MASSACHUSETTS WATER RESOURCES AUTHORITY

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Frederick A. Laskey
Executive Director

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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

Chair: J. Barrera
Vice-Chair: H. Vitale
Committee Members:
J. Carroll
K. Cotter
J. Foti
A. Pappastergion
B. Swett
J. Walsh

to be held on

Wednesday, May 14, 2014

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 10:00 a.m.

AGENDA

A. Information

1 Third Quarter FY14 Orange Notebook

2. Delegated Authority Report – April 2014

3. FY14 Financial Update and Summary as of April 2014

B. Approvals

1. Bond Defeasance of Future Debt Service

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

April 16, 2014

A meeting of the Administration, Finance and Audit Committee was held on April 16, 2014 at the Authority headquarters in Charlestown. Member Foti presided. Present from the Board were Messrs. Carroll, Cotter, and Walsh; Messrs. Vitale and Pappastergion joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Rachel Madden, Pam Heidell, Tom Durkin, Russ Murray, Joe Barrett, and Bonnie Hale. The meeting was called to order at 10:20 a.m.

Information

Delegated Authority Report – March 2014

There was a brief question on one of the items.

2013 Annual Update on New Connections to the MWRA System

Staff provided an update on the status of new connections to MWRA's system, and there was general discussion and question and answer.

FY14 Financial Update and Summary as of March 2014

Staff summarized the March financials and highlighted certain items.

Approvals

*Approval of Standby Bond Purchase Agreement with Bank of New York Mellon and Direct Purchase Agreement with Bank of America; Adoption of Sixty-Seventh Supplemental Resolution

Staff explained why it is necessary for MWRA to have the above agreements, and there was general discussion and question and answer. The Committee recommended approval of the Standby Bond Purchase and Direct Purchase Agreements and adoption of the Sixty-Seventh Supplemental Resolution (ref. agenda item B.1).

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* Approved as recommended at April 16, 2014 Board of Directors meeting.

Contract Awards

*Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support: Infor Global Solutions

Staff responded to questions about exactly what type of maintenance and support services would be provided under this contract. There was general discussion. (Messrs. Vitale and Pappastergion joined the meeting.) The Committee recommended approval of the contract award (ref. agenda item C.1).

*Citrix Application Virtualization and Mobile Device Management Design and Implementation: IntraSystems, Inc., State Blanket Contract ITC47, WRA3832-Q

Staff gave a presentation demonstrating how this system will provide authenticated users at multiple MWRA sites with secure, remote access to MWRA hosted applications and systems and increase efficiency and effectiveness. The Committee recommended approval of the contract award (ref. agenda item C.2).

The meeting adjourned at 11:00 a.m.

* Approved as recommended at April 16, 2014 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May14, 2014
SUBJECT: FY14 Third Quarter Orange Notebook

COMMITTEE: Administration, Finance & Audit

X INFORMATION
VOTE

Michael J. Hornbrook
Chief Operating Officer

Stephen Estes-Smargiassi, Director, Planning
Preparer/Title

Rachel C. Madden, Director
Administration and Finance

RECOMMENDATION:

For information only. The Board of Directors Report on Key Indicators of MWRA Performance (the Orange Notebook) is prepared at the close of each quarter of the fiscal year.

DISCUSSION:

The Orange Notebook presents performance indicators for operational, financial, workforce, and customer service parameters tracked by MWRA management each month. Significant outcomes for the quarter are noted below.

UV Disinfection Facilities at Carroll Water Treatment Plant

The UV disinfection facilities at the Carroll Water Treatment Plant were completed and in operation for regulatory compliance as required by the Long-Term 2 Enhanced Surface Water Treatment Rule at the end of the quarter. During the quarter, the UV facility was operating in extended testing mode, meeting the target of at least 99 percent inactivation of *Cryptosporidium* in at least 95 percent of the flow. Next quarter's Orange Notebook will contain new reporting graphs for the UV treatment facilities. (Pages 22 and 15)

As has been the case for the past two years during construction of the UV facilities, winter maintenance at the Carroll Water Treatment Plant required that MWRA's voluntary target of 99 percent inactivation of *Cryptosporidium* with ozone be lowered while only one-half of the plant operates during the cold weather. All regulatory treatment targets were met, and while MWRA was not officially taking credit for the UV inactivation during the quarter as discussed above, the combination of UV and ozone disinfection far surpassed MWRA's voluntary target. (Page 22)

Self Generation

During the quarter, the Deer Island combustion and steam turbine generators (CTGs and STGs), and the effluent hydro-electric generators all met their equipment availability targets. Overall power generated on-site at Deer Island exceeded the target by 3.4%, primarily due to the use of the CTGs during three storm events, in response to high spot prices during the cold weather in January, and during Stack Emissions Testing in March. Use of the CTGs during periods when spot prices exceed the cost of operation reduces the cost of electricity purchased. (Pages 3 and 1)

The STGs produced 11% less power than target due to equipment trips in January, causing lower utilization of digester gas during that month. In contrast, digester gas utilization in March reached a fiscal year high of 99.8%. (Page 1)

Overall, renewable power generation accounted for 25.2 percent of Deer Island's electric power consumption. (Page 3)

Leak Detection and Repair

Winter weather blocked access due to snow banks and community snow-removal efforts reducing the number of miles inspected this quarter to only 16.79 miles. Seven leaks were detected on MWRA pipelines during the quarter, and ten were repaired reducing the backlog from five at the end of the last quarter to two. With better weather projected in the next quarter, both detection and repair efforts are expected to substantially increase. (Page 6)

Deer Island Flow and Precipitation

Although precipitation was 15 percent higher than expected during the quarter (11.85 inches actual vs. 10.31 inches expected) Deer Island plant flow was 12 percent lower than the target, mainly due to late snow melt. Another record low 365-dry-day flow of 261.2 mgd was set in January, continuing the low flow trend seen over the past two years. (Page 2)

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

Board of Directors Report

on

Key Indicators of MWRA Performance

for

Third Quarter FY2014

Q1	Q2	Q3	Q4
		■	

Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
May 14, 2014

Board of Directors Report on Key Indicators of MWRA Performance
Third Quarter FY2014

Table of Contents

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

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

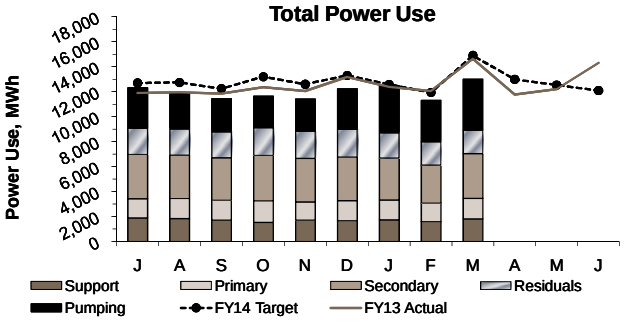
May 14, 2014

OPERATIONS AND MAINTENANCE

Deer Island Operations

3rd Quarter - FY14

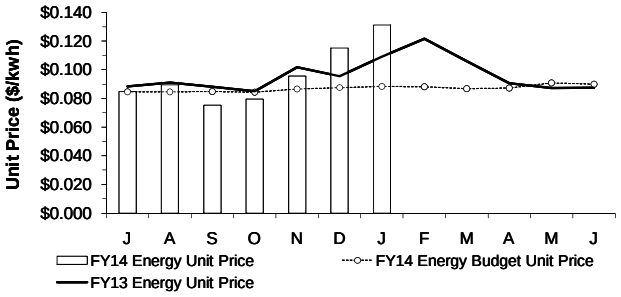
Total Power Use



Total Power Use in the 3rd Quarter was 6.6% lower than the FY14 projections due mainly to lower-than-expected power used in wastewater pumping and for secondary wastewater treatment (as a result of energy optimization measures in the secondary reactor process area). Power used for pumping was 15.0% lower-than-expected for the quarter as the 4 year average plant flow (used in power use projections) was 12.1% lower-than-expected.

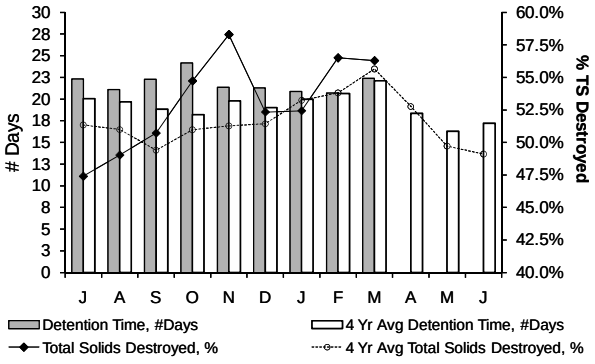
Total Energy Pricing

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



Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price in the 3rd Quarter (January only) was 49.6% higher than the FY14 budget estimate. Both February and March Total Energy Prices are not yet available as some of the invoices have not yet been received; the NSTAR and TransCanada invoices for both months are still pending as of reporting time. Year-to-date costs are $255,502 (4.4%) higher than budgeted through January (actuals only) as the Total Energy Unit Price through January is 11.7% higher than budget even though Total Power Purchased is 6.3% lower than budget. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

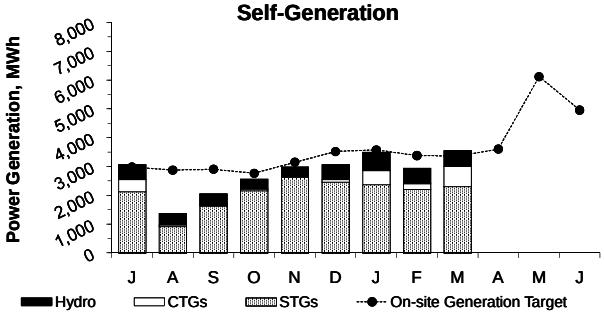
Sludge Detention Time in Digesters and Total Solids Destruction



Total solids (TS) destruction following anaerobic sludge digestion averaged 55.1% during the 3rd Quarter, 1.6% higher than the 4 year average, with an average sludge detention time in the digesters of 21.3 days, 2.0% higher than the 4 year average. An average of 8 digesters were in operation during the 3rd Quarter compared to the 4 year average of 7.2 digesters.

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

Self-Generation

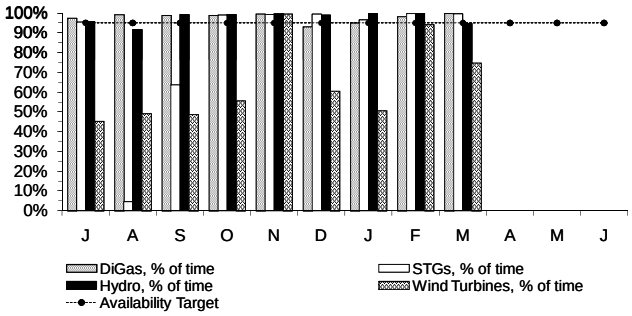


Power generated on-site during the 3rd Quarter was 3.4% higher than target as CTG generation was five (5) times higher-than-expected due to operation during three (3) storm events, in response to high spot market prices in January, and during Stack Emissions Testing in March. Generation by the Hydro Turbines was also 12% higher than the target for the quarter. Generation by the STGs was 11% lower than the target due partially to lower DiGas utilization caused by several equipment trips in January. Generation by the Wind Turbines was 15% lower than the target due mostly to mechanical issues with Wind Turbine #2, and generation by the Solar Panels was 11% lower-than-expected for the quarter due to significant snow cover on the panels in February.

Note: 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); a total of 145 MWh was generated by the Solar Panels and 545 MWh was generated by the Wind Turbines in the 3rd Quarter.

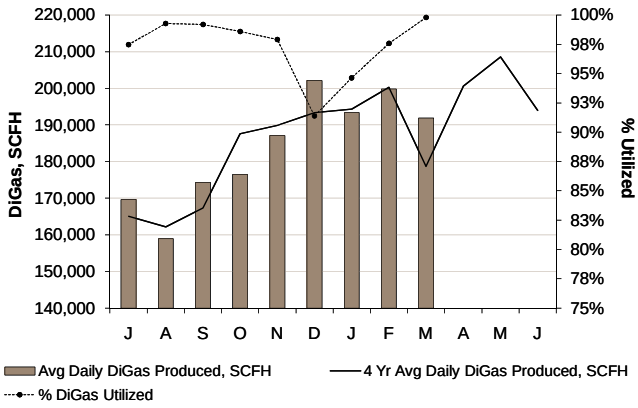
Self-Generation Equipment On-Line

(% of Time in Operation)

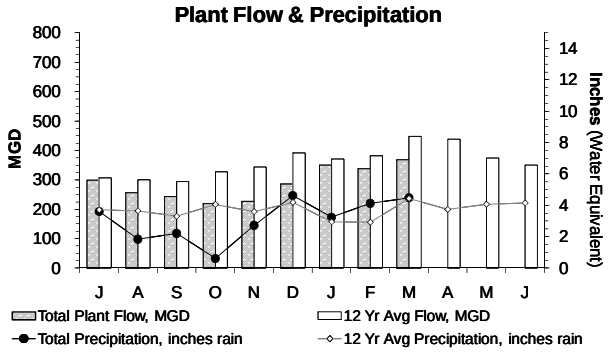


The DiGas, STGs, and Hydro Turbine systems all met or exceeded their 95% Availability Target for the 3rd Quarter. Wind Turbine availability averaged 73.2% for the quarter due to mechanical issues mostly with Wind Turbine #2.

Digester Gas Production and % Utilized

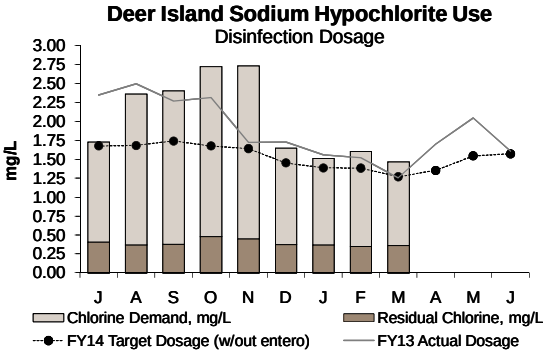


The Avg Daily DiGas Production in the 3rd Quarter was 2.0% higher than the 4 Year Avg Daily DiGas Production for the same period. 97.3% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant with a fiscal year high of 99.8% utilized in March.



Precipitation was 15% higher than expected for the quarter (11.85 inches actual vs. 10.31 inches expected).

The total plant flow for the quarter was 12.0% lower than the target total plant flow (352.1 actual vs. 399.9 MGD target) as much of the precipitation in January and February fell in the form of snow which had little impact on plant flow. Also, ambient temperatures remained fairly cold for much of the quarter so a large portion of the snow did not melt until March and therefore did not contribute significantly to the Total Plant Flow for the quarter.



The disinfection dosing rate in the 3rd Quarter was 13% higher than the target. DITP maintained an average disinfection chlorine residual of 0.36 mg/L this quarter with an average dosing rate of 1.53 mg/L (as chlorine demand was 1.17 mg/L). Dosing was and has been much higher-than-expected due to a higher chlorine demand as a result of stronger wastewater caused by the lengthy period of much lower-than-normal plant flows. However, actual sodium hypochlorite usage in pounds of chlorine was on target for the quarter following the high plant flows and lengthy secondary blending event caused by the major storm event at the end of March.

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	2	2	0	99.7%	6.63
A	1	1	0	99.6%	6.25
S	1	1	0	99.97%	0.96
O	0	0	0	100.0%	0.00
N	1	1	0	99.8%	3.73
D	1	1	0	99.5%	6.07
J	1	1	0	99.9%	3.56
F	2	2	0	99.96%	2.97
M	1	1	0	96.5%	52.05
A					
M					
J					
Total	10	10	0	99.3%	82.22

98.7% of all flows were treated at full secondary for the 3rd Quarter of FY14. There were a total of four (4) separate secondary blending events; all due to high plant flows resulting from heavy rain. The blending event in March was triggered by high plant flows resulting from a rain storm that dropped 3.64 inches of rain from March 29 through March 31. The duration of this single blending event was 52.02 hours.

The four (4) blending events combined produced a total of 58.58 hours of blending and 417.96 Mgal of flow blended with secondary effluent.

Secondary permit limits were met at all times during the 3rd Quarter of FY14.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

A record low in the 365-dry day flow of 261.2 MGD was set at the end of January as a result of the continuation of the low plant flow trend seen for much of the time since January 2012.

The plant achieved a maximum average hourly flow rate, during the quarter, of 1,175.4 MGD during mid-day on March 30, near the height of a three (3) day storm event that produced a total of 3.64 inches of rain in the Boston area. Pumping and treatment operations at DITP continued without incident through this storm, as well as throughout the entire quarter.

On January 17, the Winthrop Terminal Facility was shut down for under two hours to allow for welding repairs on the screen/bar rack in one of the channels. Field Operations held back wastewater flow at the Caruso Pump Station to temporarily suspend flows to the facility until the repair was completed. There were no negative impacts to operations as a result of this repair work.

Deer Island Operations & Maintenance Report (continued)

Odor Control Treatment:

Wet chemical scrubbers #1 in the East Odor Control (EOC), #2 in the Residuals Odor Control (ROC), and #3 in the West Odor Control (WOC) Facilities were acid washed in February to improve performance. Over time, buildup of chemical precipitate significantly reduces the effectiveness of a wet chemical scrubber unit. Improved odor treatment was achieved once the units were appropriately cleaned. These scrubber units treat the process airflows from the primary batteries and the residuals sludge treatment processes.

During Quarter 3, activated carbon media was changed out in carbon adsorber (CAD) units: #1 in the North Pumping Odor Control (NPOC); units #1, #2, and #3 in the EOC; and units #3 and #5 in the ROC Facilities as part of routine practice to replace spent carbon.

Energy and Thermal Power Plant:

Solar power generation accounted for 1.35% (145 MWh) of the total power generated on-site in the 3rd Quarter while Wind Turbine generation accounted for 5.11% (545 MWh) of the total power generated on-site in the 3rd Quarter. Wind Turbine power generation typically includes generation by the two wind turbines located in the South Parking Lot and intermittent generation during optimization and testing by the Ogin, Inc. (formerly FloDesign) wind turbine installed near the Hydro Power Plant.

Overall, total power generated on-site accounted for 29.1% of Deer Island's total power use for the 3rd Quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 25.2% of Deer Island's total electrical power use for the quarter.

March 26 marks the fourth (4th) year anniversary of the startup of the solar installations on the roof of the Maintenance/Warehouse building.

Wind Turbine #2 tripped offline on March 2 due to a yaw motor and worm gear failure. The turbine was returned to operation on March 14 after investigation and repair. Wind Turbine #1 was returned to operation on January 3 after a contactor that failed on the evening of December 31, 2013 was repaired.

The Ogin (formerly FloDesign) wind turbine was returned to operation in February after having been out of service intermittently for several months due to maintenance work and communications issues.

Combustion Turbine Generator (CTG) generation was five (5) times higher-than-expected for the quarter due to operation during three (3) storm events, in response to high spot market prices in January, and during Stack Emissions Testing in March, in addition to operation for routine maintenance/checkout purposes.

Scheduled maintenance and replacement of the Generator Rotor Ground Detector for CTG-2B was performed on February 10 to February 12. Formal notifications were made to the regulatory agencies (EPA and DEP) in advance of the maintenance work as the unit was unavailable for operation during this period of time. The scheduled work could have been postponed to a later time if the availability of both CTGs was needed as might be the case during severe weather conditions. CTG-1A was available for operation during the entire period and capable of handling the entire plant power load in the event of a NSTAR power loss.

Stack Emissions Testing was conducted on both CTGs as required by Deer Island's Title V Air Permit during the week of March 10. Complete emissions testing is required once every five (5) years and was last conducted in January 2009. Emissions testing was conducted on the exhaust stacks of both CTGs (one unit at a time) and also reestablishes parametric emissions curves for CTG operation at various operating loads to full load to allow for NOx emission rate reporting under the Federal NOx Budget Trading Program. In addition to the development of new emissions curves, the test program also collected measurements to demonstrate compliance with the emission limits as listed in the Title V Air Permit including particulates testing and smoke reader evaluations. As a precautionary measure, the CTG unit being tested was run in parallel with NSTAR during the testing.

Hydro Turbine #1 was offline for three (3) days in mid-March for investigation and repair of a faulty gate relay. The operation of Hydro Turbine #2 was more than adequate to effectively utilize all the plant flow during the Hydro Turbine #1 downtime.

Clinton AWWTP:

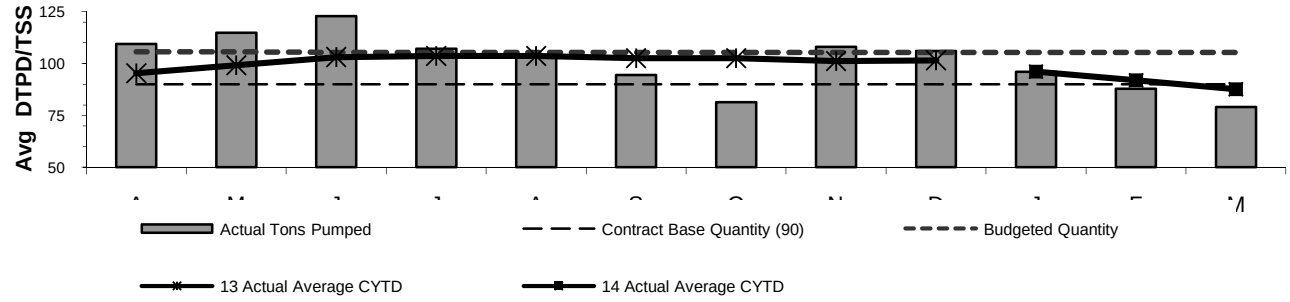
Bids were received for contract 7277a, rehabilitation of anaerobic digesters, primary clarifiers, and influent gates. The Contract was awarded to R.H. White Construction Co. in March. Fay, Spofford & Thorndike, has been selected to provide engineering services during construction. Clinton AWWTP, met all permit requirements for this quarter.

Deer Island Residuals

3rd Quarter - FY14

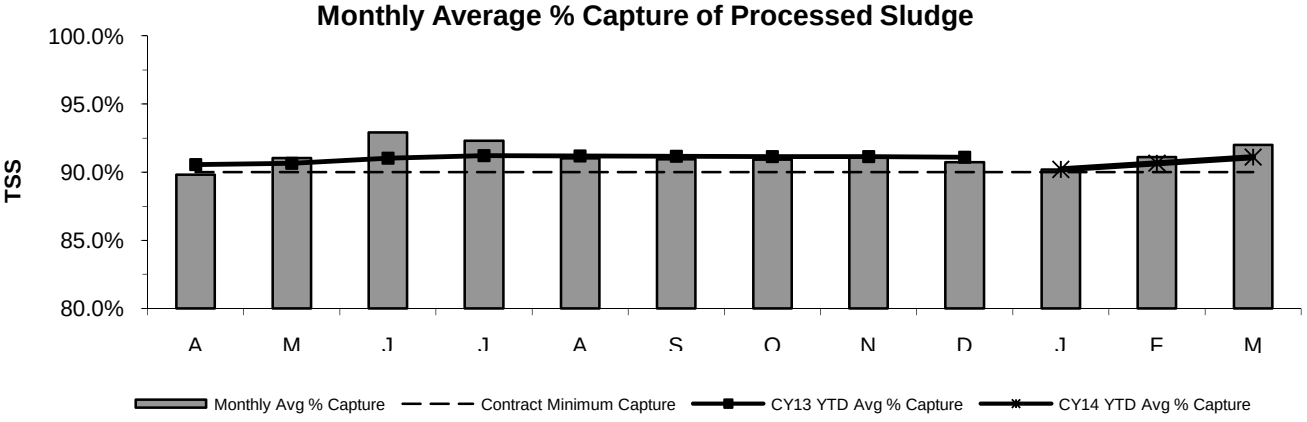
MWRA pays a fixed monthly amount for the calendar year to process up to 90 DTPD/TSS as an annual average. The monthly invoice is based on 90 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional 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 (FY14's budget is 105.4 DTPD/TSS).

Sludge Pumped From Deer Island



The average total quantity of sludge pumped in the 3rd Quarter was 87.6 DTPD - lower than FY14's budget of 105.4 DTPD. The lower amount is due to lower than expected sludge production at Deer Island, due in part to better solids distruction in the digesters.

Monthly Average % Capture of Processed Sludge



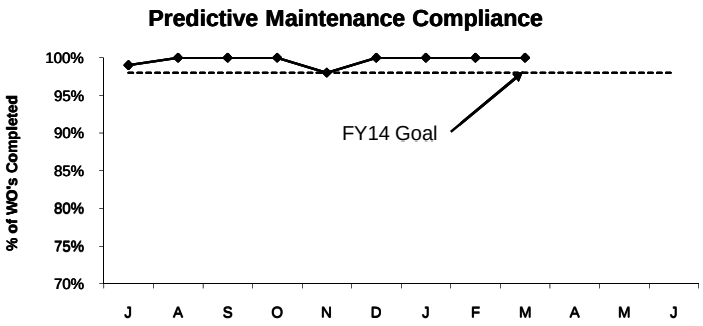
The contract requires NEFCo to capture at least 90% of the solids delivered to the Biosolids Processing Facility in Quincy. The CY14 average capture is 91.10%

Deer Island Maintenance

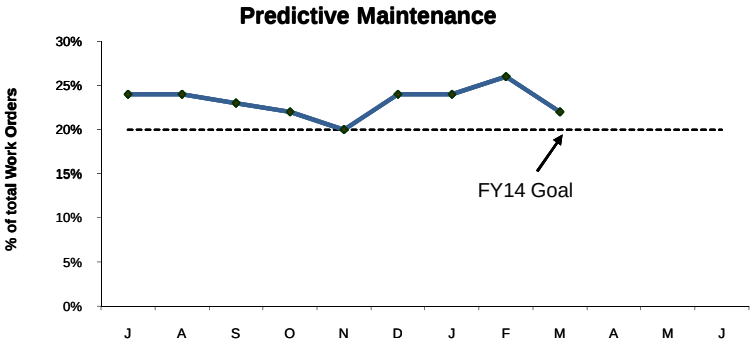
3rd Quarter FY 14

Productivity Initiatives

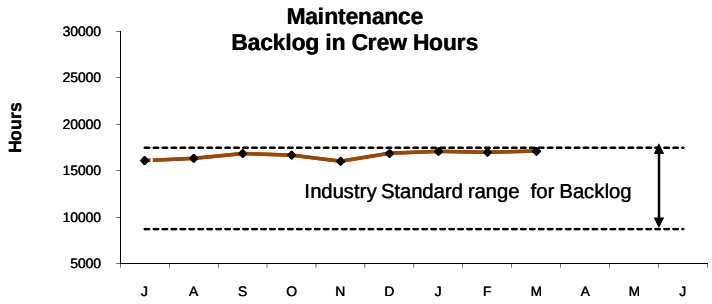
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.



Deer Island's FY14 predictive maintenance goal is 98%. DITP completed 100% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program.



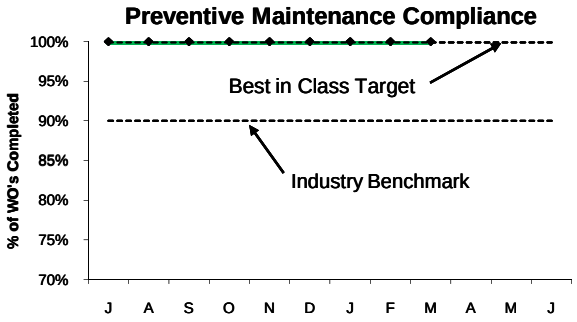
Deer Island's FY14 predictive maintenance goal is 20% of all work orders to be predictive. 24% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.



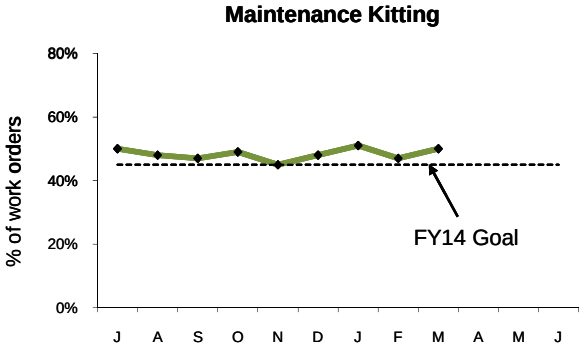
DITP's maintenance backlog at Deer Island is 17,063 hours this quarter. DITP is within, but at the upper end, of the industry average for backlog. The industry Standard for maintenance backlog with 98 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by two vacancies, a Plumber and a Mechanic, and one on medical leave, a B&G Worker. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

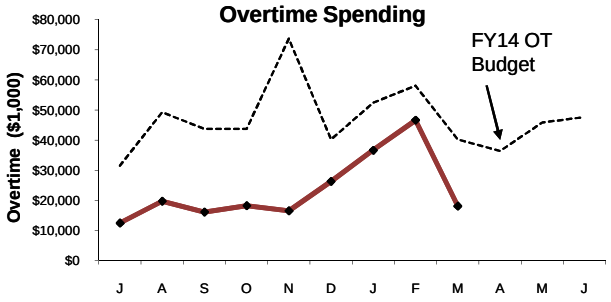
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.



Deer Island's FY14 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 100% of all PM work orders this quarter.



Deer Island's FY14 maintenance kitting goal is 45% of all work orders to be kitted. 49% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

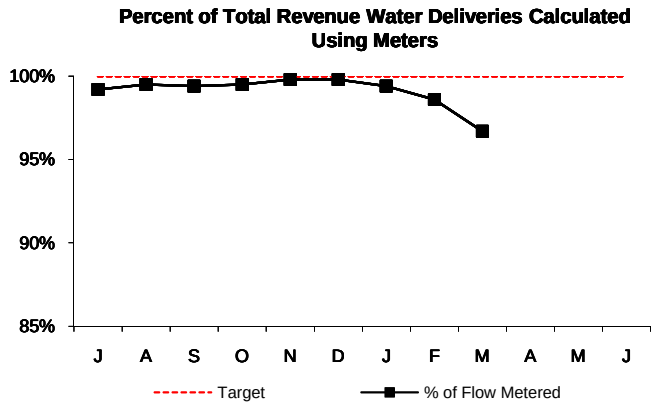


Maintenance overtime was under budget by $50K this quarter. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarters overtime was spent on multiple snow/wet weather events, repairing TPS #5, repacking bearings on RWW pump #8 in SMPS, preparing scum mixers for Tip Tube operation, Air Handling Units in West Odor Control, cleaning of Winthrop Terminal Facility Wet Well to investigate Pump suction issues, and preparing MOD 1 for start up in Spring 2014.

Operations Division Metering

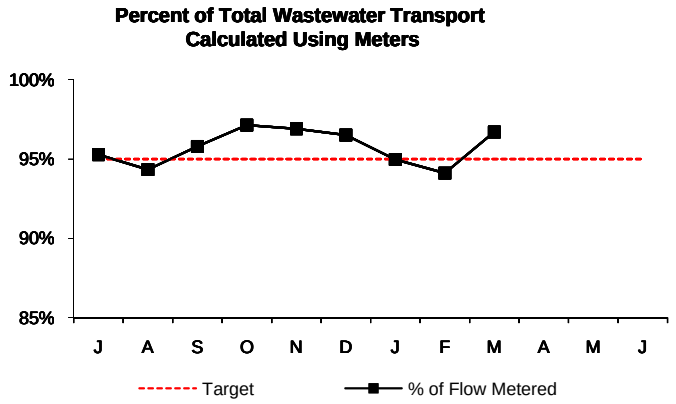
3rd Quarter - FY14

WATER METERS



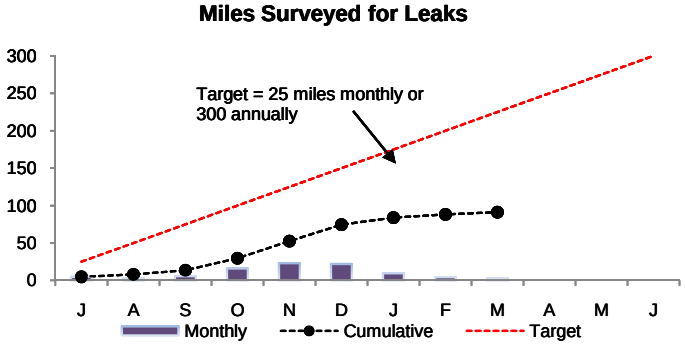
The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During the 3rd Quarter of FY14, meter actuals accounted for 98.2% of flow; only 1.8% of total revenue water deliveries were estimated. The following is the breakdown of estimations:
In-house and Capital Construction Projects - 0.0%

WASTEWATER METERS



The target for revenue wastewater transport calculated using meters is 95%. Estimates are generated for meters missing data due to instrument failure and/or erratic meter behavior. Estimates are produced using data from previous time periods under similar flow conditions. During the 3rd Quarter of FY14, meter actuals accounted for 94.3% of flow; 5.7% of wastewater transport was estimated.

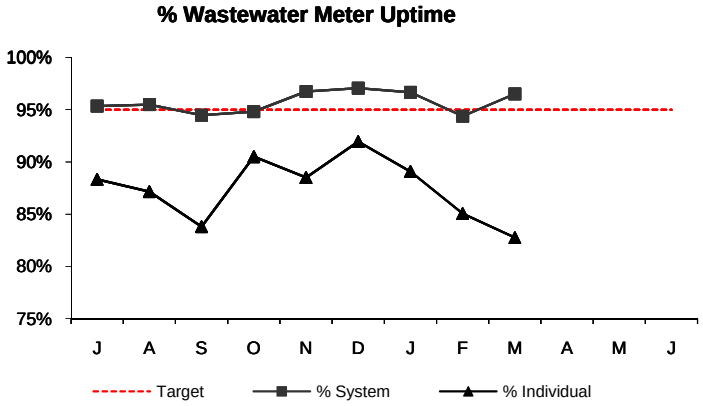
WATER DISTRIBUTION SYSTEM PIPELINES



During the 3rd Quarter of FY14 16.79 miles of water mains were inspected. The total mileage inspected for the fiscal year to date is 91.21. Miles inspected is less than target due in part to weather conditions. Additionally, staff were working on hydrant surveys for Revere and Swampscott which helped to identify leaks causing higher than normal water usage.

