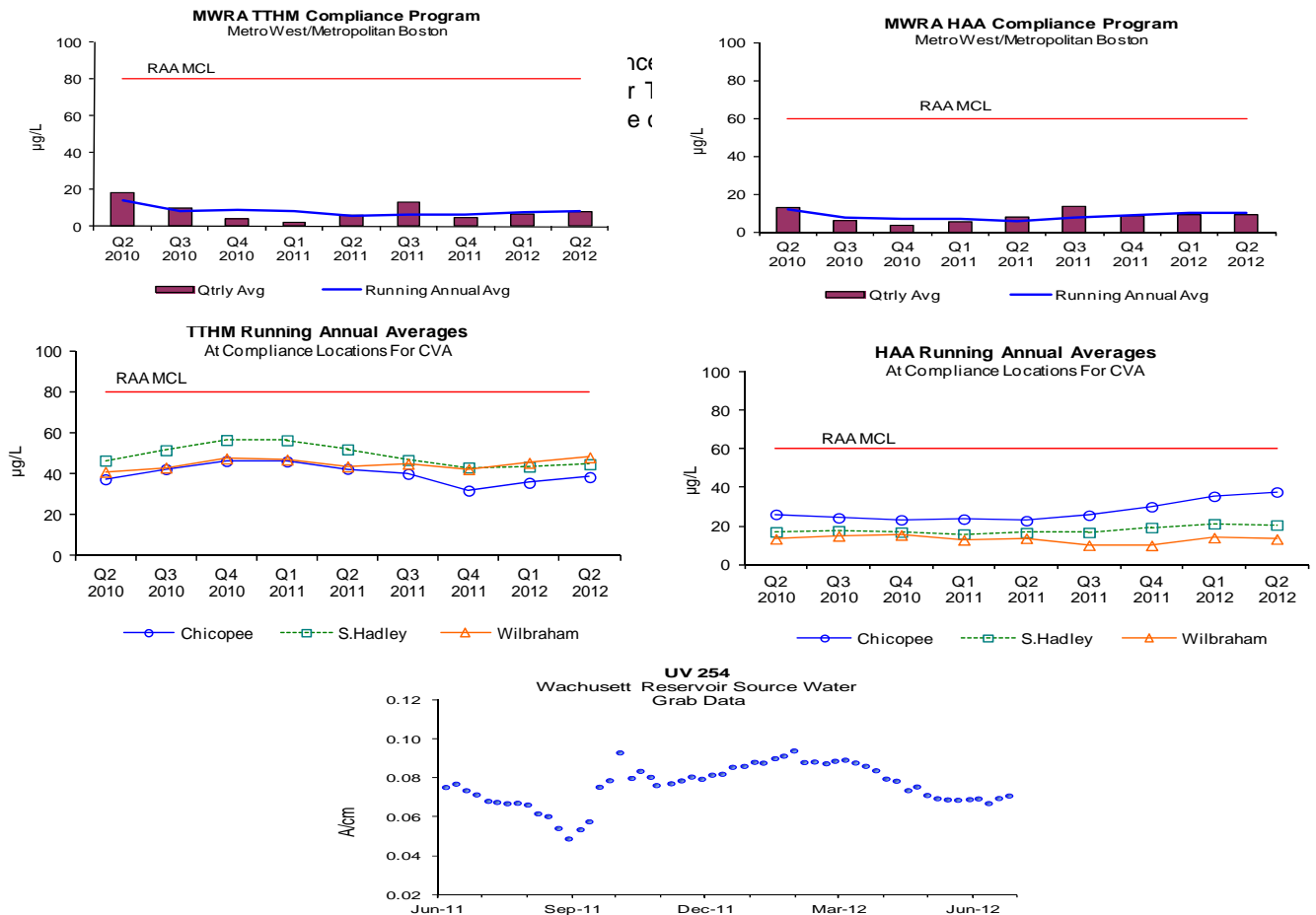
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. TTHMs and HAA5s are of concern due to their potential adverse health effects at high levels. EPA's running annual average (RAA) standard is 80 µg/L for TTHMs and 60 µg/L for HAA5s. Effective Q2 2013, under the Stage 2 DBPR compliance will be based on a LOCATIONAL running annual average, rather than an overall average. MWRA initiated monitoring under this new Stage 2 rule May 2012. Sampling locations have increased from 16 to 32 each quarter. Until May 2013, MWRA will continue to report an overall quarterly and running annual average. After May 2013, LRAA's will be reported for each site. 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 one measurement of the amount and reactivity of natural organic material in source water. After Hurricane Irene, UV-254 measurements in Wachusett Reservoir rose sharply due to the action of the storm, increased tributary flows and above average fall precipitation. The higher UV-254 levels caused increased ozone and chlorine demand resulting in the need for higher ozone and chlorine doses. There were no impacts on regulatory compliance.

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 = 8.3 ug/L; HAA5s = 10.2 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

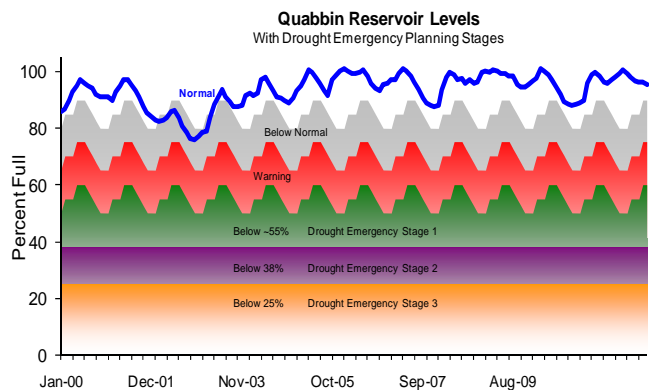
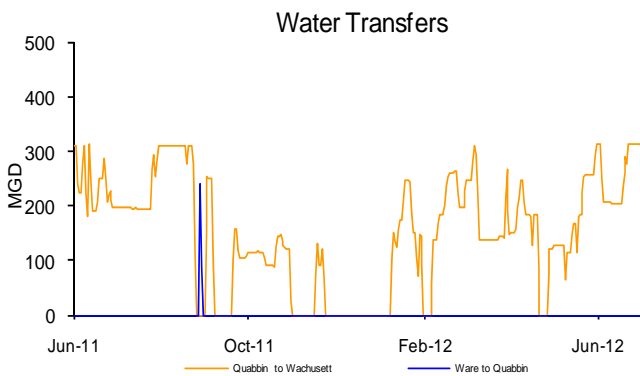
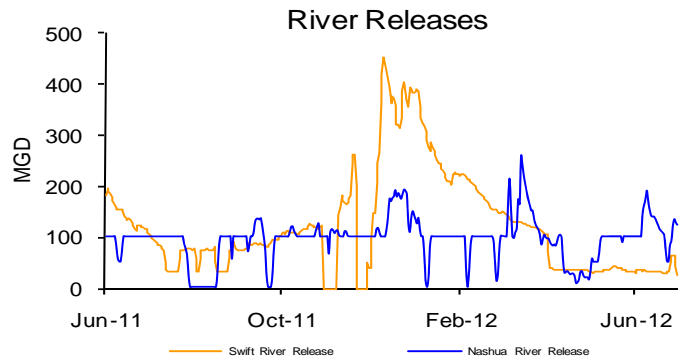
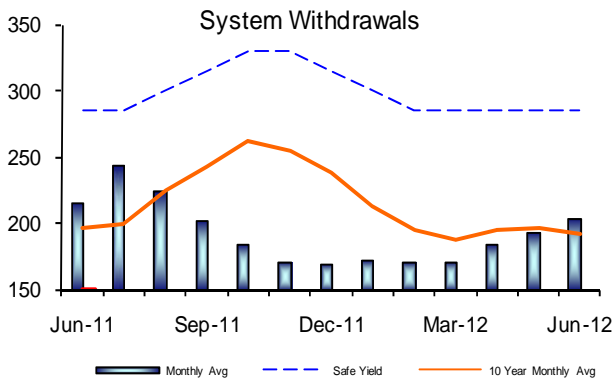
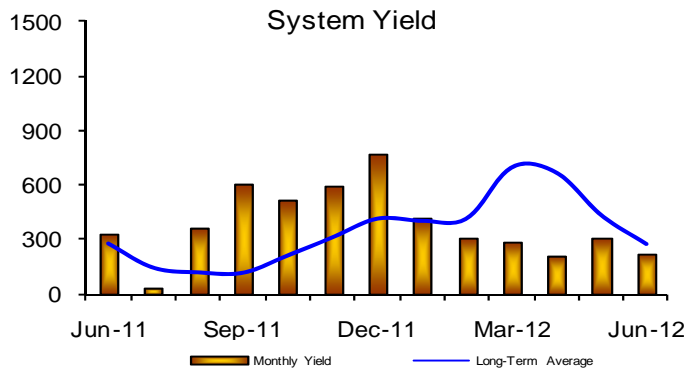
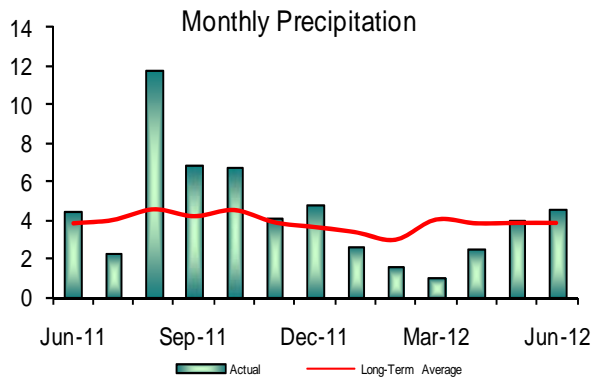
4th Quarter – FY12

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 95.3% of capacity as of June 30, 2012; a 2.8% decrease for the quarter, which represents a decrease of 11.8 billion gallons of storage. Yield & precipitation for the quarter were below their respective long term averages. Monthly withdrawals continue to be below the long-term average.