Water Distribution System

Month	J	A	S	O	N	D	J	F	M	A	M	J
Leaks Detected	2	1	0	8	5	6	3	1	3			
Leaks Repaired	0	1	2	5	4	5	4	4	2			
Backlog	2	2	0	3	4	5	4	1	2			
Avg. Lag Time	1.0	20.0	27.3	13.7	15.3	16.4	20.0	22.0	21.9			



During the 3rd Quarter of FY14,out of a possible 1,503,360 data points, only 61,523 points were missed resulting in a system-wide up time of 95.7%. Of the 174 revenue meters installed, on average 75 experienced down time greater than the 5% target resulting in a 85.7% individual meter uptime. Target not met due to a parts issue in February as well as the loss of three maintenance days in March for software system upgrade and staff training. For the 3d Quarter of FY14, down time for an individual meter is defined by any individual meter having less than 2,736 data points out of a potential 2,880 data points.

During the 3rd Quarter of FY14, seven (7) leaks were detected. Three leaks were detected in January, one In February and three in March. Of the seven leaks detected during the 3rd Quarter, all but one leak has been repaired. Additionally, Walnut Street, Saugus, originally detected on October 23,2013 remains unrepaired. The Walnut Street leak is a very small, non-surfacing leak. The repair is complicated by the street location and by difficulty of isolating the pipeline without service disruptions. Planning for a repair is on-going.

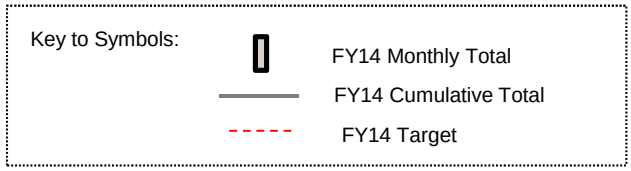
Water Distribution System Valves

3rd Quarter - FY14

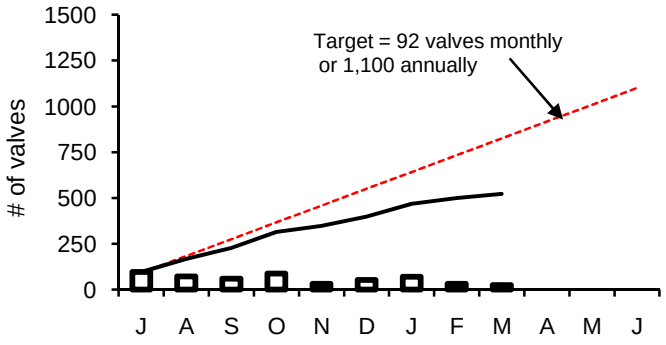
Background

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	
		FY14 to Date	FY14 Targets
Main Line Valves	2,092	97.9%	95%
Blow-Off Valves	1,206	95.6%	95%
Air Release Valves	1,335	93.3%	95%
Control Valves	48	100.0%	95%

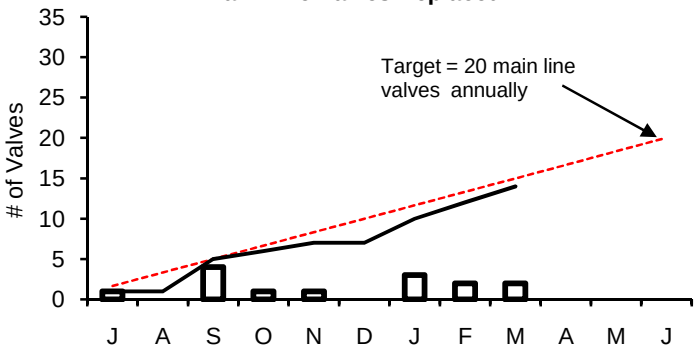


Main Line Valves Exercised



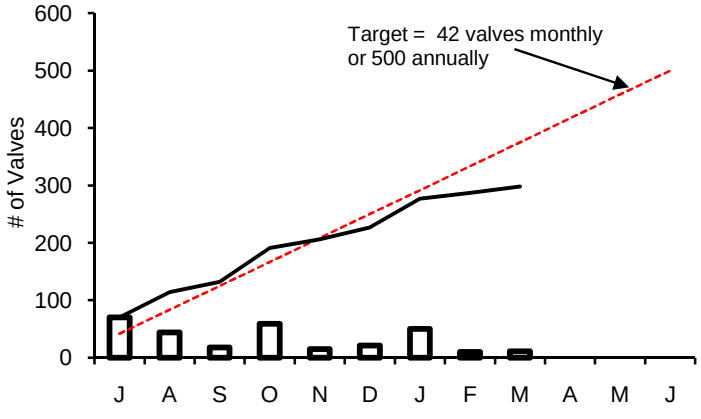
During the 3rd Q of FY14 staff exercised 124 main line valves.The total exercised for the fiscal year to date is 523.

Main Line Valves Replaced



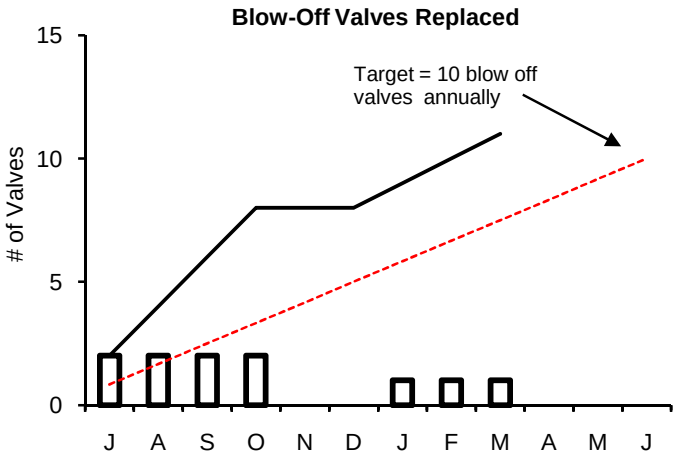
During the 3rd Q of FY14 staff replaced seven main line valves. The total replaced for the fiscal year to date is fourteen.

Blow-Off Valves Exercised



During the 3rd Q of FY14 staff exercised 71 blow-off valves. The total exercised for the fiscal year to date is 298.

Blow-Off Valves Replaced



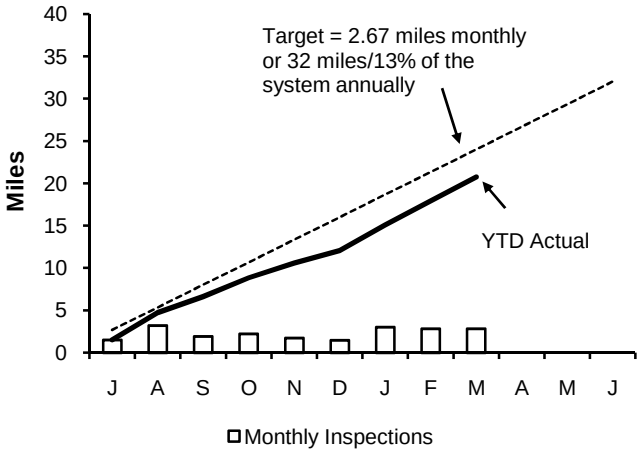
During the 3rd Q of FY14 staff replaced three blow-off valves. The total replaced for the fiscal year to date is eleven.

Wastewater Pipeline and Structure Inspections and Maintenance

3rd Quarter - FY14

Inspections

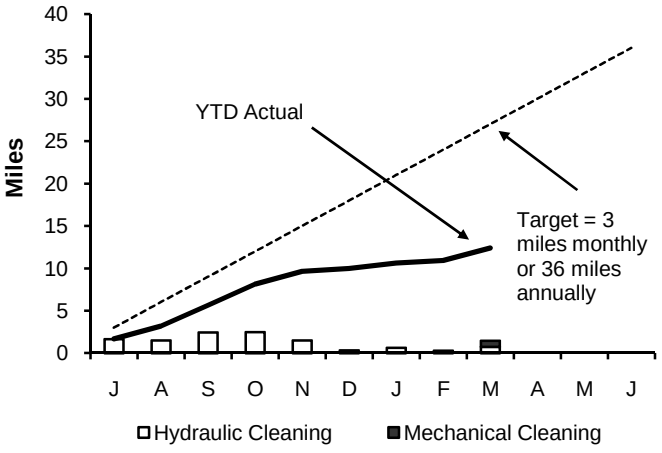
Pipeline Inspections



Staff internally inspected 8.69 miles of MWRA sewer pipeline during this quarter. The year to date total is 20.74 miles. No Community Assistance was provided this quarter.

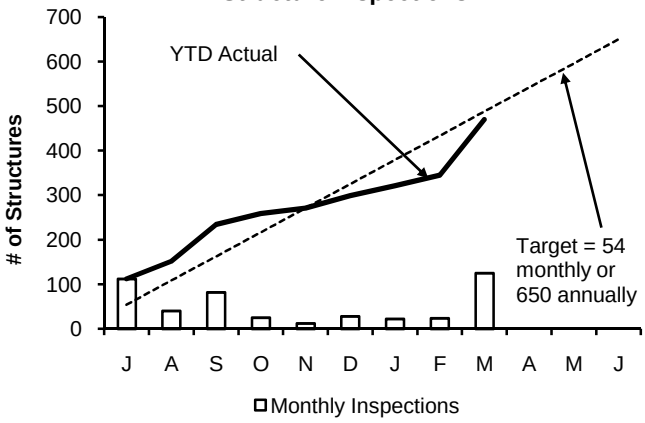
Maintenance

Pipeline Cleaning



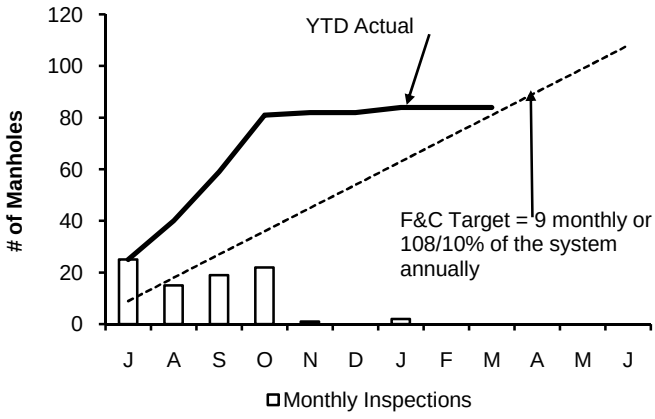
Staff cleaned 2.42 miles of MWRA's sewer system and removed 26 yards of grit and debris during this quarter. The year to date total is 12.40 miles. Community Assistance was provided to the city of Waltham.Staff utilized two 6" pumps to help alleviate flooding .

Structure Inspections



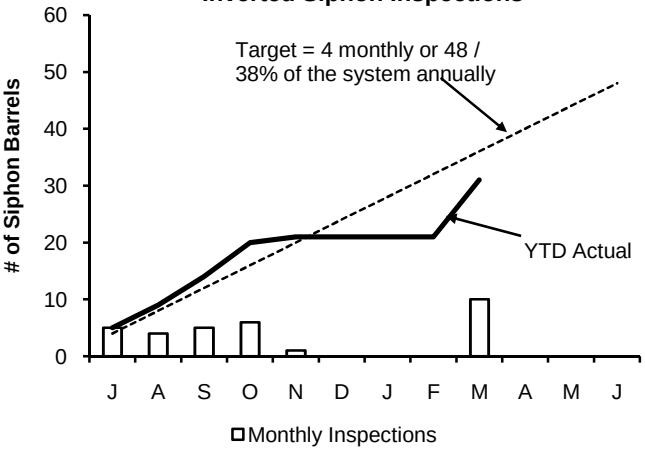
Staff inspected the 36 CSO structures and performed 135 additional manhole/structure inspections during this quarter. The year to date total is 470 inspections.

Manhole Rehabilitation



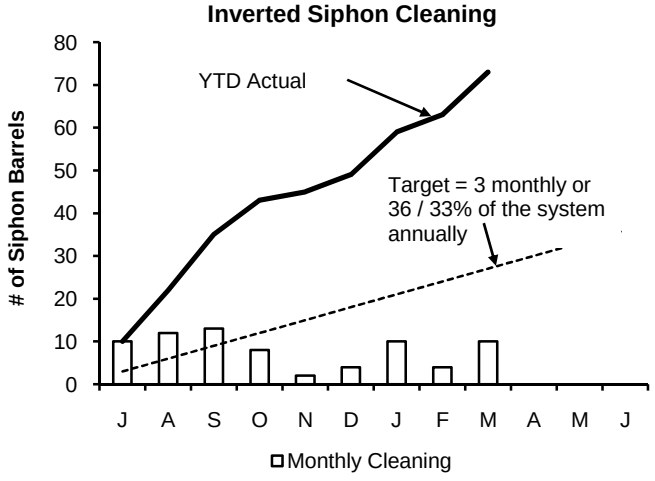
Staff replace 2 frames & covers during this quarter.The year to date total is 84.

Inverted Siphon Inspections



Staff inspected 10 siphon barrels during this quarter.Year to date total is 31 inspections.

Inverted Siphon Cleaning

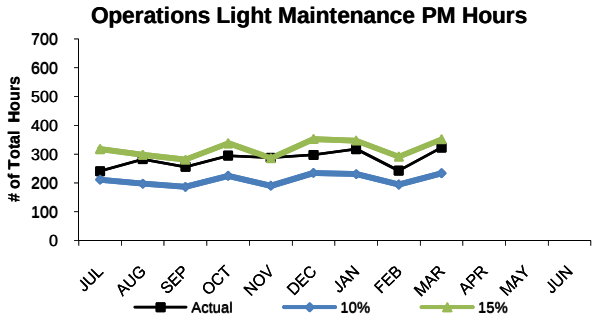


Staff cleaned 24 siphon barrels during this quarter.The year to date total is 73 barrels.

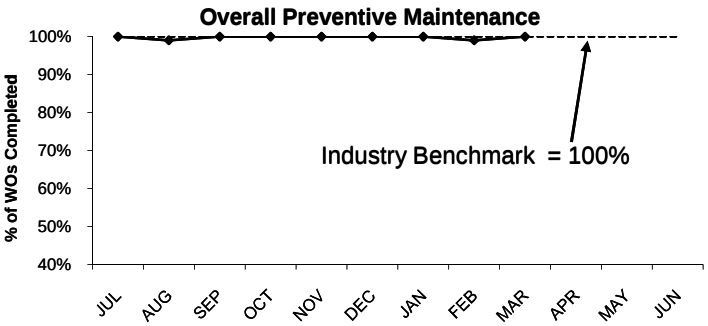
Field Operations' Metropolitan Equipment & Facility Maintenance

3rd Quarter, FY14

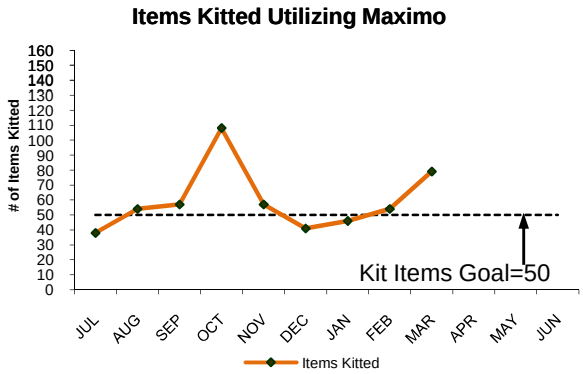
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



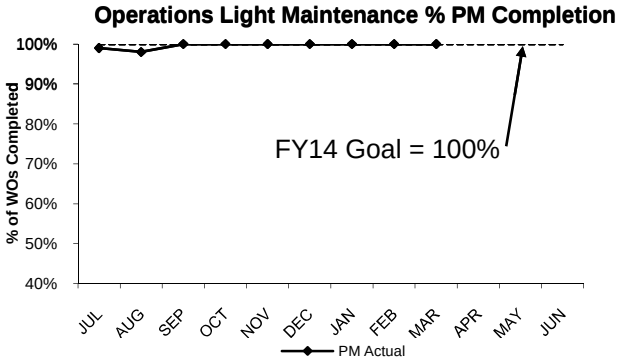
Operations staff averaged 295 hours of preventive maintenance during the 3nd Quarter, an average of 13% of the total PM *hours* for the 3rd Quarter, which is within the industry benchmark of 10% to 15%.



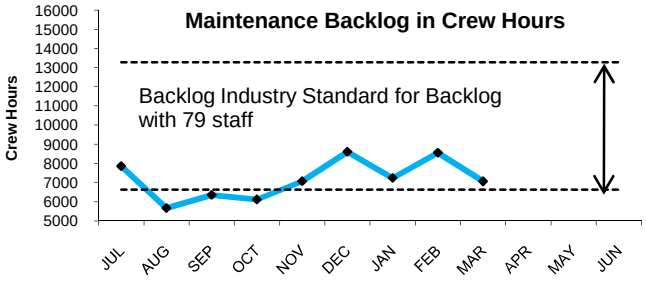
The Field Operations Department (FOD) preventive maintenance goal for FY14 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 3rd Quarter.



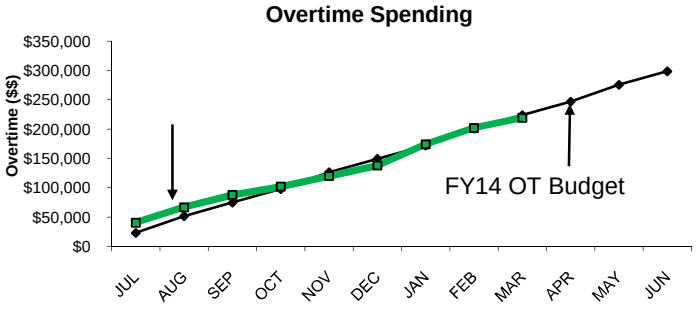
In an effort to more efficiently complete work, maintenance staff and work coordination staff have utilized the Lawson/Maximo interface to better kit stock and non stock material. The goal for FY14 is to "kit" 50 stock and non stock items total per month. An average of 60 items were kitted during the 3rd Quarter.



Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY14 PM goal is completion of 100% of all PM work orders assigned. Operations completed an average of 100% of PM work orders in the 3rd Quarter.



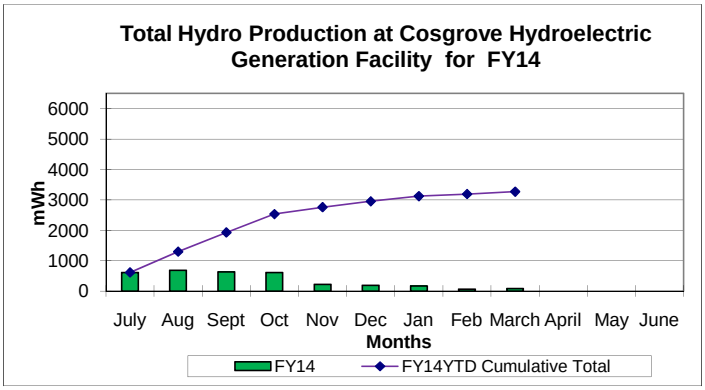
The 3rd Quarter backlog average is 7615 hours. Management's goal is to continue to control overtime and still stay within the industry benchmark of 6450 to 12,940 hours. There are currently three vacant positions Facility Specialist, Mechanic and Electrical Supervisor.

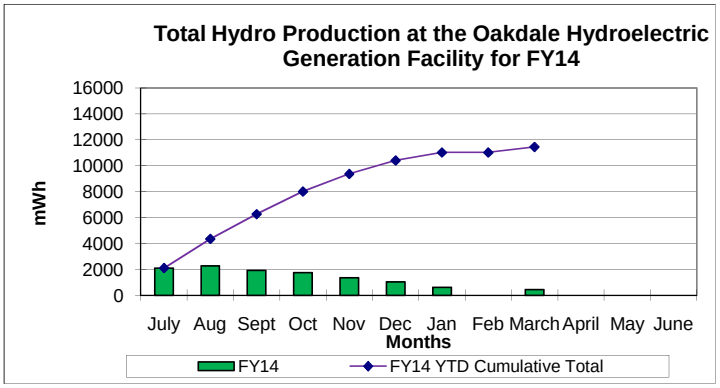


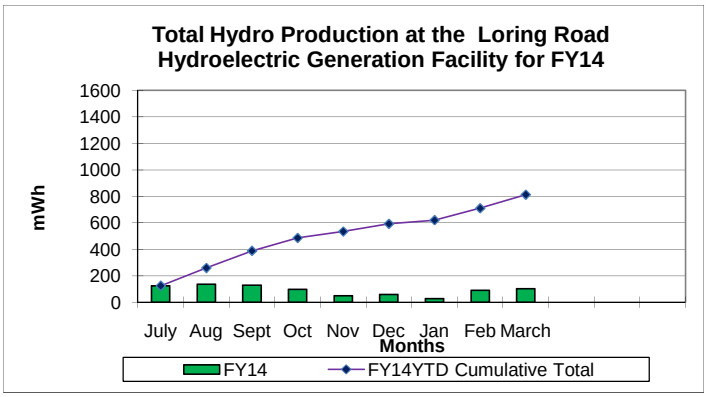
Maintenance overtime was $4k under budget for the 3rd Quarter. Overtime was used for emergency repairs and storm coverage.

Field Operations Hydroelectric Generation Quarterly Report

3rd Quarter - FY14







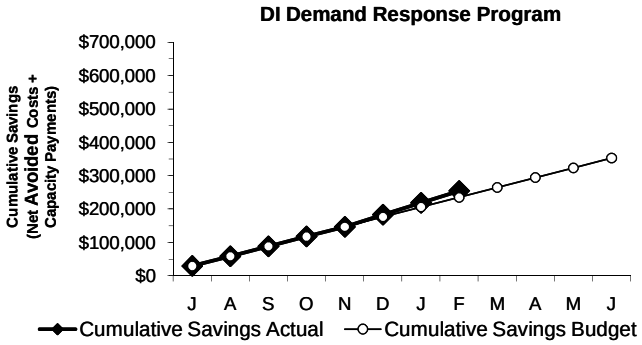
In the 3rd Quarter, the Cosgrove Hydroelectric Station generated a net of 320 MWh; approximately 17% less power than was generated during the same quarter in FY13. This is due to the longer CWTP half plant operation: during half plant, only part of the flow is passed through the turbines to reduce the chance of CWTP being shut down by turbine trips. The revenue generated at Cosgrove in the third quarter was $40,402, exclusive of Renewable Energy Certificates.

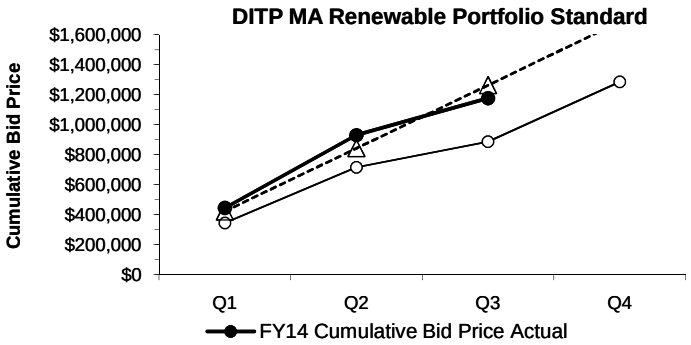
In the 3rd Quarter, the **Oakdale HydroelectricStation** generated a net of 1,056 MWh. The net revenue generated in the third quarter was $146,776. (Power is generated when water is transferred from Quabbin to Wachusett.)

In the 3rd Quarter, the **Loring Road** hydroelectric 200 kW station generated 221 MWh; approximately 13% less power than was generated during the same quarter in FY13, due to swichgear and PLC repairs. The net revenue generated in the third quarter was $8,281 (this only represents power sold to the grid, it does not reflect power used on site). 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 turbine.

Energy Audits and Implementation of Audit Recommendations at FOD Facilities: Technical energy audits of 24 facilities were performed in FY13. The focus of these energy audits were to identify specific lighting, HVAC, pumps, and motors, and insulation, among other measures that could be implemented at these facilities to save energy. Implementation of these audit recommendations began in the second quarter of FY14, and continue into the 3rd quarter. The installation of VFDs and an Energy Management System on the HVAC system at the Navy Yard and insulation of incoming water pipes at select water pump stations began in the 2nd quarter and continued through the second quarter. In addition,the internal paperwork for gas conversion at Brattle Court and Lexington St. pump stations was completed in the third quarter. Also a comprehensive energy audit of the Chelsea Maintenance Building was conducted during the 3rd quarter.

Demand Response Payments: The John Carroll Water Treatment Plant, Loring Road Hydro, and Chelsea Creek, Columbus Park, Nut Island, and Ward Street Headworks are all enrolled in the ISO's Demand Response Program. The total net capacity payments for the third quarter of FY14 was $12,780.





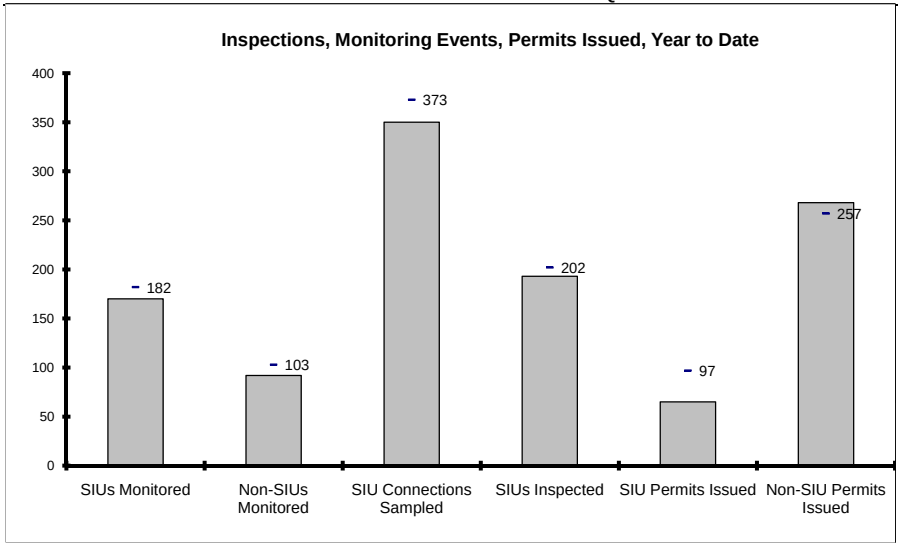
Deer Island participates in the ISO-New England Demand Response Programs. By agreeing to have its Combustion Turbine Generators available to run and thus relieve the New England energy grid of Deer Island's load during times of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the CTGs during an ISO-NE called event, MWRA receives energy payments from ISO-NE and also avoids the cost of purchasing electricity from the grid. "Net Avoided Cost" is the avoided electricity costs, 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 $254,581 through February.
Note: Only the actual payments received are now being reported.

In Q3 FY14, a total of 3,688 Class I Renewable Energy Certificates (RECs) for a total value of $220,257 and 107 Solar Renewable Energy Certificates (S-RECs) for a total value of $25,620 were sold from Deer Island's renewable energy assets.

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 FY14 budgeted cumulative bid estimate through the end of Q3 FY14 is $1,264,208 while the current actual bid total is $1,176,264.

Toxic Reduction and Control

3rd Quarter - FY 2014



EPA Required SIU Monitoring Events
for FY14: 182
YTD : **170**

Required Non-SIU Monitoring Events
for FY14: 103
YTD : **92**

SIU Connections to be Sampled
For FY14: 373
YTD: **350**

EPA Required SIU Inspections
for FY14: 202
YTD: **193**

SIU Permits due to Expire
In FY14: 97
YTD: **65**

Non-SIU Permits due to Expire
for FY14: 257
YTD: **268**

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 in the month. 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.

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.

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.

Number of Days to Issue a Permit

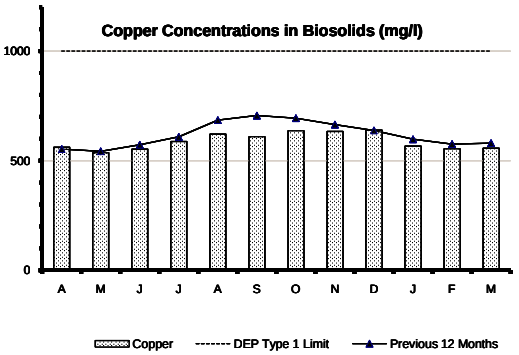
	0 to 120		121 to 180		181 or more		Total Permits Issued	
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU
Jul	7	13	0	0	0	1	7	14
Aug	1	94	1	1	0	1	2	96
Sep	12	13	1	3	0	0	13	16
Oct	5	9	0	4	0	2	5	15
Nov	12	10	0	0	1	0	13	10
Dec	7	26	5	3	0	1	12	30
Jan	3	45	1	1	0	1	4	47
Feb	2	9	1	2	0	1	3	12
Mar	4	21	1	5	1	2	6	28
Apr							0	0
May							0	0
Jun							0	0
% YTD	82%	90%	15%	7%	3%	3%	65	268

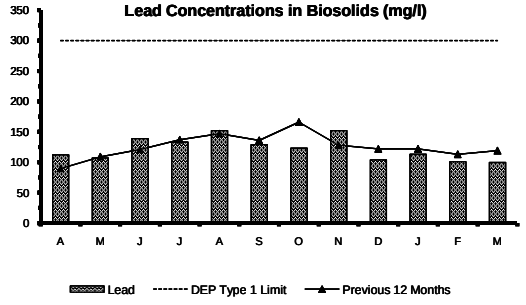
EPA requires MWRA to issue or renew 90% of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10% of SIU permits to be issued within 180 days.

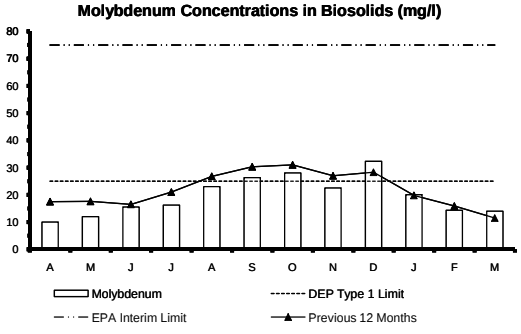
In the third quarter, one hundred permits were issued. Nine SIU permits and seventy-five non-SIU permits were issued within 120 days after receipt of their applications. Three SIU permits and eight non-SIU permits were issued more than 120 days but before 180 days after receipt of their applications, and one SIU and four non-SIU permits were issued after 180 days.
The delays in permit issuance continued, mainly due to consideration of unique permitting conditions, late payment of permit fees, and delays inherent in training the new staff.

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, although this is delayed due to biosolids processing time. 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, but increases this year indicate that additional regulatory options must be considered.

Throughout the third quarter, the level of molybdenum was below the DEP type 1 Limit. MWRA and its contractor (NEFCO) do not distribute product in Massachusetts between July and January under its approval of suitability.







Field Operations Highlights
3rd Quarter – FY14

Western Water Operations and Maintenance

CWTP: At the beginning of the quarter, Treatment Train "A" was returned to service and a few days later Treatment Train "B" was taken out of service for its winter maintenance, including cleaning of the primary contactors, cleaning of the storage tank, replacing the rupture disks, adjusting the flow control sluice gates and replacing or rebuilding check valves on the chemical systems. The treatment plant stayed in half-plant operation for the remainder of the quarter to allow the UV Contractor to repair leaks on the transition pipe between the influent channel and the UV inlet header. The Contractor was also repairing leaks on the 120- inch line that supplies the influent channel.

Chicopee Valley Aqueduct: Staff responded to a report of water surfacing in Ludlow, from a failed air valve. A portion of the CVA was shut down to allow isolation and replacement of the broken air valve. Wilbraham continued to be supplied from the Ware Disinfection Facility while Chicopee and South Hadley were fed from the Nash Hill Tanks. Staff from Chelsea deployed emergency pumps as a contingency. Staff also conducted trial shutdowns of the CVA at the Ware Disinfection Facility and supported the contractor at the Shea Avenue leak site.

Metro Water Operations & Maintenance

Water Pipeline Program: Snow removal dominated the early part of the quarter. Three blow off retrofits were completed during the quarter: one each on Section 13 in the Fells Reservation, Crafts Road in Brookline on Section 19 and on Section 80 in Newton. Leak repairs were completed on Section 57 in Chelsea on Everett Avenue on Section 22 on Adams Street in Dorchester, and on WASM 10 on Linden Street in Waltham. Leak Detection Staff successfully located a leak off of Second Street in Chelsea behind the Market Basket complex. The leak was repaired by the complex's contractor. Valves were replaced at the Lexington Street and Gillis Pump Stations.

Valve Program: A leaking blow off valve was repaired on Section 72 in Saugus on Route 1. Section 16 was isolated and dewatered in early January at the request of Revere as the first step in their repair of the broken sewer on Winthrop Avenue. The city's contractor did not mobilize in the field to begin excavation until early February. The contractor installed the bypass piping for our Section 16 water line. Once the bypass was in service (in early March), Section 69 was isolated and dewatered to enable the contractor to excavate down the 20 feet required to access the sewer. The overall work will continue into April. The drain valve to the Chestnut Hill Reservoir was closed during January, as the desired water surface elevation of the reservoir for the freezing of the invasive milfoil plant had been reached. Cambridge completed a new water main connection within their distribution system that will allow them to produce and consume more water from their water treatment plant during the ongoing CSO Project. Initially, the new connection has allowed the city's water production to increase to approximately 40 percent of their total daily water demand. During the course of the quarter, the flow balance has shifted such that Cambridge now supplies about 55% of their total demand. Work continues by the Cambridge CSO Contractor, and is projected to be completed in May.