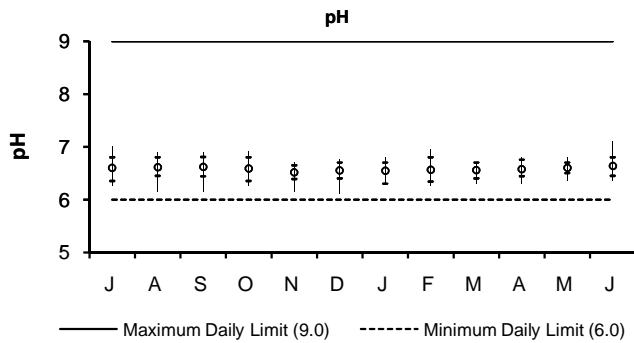
WASTEWATER QUALITY

NPDES Permit Compliance: Deer Island Treatment Plant
4th Quarter - FY12

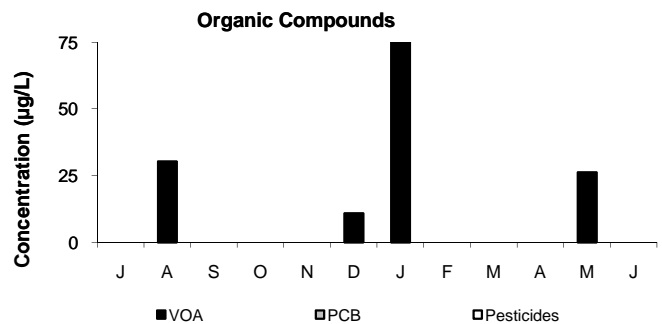
NPDES Permit Limits

Effluent Characteristics		Units	Limits	April	May	June	4th Quarter Violations	FY12 YTD Violations
Dry Day Flow:		mgd	436	306.7	304.9	304.3	0	0
cBOD:	Monthly Average	mg/L	25	6.5	4.4	4.4	0	0
	Weekly Average	mg/L	40	8.1	4.7	5.5	0	0
TSS:	Monthly Average	mg/L	30	9.9	5.8	6.4	0	0
	Weekly Average	mg/L	45	12.7	6.7	8.1	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	24.0	10.0	24.9	0	0
	Weekly Geometric Mean	col/100mL	14000	7.8	5.8	8.5	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	6.3-6.8	6.4-6.8	6.4-7.1	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

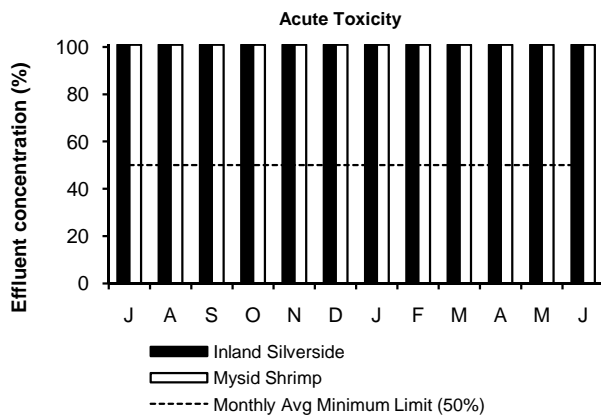
There have been no permit violations in FY12 at the Deer Island Treatment Plant.



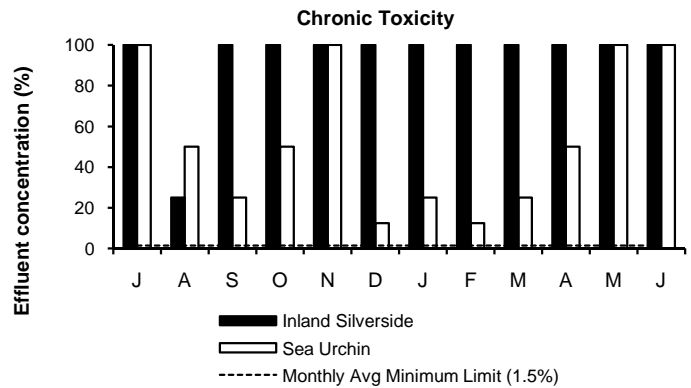
pH is a measure of the alkalinity or acidity of the effluent. Fluctuations in pH do not have an adverse effect on marine environments. Because of the pure oxygen used in the activated sludge reactor, the effluent pH tends to be at the lower pH range. pH measurements for the 4th Quarter were within the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



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, a solution of 1.5% effluent and 98.5% dilution water 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 - FY12

NPDES Permit Limits

Effluent Characteristics	Units	Limits	NPDES Permit Limits			4th Quarter	FY12 YTD	
			April	May	June	Violations	Violations	
Flow:	mgd	3.01	3.27	3.23	3.25	3	9	
BOD:	Monthly Average:	mg/L	20	4.4	2.2	2.6	0	0
	Weekly Average:	mg/L	20	5.6	2.4	3.0	0	0
TSS:	Monthly Average:	mg/L	20	4.9	3.7	2.9	0	0
	Weekly Average:	mg/L	20	5.1	5.9	3.8	0	0
pH:	SU	6.5-8.3	7.1-7.6	6.7-7.6	7.-7.5	0	0	
Dissolved Oxygen:	Daily Minimum:	mg/L	6	8.1	8.1	7.5	0	1
Fecal Coliform:	Daily Geometric Mean:	col/100mL	400	6.4	4.2	4.9	0	0
	Monthly Geometric Mean:	col/100mL	200	3.2	3.3	3.3	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: May 1 - May 31	Monthly Average:	mg/L	10.0	0	0	0	0	0
	Daily Maximum:	mg/L	35.2	0	0	1	0	0
	Monthly Average:	ug/L	20	2.3	5.7	5.2	0	0
Phosphorus: May 1 - Oct 31	Monthly Average:	mg/L	1.0	N/A	0.27	0.12	0	0
	Daily Minimum:	%	100	*N/A	*N/A	>100	0	0
Chronic Toxicity:	Daily Minimum:	%	62.5	*N/A	*N/A	100	0	0

There have been ten permit violation in Fiscal Year 2012 at the Clinton Treatment Plant.

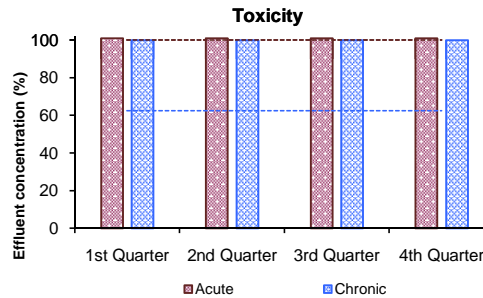
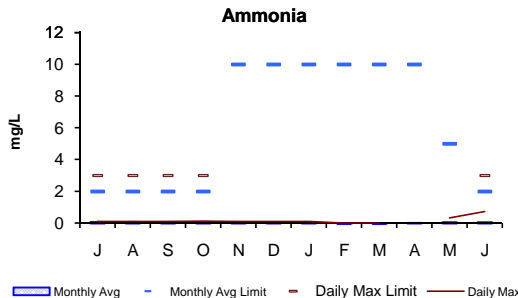
4th Quarter:

There were three permit violations in the 4th Quarter of FY12. The monthly average flow limit of 3.01 mgd was exceeded three times during the 4th Quarter. The high flow rates have historically been attributed to excessive wet weather conditions. The flow is calculated using a 12-month running average.

Prior Quarters:

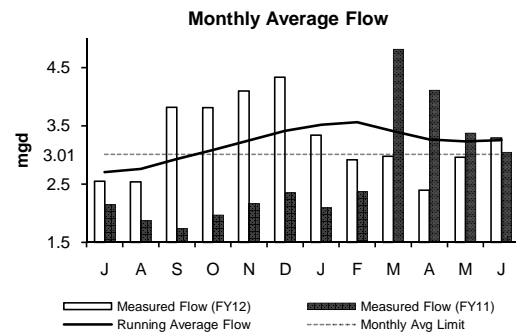
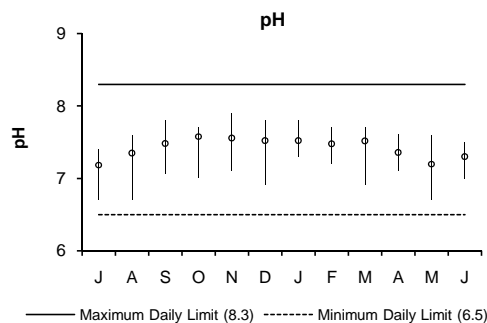
There were three permit violations in the 3rd Quarter of FY12. The official monthly average flow during January, February, and March were 3.52 mgd, 3.56 mgd, and 3.41 mgd, respectively. There were three permit violations in the 2nd Quarter of FY12. The official monthly average flow during October, November, and December were 3.09 mgd, 3.25 mgd, and 3.41 mgd, respectively. There was one permit violation in the 1st Quarter of FY12. The August 9, 2011 dissolved oxygen result of 5.1 mg/L did not meet the minimum permit limit of 6.0 mg/L. There was no known reason for this violation. The plant process and monitoring parameters were within the normal operating range on August 9 and there were no equipment failures or plant upsets reported during the monitoring period.

*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 4th Quarter are 10.0 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.

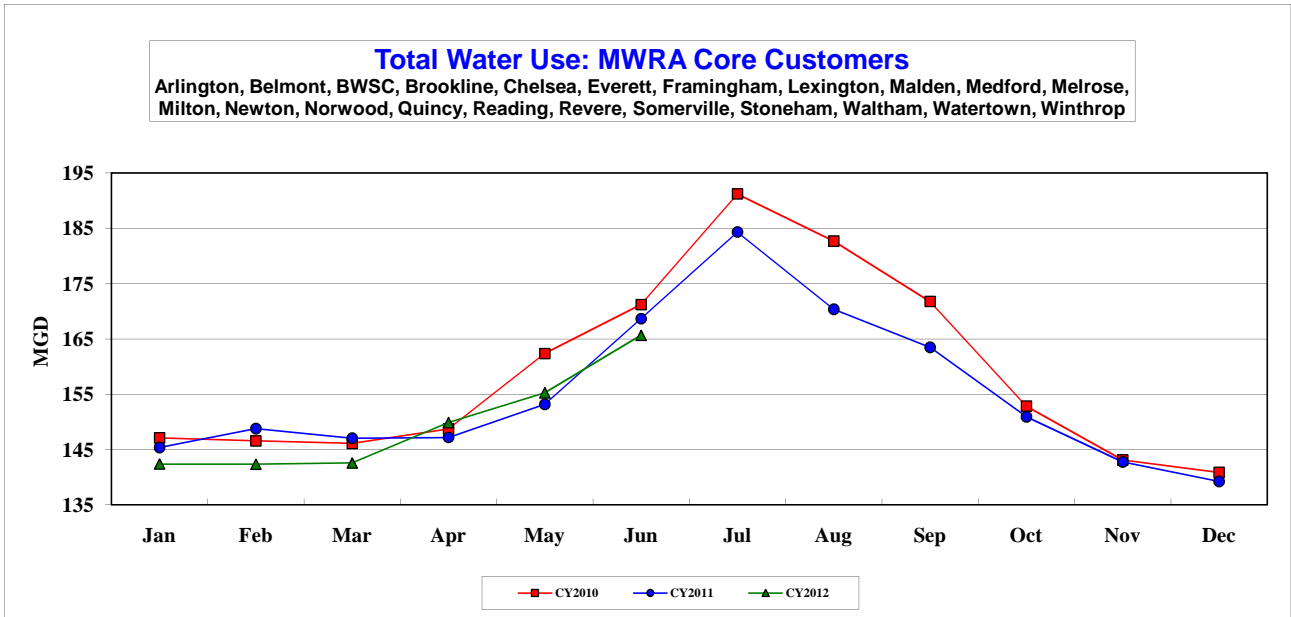
The graph depicts the running annual average monthly flow, measured in million gallons per day, exiting the plant. The average monthly flows during the 4th Quarter were above the NPDES permit limit.

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
CY2010	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
CY2011	145.371	148.782	147.051	147.188	153.188	168.673	184.336	170.378	163.482	150.928	142.769	139.250	155.164
CY2012	142.392	142.351	142.573	149.888	155.292	165.667	0.000	0.000	0.000	0.000	0.000	0.000	149.686

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
CY2010	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
CY2011	4,506.504	4,165.900	4,558.577	4,415.643	4,748.836	5,060.182	5,714.425	5,281.711	4,904.458	4,678.774	4,283.058	4,316.759	56,634.829
CY2012	4,414.158	4,128.174	4,419.769	4,496.630	4,814.044	4,970.011	0.000	0.000	0.000	0.000	0.000	0.000	27,242.787



Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2012 water use will be used to allocate the FY14 water utility rate revenue requirement.

June 2012 water supplied of 209.2 mgd (for revenue generating users) is down 2.5 mgd or 1.2% compared to June 2011. Year-to-date system-wide water consumption for CY12 remains lower than CY11 with 180.6 mgd being supplied to MWRA customers. This is 2.0 mgd lower than CY11 through June, a decrease of 1.1%.

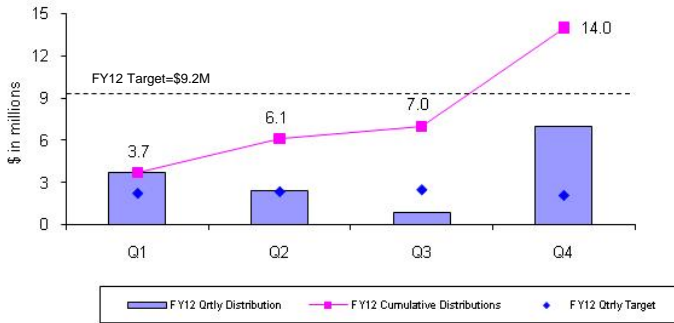
Community Support Programs

4th Quarter – FY12

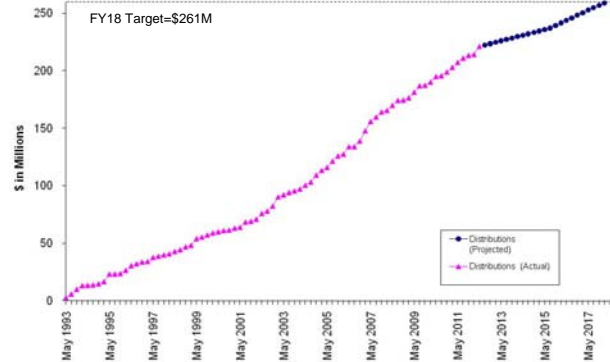
Infiltration/Inflow Local Financial Assistance Program

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.

FY12 Quarterly Distributions of Sewer Grant/Loans



I/I Local Financial Assistance Program Distribution FY93-FY18

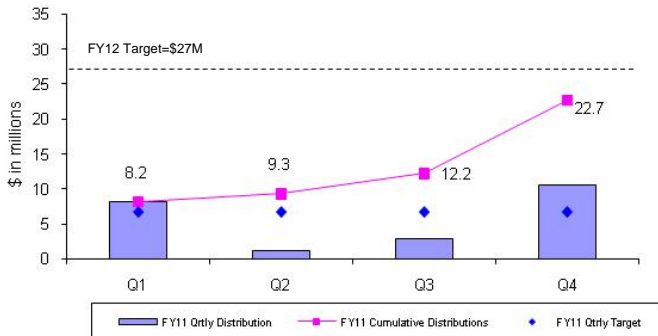


During the 4th Quarter of FY12, \$7 million in financial assistance (45% grants and 55% interest-free loans) was distributed to fund local sewer rehabilitation projects in Belmont, Holbrook, Natick, Somerville, Wakefield, Walpole, Watertown, Wellesley, Winchester and Winthrop. Total grant/loan distribution for FY12 is \$14.0 million. From FY93 through the 4th Quarter of FY12, all 43 member sewer communities have participated in the program and more than \$221 million has been distributed to fund 430 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.

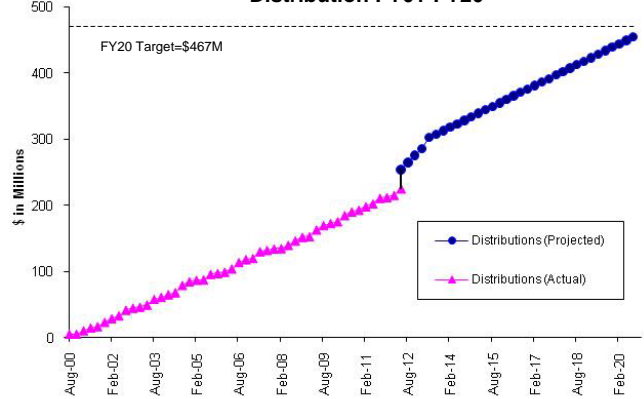
Water Local Pipeline and Water System Assistance Programs

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 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.

FY12 Quarterly Distributions of Water Loans



Local Pipeline and Water System Assistance Programs Distribution FY01-FY20



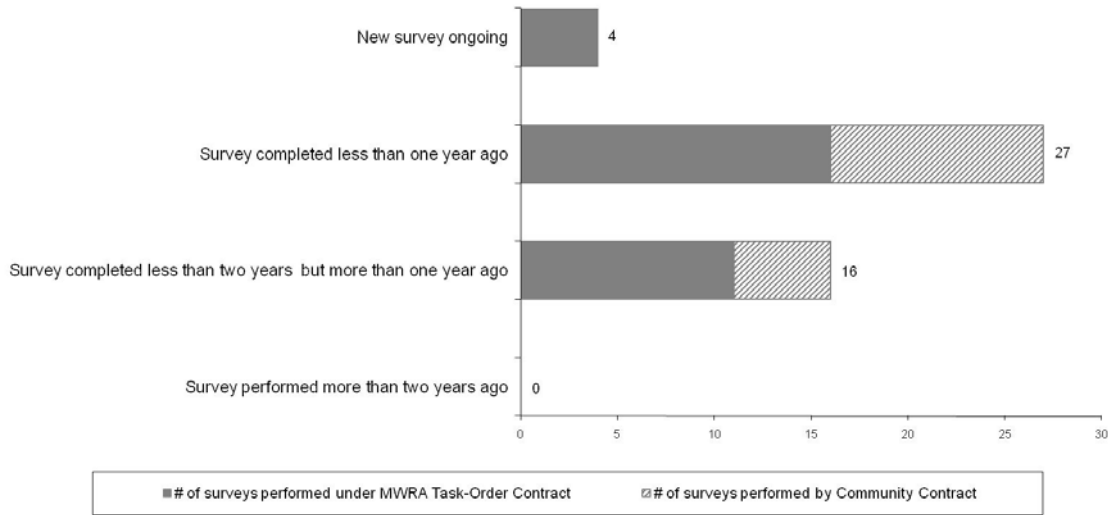
During the 4th Quarter of FY12, \$10.5 million in interest-free loans was distributed to fund local water projects in Boston, Canton, Chelsea, Malden, Newton, Somerville, Winthrop and Woburn. Total loan distribution for FY12 is \$22.7 million. From FY01 through the 4th Quarter of FY12, more than \$225 million has been distributed to fund 260 local water system rehabilitation projects in 37 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. FY13 is the last year of community loans under the Phase 1 Local Pipeline Assistance Program (Phase 2 Local Water System Assistance loans began in FY11 and will be distributed through FY20). A portion of the Phase 1 loan budget is not expected to be utilized by the communities. A revised Phase 1 budget has been developed for FY13.

Community Support Programs

4th Quarter – FY12

Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews; or alternatively, using MWRA's task order leak detection contract. MWRA's task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 4th Quarter of FY12, 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. Distributions of water conservation materials are made based on requests from member communities and individual customers.

FY12 DISTRIBUTION	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	150,000	1,994	4,796	19,470	5,312	31,572
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,945	2,712	3,557	3,150	11,364
Toilet Leak Detection Dye Tablets	-----	3,683	1,535	3,631	2,020	10,869

During FY12, requests for educational brochures (indoor and outdoor bill stuffers) were lower than in prior years. For FY13, the target for educational brochure distribution will be lowered to 100,000.

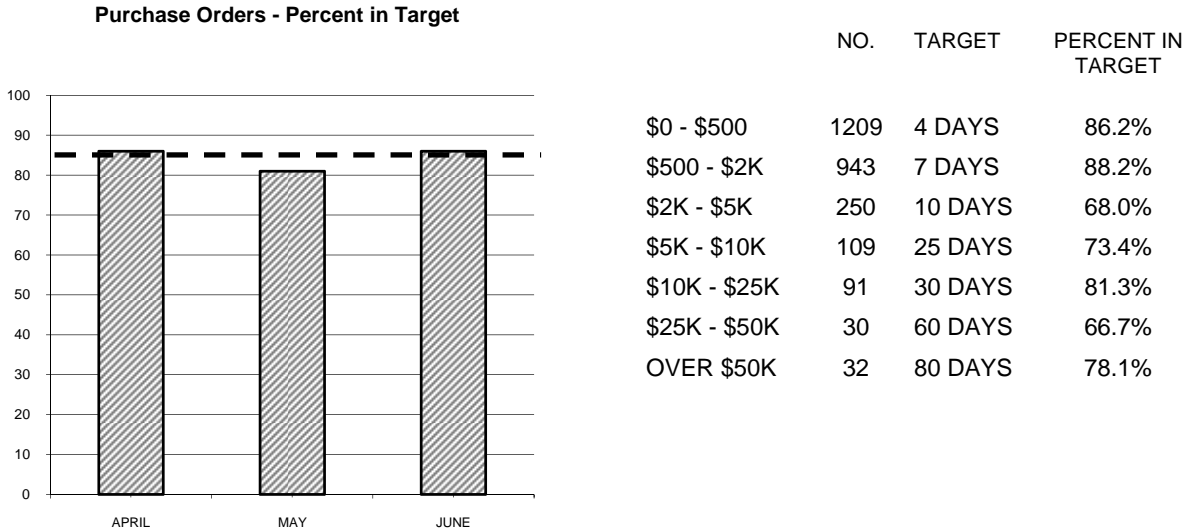
BUSINESS SERVICES

Procurement: Purchasing and Contracts Fourth Quarter FY12

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

Outcome: Processed 84% of purchase orders within target; Avg. Processing Time was 6.73 days vs. 6.72 days in Qtr 4 of FY11. Processed 88% (28 of 32) contracts within target timeframes; Avg. Processing Time was 117 days vs. 111 days in Qtr 4 of FY11.