Gillis Pump Station Alternate Supply Testing: On January 27, a test using the Northern Low Service (NLS) as the suction source supply for the Gillis Pump Station occurred. The risk of a potential pipe failure during the installation of the drain line for the Spot Pond Tank currently under construction was the primary reason for the test. The new drain line was being jacked under the existing 72" Section 99 Northern High Service water main that is the normal suction supply source to Gillis Pump Station. Prior coordination had taken place with the potentially affected communities. Several pump cycles occurred over the course of the test, but the Pressure Reducing Valve (PRV) at Shaft 9A did not maintain pressure as closely as required, and on the third cycle, the pump at Gillis tripped on low suction pressure. This caused an excessive pressure wave that caused several breaks in local water systems. The emergency action plan developed for the test identified several alternative sources of suction supply, one of which is the use of the Fells service area and covered storage facility and mobile pump Units. The potentially affected communities were briefed on the 24-hour test of that plan which occurred on February 20. The MPU was deployed behind Gillis Pump Station, connected to the piping, and filled, flushed, and disinfected. The test was successful, and the jacking operation was able to proceed on March 11 to 13. During the critical period when the jacking was under Section 99, the system was reconfigured such that the MPUs were pumping from the Fells service area to the NIH service area to replicate supply from the Gillis Pump Station. Section 99 was isolated as a precaution. The potentially affected communities had been contacted, and communications occurred throughout the operation. Service remained normal.

Operations Engineering

ERP Training Programs: Continued implementation with OEP staff of the Community Emergency Response Training Program as required by DEP. This training is provided by MWRA expert staff to local staff from the MWRA water communities and MWRA Staff.

Springfield Supply Test: On April 8th, MWRA and Springfield Water and Sewer Commission conducted a test using MWRA's mobile pumps on an emergency water connection to determine Springfield's capabilities to supply water to the MWRA CVA communities. The test went well and Springfield will be able to supply at least 6 MGD during off peak demand season.

Wastewater Operations & Maintenance

Wastewater OCC Operation Practice Drills: Wastewater Operations Staff worked with SCADA Staff to practice OCC operations from the Chelsea Radio Building and John Carroll Water Treatment Plant remote locations. This required staff to relocate to the specific back-up OCC site and assume SCADA control. Staff will continue this annual practice drill to ensure staff maintains familiarity with each remote site in case of a possible emergency.

Backup Control and Manual Pump Testing: Operations Staff worked with Process Control & Process Support (PC&PS) and SCADA Staff while performing local pump backup control operations and manual pump testing at wastewater pumping stations. This activity ensures consistent equipment operation in the field in the event OCC control capabilities are impeded and verifies the accuracy of present operating parameters programmed into the equipment. These tests will be performed on an annual basis and have been included in scheduled Maximo maintenance items.

Intermediate Pump Station (IPS)-Boiler Burner Replacement: Staff assisted the contractor during installation, startup and testing of a new dual fuel oil/gas burner installed on the existing boiler. . This modification is expected to save $135,000.00 in boiler fuel costs.

Weekly SCADA Alarm Meeting: Operations Staff met with Maintenance, Electrical, Process Control & Planning Support and SCADA Staff to review the top 20 weekly SCADA alarms. This allows all departments to verify specific top 20 alarm conditions and correct actual equipment alarm problems or address failed equipment items as indicated in the SCADA alarm system and monitored through the OCC. Reviewing these alarms also provides the opportunity to address possible variations in the alarms trended over the course of the time period and historically tracked.

Braintree/Weymouth and Houghs Neck Carbon Replacement: Staff has determined that the carbon in the carbon absorbers at these facilities is beginning to fail and should be replaced by early summer. A contract for the replacement of the carbon at these two facilities was drafted and submited to Purchasing in March 2014..

TRAC

Permitting–Municipal Permits: TRAC renewed Annual Municipal Permits to 35 of 45 Sewer User Communities in January, and to 44 of 45 by the end of the quarter.

Monitoring–Carroll Water Plant: TRAC Staff successfully conducted outdoor sampling at the Carroll Water Treatment Plant NPDES discharge in minus 10 degree F weather, using a variety of means to prevent samples and sampling equipment from freezing.

Metro Equipment and Facility Maintenance

A worn grinder at Squantum Pump Station was replaced. The worn grinder was set out for rebuild and will be the spare grinder once repaired. Staff rehabilitated Channel #3 at the Chelsea Headworks, including installation of new chain, shafts, sprockets and wear rails. Staff changed out thermostats at Gillis Pump Station. These thermostats allow for better temperature control when facility is unoccupied resulting in energy savings. The original dewatering pump for Channels 3 and 4 at Chelsea Headworks was replaced with new pump, motor, valves, intermediate shafting and piping. The original piping for the wet well wash down system at Cottage Farm had developed numerous leaks, and was difficult to maintain because of lack of access. The existing piping and nozzles were replaced and a permanent scaffolding system installed to allow easy access.

Environmental Quality

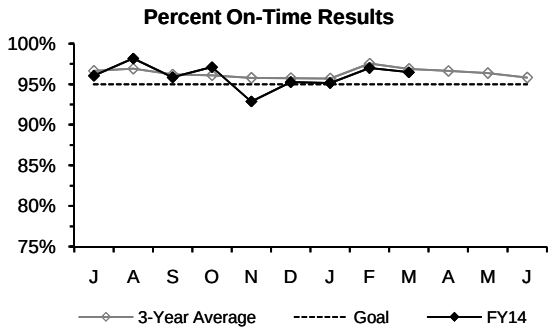
Online Water Quality Monitoring: All remaining monitoring sites are currently under development. Staff continue to review collected data for system characterization and to gain a better understanding of water quality conditions and hydraulic events. Consequence management procedures and protocols are under development.

Water Quality Reporting System: ENQUAL Water Staff, with MIS and Western Operations, have continued development of disinfection reporting calculators for the Ware Disinfection Facility and Carroll Water Treatment Plant using chlorine, ozone and UV.

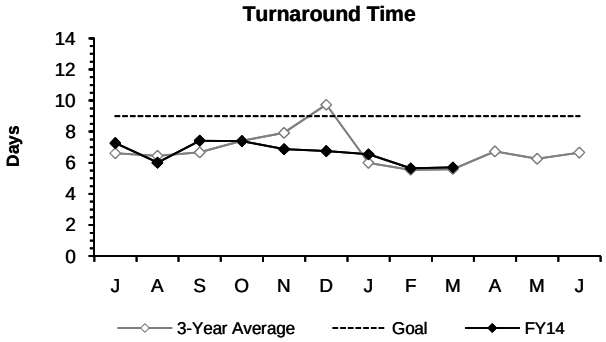
Molybdenum (Mo): Staff compiled molybdenum data in a team effort with TRAC and others to understand Mo trends in pellets.

Laboratory Services

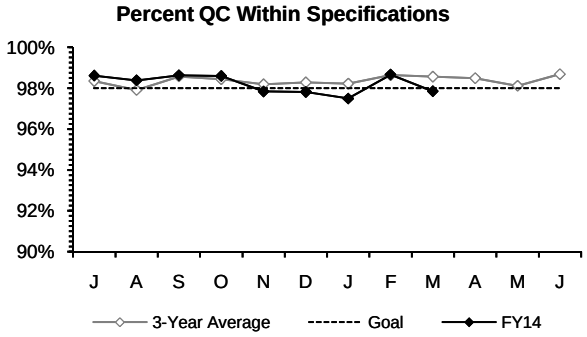
3rd Quarter - FY14



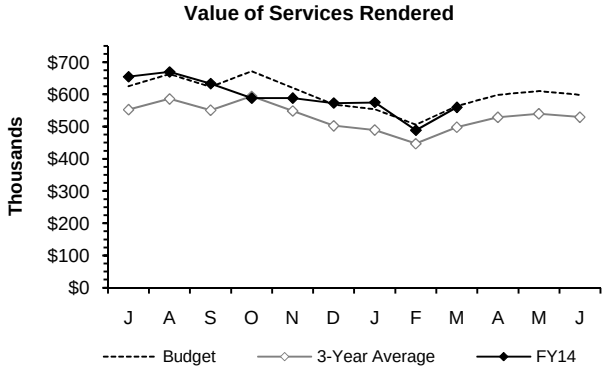
The Percent On-Time measurement was above the 95% goal each month of the quarter.



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



Percent of QC tests meeting specifications was slightly below the 98% in-house goal two months of the quarter.



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

Highlights: A manuscript was submitted for publication in Water Environmental Research: "Total Cyanide Field Spikes for Industrial Wastewater Samples Verify Successful Sample Integrity". The Lab Director was asked to chair a committee to revise the cyanide methods in the reference text "Standard Methods for the Examination of Water and Wastewater".
Quality Assurance: The DEP lab certification audit report for the Quabbin Lab had no significant adverse findings. Worked with Internal Audit on a management advisory on Lab QA/QC.
LIMS: Go Live for the new version of LIMS occurred over the weekend of March 15th and went very smoothly. Issues since Go Live have been minor and most have been addressed quickly by MIS.
ENQUAL Clean Water: Obtained EPA approval to change the regulatory method for Total PCBs on the DITP NPDES permit based on acceptable demonstration of performance. Participated in an EPA workshop on cyanobacteria and harmful algae blooms.
ENQUAL Drinking Water: The source of a low lab contamination of Haloacetic Acid affecting field and QC samples was identified and rectified. A bad batch of concentrated sulfuric acid was the cause. Samples were contracted out for a month to avoid compromising them. There was no regulatory impact. Tested lead complaint samples from residences in Winthrop and Somerville, and lead service line replacment samples from Newton.
TRAC: Continuing to work with an MWRA group examining wastewater sources of molybdenum.. Tested special grit samples from the Intermediate Pump Station. Participated in a work group to examine wastewater sources of molybdenum.
Wastewater Operations: Tested CSO wet-weather samples from a treatment evaluation special study.

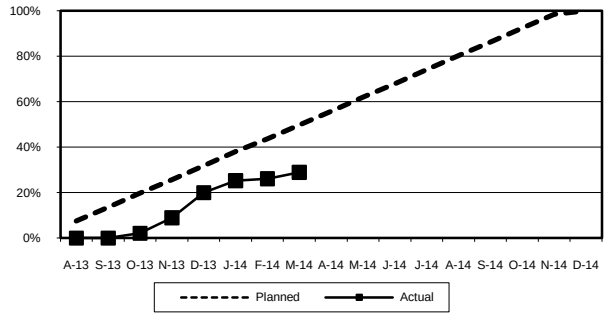
CONSTRUCTION PROGRAMS

Projects In Construction

Q3 FY14

(Progress Percentages based on Construction Expenditures)

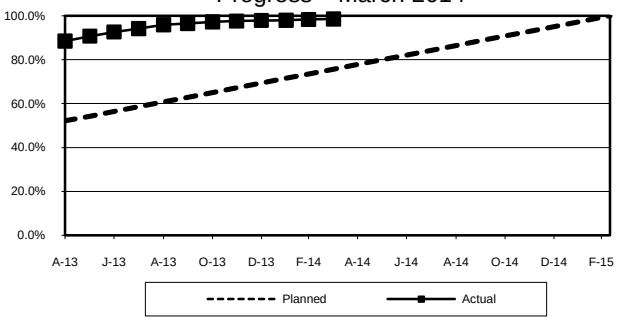
Nut Island Headworks Electrical and Conveyor Improvements Progress – March 2014



Project Summary: This project will replace the floor-slab-embedded electrical conduits in the bottom level of the headworks, as well as improvements to the grit and screenings conveyors.

Status and Issues: As of March the Contractor, J.F. White, completed the installation of the conduit for the A-2 Ductbank. They placed 70 cyd of concrete for the A-2 Ductbank from the electrical handhold to the roof penetrations R3/R4, after which they began backfilling the A-2 Ductbank.

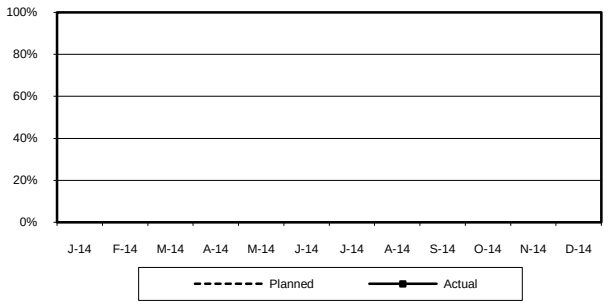
UV Disinfection Facilities CWTP Progress – March 2014



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: As of March the Contractor made repairs on the 120" influent concrete pipe by chipping out and removing loose grout from the joints, then repacking them with oakum over which hydraulic grout was applied to the surface of all 3 joints. They also made repairs to the 120" concrete transition piece and the sluice gate thimble inside the B-side UV room.

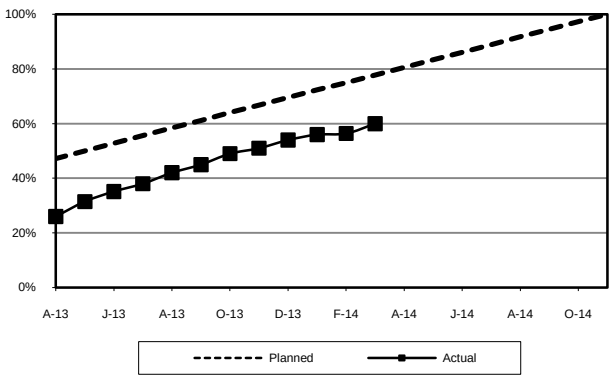
Clinton Digester and Primary Clarifier Rehab Progress - March 2014



Project Summary: This project involves the rehabilitation of the Plant's two digesters, as well as the replacement of the gas compressors, sludge collection equipment, isolation gates and repairs to the concrete.

Status and Issues: This contract was awarded at the March BOD meeting to R.H. White Construction and anticipate a May 2014 NTP.

Spot Pond Water Storage Facility Progress – March 2014



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.

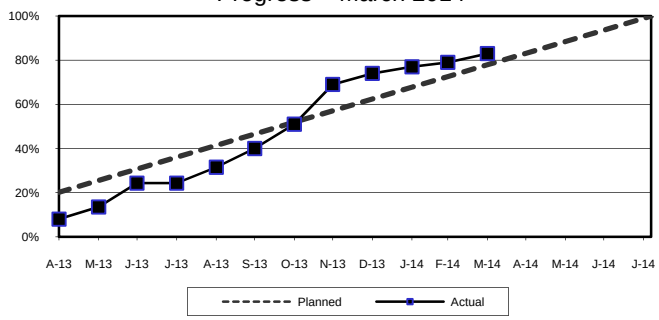
Status and Issues: As of March, the Contractor completed pipe jacking below Woodland Road and constructed the receiving pit on DCR property. They completed tree clearing and access road installation for the overflow pipe outlet to Spot Pond. In addition, they worked on concrete repairs to the Tank 1 walls common to the pump station.

Projects In Construction

Q3 - FY14

(Progress Percentages based on Construction Expenditures)

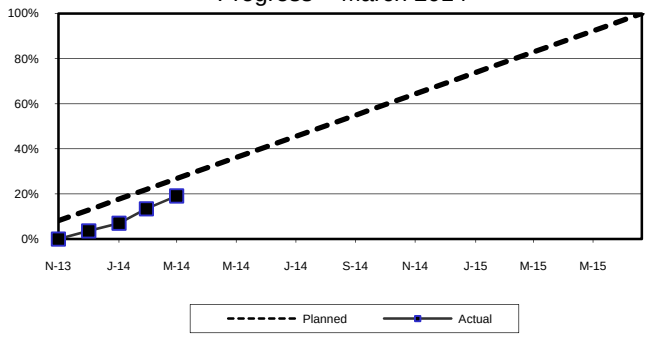
Quabbin UV Disinfection
Progress – March 2014



Project Summary: This project will improve the quality of the drinking water delivered to the CVA communities serviced by the MWRA. It involves the addition of UV disinfection at the Quabbin Disinfection Facility to meet the EPA's regulation for a second means of disinfection for unfiltered water systems.

Status and Issues: Through March, the Contractor installed conduit throughout the UV building and continued pulling wires to outlets and switches located throughout the building. They conducted pressure and leakage tests on the remaining ductile iron piping and switched building power from the existing supply to the new supply. In addition, A 48" MWRA valve needed for a shutdown to allow the UV facility to be connected to the CVA system was found to be inoperable. A change order for a line stop and bypass piping was approved in April.

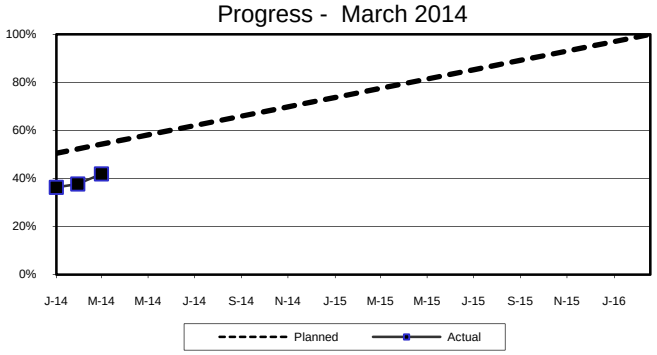
Pump, Gear Box and Diesel Engine Upgrade
Prison Point and Cottage Farm CSO Facilities
Progress - March 2014



Project Summary: This project involves the rebuilding of pumps right angle gear drives and engines as well as the installation of diesel oxidation catalysts at the Prison Point and Cottage Farm CSO facilities.

Status and Issues: As of March, the electrical sub-contractor completed pulling electric and SCADA wires to connect DOCs at both Prison Point and Cottage Farm. The insulation contractor completed the installation of 4-inches of insulation and stainless steel covering on exhaust piping at both facilities.

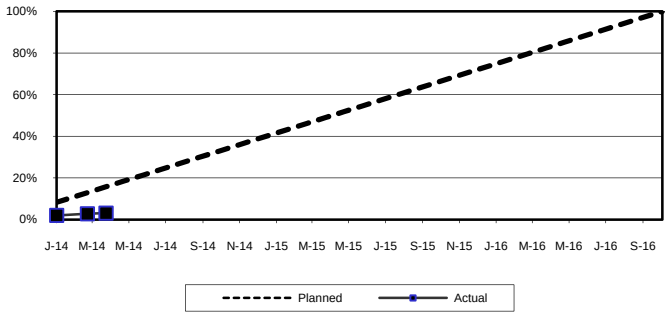
North Main Pump Station VFDs & Motors
Progress - March 2014



Project Summary: This project involves the replacement of the existing 3500 HP variable frequency drives and synchronous motors for the RWW pumps at the North Main Pump Station.

Status and Issues: The Contractor, J.F. White, has completed the installation of VFD/motor No. 7. The Contractor is presently in the process of installing VFD/Motor No. 6.

Primary and Secondary Clarifier Scum Tip Tubes
Progress - March 2014



Project Summary: This project involves the replacement of the existing carbon steel tip tubes with 316 stainless steel in 48 primary and 54 secondary clarifiers to improve reliability and increase longevity.

Status and Issues: The Contractor, Walsh Construction, has provided submittals on major equipment (tip tube and control panels) for review by the Authority. Staff anticipate that the Contractor will commence work activity in mid May 2014.

CSO CONTROL PROGRAM

3rd Quarter - FY14

MWRA and the CSO communities have completed 32 of the 35 projects in the Long-Term CSO Control Plan, including the Interceptor Connection Relief and Floatables Control at Outfall SOM01A project, which MWRA completed in December 2013 ahead of the June 2014 milestone in Schedule Seven. Two CSO projects are in construction: Reserved Channel Sewer Separation by BWSC and CAM004 Sewer Separation by the City of Cambridge. MWRA recently completed 100% design of the last project, Automated Gate and Floatables Control at Outfall MWR003 and Rindge Avenue Siphon Relief, and plans to issue notice to proceed with construction in August 2014. The following table reports on the progress of the three CSO projects not yet complete, as well as BWSC's continuing inflow removal work associated with the completed South Dorchester Bay Sewer Separation project.

Project		Court Milestones in Schedule Seven (Shaded milestones are complete.)			Status as of March 31, 2014
		Commence Design	Commence Construction	Complete Construction	
Reserved Channel Sewer Separation		Jul 06	May 09	Dec 15	BWSC continues to make progress with the nine planned contracts for the Reserved Channel Sewer Separation project. Contract 1 — CSO outfall rehab — $ 4.2 M — Complete Contract 2 — Sewer separation — $ 5.9 M — Complete Contract 3A — Sewer separation — $11.2 M — Complete Contract 3B — Sewer separation — $ 9.6 M — 90% complete Contract 4 — Sewer separation — $ 7.4 M — 75% complete Contract 7 — Pavement restoration — $ 1.1 M — Complete Contract 8 — Pavement restoration — $ 5.4 M — 35% complete BWSC awarded Contract 5 (sewer cleaning and lining – not MWRA-eligible) on February 24, 2014 and Contract 6 (downspout disconnections) on January 29, 2014. BWSC plans to complete all work for the Reserved Channel sewer separation project by December 2015, in compliance with Schedule Seven. BWSC recently submitted updated cost-to-complete estimates for the Reserved Channel contracts with a request to increase the CSO MOU/FAA total award amount by approximately $3.1 million, from $289.5 million to $292.6 million.
Cambridge/ Alewife Brook Sewer Separation	CAM004 Sewer Separation	Jan 97	Jul 98 Sep 12	Dec 15	Cambridge completed four initial construction contracts for this project more than a decade ago and is presently managing construction under three additional sewer separation contracts (contracts 8A, 8B and 9) to complete the project. Contract 8A — Sewer separation — $10.1M — 70% complete Contract 8B — Sewer separation — $16.3M — 10% complete Contract 9 — Sewer separation — $ 5.7M — NTP Issued Cambridge issued the notice to proceed for Contract 9 on February 11, 2014. Cambridge signed the right of entry permit for work in Concord Lane (private way) for the initial survey and building inspections which began in March. Cambridge continues to work with the property owner for right of entry to conduct geotechnical borings, groundwater wells and environmental testing. Cambridge plans to complete all work for the CAM004 sewer separation project by December 2015, in compliance with Schedule Seven.
	MWR003 Gate and Rindge Ave. Siphon Relief	Apr 12	Aug 14	Oct 15	The design consultant is responding to MWRA comments on the 100% design. A hearing before the Cambridge Conservation Commission for a Wetlands Order of Conditions is scheduled for April 28. MWRA filed an application for a DCR construction permit and license and is drafting a license agreement for access across a small private parcel. MWRA plans to advertise the contract later this spring and issue the notice to proceed with construction by August 2014, in compliance with Schedule Seven.

CSO CONTROL PROGRAM (cont.)

Other CSO Related Work				
Project	**Court Milestones in Schedule Seven (Shaded milestones are complete.)**			**Status as of March 31, 2014**
	Commence Design	**Commence Construction**	**Complete Construction**	
South Dorchester Bay Sewer Separation Post-Construction Inflow Removal	N/A	N/A	N/A	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 project in 2007. Final draft report with recommendations will be available in the Summer of 2014. BWSC continues with a construction contract to remove some of the remaining inflow sources from its sewer system. The contract amount is $562,261, of which $204,000 is eligible for MWRA funding under the BWSC CSO MOU and FAA. MWRA's FY14 CIP includes a total of $5.6 million for the inflow removal effort, of which approximately $2.6 million is allocated to awarded design and construction contracts.

CIP Expenditures
Q3 – FY14

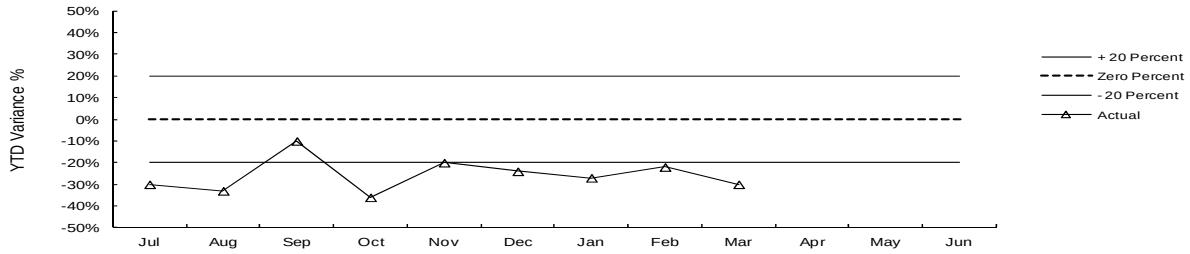
The Year-To-Date variances are highlighted below:

FY14 Capital Improvement Program Expenditure Variances through March by Program ($000)				
Program	FY14 Budget Through March	FY14 Actual Through March	Variance Amount	Variance Percent
Wastewater	53,607	33,071	(20,536)	-38%
Waterworks	41,299	32,670	(8,629)	-21%
Business and Operations Support	4,994	3,726	(1,268)	-25%
Total	$99,900	$69,467	($30,433)	-30%

Underspending within Wastewater is primarily due to timing of anticipated expenditures for contracts 8B and 9 for the Cambridge Sewer Separation project, delays for the North Main Pump Station Variable Frequency Drives Construction and Scum Skimmer Replacement, timing of expenditures for the Reserved Channel Construction 8 and South Dorchester Sewer Separation contracts, award was less than budget for the Nut Island Electrical Grit & Screening Conveyance Construction, schedule change for North Main Pump Station Butterfly Valve Replacement, and timing of equipment delivery for the Centrifuge Back-drive Replacement construction. This was partially offset by greater than anticipated community requests for grants and loans for the Infiltration/Inflow (I/I) Program and work anticipated in FY13 but completed in FY14 for the Digester Modules 1 & 2 Pipe Replacement contract. Underspending in Waterworks is primarily due to site issues and delay in equipment delivery for the Spot Pond Storage Facility Design/Build contract, lower than budgeted award for WASM 3 Design Construction Administration/Resident Inspection, schedule change for Carroll Treatment Plant Existing Facility Modifications CP-7, timing of Watershed Land purchases, timing of delivery of electrical equipment and lower award for Gillis Pump Station Improvements, timing of work for the Watertown Section Rehabilitation, and delay in tie-in of new facility to the existing Chicopee Valley Aqueduct for the Quabbin Ultraviolet Disinfection construction. This was partially offset by community requests for loans being greater than anticipated, under the Local Water Sstem Assistance Program.

CIP Expenditure Variance

Total FY14 CIP Budget of $142,461,000.



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 3/29/2014	$58 million
Unused capacity under the debt cap:	$732 million
Estimated date for exhausting construction fund without new borrowing:	May-14
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper outstanding: Commercial paper capacity:	$144 million $350 million
Budgeted FY14 capital spending*:	$125 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

3rd Quarter – FY14

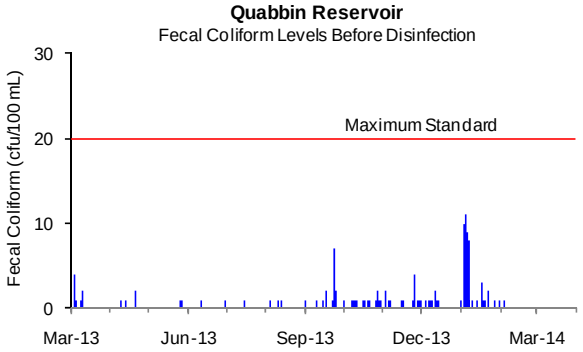
Source Water – Microbial Results

Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal 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 3rd Quarter were below 20 cfu/100ml. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL.**

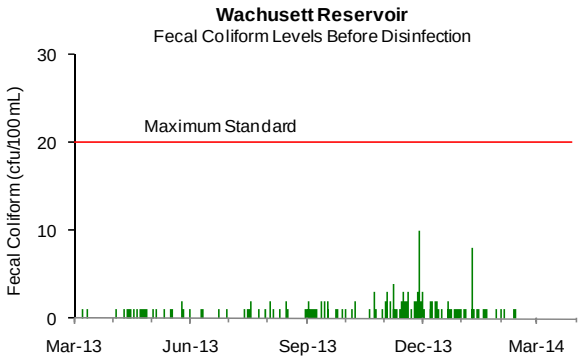


Sample Site: Wachusett Reservoir

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

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

All samples collected during the 3rd Quarter were below 20 cfu/100mL. **For the current six-month period, 0% of the samples exceeded a count of 20 cfu/100mL.**

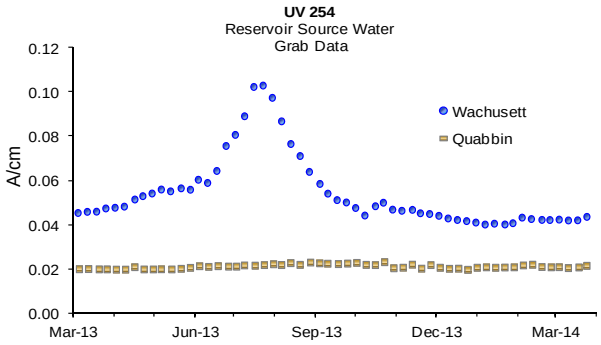


Source Water – UV Absorbance

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

Quabbin Reservoir UV-254 levels are currently around 0.021 A/cm.

Wachusett Reservoir UV-254 levels are currently around 0.042 A/cm.



Source Water – Turbidity

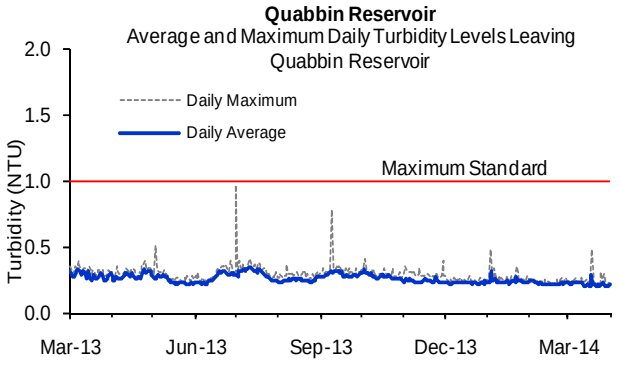
3rd Quarter – FY14

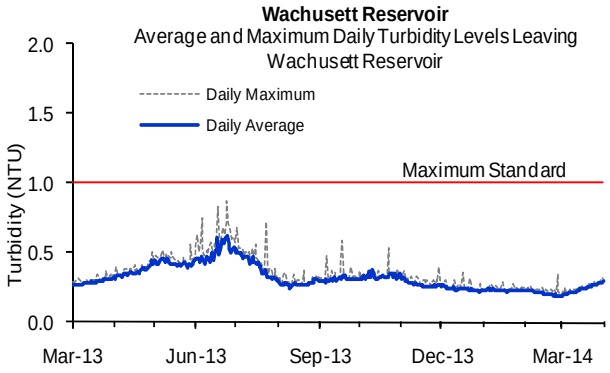
Turbidity is a measure of suspended and colloidal particles including clay, silt, organic and inorganic matter, algae and microorganisms. The effects of turbidity depend on the nature of the matter that causes the turbidity. High levels of particulate matter may have a higher disinfectant demand or may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

There are two standards for turbidity: all water must be below 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

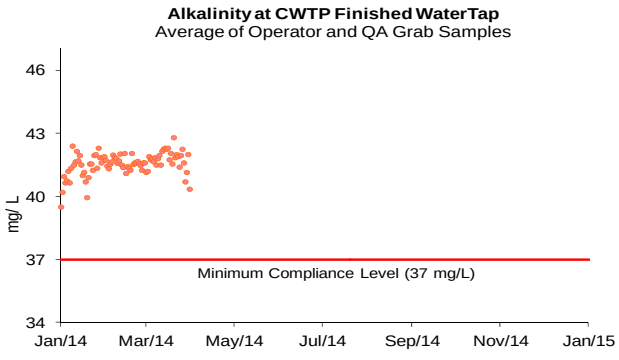


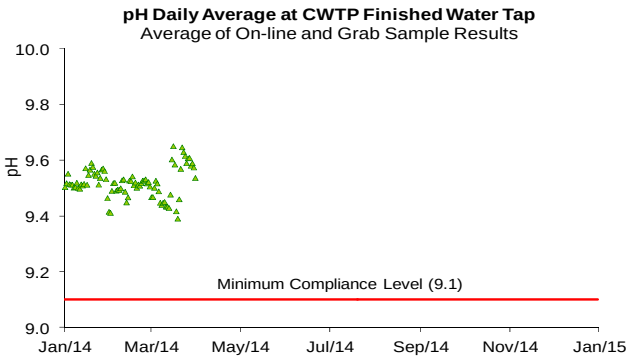


Treated Water – pH and Alkalinity Compliance

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 March 12 and 13, 2014. Distribution system sample pH ranged from 9.4 to 9.7 and alkalinity ranged from 42 to 43 mg/L. No sample results were below DEP limits for this quarter.