Purchasing



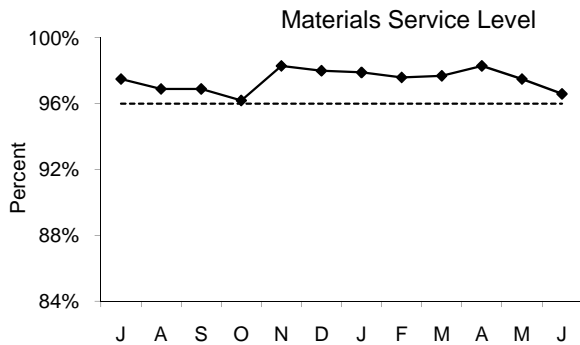
- Purchasing Unit processed 2664 purchase orders, 303 more than the 2361 processed in Qtr 4 of FY11, for a total value of \$12,126,509 vs. a dollar value of \$14,690,872 in Qtr 4 of FY11.
- The target was not achieved for the \$2k - \$5k category because of clarification of specifications, vendor sourcing and evaluation of end user needs, the \$5k - \$10k category due to a change in purchasing strategy and timing of the need for the service, the \$10k - \$25k category because of an extended bid review, the \$25k - \$50k category due to a re-bid and specification development and the over \$50k category due to clarification of specifications and extended bid review.

Contracts, Change Orders and Amendments

- Four contracts were not processed within target timeframes. Two contracts required the resolicitation of sub-bids, one process was extended as the scope of work was revised, and one was slowed due to delayed return of documents from the vendor.
- Procurement processed thirty-two contracts with a value of \$15,045,246 and sixteen amendments with a value of \$1,991,684.
- Forty change orders were executed during the period, but some were credit change orders and are recorded as negative numbers. The dollar value of all non-credit change orders during the 4th quarter FY12 was \$4,240,953 and the value of credit change orders was (\$2,124,132).
- In addition, staff reviewed 73 proposed change orders and 45 draft change orders.

Materials Management

4th Quarter, FY12



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 10,768 (97.5%) of the 11,049 items requested in Q4 from the inventory locations for a total dollar value of \$1,185,362.

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 FY12 goal is to reduce consumable inventory from the July '11 base level (\$6.8 million) by 4.0% (approximately \$273,659), to \$6.5 million by June 30, 2012 (see chart below). The goal was not met due to the establishment of Motorola radios as inventory items to safeguard and track this item. Receipts of radios in June 2012 amounted to \$910,956. In addition, several high dollar MIS related items were received in June 2012 amounting to \$59,360.

Items added to inventory this quarter include:

- Deer Island –compression connectors, snap ring, slinger, impeller cap, impeller washer, 1.5v battery and cooling thermostat for Core; front seal holder for Residuals; oil filter, sump pump and grease fittings for Liquid Train.
- Chelsea –air, oil and fuel filters, e-brake cables, gasket cooler, brake rotor, socket, mirror kit, sensors, rivets and air pump for VMM; led lamps, single pole switch, vibration isolator, limit switch, connector and Dixon couplings for Work Order Coordination Group.
- Southboro – load binders and coveralls for Maintenance; reflective shirts and polo shirts for Administration.

Property Pass Program:

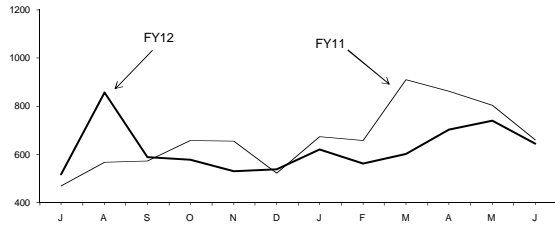
- Audits were conducted at Chelsea vehicle maintenance, plumbers, water operations valve and Ward Street pump station during Q4.
- Numerous obsolete computers, scanners, monitors, printers, keyboards, power supplies, docking stations, laptops, television stands and televisions have been received into 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 \$7,395.59.

Items	Base Value July-11	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	6,841,475	7,662,652	821,177
Spare Parts Inventory Value	7,057,082	7,100,817	43,735
Total Inventory Value	13,898,557	14,763,469	864,912

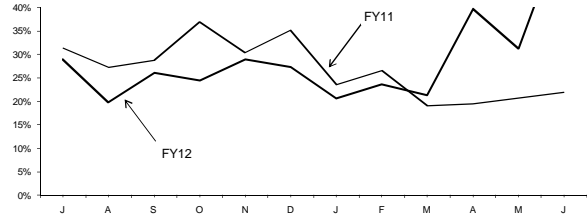
Note: New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

MIS Program 4th Quarter FY12

Helpline Monthly Call Volume



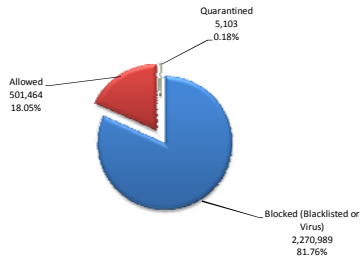
Workload Backlog



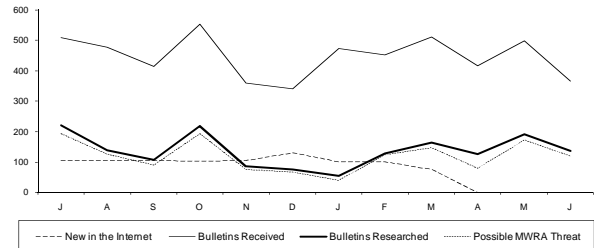
Performance:

For Q4, call volume peaked in May and calls decreased by 10.3% from Q4 last year. Call backlog peaked in June making the backlog 37.4% above the targeted benchmark of 20%.

Emails Received in Q4 = 2,777,556



Internet Vulnerabilities



Information Security:

During Q4, staff pushed security fixes and updates to desktops and servers throughout the quarter in order to protect against the 59 vulnerabilities.

LANDesk Antivirus quarantined 78 distinct viruses from 56 MWRA computers. MWRA's systems are current with anti-virus providers' signatures for all known malware.

Infrastructure:

Cellular services migration: 215 devices were identified and the migration effort began in March. By the end of June, 92 devices have been migrated. This effort is scheduled to be complete in conjunction with the in-building distributed antenna system deployment.

Oracle Database Server Consolidation: The consolidation project began this month. When completed the number of Oracle database servers in Production and Development will be reduced from twenty-two to two. MIS purchased two Oracle Database Appliances and upgraded the MWRA's Oracle licensing agreements.

Applications/Training/Records Center:

MWRA Open Checkbook Application: The Commonwealth enacted a transparency and accountability law giving residents visibility into state government spending through a searchable website. MWRA and other authorities will be required to adhere to the law. In May and June, staff implemented the Employee, Vendor, and Categories (Spending) modules of the MWRA Open Checkbook application. (The Pension module is on hold pending the appointment of a new Retirement Board Director.) The application was presented to the Board of Directors in June.

Lawson 9.0.1 Upgrade: Received a new application from Bottomline (check printing application vendor) and installed it on production server in CNY; ran tests with Treasury using a sample paycheck file on the development system; installed BSI Tax Factory for Oracle 11g version on the development system and ran a small payroll; converted, compiled, and tested custom code; met with user management from Finance, Procurement, and HR to discuss 9.0.1 upgrade progress and provided users with upgrade release notes and links to related system documentation and user test plans; provided users system access to begin user testing.

Lawson Maintenance: Supported Payroll and HR with several year-end tasks including successful longevity payments due to all union employees and vacation milestone adjustments for unit 2, 3, and 9 employees. Upgraded the Lawson platform to Oracle 11g R2.

Employee Contact Information Review: Designed and developed a new web application for staff to review their contact information. Staff can confirm that the information is accurate or email HR with changes. In May, HR instructed CNY staff to use this application as a prerequisite to the MWRA Reverse 911 drill for CNY staff.

MWRA Emergency Notification Systems (ENS): Worked with Public Affairs to prepare for communication drills for CNY, Southborough, and CWTP staff. All drills used the remote activation call feature in Communicator! NXT and were completed in Q4. The drills were conducted to ensure staff familiarity with the application use, exercise the application, and help validate contact information is accurate. Also in Q4, staff provided training on the Emergency Notification Systems (ENS) for users identified by the Security Task Force. All key users have been trained in 2012.

GIS: An effort to link Water Quality (WQ) data to our GIS system is now underway. A proof of concept model has been developed that successfully integrates WQ data with our GIS Flex viewer. The GIS Flex viewer is in the final approval stage so the WQ integration portion may not be ready for the initial release however it should follow shortly after.

Granite XP - Cues TV: The newly upgraded Close Circuit TV (CCTV) system has been installed onto the MWRA CCTV truck. The upgrade included a new pipeline Scoring Module, improvements to sonar reporting, and a GIS Integration Module. The two new software modules of Granite XP integrate the inspection results, video files, and GIS into a single display (via a desktop viewer) to maximize effectiveness of the information being presented. MWRA will have unlimited licenses for the deployment of the viewer to end users in Operations, Engineering and Planning who require this information.

Community Operations Management Monitoring System (OMMS): Updated the Community OMMS Website to be compatible with the iPad at the request of Boston Water and Sewer. The website was originally developed in the fall of 2000 and designed to work with Microsoft Internet Explorer 4. The update also made the website compatible with the current versions of Internet Explorer as well as con-Microsoft web browsers.

Library & Records Center: The Library completed 57 research requests (211 YTD), added 10 books (103 YTD), distributed 88 periodicals (421 YTD) and 3,943 electronically (12,488 YTD) linked articles to staff. The Records Center added 64 boxes (260 YTD), conducted 2 training sessions, and attended 2 Record Conservation Board Meetings. Received permission from RCB to dispose of 259 boxes. Shaft 5 litigation support included Room 2A set up, research, indexing, and hosted opposing counsel review of microfilm. Construction Photo Project support included drafting proposed scope of work, standards (formatting, metadata, keywords, etc..) cross reference contract spreadsheet, and research.

IT Training: For the quarter, 251 staff attended 14 classes and 20 workshops. 21% of the workforce have attended at least one class year-to-date. The majority of Q4 training classes were refresher or new user training for the various Emergency Notification Systems (ENS) applications (Community Contacts Database, Communicator! NXT, and MWRA 911). In addition, 30 staff attended IT Infrastructure Library (ITIL) Foundation training to provide a foundation for the formal adoption of appropriate ITIL best practices for IT services at the MWRA.