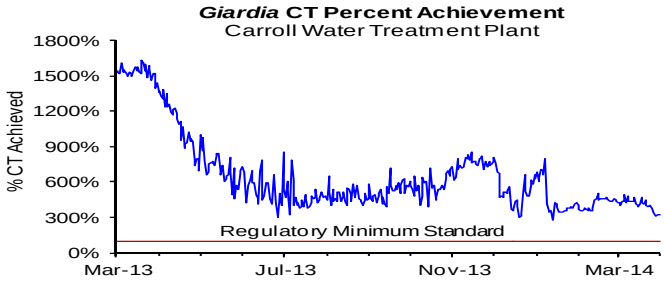
Treated Water – Disinfection Effectiveness

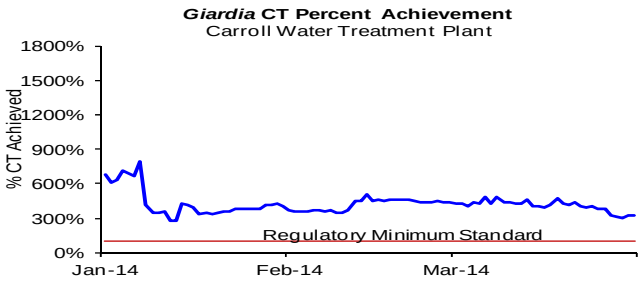
3rd Quarter – FY14

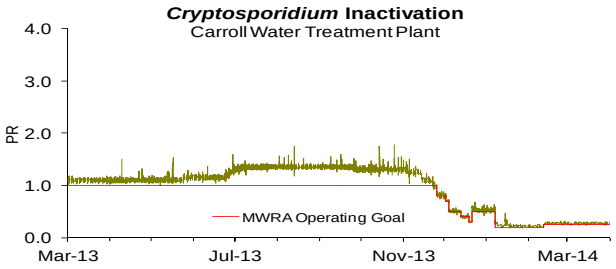
At the Carroll Water Treatment Plant (CWTP), MWRA reports on both regulatory required 99.9% inactivation for *Giardia* (reported as "CT"), and its voluntary operating goal of 99% inactivation for *Cryptosporidium*. MWRA calculates hourly CT inactivation rates and reports daily CT inactivation rates at 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.

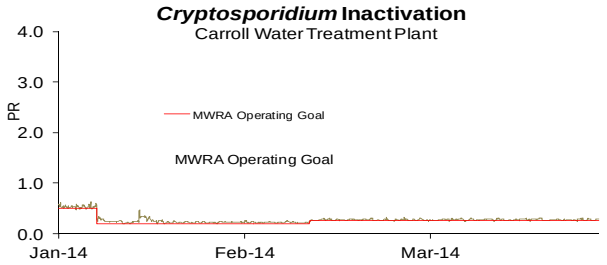
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- Ozone dose at the CWTP varied between 1.5 to 2.4 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- MWRA is not able to fully meet the voluntary *Cryptosporidium* inactivation target during the winter months due to the UV construction eliminating the extended ozone contactors. MWRA, with DEP approval, has lowered the voluntary *Cryptosporidium* target. The minimum *Cryptosporidium* inactivation achieved by ozone for the quarter was 60%.
- The UV system was operating in extended testing mode through the end of March and is achieving over 99% inactivation of *Cryptosporidium* for over 95% of the water. The UV facility officially went on-line for regulatory compliance on April 1, 2014.



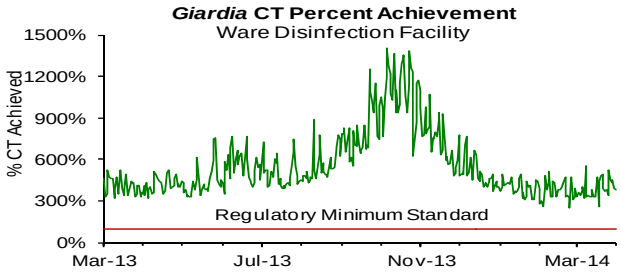


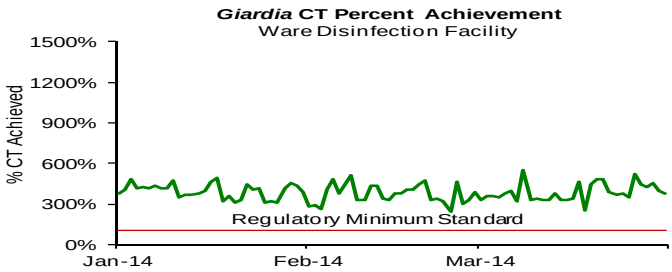




Quabbin Reservoir at Ware Disinfection Facility (CVA Supply):

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 seasonal target of ≥0.75 mg/L (November 01 – May 31) and ≥1.0 mg/L (June 1– October 31) at Ludlow Monitoring Station. The chlorine dose at WDF varied between 1.3 to 1.5 mg/L for the quarter.





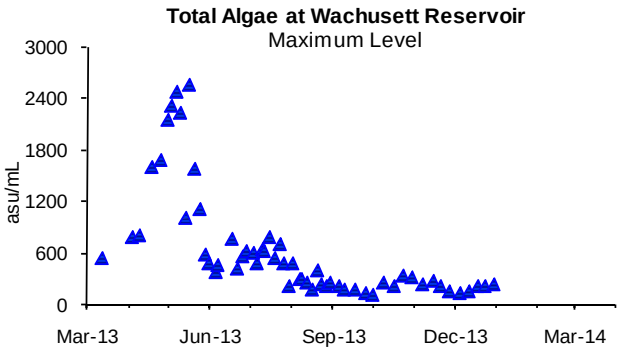
Source Water - Algae

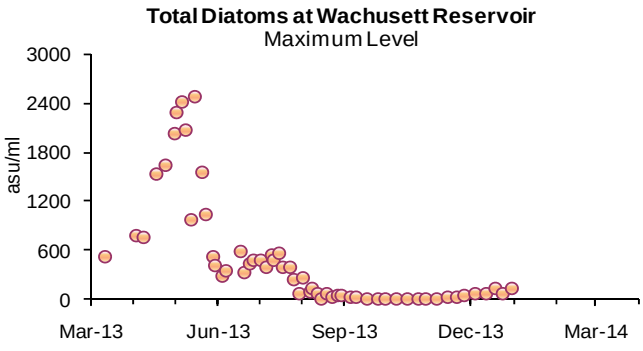
3rd Quarter – FY14

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 algaecide. During the winter and spring, diatom numbers may increase. While not a taste and odor concern, consumers that use filters may notice a more frequent need to change their filters.

In the 3rd Quarter, there were no complaints which may be related to algae reported from local water departments. There have been no samples collected since December 30, 2013 as significant ice cover on the reservoir prevents safe algae sampling.





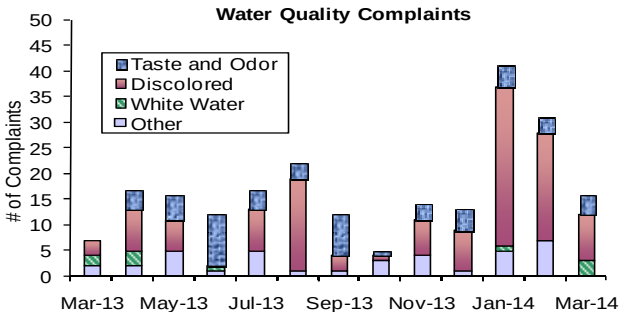
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

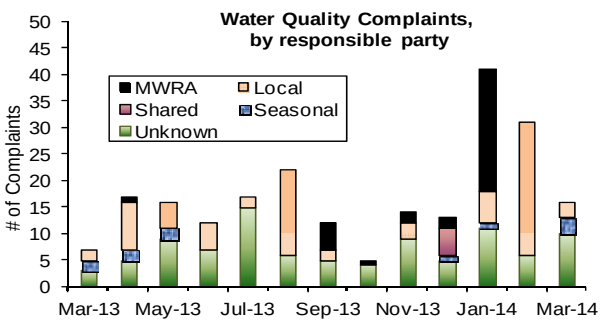
MWRA collects information on water quality complaints that typically fall into four categories: 1.) discoloration due to MWRA or local pipeline work; 2.) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3.) white water caused by changes in pressure or temperature that traps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

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

Communities reported 88 complaints during the quarter compared to 29 complaints for 3rd Quarter of FY13. Of these complaints, 61 were for "discolored water", 11 were for "taste and odor", 4 were for "white water", and 12 were for "other". Of these complaints, 34 were local community issues, 23 were an MWRA issue, 4 were seasonal in nature, and 27 were unknown.

•On January 27, twenty-three discolored water complaints were from a planned MWRA water operation being performed in Medford. Medford was notified prior to the operation being initiated.
•On February 1, fifteen discolored water complaints and five low water pressure complaints were reported in Milton due to a local main break.





Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

3rd Quarter – FY14

While all communities collect bacteria samples for the Total Coliform Rule (TCR), 43 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.

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. 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 3rd Quarter, one of the 5,842 community samples (0.02% system-wide) submitted to MWRA labs for analysis tested positive for coliform (Bedford in February). None of the 1,833 MWRA samples (0.00%) tested positive for total coliform. No sample tested positive for *E.coli*. Only 1.8% of the samples had any chlorine residuals lower than 0.2 mg/L for the quarter.

		# Coliform Samples (a)	Total Coliform # (%) Positive	E.coli # Positive	Public Notification Required?	Minimum Chlorine Residual (mg/L)	Average Chlorine Residual (mg/L)
	MWRA Sampling Locations (d)	1833	0 (0%)	0		0.07	1.94
Fully Served	ARLINGTON	155	0 (0%)	0		0.01	1.54
	BELMONT	104	0 (0%)	0		1.18	2.07
	BOSTON	757	0 (0%)	0		1.09	1.93
	BROOKLINE	204	0 (0%)	0		0.51	2.04
	CHELSEA	169	0 (0%)	0		1.20	1.85
	DEER ISLAND	52	0 (0%)	0		1.80	2.00
	EVERETT	169	0 (0%)	0		0.90	1.17
	FRAMINGHAM	216	0 (0%)	0		0.49	2.17
	LEXINGTON	117	0 (0%)	0		0.93	2.25
	LYNNFIELD	18	0 (0%)	0		0.56	1.45
	MALDEN	252	0 (0%)	0		0.62	1.72
	MARBLEHEAD	72	0 (0%)	0		0.19	1.67
	MEDFORD	221	0 (0%)	0		0.68	1.85
	MELROSE	117	0 (0%)	0		0.02	1.08
	MILTON	96	0 (0%)	0		1.31	1.78
	NAHANT	30	0 (0%)	0		0.24	1.50
	NEWTON	276	0 (0%)	0		0.39	2.00
	NORWOOD	99	0 (0%)	0		0.06	1.83
	QUINCY	276	0 (0%)	0		0.14	1.79
	READING	120	0 (0%)	0		0.03	1.65
	REVERE	182	0 (0%)	0		0.98	2.08
	SAUGUS	96	0 (0%)	0		1.37	1.87
	SOMERVILLE	272	0 (0%)	0		1.07	1.83
	SOUTHBOROUGH	30	0 (0%)	0		0.43	1.91
	STONEHAM	91	0 (0%)	0		1.17	1.94
	SWAMPSCOTT	54	0 (0%)	0		0.80	1.80
	WALTHAM	216	0 (0%)	0		1.63	2.14
	WATERTOWN	130	0 (0%)	0		0.35	1.94
	WESTBORO HOSPITAL	15	0 (0%)	0		0.08	0.34
	WESTON	48	0 (0%)	0		0.28	2.18
	WINTHROP	72	0 (0%)	0		0.20	1.82
	Total: Fully Served	*4726*	*0 (0%)*				
CVA & Partially Served	BEDFORD	63	1 (1.59%)	0	No	0.19	1.02
	CANTON	90	0 (0%)	0		0.03	0.72
	HANSCOM AFB	27	0 (0%)	0		0.24	1.65
	MARLBORO	126	0 (0%)	0		1.12	2.33
	NEEDHAM	123	0 (0%)	0		0.07	0.55
b	NORTHBORO	48	0 (0%)	0		0.48	1.66
	WAKEFIELD	132	0 (0%)	0		0.35	1.45
	WELLESLEY	114	0 (0%)	0		0.02	0.62
	WILMINGTON	87	0 (0%)	0		1.18	1.95
	WINCHESTER	78	0 (0%)	0		0.23	1.07
	WOBURN	180	0 (0%)	0		0.12	0.89
c	SOUTH HADLEY FD1	48	0 (0%)	0		0.16	0.50
	Total: CVA & Partially Served	*1116*	*1 (0.09%)*				
	Total: Community Samples	*5842*	*1 (0.02%)*				

(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 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

3rd Quarter – FY14

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. For the MetroBoston system, effective Q2 2013, under the Stage 2 DBP Rule, compliance is based on locational running annual averages (LRAA). Sampling locations have increased from 16 to 32 each quarter. Data prior to Q1 2013 reports the running annual average, and since Q1 2013, the maximum LRAA is reported (in addition to min and max values).

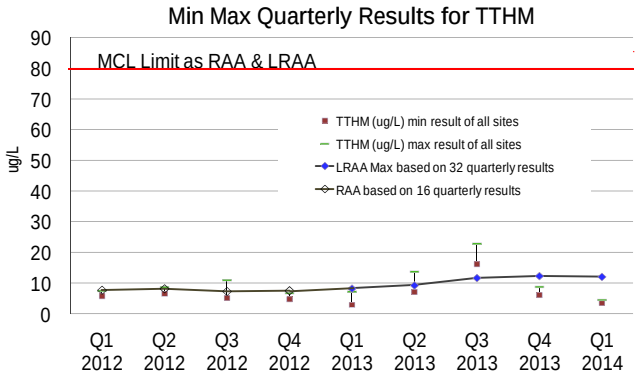
For the CVA communities, effective Q3 2013, under the Stage 2 DBP Rule, compliance is based on a LRAA for each community. Sampling locations have increased from 12 to 14 each quarter. Prior to Q3 2013, the running annual average is reported, and since Q3 2013, the maximum LRAA is reported (in addition to min and max values). The chart below combines all three CVA communities data.

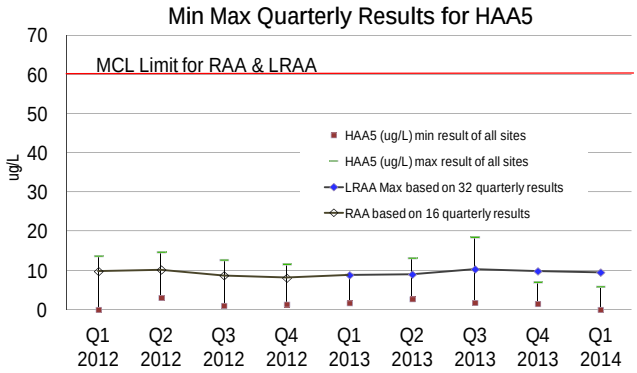
Partially served and CVA communities are responsible for their own compliance monitoring and reporting, and must be contacted directly for their individual results.

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.

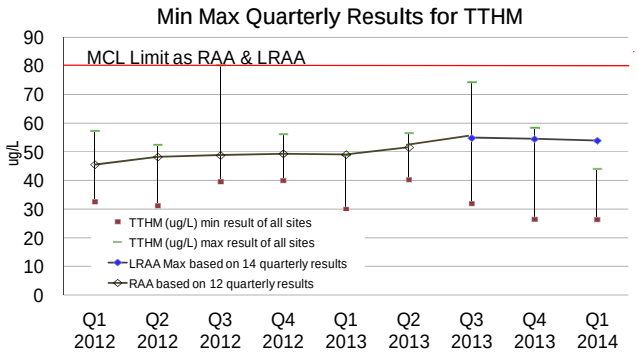
The RAA for TTHMs and HAA5s for MWRA's Compliance Program (represented as the line in the top two graphs below) remain below current standards. The LRAA for TTHMs = 12.2 ug/L; HAA5s = 9.5 ug/L. The current RAA for Bromate = 0.0 ug/L. CVA's DBP levels continue to be below current standards.

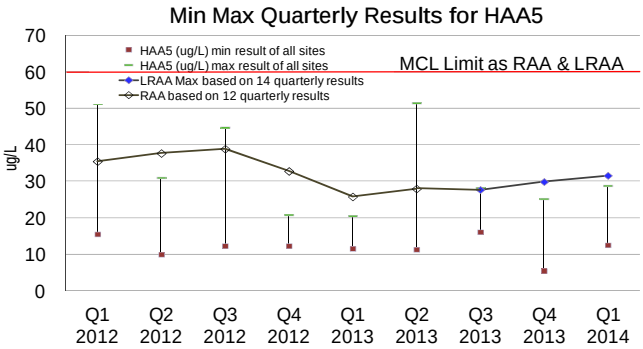
MetroBoston Disinfection By-Products





CVA Disinfection By-Products





Water Supply and Source Water Management

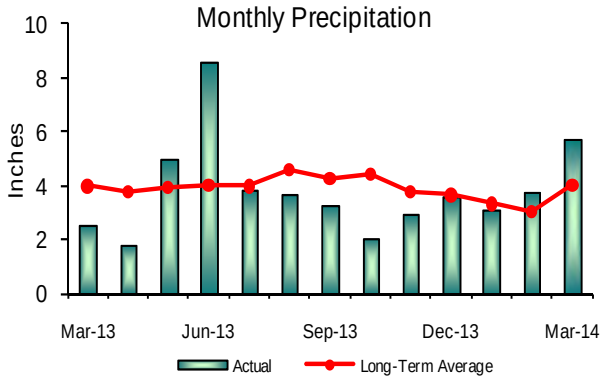
3rd Quarter – FY14

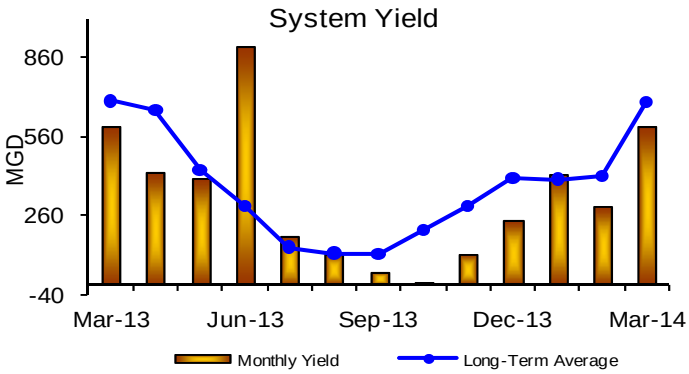
Background

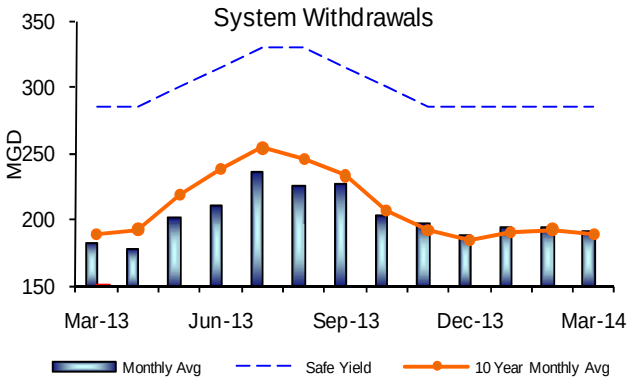
A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir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

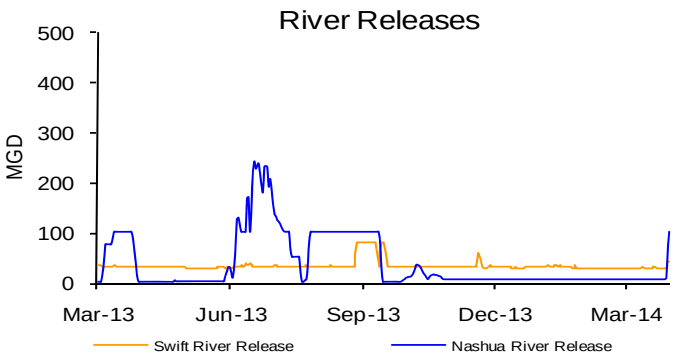
Outcome

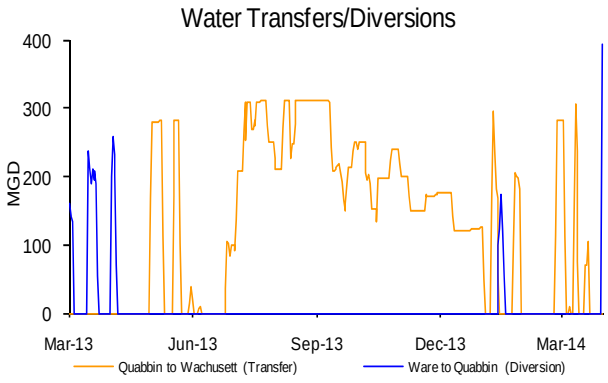
Quabbin Reservoir level remains within the normal operating range for this period of the year. The volume of the Quabbin Reservoir was at 92.5% as of March 31, 2014; a 4.2% increase for the quarter, which represents an increase of 17.25 billion gallons of storage. Yield and precipitation for the quarter were above their their respective long term quarterly averages. Monthly withdrawals continue to be below its long-term average.

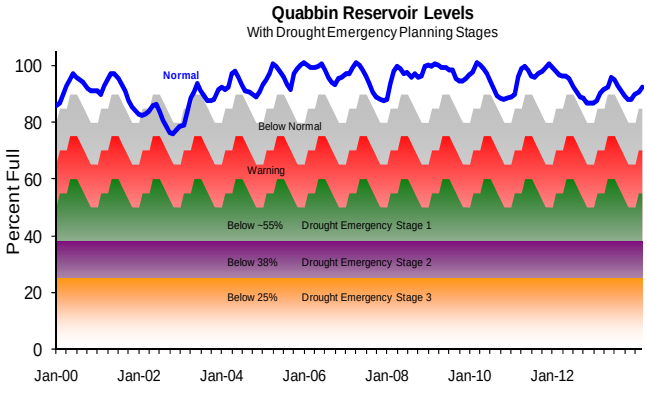












WASTEWATER QUALITY

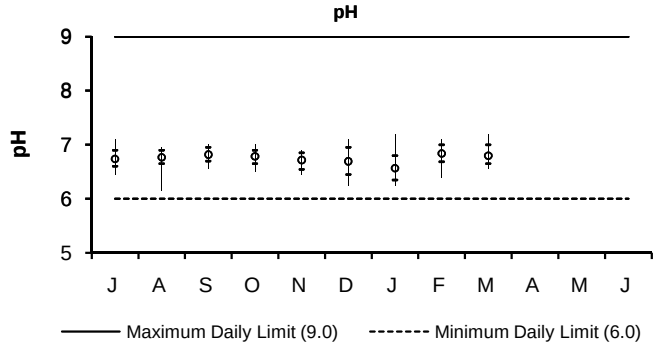
NPDES Permit Compliance: Deer Island Treatment Plant

3rd Quarter - FY14

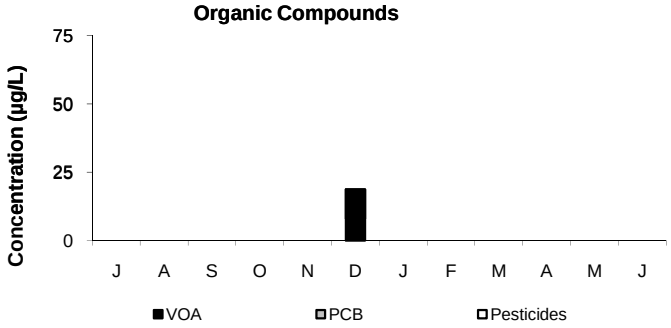
NPDES Permit Limits

Effluent Characteristics		*Units*	*Limits*	*January*	*February*	*March*	*3rd Quarter Violations*	*FY14 YTD Violations*
Dry Day Flow:		mgd	436	261.2	263.3	264.7	0	0
cBOD:	Monthly Average	mg/L	25	6.4	9.6	8.9	0	0
	Weekly Average	mg/L	40	7.7	11.9	13.1	0	0
TSS:	Monthly Average	mg/L	30	10.4	17.4	18.1	0	0
	Weekly Average	mg/L	45	12.4	16.3	25.5	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	305	126	107	0	0
	Weekly Geometric Mean	col/100mL	14000	16	26	15	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	6.3-7.2	6.4-7.1	6.6-7.2	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	100	100	50	0	0
	Inland Silverside	%	≥1.5	100	100	100	0	0

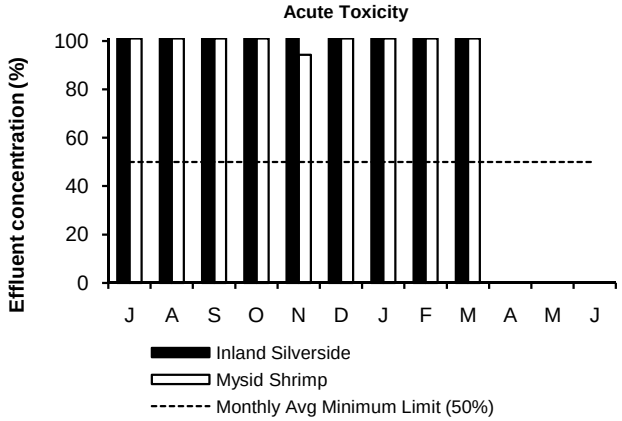
There have been no permit violations in FY14 at the Deer Island Treatment Plant.



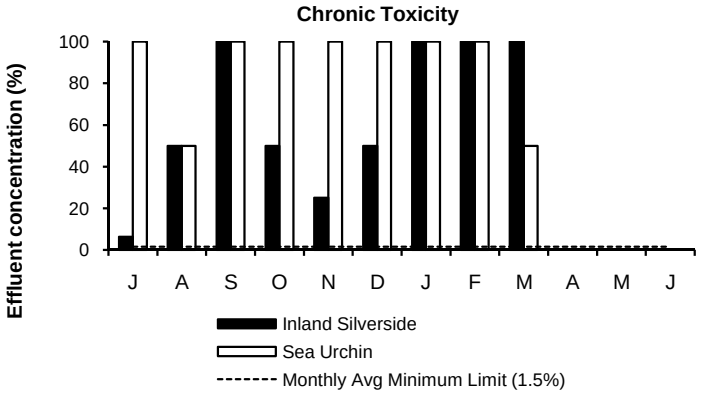
pH is a measure of the alkalinity or acidity of the effluent. Fluctuations in pH do not have an adverse effect on marine environments. Because of the pure oxygen used in the activated sludge reactor, the effluent pH tends to be at the lower pH range. pH measurements for the 3rd Quarter were within the daily permit limits.



An important wastewater component monitored in the effluent is organic compounds, such as volatile organic acids, pesticides, and polychlorinated biphenyls, which are all sampled monthly. The secondary treatment process has significantly reduced organic compounds in the effluent stream. In the 3rd Quarter, all organic compounds were below the detection limit.



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 3rd 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% dillution water must show no observed effect on the growth and reproduction of the test species. Chronic toxicity permit limits were met for the 3rd Quarter for both the inland silverside and sea urchin.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant

3rd Quarter - FY14

NPDES Permit Limits

Effluent Characteristics		*Units*	*Limits*	*January*	*February*	*March*	*3rd Quarter Violations*	*FY14 YTD Violations*
Flow:	Running Average:	mgd	3.01	2.46	2.45	2.38	0	0
BOD:	Monthly Average:	mg/L	20	3.0	3.7	4.4	0	0
	Weekly Average:	mg/L	20	3.9	4.0	8.4	0	0
TSS:	Monthly Average:	mg/L	20	3.4	4.9	4.5	0	0
	Weekly Average:	mg/L	20	5.7	6.0	7.1	0	0
pH:		SU	6.5-8.3	7.0-7.4	6.7-8.0	7.0-7.3	0	0
Dissolved Oxygen:	Daily Minimum:	mg/L	6	8.2	7.9	8.2	0	0
Fecal Coliform:	Daily Geometric Mean:	col/100mL	400	3	4	6	0	0
	Monthly Geometric Mean:	col/100mL	200	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: November 1 - March 31								
	Monthly Average:	mg/L	10.0	0.20	1.49	2.25	0	0
	Daily Maximum:	mg/L	35.2	0.78	4.41	5.92	0	0
Copper:	Monthly Average:	ug/L	20	4.6	6.2	4.6	0	0
Phosphorus:								
	Monthly Average:	mg/L	N/A	--	--	--	0	0
Acute Toxicity:	Daily Minimum:	%	100	*N/A	*N/A	No Data	0	0
Chronic Toxicity:	Daily Minimum:	%	> 62.5	*N/A	*N/A	No Data	0	1

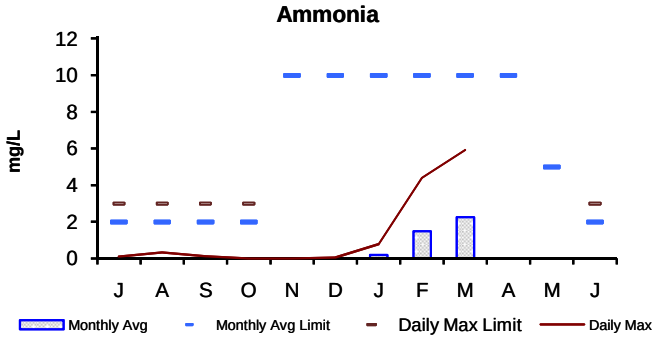
There has been one permit violation in FY14 at the Clinton Treatment Plant.

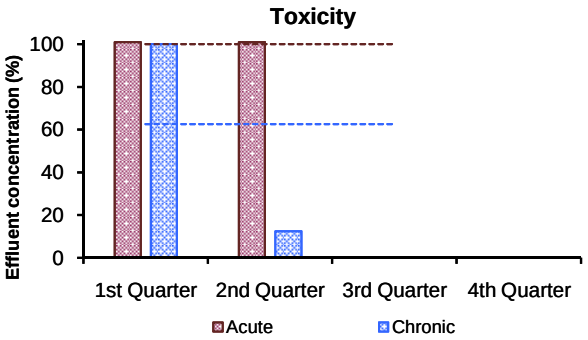
1st Quarter: There were no permit violations in the 1st Quarter of FY14.

2nd Quarter: There was one permit violation in the 2nd Quarter of FY14. In December 2013, the chronic toxicity was 12.5%, which is below the permit minimum of 62.5%.

3rd Quarter: There were no permit violations in the 3rd Quarter of FY14.

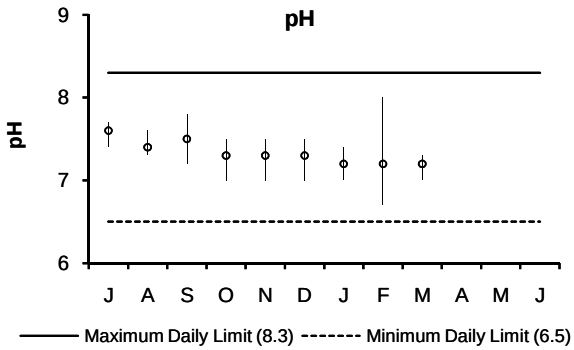
*Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



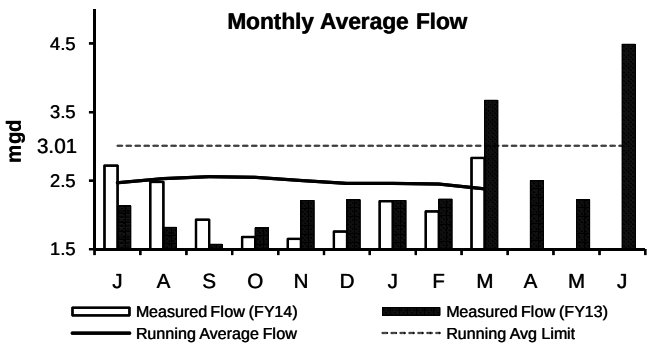


The 3rd Quarter's monthly average and daily maximum concentrations were below the permit limits. The monthly average and daily maximum limits for the 3rd Quarter are 10.0 mg/L and 35.2 mg/L. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential 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. The test results in the 3rd Quarter of FY14 were invalid; the testing is being redone. The results will be reported to EPA when they are received. This did not result in a permit violation.



pH is a measure of the alkalinity or acidity of the effluent. All daily pH results for the 3rd Quarter were within the range allowed 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 3rd Quarter met the NPDES permit limit.

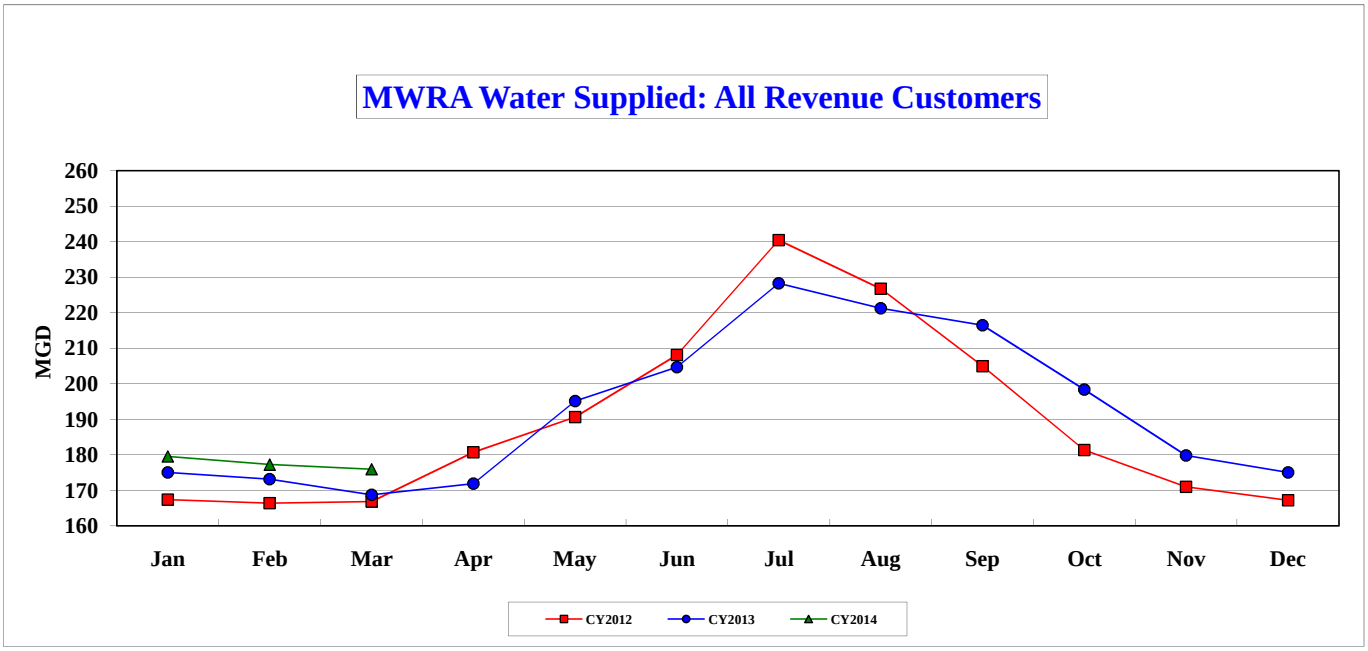
COMMUNITY FLOWS AND PROGRAMS

Total Water Use
MWRA Core Customers
Q3 - FY14

Massachusetts Water Resources Authority
Water Supplied: All Revenue Customers

MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
CY2012	167.372	166.339	166.837	180.719	190.613	208.064	240.451	226.777	204.916	181.292	171.007	167.163	189.401
CY2013	174.996	173.168	168.729	171.838	195.119	204.640	228.278	221.268	216.427	198.406	179.809	175.062	192.460
CY2014	179.513	177.240	175.967	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	177.584

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
CY2012	5,188.526	4,823.828	5,171.960	5,421.579	5,908.998	6,241.906	7,453.978	7,030.086	6,147.483	5,620.049	5,130.219	5,182.049	69,320.661
CY2013	5,424.874	4,848.707	5,230.598	5,155.146	6,048.690	6,139.195	7,076.614	6,859.306	6,492.801	6,150.597	5,394.269	5,426.928	70,247.724
CY2014	5,564.915	4,962.715	5,454.973	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15,982.603



Attached for your information is the March 2014 Community Water Use Report recently distributed to communities served by the MWRA waterworks systems. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2014 water use will be used to allocate the FY16 water utility rate revenue requirement.

March 2014 water supplied of 176.0 mgd (for revenue generating users) is up 7.2 mgd or 4.3% compared to March 2013. This includes 5.3 mgd supplied to the City of Cambridge and 0.352 mgd supplied to the Town of Hudson.

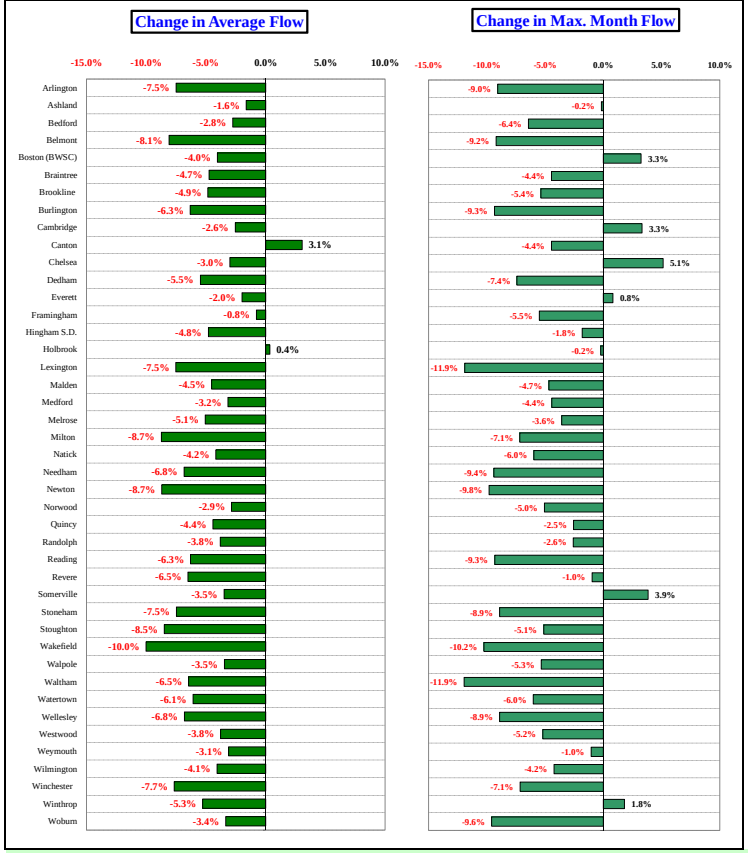
Including the water supplied to Cambridge and Hudson, annual system-wide consumption for CY14 is higher than CY13 with 177.6 mgd being supplied to MWRA customers **through March**. This is 5.3 mgd higher than CY13, and is an increase of 3.1%.

During Calender year 2013, if Cambridge and Hudson were netted out, consumption would have been 0.2 mgd lower than 2012.

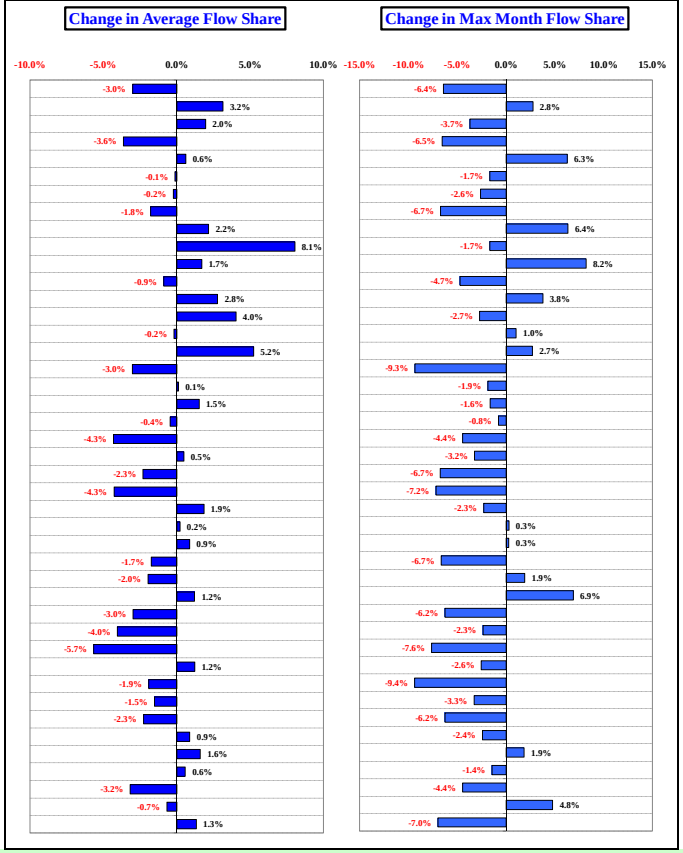
Community Wastewater Flows
3rd Quarter - FY14

How Projected CY2014 Community Wastewater Flows Could Effect FY2016 Sewer Assessments [1,2,3]

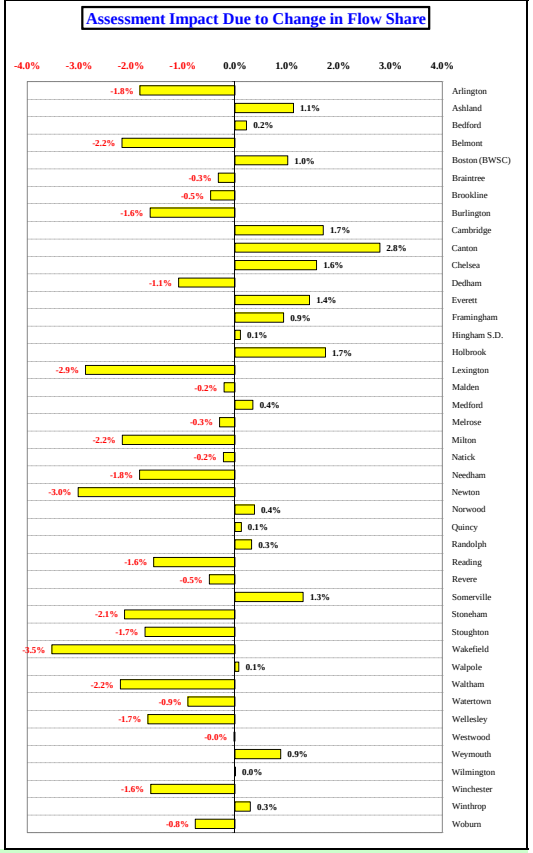
The flow components of FY2016 sewer assessments will be calculated using a 3-year average of CY2012 to CY2014 wastewater flows compared to FY2015 assessments that used a 3-year average of CY2011 to CY2013 wastewater flows.



But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2012 to CY2014 flow share compared to CY2011 to CY2013 flow share, compared to all other communities in the system.



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



Notes:

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

[2] Based on CY2011 to CY2014 average wastewater flows as of 04/09/14. Flow data is preliminary and subject to change pending additional MWRA and community review.

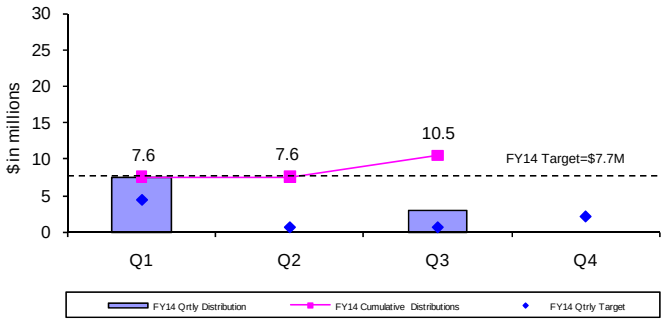
[3] CY2011 to CY2013 wastewater flows based on actual meter data. CY2014 flows based on actual meter data for January to February and projected flows for March to December.

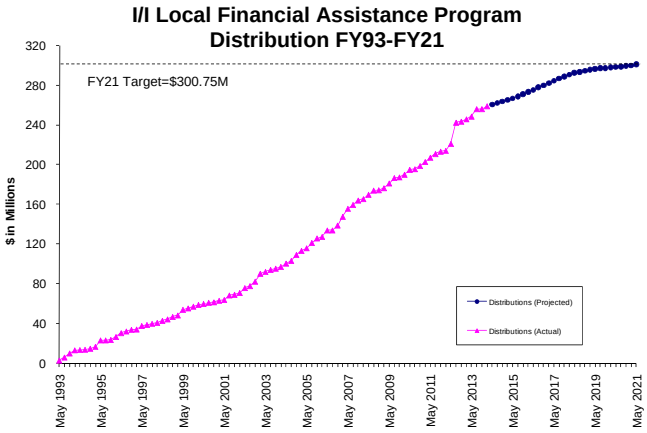
[4] Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

Community Support Programs
3rd Quarter – FY14

Infiltration/Inflow Local Financial Assistance Program

MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides $300.75 million in grants and interest-free loans (average of about $10 million per year from FY93 through FY21) 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.

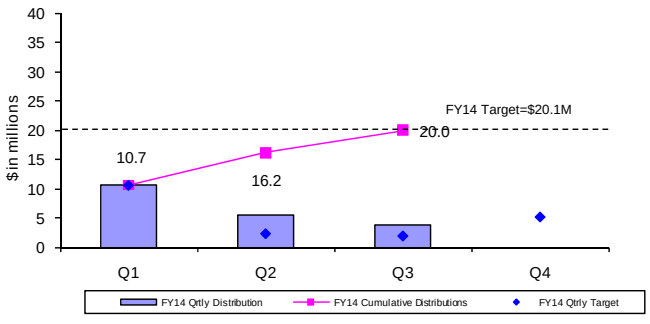


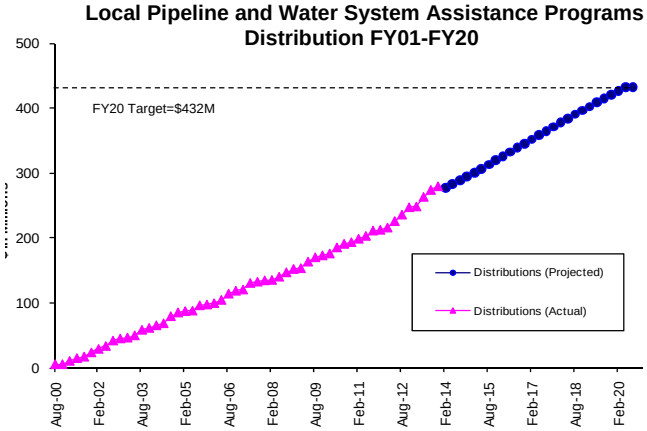


During the 3rd Quarter of FY14, $2.93 million in financial assistance (45% grants and 55% interest-free loans) was distributed to fund local sewer rehabilitation projects in Chelsea, Natick, and Winchester. Total grant/loan distribution for FY14 is $10.48 million. From FY93 through the 3rd Quarter of FY14, all 43 member sewer communities have participated in the program and more than $259 million has been distributed to fund 454 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY21 and community loan repayments will be made through FY26. 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 $432 million in interest-free loans (an average of about $22 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. The Phase 1 - LPAP concluded in FY13 with $222 million in loan distributions. The Phase 2 - LWSAP continues through FY20.



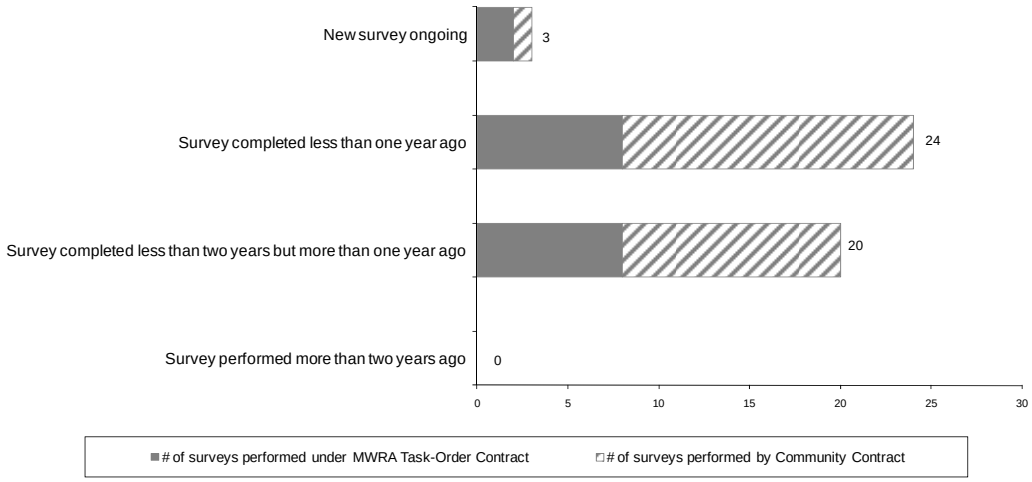


During the 3rd Quarter of FY14, $3.81 million in interest-free loans was distributed to fund local water projects in Belmont, Boston, Chelsea, and Lexington. Total loan distribution for FY14 is $20.03 million. From FY01 through the 3rd Quarter of FY14, more than $282 million has been distributed to fund 328 local water system rehabilitation projects in 38 MWRA member water communities. Distribution of the remaining funds has been approved through FY20 and community loan repayments will be made through FY30. All scheduled community loan repayments have been made.

Community Support Programs
3rd Quarter – FY14

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 3rd Quarter of FY14, 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.

FY14 DISTRIBUTION	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	55,816	24,172	89,623		169,611
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	2,323	3,624	6,041		11,988
Toilet Leak Detection Dye Tablets	------	827	954	1,983		3,764

BUSINESS SERVICES

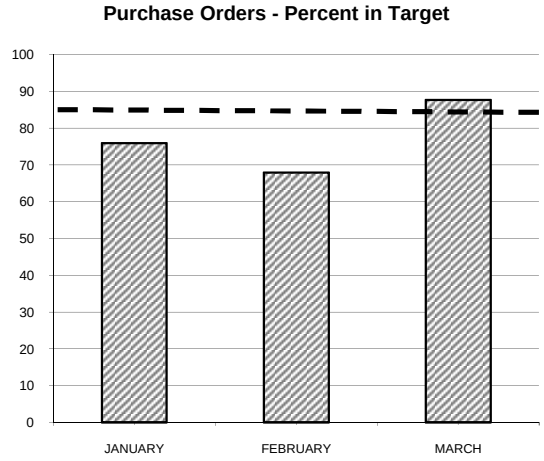
Procurement: Purchasing and Contracts

Third Quarter FY14

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

Outcome: Processed 78% of purchase orders within target; Average Processing Time was 7.17 days vs. 8.81 days in Q3 FY13. Processed 65% (13 of 20) contracts within target timeframes; Average Processing Time was 122 days vs. 161 days in Q3 FY13.

Purchasing



	No.	TARGET	PERCENT IN TARGET
$0 - $500	1243	3 DAYS	71.4%
$500 - $2K	1042	7 DAYS	86.5%
$2K - $5K	168	10 DAYS	60.1%
$5K - $10K	93	25 DAYS	82.7%
$10K - $25K	110	30 DAYS	86.3%
$25K - $50K	32	60 DAYS	75.0%
Over $50K	20	90 DAYS	80.0%

The Purchasing Unit processed 2708 purchase orders, 307 more than the 2401 processed in Q3 FY13 for a total value of $9,119,892 versus a dollar value of $12,177,665 in Q3 FY13.

The purchase order processing target was not met for the $0 - $500 category due to vendor price confirmations, the $2k - $5k due to end user evaluations, the $5k - $10k due to end user evaluations, the $25k - 50k due to staff summary process and end user evaluations and the over $50k due to end user specification requirements and staff summary process.

Contracts, Change Orders and Amendments

Seven contracts were not processed within target timeframe, two due to delays in obtaining insurance certificates, another two were held so that a program review could be conducted and three were processed within two weeks of the processing goal.

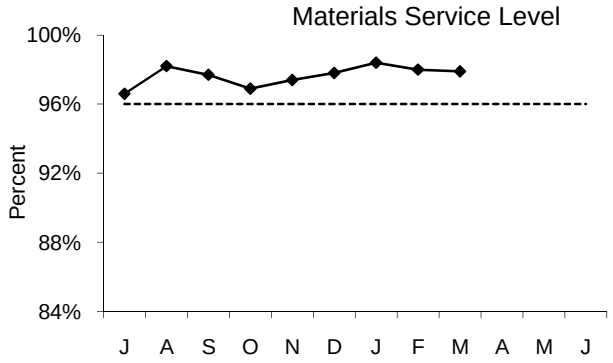
Procurement processed twenty contracts with a value of $20,236,165 and eleven amendments with a value of $13,858,164.

Twenty nine change orders were executed during the period. The dollar value of all non-credit change orders during Q3 FY14 was $712,920.28 and the value of credit change orders was ($503,135.16).

Staff reviewed 52 proposed change orders and 25 draft change orders.

Materials Management

3rd Quarter, FY14



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 8,414 (98.1%) of the 8,579 items requested in Q3 from the inventory locations for a total dollar value of $1,126,452.

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 FY14 goal is to reduce consumable inventory from the July '13 base level ($6.9 million) by 4.0% (approximately $276,182), to $6.6 million by June 30, 2014 (see chart below).

Items added to inventory this quarter include:

- Deer Island – air filter, metal breather and grease head shafts for Maintenance; relays, output module, power supply and igniter for Core; cable, flowmeter and adapter for Residuals; plug valve for Liquid Train.
- Chelsea –motor cover, intersector light, bracket mount, snow plow motor, air hose, headlight assembly, filters and wheel bearing for VMM; rotork actuator, probe, chain screen, gaskets, coupling, cotter pins, eurodrive gearbox, 10 HP motor and conveyor rollers for Work Order Coordination Group.
- Southboro – AC battery, power steering fluid for VMM; check valve for Maintenance: utrasonic transmitter for Carroll Water Treatment Plant.

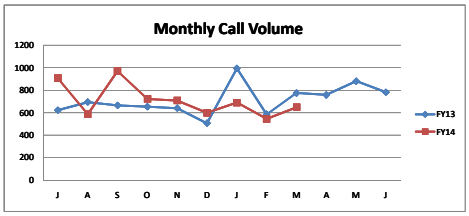
Property Pass Program:

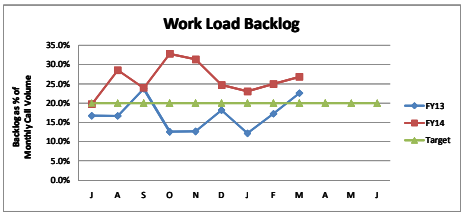
- Audits were conducted for Mechanics tool bags and at Fleet Services, Chelsea during Q3.
- Numerous obsolete monitors, computers, printers, keyboards, mice, power supplies, laptops, and a television have been received into property pass as surplus. Disposition is being handled as part of our ongoing recycling efforts.
- Scrap revenue received to date for the quarter amounted to $68,794.
- Revenue received from online vehicle auction held during Q3 amounted to $6,458. Year to date revenue received amounts to $86,394.

Items	Base Value July-13	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	6,954,017	7,075,357	121,340
Spare Parts Inventory Value	7,358,692	7,352,668	-6,024
Total Inventory Value	14,312,709	14,428,025	115,316

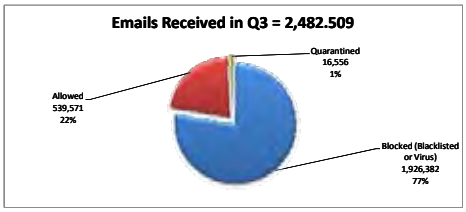
Note: New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

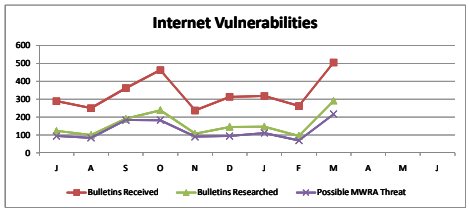
MIS Program
3rd Quarter FY14





Performance:
Call Volume: Peaked in January and increased by 12.4% from Q3 last year. Call Backlog: Peaked in March and was 6.8% above the targeted benchmark of 20%. As of the end of





Information Security:

During Q3, staff pushed security fixes and updates to desktops and servers throughout the quarter in order to protect against 61 vulnerabilities.

LANDesk Antivirus quarantined 26 distinct viruses from 25 MWRA computers. MWRA's systems are current with anti-virus providers' signatures for all known malware.

Infrastructure:

Data Network Wireless Access Points: Wireless access points were installed to provide internet access in Chelsea Vehicle Maintenance, TV Inspection bays, and Charlestown Board of Director's room. The access points enable the download of software upgrades from the manufacturer for vehicle maintenance onsite at Chelsea and the transfer of videos from the TV inspection vehicle to a MIS server on a regular basis for backup and storage to ensure data integrity.

Enterprise Backup and Recovery Project: The new Backup software (Networker) for Data Domain was installed at Chelsea, Southboro, Charlestown and JJCWTP. Also at these sites, additional storage was installed which provide increased performance an efficiencies when accessing local data.

Oracle 11i Upgrades: The GIS Oracle database was upgraded to version 11i R2 on the Oracle Database Appliance (ODA). Some configuration work still remains to be done. The ODA is a dual node server that provides manual failover capability in case one of the nodes fails.

Applications/Training/Records Center:

Strategic Sourcing and Contract Management: Staff continued data migration mapping and testing and a full pass of all open contacts have been successfully tested. The MBE/WBE reports were completed and demonstrated to users. Staff continued working on Contract language, templates, and output. Two web conferences were held with Infor/Lawson consultant to go over invoice matching for AP and reconciliation process for Contract managers and a corresponding Job Aid was written. A web interface for the customized Bid Tabulation reports were successfully deployed in development. Staff has mapped out the requirements to upgrade the following Landmark (LMRK) items: (1) Landmark Procurement and Strategic Sourcing Application from v9.1.0.10 to v9.1.1.x, (2) LMRK Environment from v10.0.4.5 to v10.1.x, and the upgrades have been scheduled. Drafted and routed staff summaries for application upgrades and, and updated project plans to include upgrades. In addition to a Staff have also developed scripts for synching the security configuration between the production and development systems.

AVL Implementation Support: MIS staff have completed compiling the reports for vehicle data transmission and conducted a live demo on 03/21/14 at the AVL go-live kickoff meeting. Operations management and staff along with Labor Relations addressed business issues and plans including a 90-day system trial period and the union agreement with management regarding the use of AVL. The AVL system was conditionally accepted contingent on a few system fixes, configuration adjustments and report changes. A second demo wad held in CNY for management and union presidents during their meeting in the boardroom.

Laboratory Information Management System (LIMS): The production system was successfully upgraded from version 5 to 6 on March 16. There were 41 minor issues logged that were resolved quickly with no end user impact. The new version provides enhanced functionality and an improved user interface that improves productivity. The new version also provides the ability to implement the Electronic Laboratory Notebook (ELN) module of the LIMS application. The functionality in ELN is designed toward eliminating paper in the laboratories.

PI: The new ISO New England system was successfully implemented in production this month. MIS has developed a new ISO New England spot electrical rate application using data collection through PI. The new method involves data collection in PI that improves upon the old system's12x7 coverage period to a 24x7 coverage period in the new system.

Telog: The Telog system for wastewater metering was upgraded to the latest version on March 19. The upgrade consisted of new hardware and software. The new Telog servers are a three tier configuration with severs being located in the Chelsea MIS Data Center.

Water Quality Reporting System: The new Water Quality Reporting system had the first round of reporting approved by the Southborough Water Quality Group. The new report provides information for the chlorine contact time at the Ware Disinfection Facility. This report will be included in the upcoming April DEP submittal.

Library & Records Center: MWRA received the last of the images from DigiComm for Phase 1, Batch 4 (Metropolitan Water Works collection 1895 to 1926). Staff attended DigiComm seminar on 3/17 and were asked to deliver a short presentation of the collection with DCR archivist at the DigiComm conference in April. Public Affairs continues to scan and add metadata into MWRA catalogs. Staff sent 10 disposal lists to the Departments requesting review for permission to dispose of 515 Records Center boxes. Issued quarterly Records Management email reminder to all MWRA staff. The Library completed 40 research requests (105 YTD), cataloged 26 books and reports (584 YTD), and provided 98 articles and standards as needed (274 YTD). Automatically generated article emails (3,793 YTD) were discontinued, and new services are being evaluated

IT Training: For the quarter, 111 staff attended 17 classes and 10 workshops. 24% of the workforce has attended at least one class year-to-date. iPad IT Support training classes were offered. Telog Enterprise Software training classes were provided. Staff delivered Lawson Time Entry and Lawson Self-Service training classes and GIS training for OEP staff. New and updated job aids were posted on the MIS How-to page on the INTRAnet. SMART Board demos were also provided.

Legal Matters
3rd Quarter FY14

PROJECT ASSISTANCE

COURT AND ADMINISTRATIVE ORDER

- **Boston Harbor Litigation and CSO**: Reviewed and Filed Compliance and Progress Report and CSO Annual Report with US District Court in compliance with Schedule Seven of the Boston Harbor Case

- **NPDES**: Drafted letters notifying EPA and DEP of two essential maintenance projects (replacement of RSL valves and scum tip tubes) at DITP scheduled to commence in April and May 2014 respectively and of the work being performed on the pumps at the Cottage Farm and Prison Point CSO treatment and storage facilities.

REAL ESTATE, CONTRACT AND OTHER SUPPORT

- **Section 36/W11C/Shaft 9-A11 Site, Arlington and Medford:** Sent out Notices of Taking/Offers to Convey re: the acquisition of permanent easements on sixty-six (66) parcels of land in private roadways in Arlington.

- **JJCWTP/Town of Marlborough:** Met with the Mayor of Marlborough's staff to resolve ownership issues in a parcel of land needed for the construction of a security facility at JJCWTP; Marlborough staff agreed to take the parcel by eminent domain and provide MWRA with a permanent easement in a portion of that parcel.

- **Fore River Staging Area:** Drafted an access agreement between Quincy Shipyard and MWRA/FRRC relative to Quincy Shipyard's access to and from its offices located at the former Fore River Shipyard during the operation of the FRRC railroad.

- **Fore River Railroad:** Drafted letter of agreement by and between MWRA, FRRC, and Quincy Shipyard, LLC relating to the grant of a railroad easement in the former Fore River Shipyard from Quincy Shipyard, LLC to MWRA/FRRC in exchange for MWRA/FRRC's extinguishment of an existing railroad easement for the purpose of straightening a curve in the existing railroad tracks.

- **Ware Disinfection Facility:** Recorded grant of easement from DCAM to MWRA for MWRA's Ware disinfection facility.

- **FRRC:** Recorded Order of Conditions issued by Braintree Conservation Commission for FRRC work for Adams Street Grade Crossing and Commercial Street Bridge Replacement in Braintree.

- **Cost Recovery:** Drafted a Tolling Agreement with a design consultant to suspend the statutes of Limitation and Repose for a period of one year pending review of the consultant's performance on eight (8) construction projects.

- **Cross Harbor Cable:** Responded to NSTAR's proposal for the interconnection agreement for the cross-harbor cable.

- **Weston Water Main:** Finalized the settlement agreement with all defendants for the full and final settlement of the litigation in the amount of $3.1M.

MISCELLANEOUS

- Reviewed and approved twenty (21) Section 8(m) Permits.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

Eight demands for arbitration were filed.

A Charge was filed at the Massachusetts Commission Against Discrimination alleging that the MWRA discriminated against an employee on the basis of race.

Matters Concluded

Settled a charge of discrimination and harassment filed against the MWRA at the MCAD.

LITIGATION/TRAC

New Matters

During the Third Quarter of FY 2014, three new lawsuits were received, and one has been re-activated.

Wells Fargo Bank v. (Current Employee) and MWRA: This is a wage garnishment action that was filed by the creditor in Lynn District Court. On January 30, 2014, MWRA appeared on a motion to dismiss the trustee action as to improper venue. That motion was allowed by the court. The creditor may re-file its action.

Portfolio Recovery Associates, LLC assignee of Capital One Bank (USA) NA vs. (Current Employee) and MWRA, Trustee: Summons to Trustee (MWRA) was served on February 7, 2014 in an action brought against (current employee) in the amount of $3, 963.10.

PHEAA v. (Current Employee): On March 14, 2014, the Law Division received this wage garnishment action from the debtor to collect student loan funds in the amount of $39,236.73. On March 27, 2014 PHEAA forwarded a fax indicating that the Order has been withdrawn. The matter is closed.

Citibank, NA v. (Current Employee) and MWRA, Trustee: This is a wage garnishment matter from the debtor to collect $17,948.19 that has been re-activated. A new Summons to Trustee was received on March 26, 2014.

Current employee: The law division was called upon to provide personnel and payroll records in connection with an employee's divorce proceeding, in which a support order was previously served on MWRA.

Significant Developments

Daniel O'Connell Sons, Inc. v. MWRA: MWRA initiated a third-party lawsuit against Allied-Locke Industries, Inc. in which that company has now been joined as an additional party to the pending litigation brought by O'Connell's Sons against MWRA in December, 2013.

Matters Concluded

One case closed during the Third Quarter FY 2014.

(Former Employee) v. MWRA: Plaintiff was terminated by MWRA in January 2012 because of an altercation he had with another MWRA employee. As a result of his termination, Plaintiff filed a Complaint in Suffolk Superior Court asserting he was terminated from MWRA in violation of G.L. c. 145, §185, the Massachusetts Whistleblower Act. Plaintiff alleged that a series of disciplinary actions, including his termination, were imposed in retaliation for his alleged whistleblower activity, and that these retaliatory actions violated G.L. c. 145, §185. MWRA denied the allegation. On October 10, 2013, the Court dismissed this action and entered final judgment against Plaintiff for failing to adequately respond to MWRA's discovery requests. While the ten day period has passed in which Plaintiff could seek to alter or amend this judgment, Plaintiff has up to one year to seek relief under Mass. R. Civ. P. 60, to set aside the judgment based on error, mistake, excusable neglect, fraud, or newly discovered evidence. MWRA legal staff believes it is unlikely that the Plaintiff will prevail on a motion to set aside this judgment should he choose to file it.

Subpoenas

During the Third Quarter of FY 2014, one new subpoena was received and no subpoenas were pending at the end of the Third Quarter FY 2014.

Public Records

During the Third Quarter of FY 2014 two new public records request were received and three public records requests were closed.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of March 2014	As of Dec 2013	As of Sept 2013
Construction/Contract/Bid Protest (other than BHP)	5	5	6
Tort/Labor/Employment	5	6	7
Environmental/Regulatory/Other	1	1	1
Eminent Domain/Real Estate	0	0	0
total – all defensive cases	**11**	**12**	**14**
Affirmative Cases: MWRA v. J. F. Shea Co., Inc., et al.	1	1	1
Other Litigation matters (restraining orders, etc.) MWRA v. Thomas Mercer	1	1	1
total – all pending lawsuits	**13**	**14**	**16**
Significant claims not in suit:	0	0	0
Bankruptcy	1	1	0
Wage Garnishment	17	15	14
TRAC/Adjudicatory Appeals	4	4	5
Subpoenas	0	1	3
TOTAL – ALL LITIGATION MATTERS	35	35	38

TRAC/MISC.

New Appeals There were no new TRAC appeals received in the 3rd Quarter FY 2014.

Settlement by Agreement of Parties No cases were settled by Agreement of Parties in the 3rd Quarter FY 2014.

Stipulation of Dismissal No cases were dismissed by Stipulation of Dismissal, fine waived.

Notice of Dismissal Fine paid in full No cases were dismissed by Joint Stipulation of Dismissal with Prejudice, fine paid in full.

Tentative Decisions No Tentative Decisions were issued in the 3rd Quarter FY 2014.

Final Decisions No Final Decisions were issued during the 3rd Quarter FY 2014.

INTERNAL & CONTRACT AUDIT PROGRAM
3rd Quarter FY14

Highlights

MBE/WBE Program Contracting Goals Internal Audit (IA) reviewed the process used to measure and report on the attainment of MBE/WBE contracting goals. IA staff reviewed supporting documentation for setting the FY14 goals. The MWRA's goals for construction, professional services and goods and services are based on a 10 year old availability study that may no longer be relevant. Recommendations centered on considering adopting the DEP's disadvantaged MBE/WBE goals.