Legal Matters

4th Quarter FY2012

PROJECT ASSISTANCE

COURT AND ADMINISTRATIVE ORDER

- **Boston Harbor Litigation and CSO:** Reviewed 2011 CSO discharge estimates and rainfall analyses submitted to EPA and DEP in accordance with Variances for CSO Discharges to the Alewife Brook/Upper Mystic River and for CSO Discharges to the Lower Charles River/Charles Basin. Reviewed Amendment No. 3 to the Memorandum of Understanding and Financial Assistance Agreement between the MWRA and the Town of Brookline for the implementation of certain CSO control projects. Drafted a portion of the June compliance and progress report. Drafted and filed quarterly compliance and progress report; filed CSO annual report.
- **NPDES:** Drafted the Clinton NPDES permit and MWRA's subsequent comments. Reviewed and edited chapters four through seven of latest draft of nine minimum control document.
- **2012 Wastewater System Master Plan:** Reviewed and commented upon draft chapters 4, 14 and 16 of the 2012 Wastewater System Master Plan.
- **Administrative Consent Order (DITP power outages):** Reviewed and submitted updated semi-annual *Consultant's Deer Island Energy Recommendations Tracking Sheet* to DEP and EPA.

REAL ESTATE, CONTRACT AND OTHER SUPPORT

- **MassDOT License - Chelsea:** Revised the draft license agreement for MassDOT to grant MWRA use of the abandoned right-of-way adjacent to the MWRA facility in Chelsea.
- **Weston Aqueduct Recreational Trail - Framingham:** Drafted an 8(m) Permit to the Town of Framingham for the use of a portion of the Weston Aqueduct as a passive recreational trail and submitted the draft to the Town of Framingham for review and comment.
- **CVA- Fish Hatchery Hydropower Project:** Revised the draft legislation for the acquisition of a permanent easement at the Ware Disinfection Facility.
- **Northern Low Service Storage Project:** Drafted Amendment #1 to the License for Entry Agreement with the developer of the adjacent property to provide for the use of Parcel M-1 during construction.
- **Fore River Railroad Corporation:** Finalized a Gas Main License Agreement with Boston Gas Company, d/b/a National Grid, to allow for the installation of a gas main under the right-of-way of the railroad at two (2) locations in Quincy.
- **Conveyance of former East Boston Pump Station:** Finalized a Grant of Easement for the conveyance of two access easements necessary for the sale by DCAM of the property occupied by the former East Boston Pump Station.
- **Cochituate Aqueduct Damage - Natick:** Drafted a Cease and Desist Order requiring the stoppage of further environmental damage and remediation on the easement for the Cochituate Aqueduct following a partial collapse of the aqueduct.
- **Weston Water Main:** Participated in a two-day mediation on May 22-23 with all parties in an attempt at early resolution. Mediation did not resolve any issues. However, subsequent to the Mediation, and as a result thereof, pursuant to approval received by the Board of Directors, MWRA presented a Settlement Demand to MWRA's direct Defendants.
- **Miscellaneous:** Reviewed and approved thirty (30) Section 8(m) Permits and one (1) Direct Connect Permit; reviewed and made recommendations on five (5) construction claims.

ENVIRONMENTAL

- **Clean Air Regulations:** Reviewed various regulations, and proposed regulations, of EPA and DEP relating to Clean Air Act Amendments, contaminant monitoring for public water systems, air pollution control.

- **Division of Fire Services Regulations:** Completed analysis and draft memo concluding that the new fire service regulations pertaining to the safe handling and processing of hazardous materials did not apply to the MWRA.
- **Miscellaneous: The Register of Historic Places:** Reviewed regulatory and case law to determine criteria for listing buildings on the MA. State Register.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters	Three demands for arbitration were filed. One charge of prohibited practice was filed at the Division of Labor Relations.
Matters Concluded	Settled two arbitrations in which a union claimed the MWRA violated a collective bargaining agreement when three employees were allegedly working out of title.

LITIGATION/TRAC

New Matters	During the Fourth Quarter of FY 2012 one new lawsuit was received. (Former employee) v. MWRA: Plaintiff is a former employee who seeks damages and other relief arising out of his termination from employment on January 27, 2012. Plaintiff asserts claims under the Massachusetts Whistleblower statute, G.L. c. 149 § 185, and the Massachusetts Civil Rights Act G.L. c. 12 § 111. Plaintiff also alleges that he was denied his statutory rights under the "Age Discrimination Employment Act" (ADEA), and the "Older Workers Benefit Protection Act" (OWBPA). Among other things, plaintiff alleges that he was subjected to retaliation by MWRA when he objected to and reported unlawful activity by two employees, i.e., the theft of time and misappropriation of MWRA property.
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Significant Developments	<u>William A. Davison, Mary J. Davison and Paul W. DiMaura, Trustees of Heather Realty Trust v. MWRA:</u> On April 6, 2012, MWRA filed a Motion of Defendant MWRA for Entry of Judgment, requesting that interest be applied to the March 23, 2012 jury verdict strictly in accordance with the eminent domain statute, G.L. c. 79 § 37. On May 10, 2012, plaintiffs served an opposition to MWRA's motion, and served Plaintiffs' Motion To Determine Interest Rate and For Entry of Judgment, in which plaintiffs requested that interest be calculated at a substantially higher rate than that provided by statute, and also that interest be compounded annually, rather than calculated as simple interest. The papers of both parties were submitted to the Court for decision.
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(Former employee) v. MWRA: This is a race discrimination claim filed by the Complainant, a former MWRA employee, alleging his employment was terminated because he was a white supervisor. The MCAD dismissed his claim. Complainant has appealed this dismissal and the appeal is scheduled to be heard at MCAD on July 19, 2012.

Matters Concluded	<u>Midland Funding, Inc. vs. (Present Employee) and MWRA:</u> In this wage garnishment action, MWRA received on March 23, 2012 a Voluntary Dismissal of Trustee Process as to the defendant and MWRA as Trustee was filed in Charlestown District Court.
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D & C Construction Company, Inc. v. MWRA: On or about June 26, 2008, D&C entered into public construction contract with MWRA for a project known as "Cottage Farm/Brookline Connection and Inflow Controls in Boston and Cambridge, MA in lump sum amount of \$1,976,000. The Contract for the Project was MWRA Project No. 7080. D&C's work under the Contract included dismantling, evacuation and cleanup of certain chambers related to anticipated overflow events during the course of the Project. Plaintiff claimed breach of contract by a general contractor on a public construction project to recover monies due under its lump sum contract with the Authority and is claiming damages in the amount of \$187,106.60. On March 5, 2012, the court ruled that D&C's Motion for Summary Judgment be denied and MWRA's Motion for Summary Judgment be allowed. The Complaint of the plaintiff, D&C Construction Company, Inc., has been dismissed against the MWRA, with costs. The appeal rights of the plaintiff have expired.

(Former Employee) v. MWRA: This was an employment matter involving two cases filed by the plaintiff at the Massachusetts Commission Against Discrimination ("MCAD"). The cases were consolidated and scheduled for trial on May 14, 2012 at the Massachusetts Commission Against Discrimination. Just prior to trial the case settled.

Subpoenas During the Fourth Quarter of FY 2012, one new subpoena was received, two subpoenas were re-activated and six subpoenas were pending at the end of the Fourth Quarter FY 2012.

Public Records During the Fourth Quarter of FY 2012 six new public records requests were received and of those six, four remained pending at the end of the Fourth Quarter FY 2012.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of June 2012	As of March 2012	As of Dec 2011
Construction/Contract/Bid Protest (other than BHP)	3	2	4
Tort/Labor/Employment	6	7	6
Environmental/Regulatory/Other	1	1	1
Eminent Domain/Real Estate	1	1	2
total – all defensive cases	11	11	13
Affirmative Cases: <u>MWRA v. (current employee)</u> <u>MWRA v. J. F. Shea Co., Inc., et al.</u>	2	2	2
Other Litigation matters (restraining orders, etc.)	0	0	0
total – all pending lawsuits	13	13	15
Significant claims not in suit: <u>Giaquinto/Geico Automobile Accident Claims</u> <u>Oscar Malera personal injury claim</u> <u>Trooper Walker Injury Claim</u>	3	2	2
Bankruptcy	1	3	3
Wage Garnishment	15	8	8
TRAC/Adjudicatory Appeals	1	0	0
Subpoenas	6	4	3
TOTAL – ALL LITIGATION MATTERS	39	30	31

TRAC/MISC.

New Appeals One new appeal was received in the 4th Quarter FY 2012.

Environmental Compliance Corporation; MWRA Docket No. 12-01

Settlement by Agreement of Parties No cases were settled by Agreement of Parties in the 4th Quarter FY 2012.

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 2012.

Final Decisions No Final Decisions were issued during the 4th Quarter FY 2012.

INTERNAL & CONTRACT AUDIT PROGRAM 4th Quarter FY12

Highlights

MIS Equipment Controls

The MIS department is responsible for the recordkeeping, custody and the ultimate disposal of MIS hardware, audio/visual equipment, digital cameras and cell phones. Some types of equipment, such as laptops, cameras and phones are subsequently issued by MIS to individual employees.

Fieldwork on this assignment is wrapping up and a draft report is being written. A number of deficiencies were identified, including incomplete recordkeeping, missing equipment, and the storage of equipment in insecure locations. Management was kept informed of deficiencies and has instituted corrective actions. The nature of the deficiencies and corrective actions will require an Internal Audit follow-up in six months.

Status of Open Audit Recommendations (6 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)*	4	1
Warehouse Practices (9/30/10)	2	8
Facility Card Access Controls (2/22/11)	3	17
DITP Data Center Access Controls (10/14/11)	14	8
FRRC Financial and Management Controls (12/14/11)	1	6
Workers' Compensation (12/23/11)	3	1
Review of Fleet Services Activities (1/9/12)	<u>4</u>	<u>1</u>
Total Recommendations	32	44

*Recommendations involve an updated construction manual with a target completion of August 2012.

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.

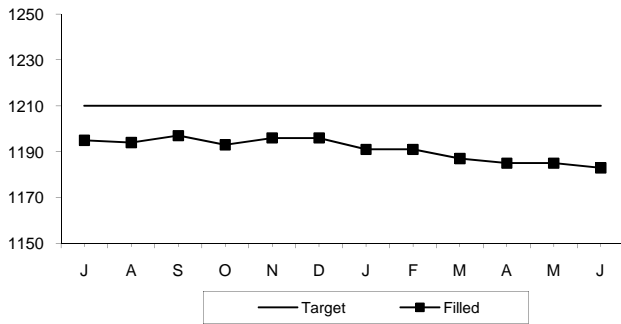
Savings	FY08	FY09	FY10	FY11	FY12	TOTAL
Consultants	\$55,901	\$316,633	\$194,238	\$520,176	\$259,245	\$1,346,193
Contractors & Vendors	\$2,147,311	\$1,262,088	\$599,835	\$3,129,538	\$435,760	\$7,574,532
Internal Audits	\$0	\$438,027	\$206,282	\$152,478	\$407,350	\$1,204,137
Total	\$2,203,212	\$2,016,748	\$1,000,355	\$3,802,192	\$1,102,355	\$10,124,862

OTHER MANAGEMENT

Workforce Management

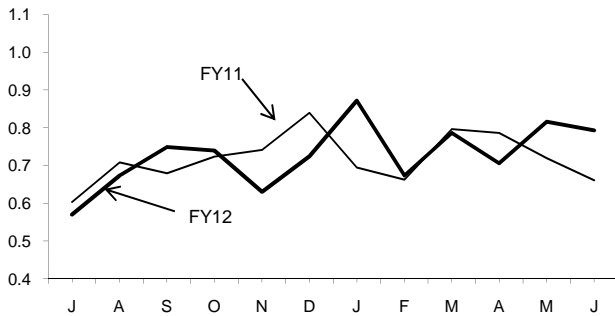
4th Quarter FY12

Filled Position Tracking

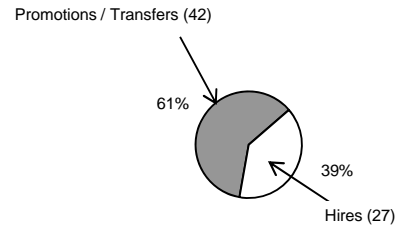


FY12 Target for Filled Positions = 1210
 Filled Positions as of June 2012 = 1183

Average Monthly Sick Leave Usage
Per Employee



Positions Filled by Hires/Promotions
FY12-YTD



	Pr/Trns	Hires	Total
FY09	63 (73%)	23 (27%)	86
FY10	66 (76%)	21 (24%)	87
FY11	48 (62%)	30 (38%)	78

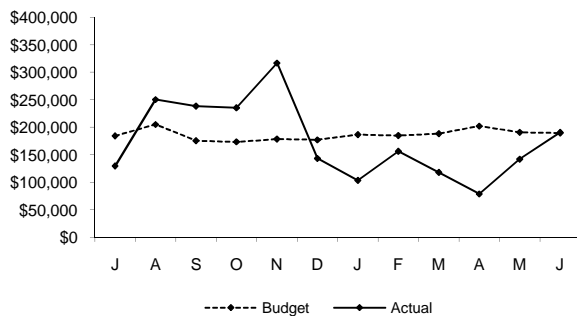
In FY12, the average monthly sick leave usage has increased 1.35% from the same time last year.

	Number of Employees	YTD	Annual Total	Annual FMLA %	FY11
A&F	190	8.18	8.18	22.1%	8.01
Aff. Action	7	13.14	13.14	39.0%	7.63
Executive	5	6.53	6.53	55.6%	3.29
Int. Audit	8	5.94	5.94	10.5%	4.47
Law	17	11.24	11.24	29.7%	9.95
OEP	4	5.21	5.21	0.0%	5.74
Operations	927	8.81	8.81	21.1%	8.86
Planning	21	6.58	6.58	11.1%	4.68
Pub. Affs.	12	7.81	7.81	1.1%	8.15
MWRA Avg	1191	8.73	8.73	21.3%	8.64

Percent of sick leave usage attributable to Family and Medical Leave Act (FMLA) leave is 21.3% ending June 30, 2012.

Field Operations

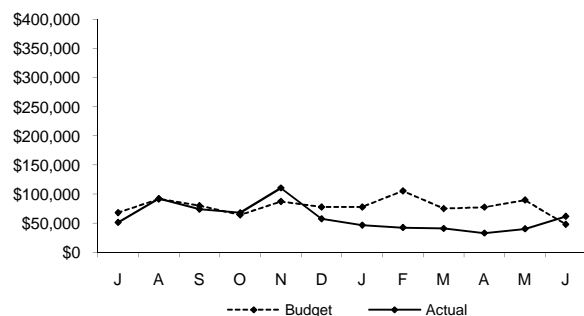
Overtime Expenditure Variance



Total June overtime for Field Operations was \$190,613, which is \$1k over budget. Emergency overtime was \$99k, which was \$12k over budget. Of that amount, \$31k was spent on rain events, \$19k for rain event pre staging, \$18k for emergency maintenance, \$14k for CSO activation, and \$9k for emergency operations. Coverage overtime was \$60k, which was \$1k over budget. Vacation coverage was \$27k; personal coverage was \$13k, sick coverage was \$6k, vacancy coverage was \$4k. Planned overtime was \$32k or (\$12k) under budget. \$7k was for Planned Operations, \$5k for Maintenance off hours work \$5k for maintenance- work completion, \$3k for training.

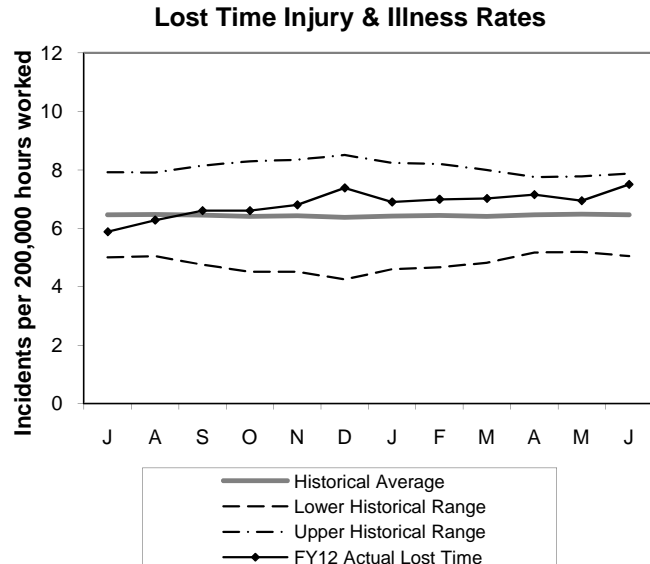
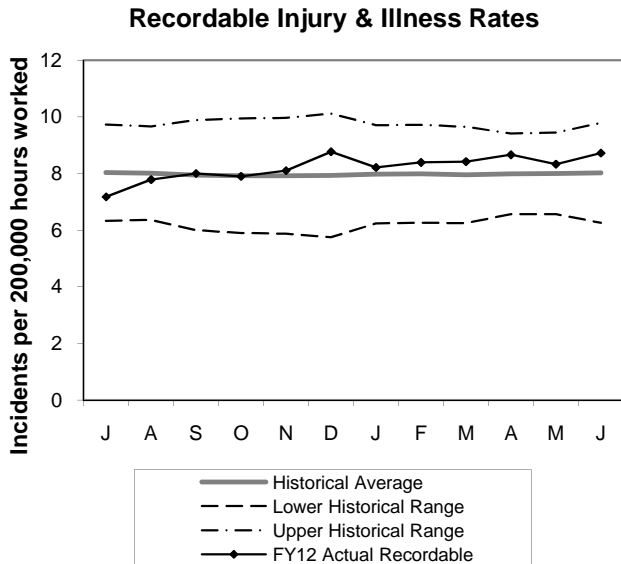
Deer Island Treatment Plant

Overtime Expenditure Variance



Deer Island's total overtime expenditure in June 2012 was \$62K, which is \$13K or 27.9% over budget. The variance is attributable to a combination of higher than budgeted storm coverage requirements, \$16K and higher than budgeted shift coverage, \$16K. The budget, which was based upon historical actuals, did not anticipated any hours of storm coverage while 214 hours were actually required, also shift coverage was higher than anticipated due to a greater need for vacation coverage. These variances are partially offset by Maintenance's planned/unplanned overtime was (\$15K) under budget due Management's continued efforts to control overtime spending by allowing overtime for maintenance or repair of critical systems and equipment only All Other overtime was a net (\$4K) under budget

Workplace Safety 4th Quarter FY12



- 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 FY11. The "Upper" and "Lower Historical Ranges" are computed using these same data – adding and subtracting two standard deviations respectively. FY12 actual incident rates can be expected to fall within this historical range.

Workers Compensation Claims Highlights - Fourth Quarter FY12

	New	Closed	Open Claims
Lost Time	11	14	48
Medical Only	41	54	44
	New		YTD Light Duty Returns
Light Duty Returns	2		9

Highlights/Comments:

Light Duty returns

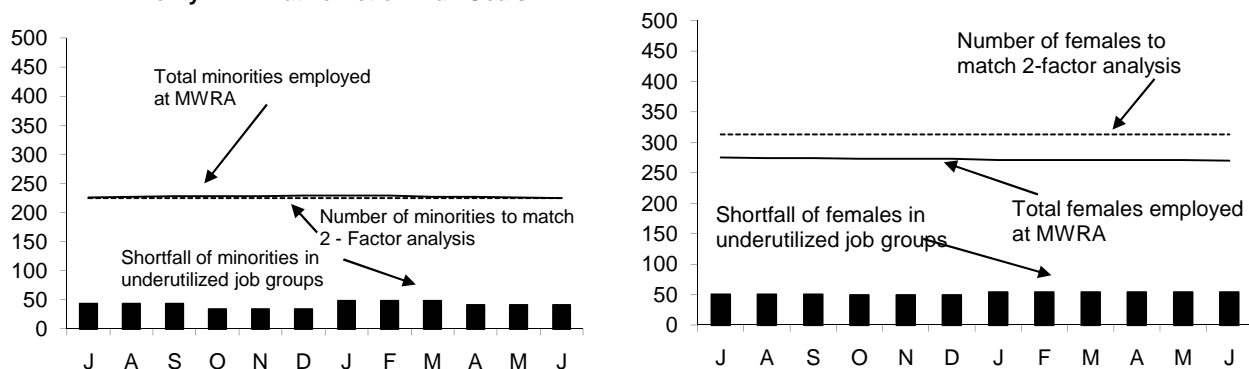
- April none
- May 1 employee returned to work in a light duty for one week and then went to full duty
- June 1 employee returned to work full duty from IA

Regular Duty returns

- April 3 employees returned to work in a regular capacity (1 employee worked 1 day, then returned to IA)
- May 2 employees returned to work full duty
- June 1 employee returned to work full duty from a light duty assignment

MWRA Job Group Representation Quarter 4, FY 2012

Minority - Affirmative Action Plan Goals



Highlights:

At the end of Q4 FY12, 8 job groups or a total of 44 positions are underutilized by minorities as compared to 7 job groups or a total of 40 at the end of Q4 FY11; for females 13 job groups or a total of 101 positions are underutilized by females as compared to 12 job groups or a total of 87 at the end of Q4FY11. During Q4, 0 minorities and 0 females were hired. During this same period, 2 minorities and 2 females terminated.