Expenditures reported in the ONB/YNB have been both under and over reported. Recommendations were made to update expenditures quarterly rather than monthly to allow time for a more accurate accumulation of expenditures. A further recommendation was made to include more explanatory information on the ONB/YNB page.

Status of Open Audit Recommendations (5 recommendations closed in the 3rd 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
Warehouse Practices (9/30/10)	1	9
Facility Card Access Controls (2/22/11)	2	18
DITP Data Center Access Controls (10/14/11)	2	20
Chelsea Facility Physical Security (12/31/12)	7	25
Hardware Equipment Management (5/22/13)	19	17
Review of Purchase Card Activity (6/28/13)	1	2
Bay State Fertilizer (9/3/13)	4	1
Follow-up Report on Fleet Services Activities (12/31/13)	6	11
MBE/WBE Program Contracting Goals (3/14/14)	10	0
Total Recommendations	**52**	**103**

Audit Savings

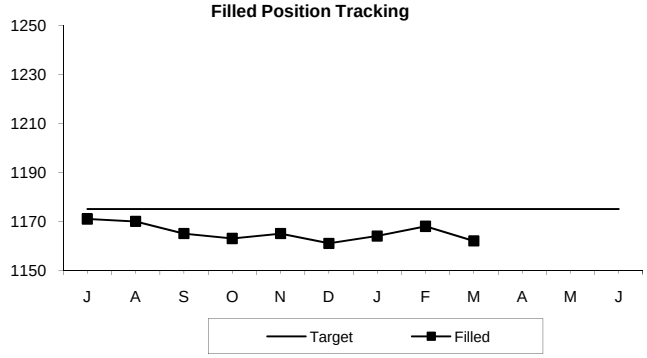
The Internal Audit Department's target is to achieve at least $1 million in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of work in prior years.

Savings	FY10	FY11	FY12	FY13	FY14 (3Q)	TOTAL
Consultants	$194,238	$520,176	$259,245	$587,314	$128,872	$1,689,845
Contractors & Vendors	$599,835	$3,129,538	$435,760	$2,153,688	$187,387	$6,506,208
Internal Audits	$206,282	$152,478	$407,350	$391,083	$870,104	$2,027,297
Total	**$1,000,355**	**$3,802,192**	**$1,102,355**	**$3,132,085**	**$1,186,363**	**$10,223,350**

OTHER MANAGEMENT

Workforce Management
3rd Quarter FY14

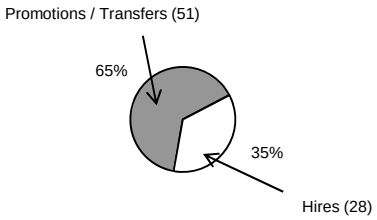
Filled Position Tracking



FY14 Target for Filled Positions = 1175

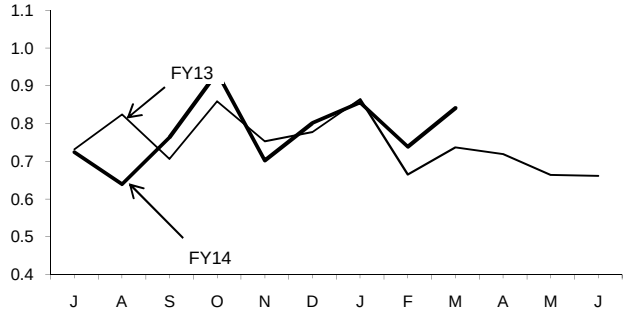
Filled Positions as of March 2014 = 1162

Positions Filled by Hires/Promotions
FY14-YTD



	Pr/Trns	Hires	Total	
FY11	48 (62%)	30 (38%)	78	
FY12	42 (61%)	27 (39%)	69	
FY13	82 (64%)	47 (36%)	129	
FY14	80 (66%)	41 (34%)	121	(To Date)

Average Monthly Sick Leave Usage
Per Employee



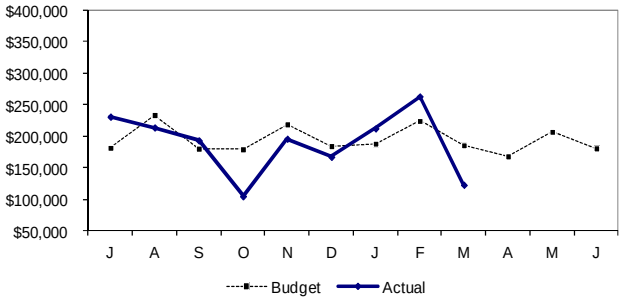
Average monthly sick leave for the 3rd Quarter of FY14 increased as compared to the 2nd Quarter (9.13 to 9.33 days).

In Q3 of FY14, the average quarterly sick leave usage has increased 1% from the same time last year.

	Number of Employees	YTD	Annualized Total	Annual FMLA %	FY13
A&F	181	7.73	10.32	40.6%	8.48
Aff. Action	6	9.96	11.63	35.5%	12.25
Executive	5	3.67	10.02	0.0%	3.08
Int. Audit	8	5.71	9.97	0.0%	7.36
Law	16	7.78	8.99	16.4%	11.80
OEP	6	12.95	7.74	62.5%	5.89
Operations	941	6.80	7.27	22.6%	9.02
Pub. Affs.	12	9.52	5.10	42.0%	9.08
MWRA Avg	**1175**	**7.01**	**9.33**	**26.0%**	**8.95**

Percent of sick leave usage attributable to Family and Medical Leave Act (FMLA) leave is 26.0% for the 3rd Quarter of FY14.

Field Operations
Current Month Overtime $



Deer Island Treatment Plant
Current Month Overtime $

Total Overtime for **Field Operations** for the third quarter of FY14 was $599,304 which is ($638) under budget. Emergency overtime was $321k, which was $256 over budget, due to higher than anticipated snow removal. Spending in Q3 included $138k for snow removal, $87k for rain events, $39k for emergency maintenance, $32k for emergency operations. Coverage overtime was $121k, which was ($302) under budget. Planned overtime was $158k or $682 over budget, mainly for maintenance off-hours work at $45k, and half-plant operations at Carroll for $35k.

Year-to-date March FY14, FOD's overtime was $1.7m, which was ($71k), or ($4%) under budget, mainly due to lower than anticipated wet weather response.

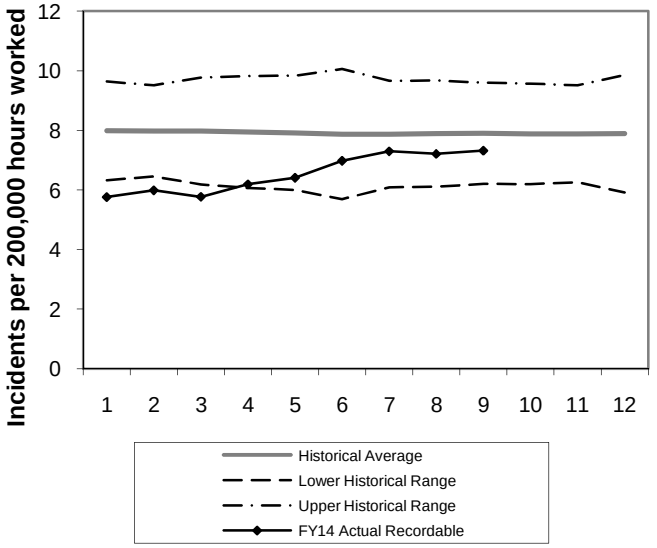
Deer Island's total overtime expenditure in February 2014 was $92K, which was ($4K) or (4.4%) under budget. The variance reflects less than anticipated storm coverage requirement, ($5K), along with Management's continued efforts to control overtime spending by allowing overtime for maintenance or repair of critical systems and equipment only. These items are partially offset by slightly higher than anticipated shift coverage overtime, $1K.

Year-to-date February 2014, Deer Island's overtime was $581K, which was ($131K) or (18.4%) under budget, mainly due to less than anticipated storm coverage requirements, ($147K), along with Management's continued efforts to control overtime spending by allowing overtime for maintenance or repair of critical systems and equipment only, ($73K). These items are partially offset by higher than anticipated shift coverage overtime in Thermal due a vacancy, IA and FMLA, of a 2nd class engineer, $56K, and and higher Operations shift coverage requirements, $34K.

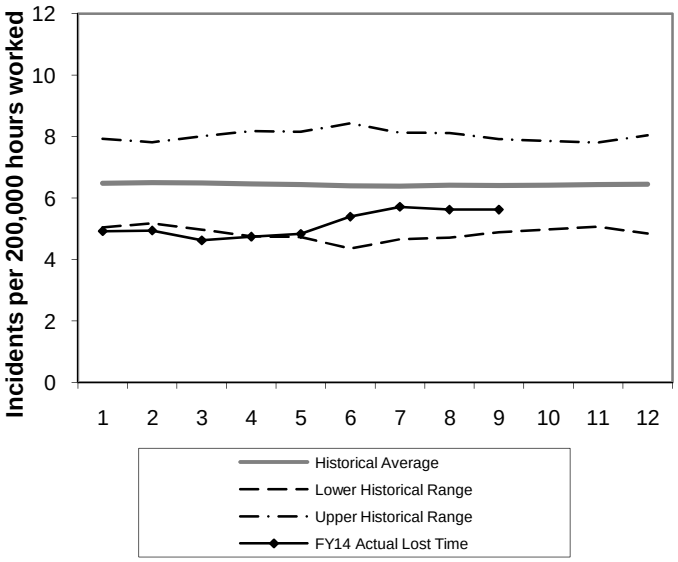
Workplace Safety

3rd Quarter FY 14

Recordable Injury & Illness Rates



Lost Time Injury & Illness Rates



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 FY13. The “Upper” and “Lower Historical Ranges” are computed using these same data – adding and subtracting two standard deviations respectively. FY14 actual incident rates can be expected to fall within this historical range.

Workers Compensation Claims Highlights - Third Quarter FY14

	New	Closed	Open Claims
Lost Time	13	10	72
Medical Only	32	39	26
Report Only	17	17	
	New		**YTD Light Duty Returns**
Light Duty Returns	3		9

Highlights/Comments:

Light Duty Returns

Jan 3 employees returned to work light duty from IA
1 employee returned to light duty assignment after 5 days on IA

Feb 1 employee returned to light duty assignment after 3 days on IA

Mar None

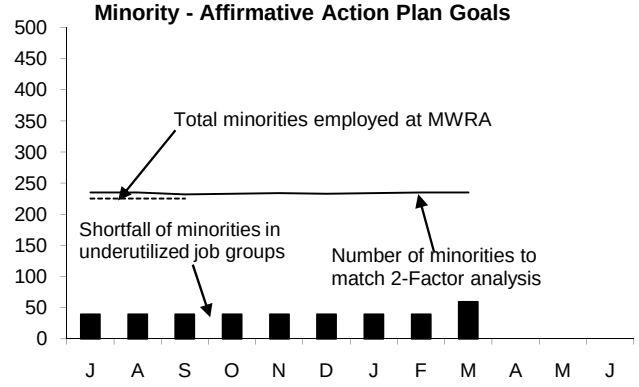
Regular Duty Returns

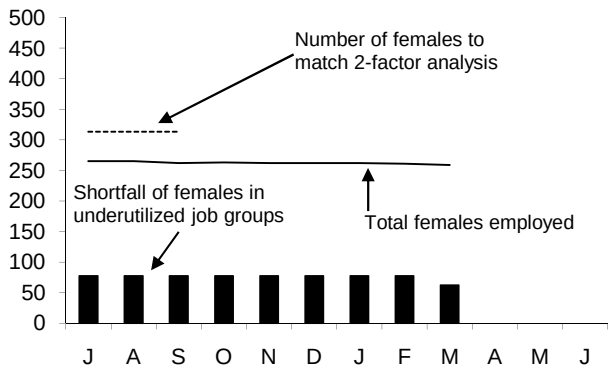
Jan 5 employees returned to work full duty from IA

Feb 2 employees returned to work full duty from IA
1 employee returned to work full duty from a light duty assignment

Mar 3 employees returned to work full duty from IA
1 employee returned to work full duty from a light duty assignment

MWRA Job Group Representation
Q3 - FY14





Highlights:

At the end of Q3 FY14, 10 job groups or a total of 59 positions are underutilized by minorities as compared to 10 job groups or a total of 39 positions at the end of Q3 FY13; for females 13 job groups or a total of 62 positions are underutilized by females as compared to 14 job groups or a total of 76 positions at the end of Q3 FY13. During Q3, 5 minorities and 2 females were hired. During this same period, 2 minorities and 5 females terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 3/31/2014	Minorities as of 3/31/2014	Achievement Level	Minority Over or Under Under utilized	Females As of 3/31/2014	Achievement Level	Female Over or Under Under utilized
Administrator A	20	3	2	1	4	6	-2
Administrator B	21	0	3	-3	3	6	-3
Clerical A	43	18	11	7	37	17	20
Clerical B	33	7	11	-4	12	2	10
Engineer A	79	14	21	-7	11	16	-5
Engineer B	51	13	12	1	7	13	-6
Craft A	114	13	22	-9	0	3	-3
Craft B	151	32	27	5	3	5	-2
Laborer	72	27	17	10	3	4	-1
Management A	102	13	24	-11	33	46	-13
Management B	46	9	12	-3	13	19	-6
Operator A	67	4	7	-3	2	4	-2
Operator B	68	7	17	-10	4	3	1
Para Professional	53	12	16	-4	24	37	-13
Professional A	35	3	8	-5	23	14	9
Professional B	163	45	43	2	75	74	1
Technical A	51	14	8	6	5	8	-3
Technical B	6	1	1	0	0	2	-2
Total	**1175**	**235**	**262**	**32/-59**	**259**	**279**	**41/-62**

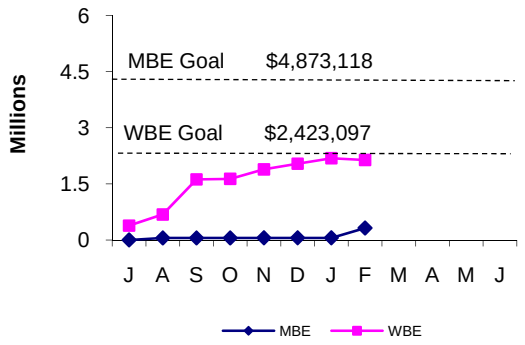
AACU Candidate Referrals for Underutilized Positions

Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/ Transfers	AACU Ref. External	Position Status
Craft A	Unit Supervisor, Electrical	1	Int	1	0	Promo = WM
Craft A	M&O Specialist	2	Int/Ext	0	0	NH=WM, D=WM
Craft B	Electrician	1	Int/Ext	0	1	NH = WM
Craft B	Warehouse Materials Handler	1	Int/Ext	1	1	Promo = WM
Clerical B	Principal Storekeeper	1	Int	1	0	Promo = WM
Engineer A	Laboratory Manager	1	Int/Ext	1	0	Promo = WM
Engineer A	Sr. Staff Engineer, Electrical	1	Int/Ext	0	0	In Progress
Engineer A	Sr. Program Manager, SCADA	1	Int	0	0	In Progress
Engineer A	Project Engineer, PM	1	Int/Ext	1	0	Promo = WM
Engineer A	Sr. Monitoring & Control Engineer	1	Int/Ext	0	0	NH = WM
Engineer A	Junior Civil Engineer	1	Int/Ext	0	0	NH = WM
Laborers	OMC Laborer	4	Int/Ext	0	0	NH=(3) WM & (1) BM
Management A	Project Manager	1	Int	1	0	Transfer = WF
Management B	Facilities Manager	1	Int	0	0	In Progress
Management B	Manager, Process Control	1	Int	0	0	In Progress
Management B	Trans Courier Supervisor	1	Int	1	0	Promo = WM
Professional B	Sr. Sampling Associate	1	Int			In Progress
Professional B	Systems Analyst/ Programmer II	1	Int/Ext	0	0	NH = WM
Professional B	Chemist I	2	Int/Ext	2	0	T = WM, Promo = HM
ParaProfessional	Contract Assistant	1	Int	0	0	NH = WF
Technical A	Systems Administrator III	1	Int/Ext	0	0	In Progress

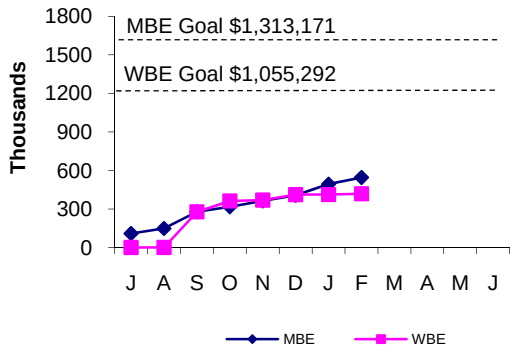
MBE/WBE Expenditures
Q3 - FY14

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 February.

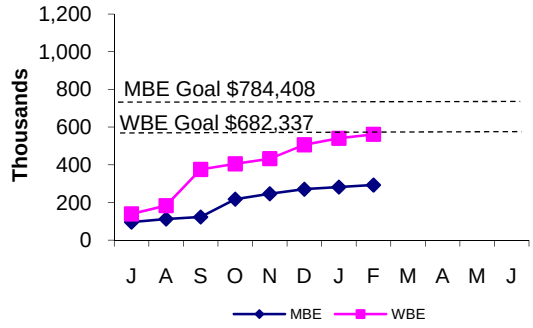
Construction*



Professional



Goods/Services



FY14 spending and percentage of goals achieved, as well as FY13 performance are as follows:

	MBE				WBE			
	FY14 Year-to-Date		FY13		FY14Year-to-Date		FY13	
	Amount	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
Construction	318,795	7.7%	5,364,613	121.7%	2,137,728	104.1%	4,522,050	206.4%
Professional Svc.	545,664	41.6%	1,477,040	134.3%	418,431	39.7%	557,922	63.1%
Goods & Svcs.	292,461	37.3%	1,128,359	378.4%	561,287	82.3%	578,379	223.0%
Total	1,156,920	18.6%	$7,970,012	137.3%	3,117,446	82.2%	$5,658,351	169.7%

MBE/WBE dollar totals include MBE and WBE payments to prime contractors, consultants and vendors.

*Note: The MBE shortfall is the result of changes in contract schedules and therefore projected MBE work for FY14 did not ensue.

MWRA FY14 CEB Expenses through
Q3 – FY14

	March 2014 Year-to-Date ($000)					
	Budget	Actual	Variance	%	FY14 Budet	%
EXPENSES						
WAGES AND SALARIES	$ 69,515	$ 67,259	$ (2,256)	-3.2%	$ 94,874	70.9%
OVERTIME	2,735	2,509	(227)	-8.3%	3,580	70.1%
FRINGE BENEFITS	13,502	13,509	7	0.0%	18,064	74.8%
WORKERS' COMPENSATION	1,500	1,966	466	31.1%	2,000	98.3%
CHEMICALS	7,983	7,788	(195)	-2.4%	10,671	73.0%
ENERGY AND UTILITIES	17,157	16,945	(212)	-1.2%	22,761	74.4%
MAINTENANCE	19,642	20,101	459	2.3%	27,762	72.4%
TRAINING AND MEETINGS	214	211	(3)	-1.5%	331	63.8%
PROFESSIONAL SERVICES	3,897	3,538	(359)	-9.2%	6,083	58.2%
OTHER MATERIALS	2,710	3,322	612	22.6%	5,969	55.6%
OTHER SERVICES	16,481	16,032	(448)	-2.7%	22,279	72.0%
TOTAL DIRECT EXPENSES	**$ 155,336**	**$ 153,179**	**$ (2,156)**	**-1.4%**	**$ 214,374**	**71.5%**
INSURANCE	$ 1,570	$ 1,462	$ (108)	-6.9%	$ 2,094	69.8%
WATERSHED/PILOT	20,411	20,281	(130)	-0.6%	27,215	74.5%
BECo PAYMENT	2,513	2,506	(7)	-0.3%	3,347	74.9%
MITIGATION	1,175	1,134	(41)	-3.5%	1,567	72.4%
ADDITIONS TO RESERVES	127	127	-	0.0%	169	75.0%
RETIREMENT FUND	12,432	12,447	16	0.1%	12,432	100.1%
TOTAL INDIRECT EXPENSES	**$ 38,228**	**$ 37,958**	**$ (271)**	**-0.7%**	**$ 46,823**	**81.1%**
STATE REVOLVING FUND	$ 54,192	$ 54,192	$ -	0.0%	$ 75,961	71.3%
SENIOR DEBT	152,503	152,503	-	0.0%	204,471	74.6%
CORD FUND	-	-	-	---	132	0.0%
DEBT SERVICE ASSISTANCE	-	(854)	(854)	---	-	0.0%
CURRENT REVENUE/CAPITAL	6,900	6,900	-	0.0%	9,200	75.0%
SUBORDINATE MWRA DEBT	74,939	74,939	-	0.0%	100,117	74.9%
LOCAL WATER PIPELINE CP	3,096	3,096	-	0.0%	4,128	75.0%
CAPITAL LEASE	2,413	2,413	-	0.0%	3,217	75.0%
VARIABLE DEBT	-	(9,544)	(9,544)	---	-	0.0%
DEFEASANCE ACCOUNT	-	9,544	9,544	---	-	0.0%
TOTAL DEBT SERVICE	**$ 294,043**	**$ 293,189**	**$ (854)**	**-0.3%**	**$ 397,226**	**73.8%**
TOTAL EXPENSES	**$ 487,606**	**$ 484,326**	**$ (3,281)**	**-0.7%**	**$ 658,423**	**73.6%**
REVENUE & INCOME						
RATE REVENUE	$ 471,541	$ 471,541	$ -	0.0%	$ 628,721	75.0%
OTHER USER CHARGES	5,894	5,847	(47)	-0.8%	8,127	71.9%
OTHER REVENUE	5,261	6,655	1,394	26.5%	6,444	103.3%
RATE STABILIZATION	2,625	2,625	-	0.0%	3,500	75.0%
INVESTMENT INCOME	9,064	9,270	205	2.3%	11,631	79.7%
TOTAL REVENUE & INCOME	**$ 494,385**	**$ 495,937**	**$ 1,553**	**0.3%**	**$ 658,423**	**75.3%**

As of March 2014, total revenue was $495.9 million, $1.6 million or 0.3% higher than budget and total expenses were $484.3 million, $3.3 million or 0.7% less than budget for a net variance of $4.8 million.

Expenses –

- **Direct Expenses** are $153.2 million, $2.2 million or 1.4% less than budget.
- **Wages and Salaries** are underspent by $2.3 million or 3.2% due to lower headcount, mix of salaries for people retiring and new hires, and higher than budgeted use of accrued leave time.
- **Other Materials** are over budget by $612,000 or 22.6% mainly due to vehicle purchases of $713,000 and unbudgeted gas detection equipment of $120,000 offset by lower equipment/furniture of $204,000.
- **Workers Compensation** expenses are higher than budget by $466,000 or 31.1%. The majority of the variance is due to higher than budgeted medical expenses of $372,000.
- **Maintenance** is overspent by $459,000 or 2.3% year-to-date. Material purchases are greater than budgeted by $1.4 million and services are underspent by $904,000. Some of the variance is timing related.
- **Other Services** are underspent by $448,000 or 2.7% due to lower sludge quantities of $501,000, Other Services of $69,000, and Grit & Screenings Removal of $60,000 offset by higher space/lease rentals of $91,000, police details of $55,000, and Membership/dues of $49,000.
- **Professional Services** are underspent by $359,000 or 9.2% mainly for lower as-needed engineering support of $244,000 as well as lower report preparation for the Harbor Monitoring program of $80,000.
- **Overtime** is underspent by $227,000 or 8.3% mainly due to lower than projected emergency wet weather events.
- **Utilities** are over budget by $212,000 or 1.2% due to lower purchase and favorable pricing for diesel fuel of $288,000 mainly at Deer Island offset by higher Electricity of $130,000 mainly for winter congestion pricing.
- **Chemicals** are underspent by $195,000 or 2.4% mainly due to lower Nitrazyme of $190,000 due to Framingham modifications, Liquid Oxygen of $159,000 for lower pricing and volume, and Sodium Bisulfite of $111,000, offset by higher Hydrogen Peroxide of $115,000 due to pretreatment for hydrogen sulfide gas as well as Soda Ash of $106,000.
- **Indirect Expenses** are $38.0 million, $271,000 or 0.7% under budget mainly due to lower Payment in Lieu of Taxes (PILOT) expense of $134,000 and lower insurance expenses of $108,000, mostly related to claims.
- **Debt Service Expenses** totaled $293.2 million, $854,000 or 0.3% below budgeted level after the transfer of $9.5 million of a favorable year-to-date variance to the Defeasance Account. The underspending is due to the receipt of Debt Service Assistance from the Commonwealth which will be used in FY15 to lower community assessments.

Revenue and Income –

- **Total Revenue / Income** for March is $495.9 million, $1.6 million or 0.3% higher than budget due to Non-Rate Revenue of $1.3 million and Investment Income of $205,000. The higher Non-Rate Revenue is due to $427,000 for the sale of emergency water for the Town of Hudson, $233,000 for a Homeland Security grant for the Carroll Plant security gate, $186,000 for the sale of surplus equipment, $152,000 for energy revenue due to Demand Response and Renewable Portfolio Standard (RPS) sales, and approximately $349,000 for of vendor rebates and other smaller items.

Cost of Debt
Q3-FY14

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.

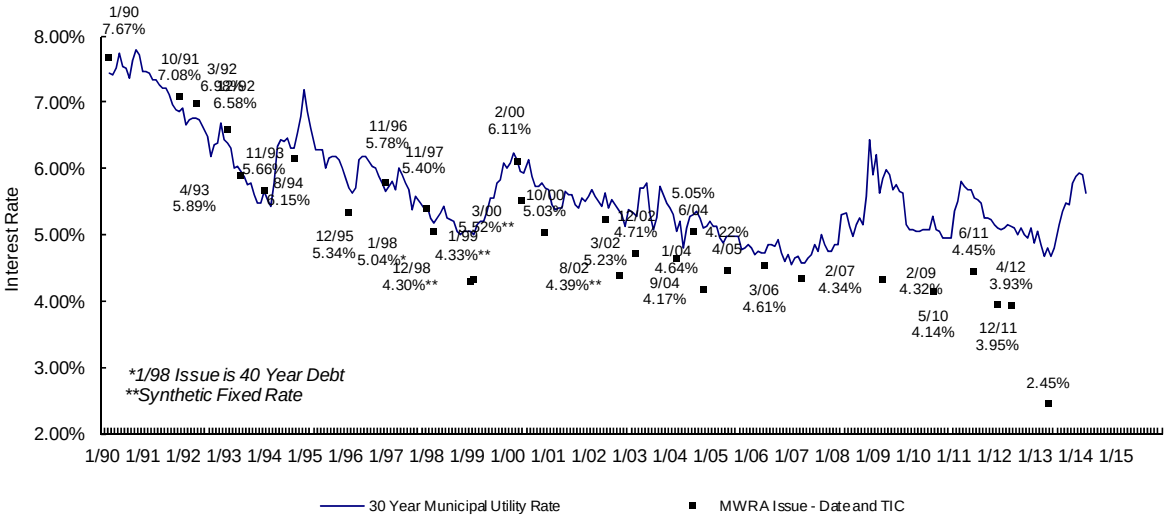
Average Cost of MWRA Debt

Fixed Debt ($4,040)	4.34%
Variable Debt ($484.3)	0.70%
SRF Debt ($1,023)	1.22%
Weighted Average Debt Cost ($5,556)	3.44%

Most Recent Senior Fixed Debt Issue
March 2013

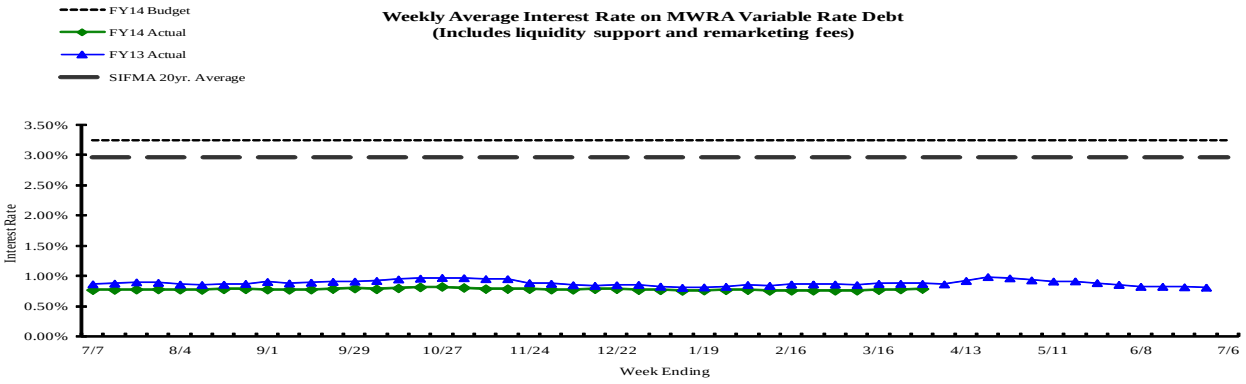
2013 Series A ($170.6)	2.45%

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



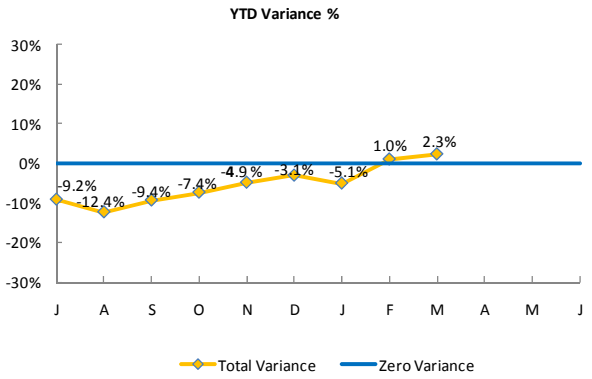
Weekly Average variable Interest Rates vs. Budget

MWRA currently has ten variable rate debt issues with $1.0 billion outstanding, excluding commercial paper. Of the ten 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 March, SIFMA rates fluctuated with a high of 0.06% and a low of 0.03%. 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.

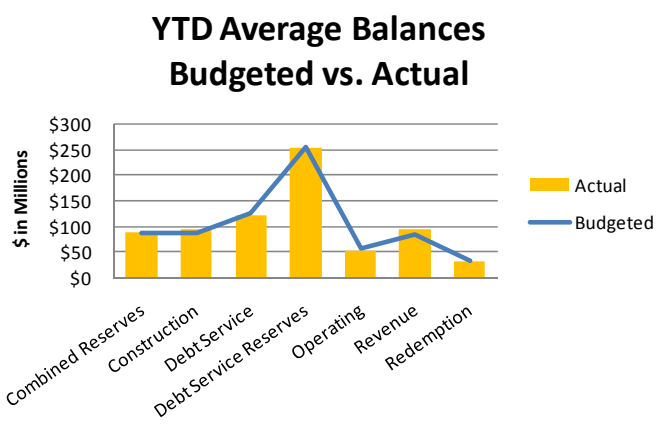


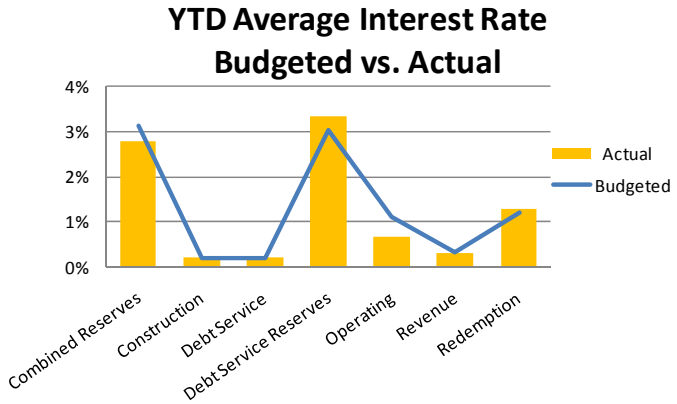
Investment Income
Q3 –FY14

Year To Date

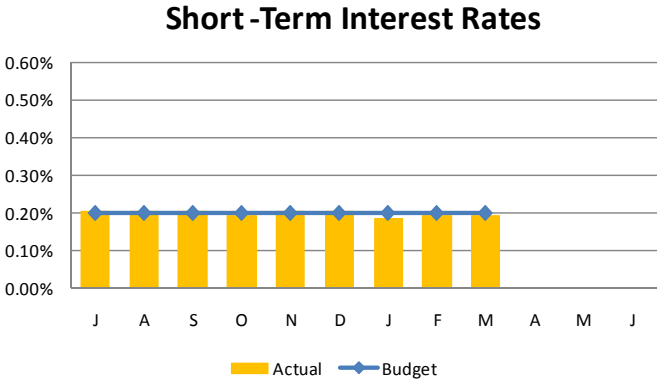


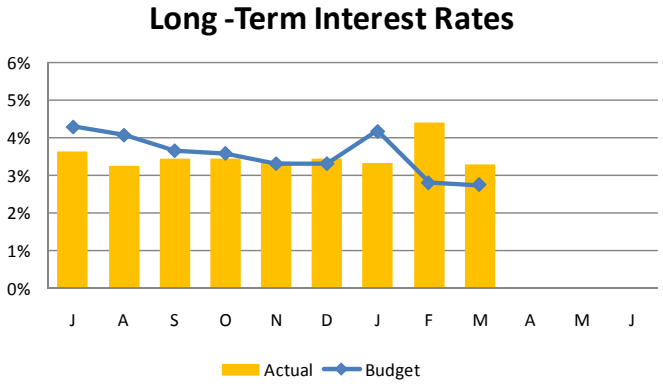
	YTD BUDGET VARIANCE ($000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	$47	($254)	(207)	-10.1%
Construction	$7	($3)	4	3.4%
Debt Service	($10)	($5)	(15)	-7.9%
Debt Service Reserves	$0	$590	590	10.3%
Operating	($22)	($177)	(198)	-42.5%
Revenue	$23	($17)	6	2.9%
Redemption	$0	$24	25	8.4%
Total Variance	$46	$159	$205	2.3%

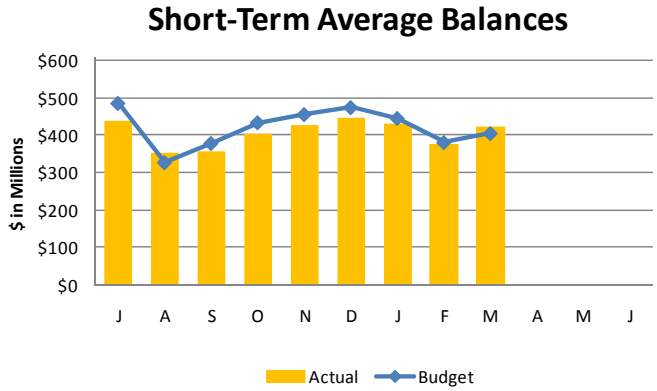


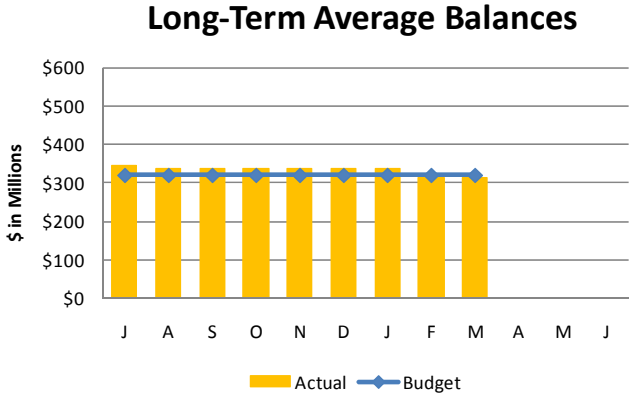


Monthly









STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Delegated Authority Report – April 2014

COMMITTEE: Administration, Finance & Audit

X INFORMATION
___ VOTE

Rachel C. Madden
Director, Administration & Finance

Barbie Aylward, Administrator A & F
Joanne Gover, Admin. Systems Coordinator
Preparer/Title

Michele Gillen
Deputy Director, Administration & Finance

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period April 1 through April 30, 2014 .