Underutilized Job Groups - Workforce Representation

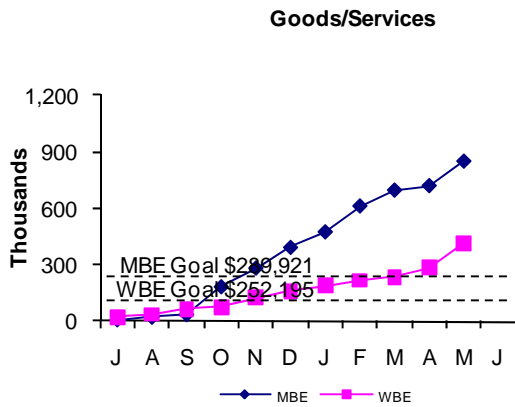
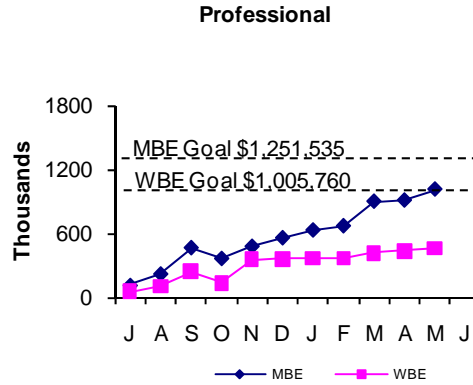
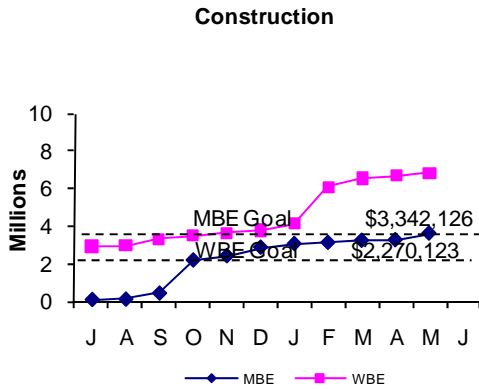
Job Group	Employees	Minorities	Achievement	Minority	Females	Achievement	Female
	as of 6/30/2012	as of 6/30/2012	Level	Over or Under Under utilized	As of 6/30/2012	Level	Over or Under Under utilized
Administrator A	18	3	2	1	3	5	-2
Administrator B	20	0	3	-3	5	5	0
Clerical A	46	20	11	9	40	4	36
Clerical B	35	9	9	0	15	3	12
Engineer A	83	15	17	-2	11	17	-6
Engineer B	50	11	5	6	6	18	-12
Craft A	114	13	21	-8	0	4	-4
Craft B	149	27	22	6	3	9	-6
Laborer	64	16	12	4	4	16	-12
Management A	106	16	22	-6	33	47	-14
Management B	51	11	11	0	14	25	-11
Operator A	66	5	6	-1	2	3	-1
Operator B	66	7	13	-6	4	5	-1
Para Professional	56	11	25	-14	25	49	-24
Professional A	37	3	7	-4	22	16	6
Professional B	164	39	31	8	76	76	0
Technical A	54	17	10	7	5	11	-6
Technical B	9	2	2	0	2	4	-2
Total	1188	225	229	41/-44	270	317	54/-101

AACU Candidate Referrals for Underutilized Positions

Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/ Transfers	AACU Ref. External	Position Status
Craft A	M&O Specialist	1	Int	0	0	Pending
Craft B	Instrument Technician	1	Ext	0	1	Pending
Craft B	Electrician	1	Int/Ext	0	1	New Hire - W/M
Craft B	Facilities Specialist I	6	Int	0	0	Pending
Craft B	Plumber/Pipefitter	1	Ext	0	0	Pending
Craft B	Heavy Equipment Operator	1	Ext	0	0	Pending
Laborer	Building & Grounds Worker	2	Int/Ext	0	0	Lat Trans-W/M
Laborer	Skilled Laborer	1	Int/Ext	0	0	Pending
Laborer	OMC Laborer	2	Int/Ext	0	0	New Hire - W/M
Management B	Asst. Contract Mgr.	1	Int/Ext	0	0	Pending

MBE/WBE Expenditures Fourth Quarter FY 2012

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.



FY12 spending and percentage of goals achieved, as well as FY11 performance are as follows:

	MBE				WBE			
	FY12 Year-to-Date		FY11		FY12 Year-to-Date		FY11	
	<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>
Construction	3,585,531	107.3%	6,672,772	129.2%	6,837,179	301.2%	7,871,501	184.8%
Professional Svc.	1,009,012	80.6%	2,045,576	160.6%	459,312	45.7%	1,212,947	118.3%
Goods & Svcs.	851,430	293.7%	393,060	56.9%	415,559	164.8%	345,590	57.5%
Total	\$5,445,973	111.5%	\$9,111,408	127.8%	\$7,712,050	218.6%	\$9,430,038	160.2%

MWRA FY12 CEB Expenses through 4th Quarter –FY12

	June 2012 Year-to-Date					
	Period 12 YTD Budget	Period 12 YTD Actual	Period 12 YTD Variance	%	FY12 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 90,319,013	\$ 89,887,813	\$ (431,200)	-0.5%	\$ 90,319,013	99.5%
OVERTIME	3,508,630	3,086,174	(422,456)	-12.0%	3,508,630	88.0%
FRINGE BENEFITS	17,954,076	17,662,543	(291,533)	-1.6%	17,954,076	98.4%
WORKERS' COMPENSATION	2,100,000	1,600,726	(499,274)	-23.8%	2,100,000	76.2%
CHEMICALS	9,047,275	9,271,529	224,254	2.5%	9,047,275	102.5%
ENERGY AND UTILITIES	22,654,931	22,766,837	111,906	0.5%	22,654,931	100.5%
MAINTENANCE	29,470,020	26,776,012	(2,694,008)	-9.1%	29,470,020	90.9%
TRAINING AND MEETINGS	251,550	184,228	(67,322)	-26.8%	251,550	73.2%
PROFESSIONAL SERVICES	5,892,441	5,099,517	(792,924)	-13.5%	5,892,441	86.5%
OTHER MATERIALS	4,765,483	5,513,699	748,216	15.7%	4,765,483	115.7%
OTHER SERVICES	23,323,074	22,985,815	(337,259)	-1.4%	23,323,074	98.6%
TOTAL DIRECT EXPENSES	\$ 209,286,493	\$ 204,834,893	\$ (4,451,598)	-2.1%	\$ 209,286,493	97.9%
INSURANCE	\$ 2,285,870	\$ 2,076,961	\$ (208,909)	-9.1%	\$ 2,285,870	90.9%
WATERSHED/PILOT	25,576,274	25,629,604	53,330	0.2%	25,576,274	100.2%
BEC _o PAYMENT	3,965,500	3,561,130	(404,370)	-10.2%	3,965,500	89.8%
MITIGATION	1,528,700	1,744,579	215,879	14.1%	1,528,700	114.1%
ADDITIONS TO RESERVES	195,467	195,467	-	0.0%	195,467	100.0%
RETIREMENT FUND	7,340,438	7,363,170	22,732	0.3%	7,340,438	100.3%
POST EMPLOYEE BENEFITS	-	-	-	---	-	---
TOTAL INDIRECT EXPENSES	\$ 40,892,249	\$ 40,570,911	\$ (321,338)	-0.8%	\$ 40,892,249	99.2%
DEBT SERVICE	\$ 368,329,918	\$ 365,136,323	\$ (3,193,595)	-0.9%	\$ 367,979,918	99.2%
DEBT SERVICE ASSISTANCE	(350,000)	(384,323)	(34,323)	9.8%	-	0.0%
TOTAL DEBT SERVICE	\$ 367,979,918	\$ 364,752,000	\$ (3,227,918)	-0.9%	\$ 367,979,918	99.2%
TOTAL EXPENSES	\$ 618,158,660	\$ 610,157,804	\$ (8,000,853)	-1.3%	\$ 618,158,660	98.7%
REVENUE & INCOME						
RATE REVENUE	\$ 589,700,000	\$ 589,700,000	\$ -	0.0%	\$ 589,700,000	100.0%
OTHER USER CHARGES	7,142,495	7,264,794	122,299	1.7%	7,142,495	101.7%
OTHER REVENUE	4,872,342	5,655,583	783,241	16.1%	4,872,342	116.1%
RATE STABILIZATION	1,091,780	1,091,780	-	0.0%	1,091,780	100.0%
INVESTMENT INCOME	15,352,043	16,267,463	915,420	6.0%	15,352,043	106.0%
TOTAL REVENUE & INCOME	\$ 618,158,660	\$ 619,979,620	\$ 1,820,960	0.3%	\$ 618,158,660	100.3%

As of June 2012, total revenue was \$620.0 million, \$1.8 million or 0.3% more than budget. Total expenses were \$610.2 million, \$8.0 million or 1.3% less than budget, resulting in a net variance of \$9.8 million.

Expenses –

- **Direct Expenses** are \$204.8 million, \$4.5 million or 2.1% less than budget.
- **Maintenance** is \$2.7 million or 9.1% less than budget. Services are underspent by \$3.0 million and materials are overspent by \$290,000.
- **Professional Services** are \$793,000 or 13.5% under budget mainly due to lower than projected use of Lab & Testing of \$255,000 due to lower Harbor Outfall Monitoring activities, lower as-needed engineering services of \$215,000, lower Security of \$130,000 and lower Other of \$120,000.
- **Other Materials** are \$748,000 or 15.7% over budget due to higher spending for Equipment/Furniture of \$847,000 mainly for radio purchase, Lab & Testing supplies of \$73,000, and Office Supplies of \$43,000. Offset by lower spending for Computer Hardware of \$114,000, Postage of \$82,000, and Vehicle Purchases of \$42,000.
- **Workers' Compensation** is \$499,000 or 23.8% lower spending for reserve requirements of \$485,000 and actual payments of \$15,000.
- **Wages and Salaries** are underspent by \$431,000 or 0.5% due to lower than budgeted filled positions and staff on unpaid leave offset by unbudgeted COLA 's.
- **Overtime** is \$422,000 or 12.0% under budget mainly due to lower spending for snow removal and wet weather events.
- **Other Services** are \$337,000 or 1.4% under budget mainly for lower spending for Other Services of \$818,000 mainly for delayed implementation of the Global Positioning Services (GPS) for Authority vehicles and equipment offset by higher Sludge Pelletization of \$480,000.
- **Fringe Benefits** are lower by \$292,000 or 1.6% mainly due to lower spending for Health Insurance of \$287,000 and Overtime Meals of \$16,000.
- **Chemicals** are overspent by \$224,000 or 2.5% due to higher Ferric Chloride of \$223,000, Sodium Hypochlorite of \$136,000, Liquid Oxygen of \$107,000, and Nytrazyme \$102,000. Offset by lower spending for Activated Carbon of \$134,000, and Soda Ash of \$103,000.
- **Utilities** are overspent by \$112,000 or 0.5% mainly for higher spending for water of \$194,000 and Diesel Fuel of \$73,000 offset by lower spending for Natural Gas of \$137,000.
- **Indirect Expenses** are \$40.6 million, \$321,000 or 0.8% under budget mainly due to lower special maintenance projects for the Deer Island Cross Harbor cable of \$404,000, and Insurance of \$209,000 mainly due to lower claims.
- **Debt Service Expenses** total \$364.8 million, \$3.2 million or 0.9% under budget due to lower variable rate debt of \$14.1 million, State Revolving fund of \$8.0 million and Local Water Pipeline of \$3.2 million, and \$2.1 million favorable refunding. Offset by \$24.1 million for the FY12 defeasance.