This report is broken down into three sections:

- Awards of Construction, non-professional and professional services contracts and change orders and amendments in excess of $25,000, including credit change orders and amendments in excess of $25,000;
- Awards of purchase orders in excess of $25,000; and
- Amendments to the Position Control Register, if applicable.

BACKGROUND:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on October 14, 2009, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to $1 million if the award is to the lowest bidder; or up to $500,000 if the award is to other than the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or $250,000, whichever is less, where the change increases the contract amount, and for a term not exceeding an aggregate of six months; and for any amount and for any term, where the change decreases the contract amount. The delegations for cost increases and time can be restored by Board vote.

Professional Service Contract Awards:

Up to $100,000 and one year with a firm; or up to $50,000 and one year with an individual.

Non-Professional Service Contract Awards:

Up to $250,000 if a competitive procurement process has been conducted, or up to $100,000 if a procurement process other than a competitive process has been conducted.

Purchase or Lease of Equipment, Materials or Supplies:

Up to $1 million if the award is to the lowest bidder; or up to $500,000 if the award is to other than the lowest bidder.

Amendments:

Up to 25% of the original contract amount or $250,000, whichever is less, and for a term not exceeding an aggregate of six months.

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

Recommendations for delegated authority approval include information on the budget/fiscal impact related to the action. For items funded through the capital budget, dollars are measured against the approved capital budget. If the dollars are in excess of the amount authorized in the budget, the amount will be covered within the five-year CIP spending cap. For items funded through the Current Expense Budget, variances are reported monthly and year-end projections are prepared at least twice per year. Staff review all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA budget.

CONSTRUCTION/PROFESSIONAL SERVICES DELEGATED AUTHORITY ITEMS APRIL 1 - 30, 2014

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	04/02/14	**FIRE ALARM AND FIRE SPRINKLER SYSTEM SERVICE** DECREASE ESTIMATED QUANTITIES FOR SPRINKLER MONITORING SERVICES, ON-SITE TESTING AND REPAIR SERVICES, NON-EMERGENCY AND EMERGENCY REPAIR SERVICES, REPLACEMENT PARTS, RENTAL EQUIPMENT AND MARK-UP.	OP-147	5	SIMPLEX GRINNELL LP	($230,077.81)
C-2.	04/02/14	**DAM BREACH INUNDATION MODELING AND EMERGENCY ACTION PLAN PREPARATION FOR SPOT POND RESERVOIR DAM AND DIKE, HIGH FELLS RESERVOIR DAMS AND CHESTNUT HILL RESERVOIR DAM** AWARD OF CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR INUNDATION MODELING/MAPPING AND PREPARATION OF EMERGENCY ACTION PLANS FOR SPOT POND, HIGH FELLS AND CHESTNUT HILL DAMS FOR A TERM OF ONE YEAR, PER MOU WITH DCR.	EXE-032	AWARD	GZA GEOENVIRONMENTAL, INC.	$53,858.00
C-3.	04/02/14	**RENEWABLE AND ALTERNATIVE ENERGY PORTFOLIO SERVICES** AWARD OF CONTRACT, UNDER STATE CONTRACT FAC83, FOR RENEWABLE AND ALTERNATIVE ENERGY PORTFOLIO SERVICES FOR A TERM OF TWELVE MONTHS.	RPS-51	AWARD	ENERGY ROI, LLC	$86,000.00
C-4.	04/02/14	**SECURITY IMPROVEMENTS AT VARIOUS FACILITIES** AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER FOR SECURITY IMPROVEMENTS AT VARIOUS FACILITIES FOR A TERM OF 360 CALENDAR DAYS, INCLUDING INSTALLATION OF INTRUSION DETECTION EQUIPMENT, CCTV CAMERAS, CARD READERS, ETC.	6760W	AWARD	EWING ELECTRICAL CO., INC.	$992,700.00
C-5.	04/04/14	**DIESEL GENERATOR MAINTENANCE JOHN J. CARROLL WATER TREATMENT PLANT** DECREASE ESTIMATED QUANTITIES FOR UNSPECIFIED MAINTENANCE/REPAIR, REPLACEMENT PARTS AND MARK-UP ALLOWANCE AND FACTORY AUTHORIZED SERVICE REPRESENTATIVE.	OP-171	3	AUTHORIZED SERVICES OF NEW ENGLAND	($27,784.24)
C-6.	04/04/14	**GROUNDSKEEPING SERVICES - METROPOLITAN BOSTON** EXTEND CONTRACT TERM BY 120 CALENDAR DAYS TO ENSURE THE TIMELY AND UNINTERRUPTED PERFORMANCE OF CONTRACT-SPECIFIED GROUNDSKEEPING SERVICES UNTIL REPLACEMENT GROUNDSKEEPING CONTRACT CAN BE PUT INTO PLACE.	OP-183	1	DTZ, INC. AKA UGL SERVICES UNICCO OPERATIONS CO.	$47,288.00
C-7.	04/04/14	**COMMUNITY LEAK DETECTION SERVICES** CONTINUE TO PROVIDE MEMBER COMMUNITIES WITH THE FLEXIBILITY TO SELECT PREFERRED CONTRACTOR (LISTON IS ONE OF FIVE CONTRACTORS OFFERED AND ITS CONTRACT LIMIT OF $200,000 HAS BEEN REACHED.)	W293B	1	LISTON UTILITY SERVICES	$50,000.00
C-8.	04/10/14	**QUABBIN RESERVOIR SPILLWAY FENCING REHABILITATION** AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER FOR THE REHABILITATION OF ORIGINAL CIRCA 1940 STEEL FENCE AT THE QUABBIN RESERVOIR SPILLWAY FOR A TERM OF 106 CALENDAR DAYS.	OP-241	AWARD	PREMIER FENCE, LLC	$398,990.00
C-9.	04/11/14	**QUABBIN UV DISINFECTION FACILITIES** REACTIVATION OF AN INACTIVE WATER WELL; INSTALL TWO AIR COOLED CONDENSING UNITS ON NORTH SIDE OF THE UV BUILDING.	6776	4	DANIEL O'CONNELL'S SONS, INC.	$125,506.76
C10.	04/11/14	**WACHUSETT AQUEDUCT PUMPING STATION** ADDITIONAL ENGINEERING SERVICES NEEDED TO ENHANCE ENERGY EFFICIENCIES AND POWER GENERATION; PHOTOVOLTAIC SYSTEM DESIGN; GEOTHERMAL COOLING AND HEATING SYSTEM DESIGN; NATIONAL GRID POLE RELOCATION EVALUATION.	7156	1	FAY SPOFFORD & THORNDIKE, LLC	$231,612.93
C11.	04/18/14	**AUDIT SERVICES** EXERCISE OPTION TO EXTEND TERM BY 36 MONTHS FROM MARCH 31, 2014 TO MARCH 31, 2017	F223	1	KPMG LLP	$382,550.00
C12.	04/28/14	**WATERTOWN SECTION REHABILITATION, WALTHAM AND WATERTOWN** DECREASE ESTIMATED QUANTITIES FOR HANDLED, STORED AND TRANSPORTED GROUP I, II-A, II-B MATERIAL, STEEL PIPE WALL REPAIR, POLICE DETAIL SERVICES, UTILITY COMPANY RELOCATION SERVICES; MILL AND OVERLAY OF PAVEMENT ON PLEASANT STREET IN WATERTOWN, NEWTON AND RIVER STREET IN WALTHAM.	7222	4	J. D'AMICO, INC.	($133,444.96)

PURCHASING DELEGATED AUTHORITY ITEMS - April 1 - 30, 2014

NO.		TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	4/2/14	**INFOR LANDMARK ENVIRONMENT, STRATEGIC SOURCING AND CONTRACT MANAGEMENT (SSCM) APPLICATIONS UPGRADES** AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE UPGRADE OF THE INFOR LANDMARK ENVIRONMENT VERSION 10.0.4.5 TO 10.1 AND THE STRATEGIC SOURCING AND CONTRACT MANAGEMENT (SSCM) APPLICATIONS FOR VERSION 9.1.0 TO 9.1.1 IN THE AMOUNT NOT TO EXCEED $47,520.00. THE INFOR LAWSON SYSTEM CONSISTS OF THE FINANCIAL, PROCUREMENT AND HUMAN RESOURCES/PAYROLL APPLICATIONS AND THE HYPERION PILLAR SYSTEM USED FOR THE CURRENT EXPENSE AND CAPITAL IMPROVEMENT BUDGET.			INFOR GLOBAL SOLUTIONS, INC.	$47,520.00
P-2.	4/2/14	**THREE SLIDING VALVES WITH ACTUATORS** AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THREE SLIDING STEM VALVES WITH ACTUATORS. METHANE IS COLLECTED AND USED IN THREE HORIZONTAL, STRAIGHT-LINE GAS HANDLING COMPRESSORS IN DEER ISLAND'S ON-SITE THERMAL/POWER PLANT; TWO OF THE THREE COMPRESSORS OPERATE AT ALL TIMES. THE THREE COMPRESSORS, MANUFACTURED BY NORWALK COMPRESSOR COMPANY, WERE INSTALLED IN 1998. COLLECTIVELY, THEY HAVE AN AVERAGE TOTAL OPERATING TIME OF APPROXIMATELY 30,000 HOURS. HOWEVER, OVER THE PAST YEAR, THE GAS VALVES HAVE NOT BEEN OPERATING AS DESIGNED; ALTHOUGH OPERATING, THEY NEED CONSTANT CARE. BECAUSE OF WEAR ON THE STEM AND PITTING WHERE THE PLUG SEATS, STAFF RECOMMENDED THAT ALL THREE VALVE ASSEMBLIES BE REPLACED.			NORWALK COMPRESSOR COMPANY	$53,763.00
P-3.	4/2/14	**TWO REPAIR KITS FOR SPLIT MECHANICAL SEALS** AWARD OF A SOLE SOURCE PURCHASE ORDER FOR TWO REPAIR KITS FOR SPLIT MECHANICAL SEALS FOR THE NORTH MAIN PUMP STATION AT THE DEER ISLAND TREATMENT PLANT. THERE ARE TEN 3,500-HORSEPOWER RAW WASTEWATER PUMPS IN THE NORTH MAIN PUMP STATION (NMPS), WHICH WERE MANUFACTURED BY FAIRBANKS MORSE. PUMP 7 HAS BEEN OUT OF SERVICE FOR TWO YEARS AND IS NOW BEING BROUGHT BACK ON LINE. MAINTENANCE STAFF MANUALLY ROTATE PUMP SHAFTS MONTHLY WHEN ANY PUMP IS IDLED TO PREVENT BEARING DAMAGE. HOWEVER, THE PROLONGED PERIOD OF TIME THAT PUMP 7 HAS BEEN OUT OF SERVICE HAS CAUSED THE SEAL TO LEAK. STAFF RECOMMEND THE IMMEDIATE PURCHASE OF A SEAL KIT TO FIT THIS PUMP AND IMMEDIATELY RESOLVE THE LEAK PROBLEM. STAFF FURTHER RECOMMEND THE PURCHASE OF ANOTHER SPARE REPAIR SEAL KIT THAT CAN FIT ANY ONE OF THE REMAINING NINE NMPS PUMPS TO ALLOW STAFF TO PERFORM AN IMMEDIATE REPAIR SHOULD A SIMILAR LEAK OCCUR.			A.W. CHESTERTON COMPANY	$85,630.00
P-4.	4/2/14	**TWO HEAT EXCHANGER PLATE PACKS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO HEAT EXCHANGER PLATE PACKS FOR THE DEER ISLAND TREATMENT PLANT. THE DIGESTER HEATING SYSTEM ON DEER ISLAND CONSISTS OF HEAT EXCHANGERS, PUMPS, AND CONTROLS TO MAINTAIN THE DIGESTER CONTENTS AT APPROXIMATELY 98 DEGREES FAHRENHEIT. HOT WATER IS PIPED TO EACH DIGESTER MODULE, WITHOUT REDUNDANCY, WHICH HEATS UP THE SECONDARY HOT WATER LOOP. THIS HEAT EXCHANGER IS A CRITICAL PIECE OF EQUIPMENT FOR SUPPLYING HEAT TO THE DIGESTER. THE HEAT EXCHANGER IS A PLATE AND FRAME DESIGN. ALTHOUGH PLATE PACKS CAN OFTEN TIMES BE REFURBISHED AND REGASKETED TO EXTEND THEIR SERVICEABLE LIFE, TWO OF DEER ISLAND'S PLATE PACKS HAVE ALREADY BEEN REFURBISHED ONCE BACK TO THE ORIGINAL EQUIPMENT MANUFACTURERS STANDARD. THESE PACKS WERE AGAIN RECENTLY PRESSURE-WASHED AND TESTED USING AN INDUSTRY STANDARD DYE PENETRATE TEST AND FOUND TO BE BEYOND REPAIR. STAFF DETERMINED THAT THE FRAME IS STILL IN SERVICEABLE CONDITION BUT NEW REPLACEMENT PACKS ARE NEEDED.	WRA-3790		F.W. WEBB COMPANY	$123,255.00
P-5.	4/2/14	**SUPPLY AND DELIVERY OF SODIUM BISULFITE** AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF SODIUM BISULFITE TO THE DEER ISLAND TREATMENT PLANT.	WRA-3784	1	SOUTHERN IONICS, INC.	$162,030.00
P-6.	4/2/14	**SUPPLY AND DELIVERY OF CARBON DIOXIDE** AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF CARBON DIOXIDE TO THE JOHN J. CARROLL WATER TREATMENT PLANT.	WRA-3787		PRAXAIR, INC.	$280,060.00
P-7.	4/11/14	**FLAME ARRESTER INSULATION BLANKETS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR FLAME ARRESTER INSULATION BLANKETS FOR THE DEER ISLAND TREATMENT PLANT. A FLAME ARRESTOR IS A SAFETY DEVICE INSTALLED IN THE DIGESTER RELIEF PIPING BETWEEN THE DIGESTER AND RELIEF VALVE AND DESIGNED TO PREVENT A FLAME, POSSIBLY CREATED BY A LIGHTNING STRIKE AT THE VENT-PIPING EXIT, FROM MIGRATING BACK INTO THE DIGESTER. TO PREVENT THE GAS FROM FREEZING IN THE WINTER, EACH FLAME ARRESTER IS EQUIPPED WITH HEAT TRACING AND IS THEN WRAPPED WITH A FORM-FITTED INSULATION BLANKET. THERE ARE A TOTAL OF 24 FLAME ARRESTOR INSULATION BLANKETS FOR ALL DIGESTERS IN MODULES 1, 2, AND 3. THESE INSULATION BLANKETS ARE ORIGINAL BOSTON HARBOR PROJECT PLANT EQUIPMENT AND HAVE BEEN EXPOSED TO THE WEATHER, SUNLIGHT, AND THE HARSH OCEAN ENVIRONMENT, AND ARE IN NEED OF REPLACEMENT. BID WRA-3824Q IS FOR THE EIGHT DIGESTERS IN MODULE 1. STAFF PLAN TO REPLACE THE REMAINING 16 INSULATION BLANKETS FOR MODULES 2 AND 3 IN FY15.	WRA-3824Q		TECHNOLOGY SALES ASSOCIATES	$28,000.00
P-8.	4/11/14	**BATTERY CHARGERS AND BATTERIES** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR A BATTERY CHARGER AND BATTERIES FOR THE CARROLL WATER TREATMENT PLANT. THE JOHN J. CARROLL WATER TREATMENT PLANT IS NOW ALMOST NINE YEARS OLD. THE PLANT HAS FOUR BACK-UP GENERATORS IN CASE OF AN UNANTICIPATED LOSS OF POWER. THE BATTERIES AND CHARGERS FOR TWO OF THESE GENERATORS ARE NEARING THE END OF THEIR EXPECTED USEFUL AND RELIABLE LIFE AND STAFF RECOMMENDED THAT THEY BE REPLACED.	WRA-3841Q		WILLIAMSON NEW ENGLAND ELECTRICAL	$29,892.00
P-9.	4/11/14	**TWO TRUCK-MOUNTED VALVE OPERATION MACHINES** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO TRUCK-MOUNTED VALVE OPERATION MACHINES FOR WATER VALVE TRUCKS. METROPOLITAN WATER OPERATIONS AND MAINTENANCE EXERCISES, OPERATES, AND MAINTAINS MORE THAN 5,000 VALVES. VALVE EXERCISING IS NECESSARY TO MAXIMIZE THE OPERATIONAL FLEXIBILITY OF THE SYSTEM. MANY OF THE VALVES HAVE TURN COUNTS IN THE HUNDREDS, AND SOME EVEN IN THE THOUSANDS. TO ACCOMPLISH THIS TASK MORE QUICKLY AND EFFICIENTLY, STAFF UTILIZE VALVE OPERATORS THAT ARE MOUNTED DIRECTLY ONTO MWRA VEHICLES AND ARE POWERED BY A HYDRAULIC POWER SYSTEM ON THE VEHICLE. MWRA HAS BEEN PURCHASING THESE DEVICES AND INSTALLING THEM IN ITS VEHICLES FOR ALMOST 20 YEARS. THE FY14 CIP INCLUDES FUNDING FOR TWO REPLACEMENT VALVE TRUCKS FOR METROPOLITAN VALVE CREWS. HOWEVER, IN FY13, THE ONE REMAINING SPARE VALVE OPERATOR WAS USED WHEN A SECOND NEW WESTERN VALVE TRUCK WAS OUTFITTED. THUS, THERE IS AN IMMEDIATE NEED TO PURCHASE TWO HYDRAULIC VALVE OPERATORS.	WRA-3804		E.H. WACHS CO.	$39,990.00

PURCHASING DELEGATED AUTHORITY ITEMS - April 1 - 30, 2014

NO.		TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-10.	4/11/14	**EXALT RADIO UPGRADE FOR MICROWAVE COMMUNICATIONS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER TO UPGRADE MWRA'S EXALT RADIO FOR A MICROWAVE TOWER LINK. IN MID-2012, SCADA STAFF BEGAN THE PROCESS OF REPLACING MWRA'S OLDER, LOWER-CAPACITY PROXIM MICROWAVE RADIOS, WHICH WERE PURCHASED IN 2002 AND WERE STARTING TO REQUIRE INCREASINGLY MORE FREQUENT AND COSTLY REPAIRS. THE RADIOS BEING INSTALLED ARE EXALT RADIOS, WHICH, IN ADDITION TO PROVIDING STRONG ENCRYPTION, CAN TRANSMIT A LARGER VOLUME OF DATA AND ARE COMPATIBLE WITH BOTH A COMMON TECHNOLOGY USED BY MWRA'S SCADA SYSTEM AND THE TECHNOLOGY BEING ROLLED OUT BY MWRA'S SECURITY SYSTEM. BECAUSE OF HEIGHTENED RADIO COMMUNICATION SECURITY CONCERNS, STAFF RECOMMENDED THAT COMPLETION OF THE RADIO REPLACEMENTS BE ACCELERATED.	WRA-3786		INFINITI WIRELESS, INC.	$56,022.00
P-11.	4/11/14	**METALS TESTING SUPPLIES** AWARD OF A THREE-YEAR, SOLE-SOURCE PURCHASE ORDER FOR TESTING SUPPLIES FOR THE DEPARTMENT OF LABORATORY SERVICES' METALS INSTRUMENTS AT DEER ISLAND. THE DEPARTMENT OF LABORATORY SERVICES (DLS) CURRENTLY HAS FIVE OPERATING METALS INSTRUMENTS AT ITS CENTRAL LABORATORY, PLUS A CARBON/HYDROGEN/NITROGEN ANALYZER PURCHASED FROM PERKIN ELMER. EACH OF THESE INSTRUMENTS NEEDS REPLACEMENT PARTS AND CONSUMABLE SUPPLIES THAT HAVE SPECIFIC FUNCTIONALITIES AND PROPERTIES TO WORK IN THE HIGHLY SENSITIVE INSTRUMENTS. PERKIN ELMER IS THE ONLY VENDOR THAT CAN SUPPLY COMPATIBLE AND GUARANTEED PARTS FOR MWRA'S EXISTING PERKIN ELMER INSTRUMENTS.			PERKIN ELMER, INC.	$60,000.00
P-12.	4/11/14	**INVASIVE PLANTS CONTROL** APPROVAL OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR INVASIVE PLANT CONTROL AT THE CHESTNUT HILL RESERVOIR. MWRA UTILIZES THE CHESTNUT HILL RESERVOIR AS AN EMERGENCY DRINKING WATER SUPPLY SYSTEM FOR GREATER BOSTON COMMUNITIES. THE RESERVOIR WAS LAST USED BRIEFLY IN AN EMERGENCY CAPACITY IN 2010 AND IS PRESENTLY IN AN OFF-LINE STATUS. THE RESERVOIR HAS BECOME HEAVILY INFESTED WITH INVASIVE PLANTS. HOWEVER, A NATIVE PLANT, COONTAIL, REACHED NUISANCE DENSITIES IN 2012 AND 2013 WITH UNSIGHTLY FLOATING MATS THROUGHOUT THE RESERVOIR AND NEEDED TO BE ADDRESSED. FOR THE UPCOMING SEASON, STAFF PLAN TO CONTINUE INVASIVE PLANT CONTROL IN THE CHESTNUT HILL RESERVOIR DEPLOYING A MECHANICAL PLANT HARVESTER IN THE MAIN BASIN. THE CONTRACTOR ALSO WILL BE REQUIRED TO PROVIDE FIVE DAYS OF ADDITIONAL DIVER SERVICES (ONCE PER MONTH FROM JULY THROUGH NOVEMBER) TO KEEP GATEHOUSE #2'S INTAKE AREA CLEAN OF VEGETATION IN THE EVENT OF AN ACTIVATION. THE PERIOD OF CONTROL WORK UNDER THIS PURCHASE ORDER CONTRACT WILL BE JULY 1, 2014 TO NOVEMBER 1, 2014.	WRA-3808		LYCOTT ENVIRONMENTAL, INC.	$79,000.00
P-13.	4/11/14	**EIGHT HEAT EXCHANGER PLATE PACKS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR EIGHT HEAT EXCHANGER PLATE PACKS FOR THE DEER ISLAND TREATMENT PLANT. A HEAT EXCHANGER IS A PIECE OF EQUIPMENT BUILT FOR EFFICIENT HEAT TRANSFER FROM ONE MEDIUM TO ANOTHER. MANY OF DEER ISLAND'S HEAT EXCHANGERS, WHICH ARE PLATE-AND-FRAME-TYPE, ARE ALMOST 20 YEARS OLD. ALTHOUGH HVAC STAFF HAVE PERFORMED MAINTENANCE ON THE HEAT EXCHANGERS, INCLUDING REFURBISHMENT AND RE-GASKETING OF THE INDIVIDUAL PLATES, MANY OF THE PLATES ARE STARTING TO LEAK AND ARE NO LONGER SERVICEABLE AND MUST BE REPLACED.	WRA-3779		F. W. WEBB COMPANY	$110,180.00
P-14.	4/11/14	**ELEVEN CONDENSING UNITS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ELEVEN CONDENSING UNITS FOR THE DEER ISLAND TREATMENT PLANT. MAINTAINING PROPER AMBIENT AIR TEMPERATURES AND HUMIDITY LEVELS IS CRITICAL TO REDUCING OCCURRENCES OF HEAT-RELATED STRESSES ON HVAC OPERATIONS AND ELECTRICAL SYSTEMS THROUGHOUT THE DEER ISLAND TREATMENT PLANT. THE ELEVEN CONDENSING UNITS BEING REPLACED UNDER THIS PROCUREMENT, ALL ORIGINAL TO THE BOSTON HARBOR PROJECT AND DITP START-UP, ARE CURRENTLY IN VARIOUS STAGES OF DISREPAIR, AND ALL ARE RUNNING BELOW SPECIFIED PERFORMANCE LEVELS AND UNABLE TO MAINTAIN CONSISTENT DESIRED TEMPERATURES. THESE REPLACEMENTS ARE PART OF A LARGER OVERALL HVAC PROGRAM TO UPGRADE ALL OF THE COOLING SYSTEMS ON DEER ISLAND.	WRA-3797		TECHNOLOGY INTERNATIONAL, INC.	$164,245.00
P-15.	4/11/14	**SUPPLY AND DELIVERY OF SODIUM HYDROXIDE** AWARD OF TWO SEPARATE ONE-YEAR PURCHASE ORDER CONTRACTS TO THE LOWEST RESPONSIVE BIDDERS FOR THE SUPPLY AND DELIVERY OF SODIUM HYDROXIDE TO THE DEER ISLAND TREATMENT PLANT.	WRA-3807		UNIVAR USA, INC BORDEN & REMINGTON CORP.	$184,799.00 $53,088.00
P-16.	4/28/14	**100 MANHOLE FRAMES AND 100 MANHOLE COVERS** AWARD OF A SOLE SOURCE PURCHASE ORDER FOR 100 MANHOLE FRAMES AND 100 MANHOLE COVERS. THERE ARE APPROXIMATELY 4,000 WASTEWATER STRUCTURES WITHIN THE MWRA WASTEWATER SYSTEM. THE STRUCTURES GENERALLY HAVE MANHOLE FRAMES THAT HOLD MANHOLE COVERS THAT CAN BE REMOVED TO ALLOW ACCESS FOR INSPECTION, CLEANING, AND MAINTENANCE. MANY OF THE MANHOLE FRAMES AND COVERS ARE LOCATED IN PUBLIC ROADWAYS AND ARE SUBJECT TO FREQUENT DAMAGE FROM LARGE VEHICLES. ON AVERAGE, WASTEWATER PIPELINE STAFF REPLACE APPROXIMATELY 100 FRAMES AND COVERS EACH YEAR. THE CHELSEA WAREHOUSE STOCKS THE MANHOLE FRAMES AND COVERS AND INVENTORY NEEDS TO BE PERIODICALLY REPLENISHED.	WRA-3830Q		EAST JORDAN IRON WORKS, INC.	$36,500.00
P-17.	4/28/14	**FIVE NETWORK DATA DIODES** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR FIVE NETWORK DATA DIODES FOR THE SCADA SYSTEM. IT IS NECESSARY TO SEND DATA FROM THE SCADA NETWORK TO THE MIS NETWORK FOR REGULATORY REPORTING, DATA ARCHIVING, AND OTHER BUSINESS/PLANNING/ OPERATIONAL MONITORING. TO ENSURE THAT MWRA'S CONFIGURATION FOR THIS NETWORK CONNECTION IS THE MOST UP-TO-DATE AND SECURE AS POSSIBLE, AND TO PROTECT IT FROM REMOTE CYBER ATTACKS, STAFF RECOMMENDED THE INSTALLATION OF A DATA DIODE SYSTEM, WHICH WILL PROVIDE A SECURE ONE-WAY CONNECTION FOR THE TRANSMISSION OF THE REQUIRED SCADA INFORMATION OUT TO THE MIS NETWORK AND WOULD PREVENT HACKERS OR MALWARE FROM GETTING IN.	WRA-3795Q		HUB TECHNICAL SERVICES LLC	$176,275.00

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: FY14 Financial Update and Summary

COMMITTEE: Administration, Finance & Audit

X INFORMATION
___ VOTE

Kathy Soni, Budget Director
David Whelan, Budget Manager
Preparer/Title

Rachel C. Madden
Director, Administration and Finance

RECOMMENDATION:

For information only. This staff summary provides the financial update and variance highlights through April 2014, comparing actual spending to the FY14 Budget and a preliminary year-end projection for the Current Expense Budget.

DISCUSSION:

Total year-to-date expenses are lower than budget by $4.8 million or 0.9% due to lower direct expenses of $3.6 million, lower debt service expense of $854,000 due to the receipt of Debt Service Assistance (DSA) from the Commonwealth of Massachusetts which will be used in FY15 to lower community assessments per the Advisory Board's recommendation, lower indirect expenses of $361,000, and higher total non-rate revenues of $4.8 million or 0.9% for a net variance of $9.6 million. In April, MWRA and all defendants finalized a negotiated "no admissions" settlement agreement to avoid future litigation costs and risks, and MWRA received payments totaling $3.1 million in exchange for the dismissal of all disputed claims of all parties to the 2010 water main break cost recovery lawsuit. The monies received were treated as revenue which results in additional favorable variance for FY14.

In line with the Authority's long standing multi-year rate strategy, in April $1.0 million was transferred to the Defeasance Account as a result of the continued low interest variable rate environment which brought the year-to-date balance to $10.6 million. Without the transfer of the $10.6 million in debt service savings to the Defeasance Account, the total year-to-date budgetary variance through April would have been $20.2 million.

Should the low short-term interest rates trends continue the variable rate debt underspending is expected to grow to $16.2 million by year-end. Other Debt Service related savings due to the timing of both the MWRA and State Revolving Fund new money borrowings are projected at $3.6 million, resulting in a potential Defeasance Account balance at year-end of $19.8 million.

Beyond debt service savings, staff projects year-end underspending of $3.7 million for direct expenses, $664,000 for indirect expenses, the effect of $854,000 for the receipt of DSA, and greater than budgeted non-rate revenues of $4.6 million for a total of $9.8 million.

Overall, the year-end favorable variance is projected at approximately $29.6 million. From the $29.6 million projected favorable variance for FY14, the $854,000 of DSA is intended to be applied as a direct offset to FY15 debt service and used to lower the FY15 Final community assessments.

The surplus funds, as in the past few years, will be used as the source to defease debt in the most challenging future years. The proposed defeasance for FY14 is the subject of a separate Staff Summary being presented to the Board today.

Staff will continue to refine the year-end projections in May and present the latest estimate to the Board during the June budget hearings.

Total Expenses were lower than budget by $4.8 million or 0.9% and total Revenues were higher than budget by $4.8 million or 0.9%.

The expense variances by major categories are represented in the table below:

	FY14 Budget (April)	FY14 Actual (April)	$ Variance	% Variance
Direct Expenses	$172.7	$169.1	-$3.6	-2.1%
Indirect Expenses	$40.9	$40.5	-$0.4	-0.9%
Debt Service	$324.6	$323.8	-$0.9	-0.3%
Total	**$538.2**	**$533.4**	**-$4.8**	**-0.9%**

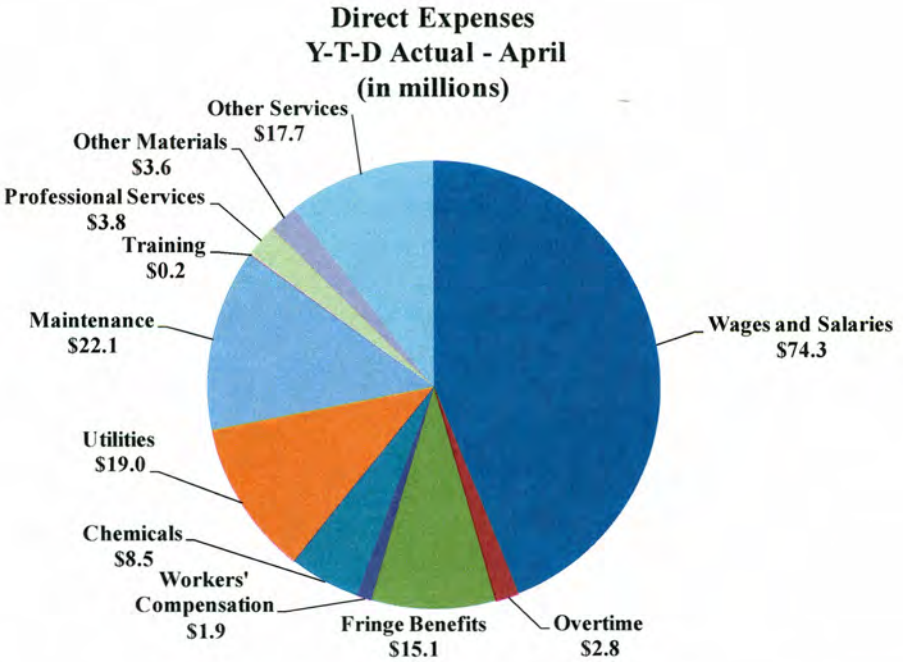
Besides debt service, the largest variances year-to-date are driven by:

- Direct Expenses being lower than budget by $3.6 million for Wages and Salaries, Professional Services, Other Services, Chemicals, and Maintenance;
- Indirect Expenses being lower than budget by $361,000 mainly for lower Watershed Payment in Lieu of Taxes (PILOT) expenses and lower Insurance expenses, mostly for claims; and
- Revenues exceeding budget by $4.8 million due to Non-Rate Revenue of $4.6 million mainly due to $3.1 million for proceeds of the water main recovery lawsuit, $427,000 for the sale of unbudgeted emergency water for the Town of Hudson, $233,000 for the receipt of a Homeland Security grant for the Carroll Plant security gate, as well as a variety of other items and higher investment income of $294,000.