Revenue and Income –

- **Total Revenue / Income** for June is \$620.0 million, \$1.8 million or 0.3% higher than budget and is mainly due to higher Investment Income of \$915,000 and non-rate revenue of \$906,000.

Cost of Debt 4th Quarter –FY12

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.

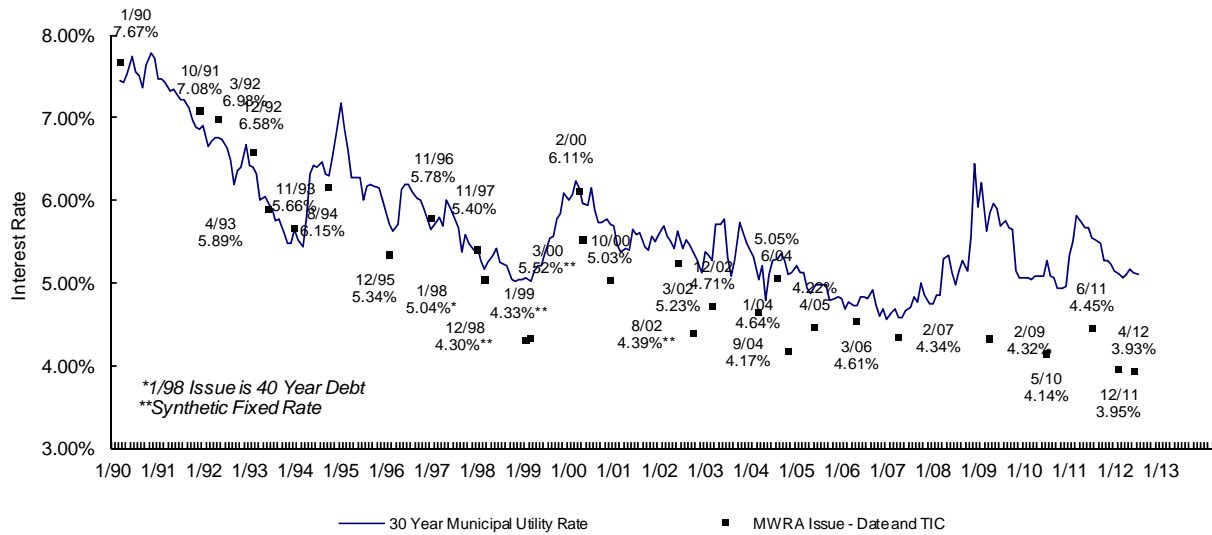
Average Cost of MWRA Debt

Fixed Debt (\$4,129)	4.43%
Variable Debt (\$544)	0.87%
SRF Debt (\$1,022)	1.16%
 Weighted Average Debt Cost (\$5,769)	 3.47%

Most Recent Senior Fixed Debt Issue April 2012

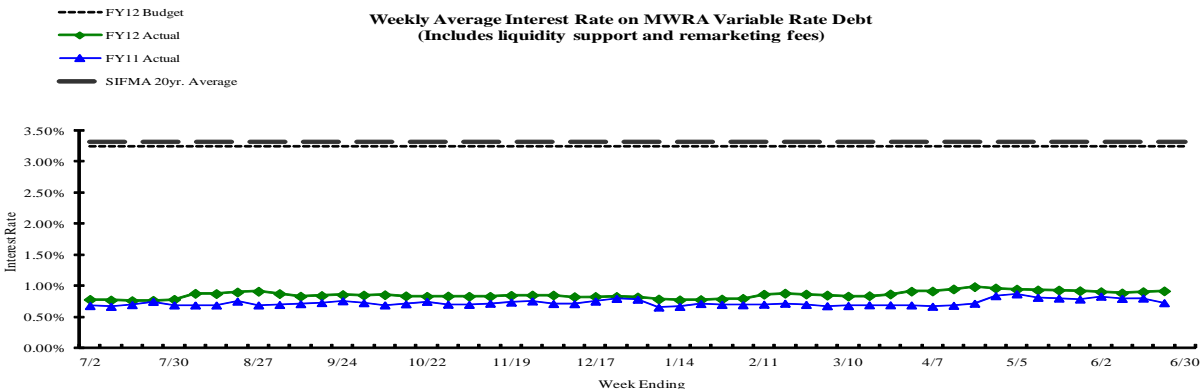
2012 Series A & B (\$236.8)	3.93%
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MWRA Fixed Rate Debt vs. 30 Year Municipal Utility Interest Rate



Weekly Average variable Interest Rates vs. Budget

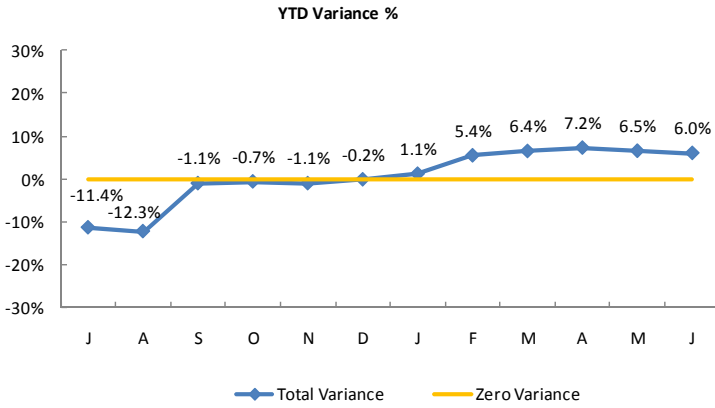
MWRA currently has nine variable rate debt issues with \$1.2 billion outstanding, excluding commercial paper. Of the nine outstanding series, five have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In June, SIFMA rates fluctuated with a high of 0.20% and a low of 0.16%. 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 -FY12

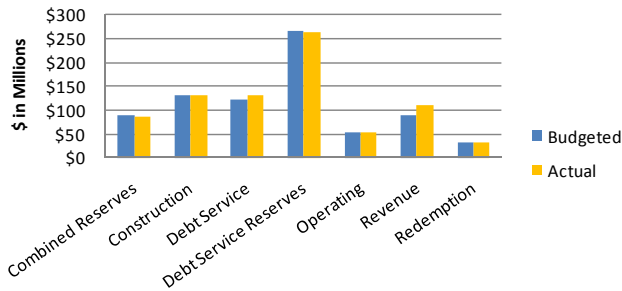
Year To Date



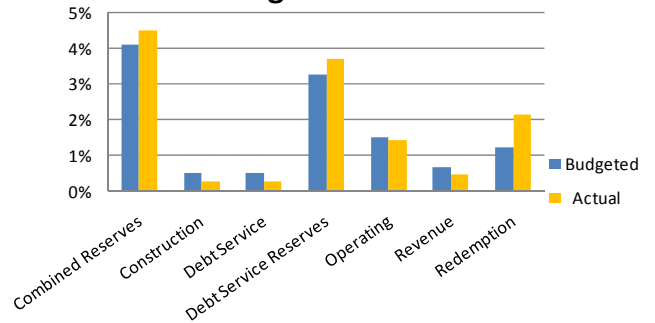
	YTD BUDGET VARIANCE			
	(\$'000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	(\$88)	\$350	263	7.3%
Construction	(\$7)	(\$300)	(307)	-46.9%
Debt Service	\$46	(\$311)	(265)	-42.6%
Debt Service Reserves	(\$74)	\$1,138	1,063	12.3%
Operating	(\$1)	(\$54)	(55)	-6.8%
Revenue	\$86	(\$175)	(89)	-14.8%
Redemption	\$1	\$303	304	75.2%
Total Variance	(\$36)	\$951	\$915	6.0%

➤ The positive variance is attributed to the change in the liquidity requirements which allowed long-term investments to be made rather than reinvesting these funds at short-term rates.

YTD Average Balances Budgeted vs. Actual

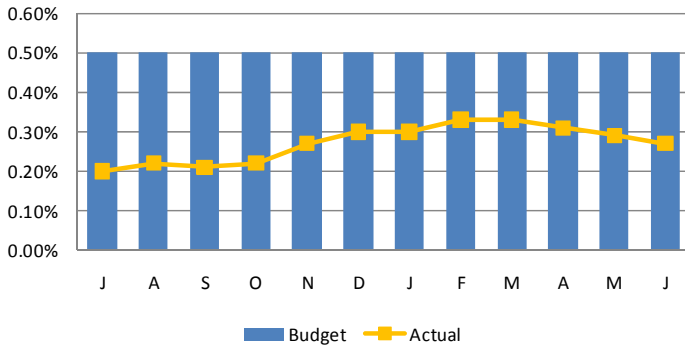


YTD Average Interest Rate Budgeted vs. Actual

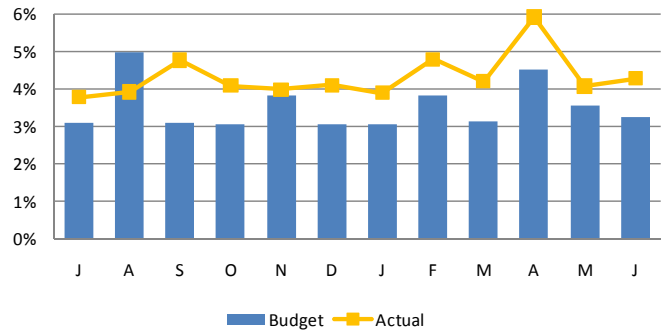


Monthly

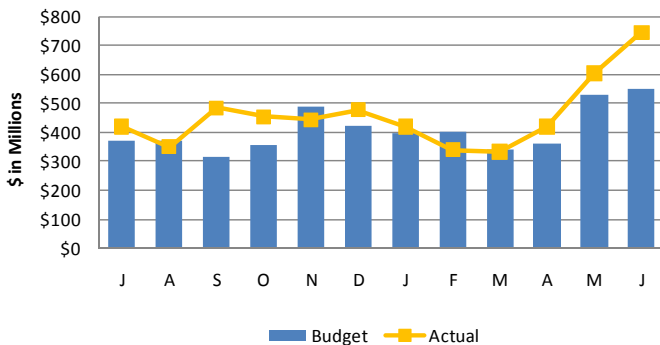
Short-Term Interest Rates



Long-Term Interest Rates



Short-Term Average Balances



Long-Term Average Balances