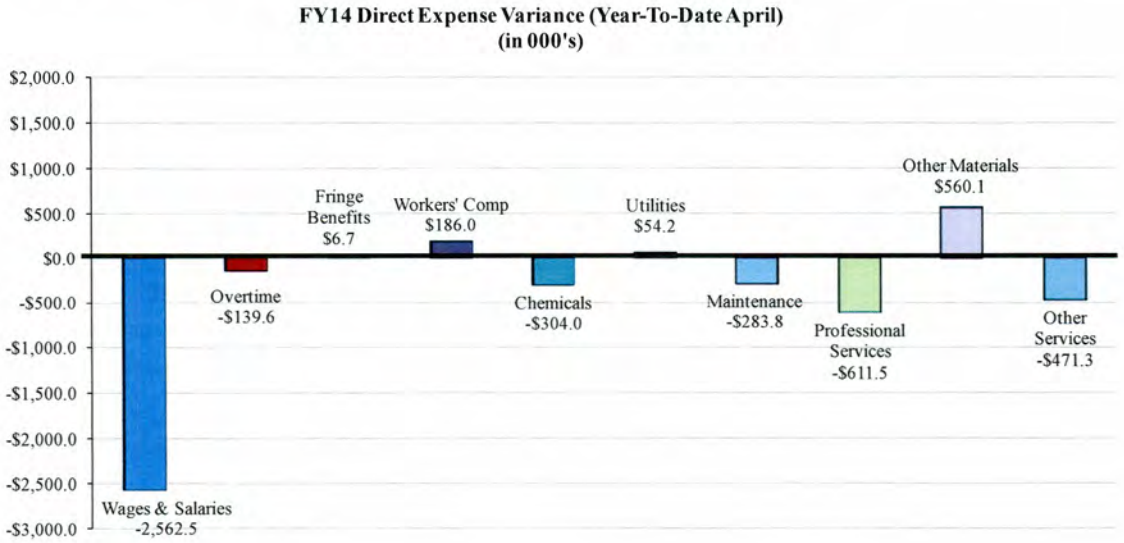
Please refer to Attachment 1 for a more detailed comparison by line item.

Direct Expenses

Direct expenses total $169.1 million, $3.6 million or 2.1% lower than budget.

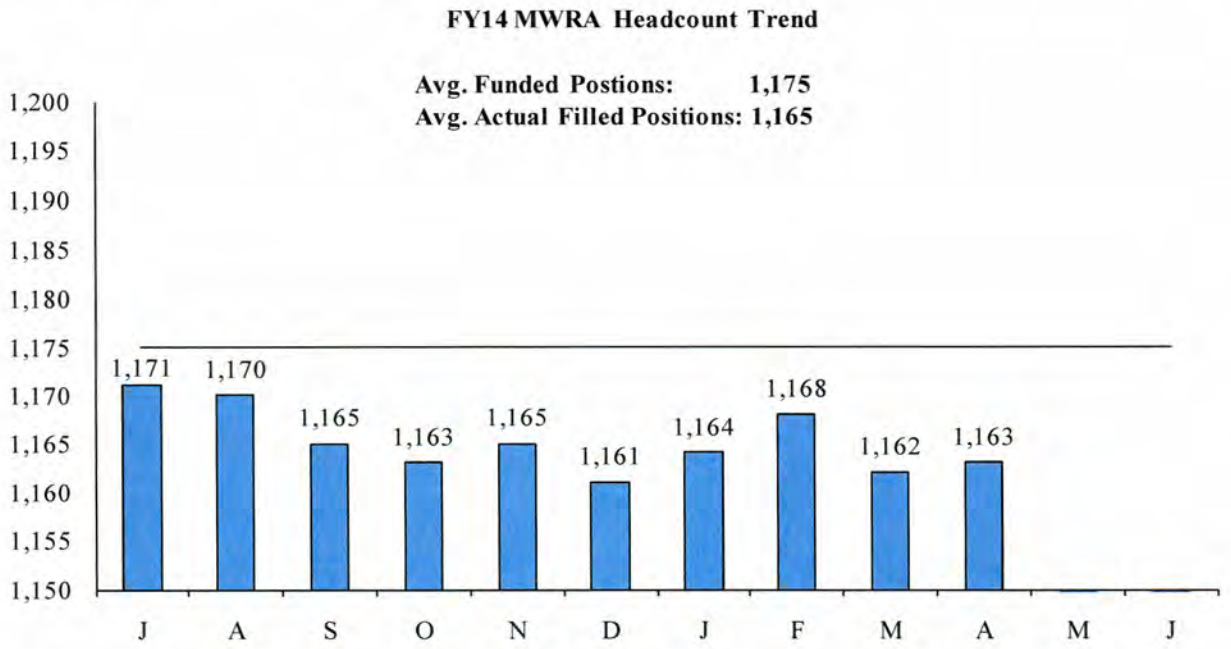


The underspending on direct expenses is related to Wages and Salaries, Professional Services, Other Services, Chemicals and Maintenance offset by overspending for Other Materials, Workers' Compensation, and Utilities.



Wages and Salaries

Wages and Salaries are underspent by $2.6 million or 3.3% mainly as a result of lower than budget filled positions, the salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates, and higher than budget leave time use. The average actual filled positions were 10 positions lower than the 1,175 positions funded in the budget. Additionally, MWRA currently has 3 temporary employees.



Professional Services

Professional Services are underspent by $612,000 or 13.7% year-to-date mainly due to lower Engineering of $298,000 due to less than planned use of as-needed engineering support and the timing of Water Leak Detection survey work and lower Lab and Testing of $158,000 mainly due to less than budgeted report preparation and as-needed services for the Harbor Monitoring program.

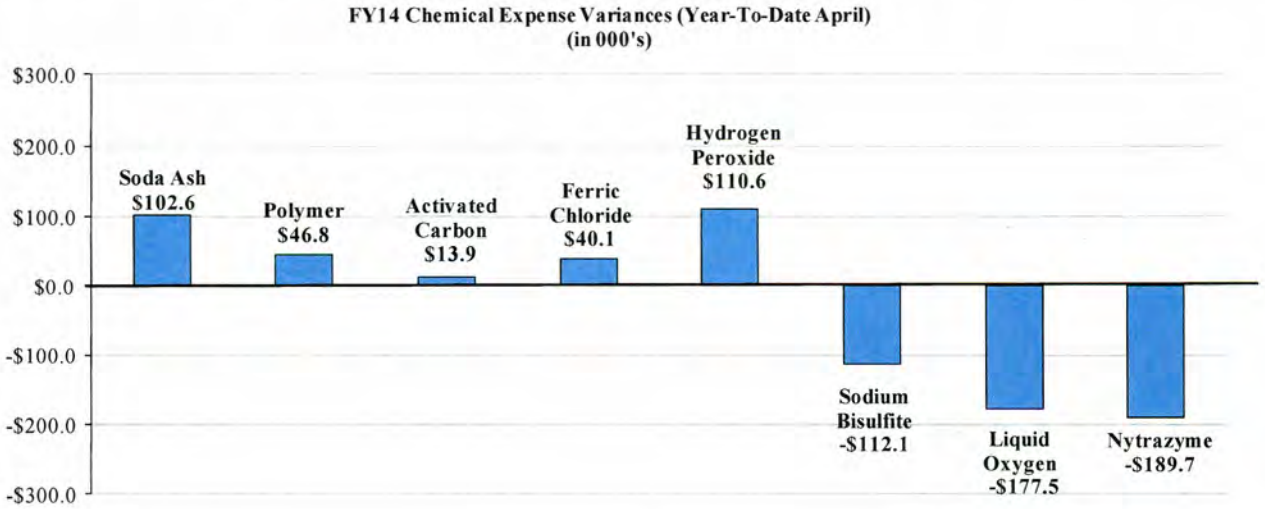
Other Services

Other Services are underspent by $471,000 or 2.6% year-to-date. The majority of the variance is due to lower than budget sludge quantities. Sludge quantities year-to-date are approximately 6% lower, 95.9 tons average per day versus 101.9 tons budgeted. This underspending is offset by higher than budget spending for space/lease rentals, police details, and membership/dues.

Chemicals

Chemicals are underspent by $304,000 or 3.5% year-to-date mainly due to lower than budget need for Nitrazyme of $190,000 due to Town of Framingham system modifications, Liquid Oxygen of $178,000 due to lower pricing and volume, and Sodium Bisulfite of $112,000. Underspending is offset by overspending for Hydrogen Peroxide of $111,000 for increased need

for pretreatment of hydrogen sulfide gas as well as Soda Ash of $103,000, Polymer of $47,000, and Ferric Chloride of $40,000.



Maintenance

Maintenance is underspent by $284,000 or 1.3% year-to-date. Material purchases are greater than budgeted by $1.0 million and services are underspent by $1.3 million. Some of the variance is timing related.

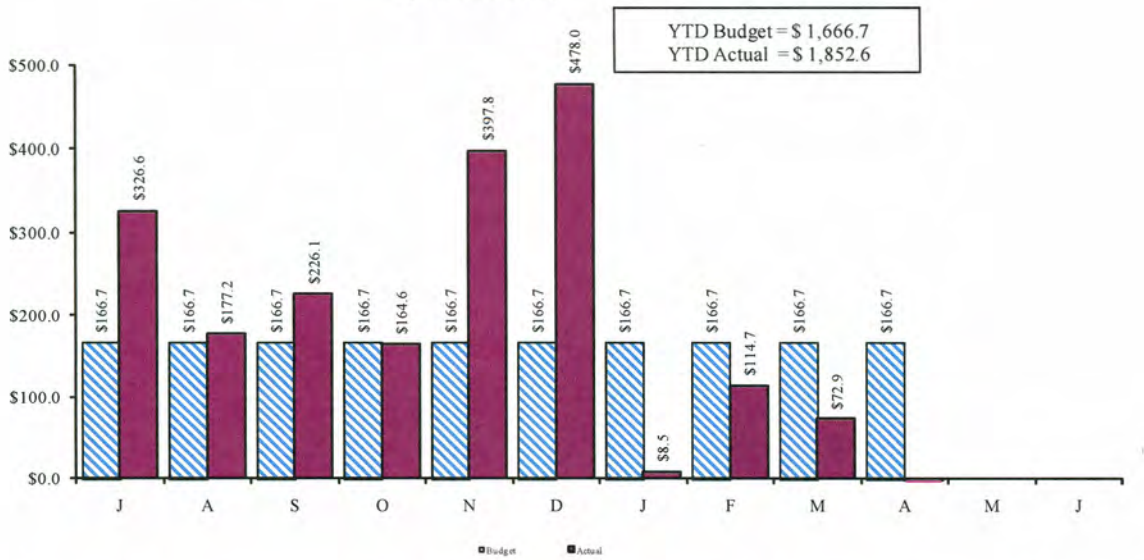
Other Materials

Other Materials are over budget by $560,000 or 18.3% mainly due to timing of vehicle purchases and purchase of unbudgeted gas detection equipment offset by lower than projected spending for Equipment/Furniture and Computer Hardware. Some of the underspending is related to timing.

Workers' Compensation

Workers' Compensation expenses are higher than budget by $186,000 or 11.2%. To date, actual medical expenses are $169,000 higher than budget. During April, actual spending including the reserves was less than budget by $280,000.

FY14 Workers' Compensation Spending (Year-To-Date April)
(in thousands)



# of Open Claims-Lost Time	76	69	67	63	60	62	67	68	72	69		
# of Open Claims-Medical Only	25	27	22	27	24	28	23	30	26	22		

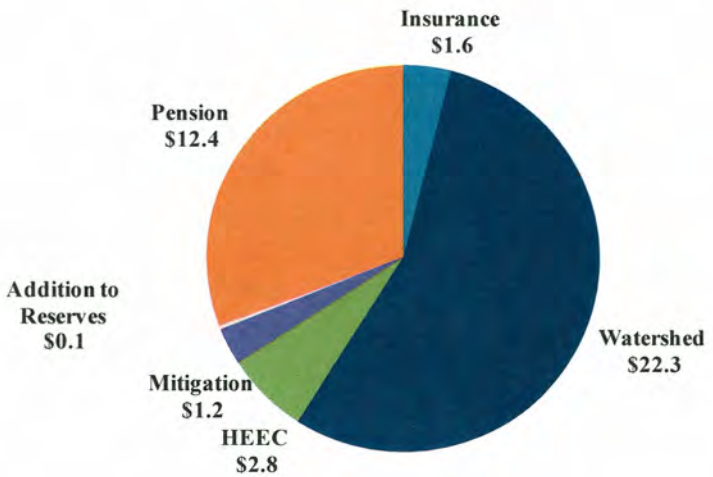
Utilities

Utilities are overspent by $54,000 or 0.3% primarily due to higher Electricity of $427,000 mainly due to winter congestion pricing offset by lower than budget purchases and favorable pricing of Diesel Fuel at Deer Island of $317,000, and lower Water and Natural Gas use of $81,000 and $27,000 respectively.

Indirect Expenses

Indirect expenses total $40.5 million, $361,000 or 0.9% lower than budget.

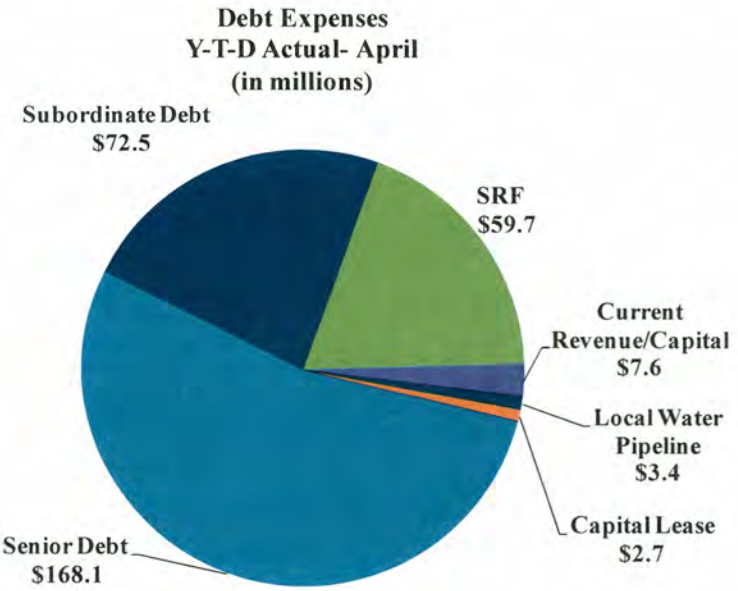
Indirect Expenses
Y-T-D Actual - April
(in millions)



The majority of the year-to-date underspending on Indirect Expenses is for Watershed Reimbursement expenses of $190,000 mainly for lower Payment in Lieu of Taxes (PILOT) expense and lower insurance expenses of $128,000, mostly related to claims.

Debt Service Expenses

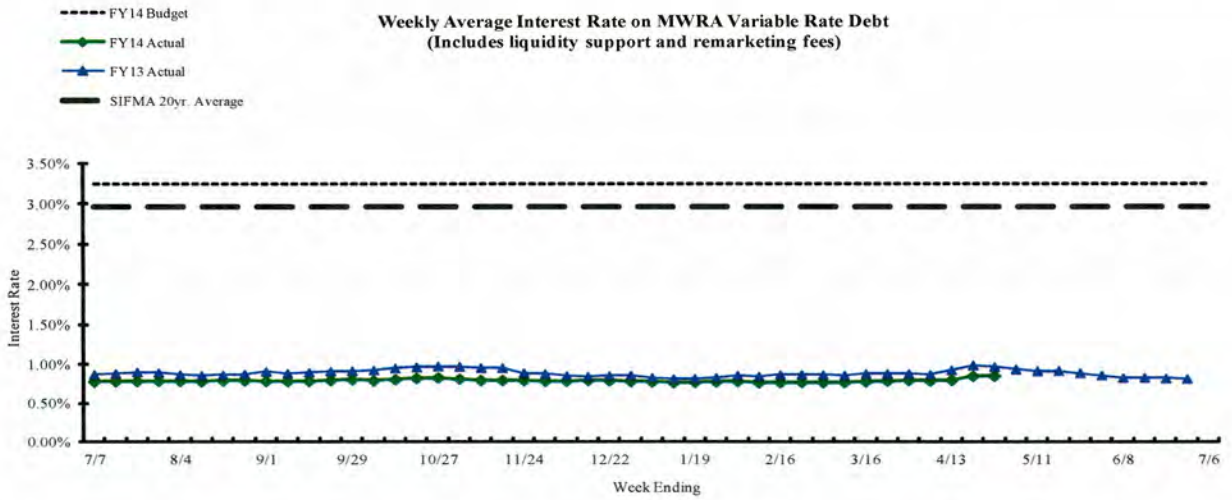
Debt Service expenses include the principal and interest payment for fixed debt, the variable subordinate debt, and the State Revolving Fund (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, and the Chelsea facility lease payment.



Debt Service expenses through April totaled $323.8 million, $854,000 below budget level after the transfer of $10.6 million of a favorable year-to-date variance to the Defeasance Account.

The variance of $854,000 is due to the receipt of Debt Service Assistance from the Commonwealth of Massachusetts which will be used as a direct offset to debt service in FY15 to lower community assessments per the Advisory Board's recommendation.

The graph below reflects the variable rate trend by month over the past year in comparison with FY13 Actuals and the FY14 Budget for the same period.



Revenue

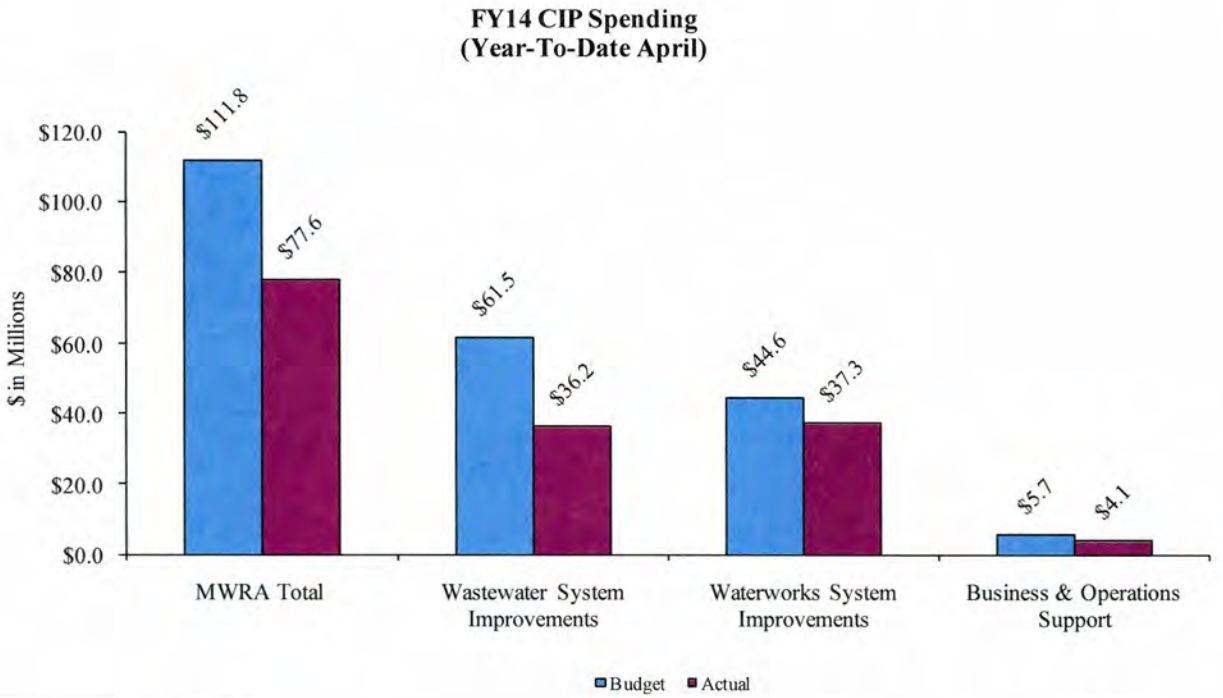
Year-to-date revenue for FY14 totals $550.2 million which is $4.8 million or 0.9% higher than budget due to higher non-rate revenue of $4.6 million and higher Investment Income of $294,000.

The higher non-rate Revenue of $4.6 million is mainly due to $3.1 million for proceeds of the water main recovery lawsuit, $427,000 for the sale of unbudgeted emergency water for the Town of Hudson, $233,000 for the receipt of a Homeland Security grant for the Carroll Plant security gate, $199,000 for the sale of surplus equipment, $166,000 for higher energy revenue due to higher Demand Response and Renewable Portfolio Standard (RPS) sales, $50,000 for the timing of Fore River Railroad Corporation reimbursement, a variety of other items totaling $441,000, and higher investment income of $294,000.

FY14 Capital Improvement Program

Spending year-to-date in FY14 totals $77.6 million, $34.2 million or 30.6% lower than budget. After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline program, and the community managed Combined Sewer Overflow (CSOs) projects, the underspending is $23.3 million or 34.5%.

Underspending was reported in all programs: Wastewater of $25.4 million, Waterworks of $7.3 million, and Business and Operations Support of $1.6 million.



Spending By Program:

$ in Millions	Budget	Actuals	$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	7.0	4.9	-2.1	-29.9%
Treatment	23.7	12.3	-11.4	-48.0%
Residuals	0.3	0.4	0.1	29.0%
CSO	31.0	14.1	-17.0	-54.7%
Other	-0.5	4.5	5.0	-1063.0%
Total Wastewater System Improvements	**$61.5**	**$36.2**	**-$25.4**	**-41.2%**
Waterworks System Improvements				
Drinking Water Quality Improvements	28.4	23.5	-4.8	-17.1%
Transmission	5.8	4.0	-1.8	-30.7%
Distribution & Pumping	8.2	3.7	-4.5	-55.0%
Other	2.2	6.1	3.9	176.5%
Total Waterworks System Improvements	**$44.6**	**$37.3**	**-$7.3**	**-16.3%**
Business & Operations Support	**$5.7**	**$4.1**	**-$1.6**	**-27.3%**
Total MWRA	**$111.8**	**$77.6**	**-$34.2**	**-30.6%**

The main reasons for underspending were:

1. **Combined Sewer Overflow (CSOs)** of $17.0 million – primarily due timing of anticipated expenditures for the Cambridge Sewer Separation payment of $13.9 million which is lower than originally estimated, Reserved Channel of $1.3 million due to timing of expenditures, $1.1 million South Dorchester Bay Sewer Separation – Commercial Point as Inflow/Infiltration work is now scheduled for FY15 vs. FY14, and North Dorchester Bay of $545,000 mainly due to reduced scope for outfall design and resident inspection work.

2. **Treatment** of $11.3 million – mainly for lower spending on North Main Pump Station (NMPS) VFD Replacement Construction of $3.8 million, Scum Skimmer Replacement of $1.5 million, NMPS Butterfly Valve Replacement of $1.4 million, Electrical Equipment Upgrade Construction of $1.0 million, Centrifuge Backdrive Replacement of $902,000, HVAC Equipment Replacement Design of $658,000, Clinton Digester Cleaning of $633,000, Power System Improvements Construction of $500,000, Fire Alarm System Replacement Design of $467,000, Thermal Plant Boiler Control of $417,000, and Cryo Plant Chillers Replacement of $300,000. Offset by overspending for Digester Modules 1 and 2 of $803,000 and Expansion Joint Repair Construction 2 of $342,000.

3. **Drinking Water Quality Improvements** of $4.8 million – mainly for lower than budget spending for the Spot Pond Covered Storage Tank of $3.4 million mainly for site issues and delay in equipment delivery and Carroll Water Treatment Plant of $1.5 million mainly due to delays for modifications to existing maintenance facilities.

4. **Water Distribution and Pumping** of $4.5 million – for lower spending on Weston Aqueduct Supply Mains of $2.7 million for lower than budget award for WASM 3 Design and for work anticipated in FY14 but completed in FY13 for Watertown Section Rehabilitation, Northern Intermediate High of $854,000 primarily due to timing of electrical equipment delivery and lower award for Gillis Pump Station Improvements and lower than anticipated design services for Section 89 & 29 Redundancy, Valve Replacement of $375,000 due to timing of equipment purchases, Southern Spine Distribution Mains of $289,000 due to the completion of Section 21, 43, & 22 Design Project under budget, and Lynnfield Pipeline of $149,000 due to timing.

5. **Wastewater Interception and Pumping** of $2.1 million – primarily due to Nut Island Headworks Electric and Gas Conveyance construction project of $1.6 million due to award being less than budget, Rehabilitation of Sections 186 & 4 of $295,000 and Prison Point Piping Rehabilitation of $220,000 due to schedule shifts, and North System Hydraulic Study of $186,000 due to a time extension. Offset by overspending for the Cottage Farm/Prison Point Engines/Pumps/Gearboxes of $468,000.

6. **Water Transmission** of $1.8 million – mainly for lower than budgeted spending for Watershed Land of $960,000 due to timing, Hultman Rehabilitation of $604,000 due to lower final contract costs, and Dam Projects of $271,000 due to less than anticipated Design/Construction Administration/Resident Inspection.

The underspending was offset by overspending for the Community Financial Assistance Programs:

1. **Wastewater Other** of $5.0 million – primarily due to Inflow and Infiltration (I/I) community requests for grants and loans being greater than budget.

2. **Waterworks Other** of $3.9 million – primarily due to Local Water Pipeline Assistance Program community requests for loans being greater than budget.

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Construction Fund Balance

The construction fund balance was at $53 million as of April 2014. Commercial Paper availability was at $206 million to fund construction projects.

Attachment 1 – Variance Summary April 2014
Attachment 2 – Current Expense Variance Explanations
Attachment 3 – Capital Improvement Program Variance Explanations
Attachment 4 – FY14 Projection versus FY14 Approved Budget

ATTACHMENT 1

	April 2014 Year-to-Date					
	Period 10 YTD Budget	Period 10 YTD Actual	Period 10 YTD Variance	%	FY14 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	$ 76,892,837	$ 74,330,296	$ (2,562,541)	-3.3%	$ 94,874,284	78.3%
OVERTIME	2,987,366	2,847,813	(139,553)	-4.7%	3,580,025	79.5%
FRINGE BENEFITS	15,045,653	15,052,373	6,720	0.0%	18,063,825	83.3%
WORKERS' COMPENSATION	1,666,667	1,852,633	185,966	11.2%	2,000,000	92.6%
CHEMICALS	8,805,236	8,501,279	(303,957)	-3.5%	10,671,225	79.7%
ENERGY AND UTILITIES	18,939,616	18,993,820	54,204	0.3%	22,760,588	83.5%
MAINTENANCE	22,424,430	22,140,646	(283,784)	-1.3%	27,761,580	79.8%
TRAINING AND MEETINGS	223,518	222,921	(597)	-0.3%	330,917	67.4%
PROFESSIONAL SERVICES	4,453,272	3,841,762	(611,510)	-13.7%	6,083,402	63.2%
OTHER MATERIALS	3,057,303	3,617,401	560,098	18.3%	5,969,470	60.6%
OTHER SERVICES	18,213,993	17,692,696	(521,297)	-2.9%	22,278,700	79.4%
TOTAL DIRECT EXPENSES	**$ 172,709,891**	**$ 169,093,640**	**$ (3,616,251)**	**-2.1%**	**$ 214,374,016**	**78.9%**
INSURANCE	$ 1,731,261	$ 1,602,938	$ (128,323)	-7.4%	$ 2,093,618	76.6%
WATERSHED/PILOT	22,504,574	22,314,874	(189,700)	-0.8%	27,214,833	82.0%
BECo PAYMENT	2,791,246	2,783,250	(7,996)	-0.3%	3,346,854	83.2%
MITIGATION	1,295,621	1,244,892	(50,729)	-3.9%	1,566,797	79.5%
ADDITIONS TO RESERVES	140,001	140,001	-	0.0%	169,304	82.7%
RETIREMENT FUND	12,431,515	12,447,338	15,823	0.1%	12,431,515	100.1%
TOTAL INDIRECT EXPENSES	**$ 40,894,218**	**$ 40,533,293**	**$ (360,924)**	**-0.9%**	**$ 46,822,921**	**86.6%**
STATE REVOLVING FUND	$ 59,749,919	$ 59,749,919	$ -	0.0%	$ 75,960,616	78.7%
SENIOR DEBT	168,144,859	168,144,859	-	0.0%	204,471,302	82.2%
CORD FUND	-	-	-	---	132,238	0.0%
DEBT SERVICE ASSISTANCE	-	(853,660)	(853,660)	---	-	0.0%
CURRENT REVENUE/CAPITAL	7,607,692	7,607,692	-	0.0%	9,200,000	82.7%
SUBORDINATE MWRA DEBT	83,036,101	83,036,101	-	0.0%	100,117,241	82.9%
LOCAL WATER PIPELINE CP	3,413,382	3,413,382	-	0.0%	4,127,810	82.7%
CAPITAL LEASE	2,660,261	2,660,261	-	0.0%	3,217,060	82.7%
VARIABLE DEBT	-	(10,570,897)	(10,570,897)	---	-	0.0%
DEFEASANCE ACCOUNT	-	10,570,897	10,570,897	---	-	0.0%
TOTAL DEBT SERVICE	**$ 324,612,215**	**$ 323,758,555**	**$ (853,660)**	**-0.3%**	**$ 397,226,267**	**81.5%**
TOTAL EXPENSES	**$ 538,216,324**	**$ 533,385,488**	**$ (4,830,834)**	**-0.9%**	**$ 658,423,204**	**81.0%**
REVENUE & INCOME						
RATE REVENUE	$ 519,903,904	$ 519,903,904	$ -	0.0%	$ 628,721,000	82.7%
OTHER USER CHARGES	7,305,359	7,243,963	(61,396)	-0.8%	8,127,379	89.1%
OTHER REVENUE	5,417,525	10,032,050	4,614,525	85.2%	6,444,291	155.7%
RATE STABILIZATION	2,894,231	2,894,231	-	0.0%	3,500,000	82.7%
INVESTMENT INCOME	9,804,733	10,098,390	293,657	3.0%	11,630,534	86.8%
TOTAL REVENUE & INCOME	**$ 545,325,752**	**$ 550,172,538**	**$ 4,846,785**	**0.9%**	**$ 658,423,204**	**83.6%**

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY14 Budget YTD April	FY14 Actuals YTD April	FY14 YTD Actual vs. FY14 Budget		Explanations
			$	%	
Direct Expenses					
Wages & Salaries	76,892,837	74,330,296	(2,562,541)	-3.3%	Underspending is due to lower headcount, the salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates, and higher than budgeted use of accrued leave time. At the end of April, the average filled positions year-to-date were 1,165, 10 positions less than the 1,175 funded positions.
Overtime	2,987,366	2,847,813	(139,553)	-4.7%	Lower than projected emergency wet weather events.
Fringe Benefits	15,045,653	15,052,373	6,720	0.0%	Primarily at budgeted levels.
Worker's Compensation	1,666,667	1,852,633	185,966	11.2%	Overspending primarily due to medical expenses being $169k higher than budget. In April, actual spending including the reserves is less than budget by $280k.
Chemicals	8,805,236	8,501,279	(303,957)	-3.5%	Underspending for Nitrazyme of $190k due to Town of Framingham system modifications, Liquid Oxygen of $178k due to lower pricing and volume, and Sodium Bisulfite of $112k, offset by overspending for Hydrogen Peroxide of $111k for increased need for pretreatment of hydrogen sulfide gas as well as Soda Ash of $103k, Polymer of $47,000, and Ferric Chloride of $40k.
Utilities	18,939,616	18,993,820	54,204	0.3%	Higher Electricity of $427k mainly for winter congestion pricing offset by lower than budgeted purchase and favorable pricing for Diesel Fuel at Deer Island of $317k, and lower Water and Natural Gas of $81k and $27k respectively.
Maintenance	22,424,430	22,140,646	(283,784)	-1.3%	Material purchases are greater than budgeted by $1.0 million and services are underspent by $1.3 million. Some of the variance is timing related.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY14 Budget YTD April	FY14 Actuals YTD April	FY14 YTD Actual vs. FY14 Budget		Explanations
			$	%	
Training & Meetings	223,518	222,921	(597)	-0.3%	
Professional Services	4,453,272	3,841,762	(611,510)	-13.7%	Underspending of $612k mainly for lower than budgeted need for as-needed engineering support and timing of Water Leak Detection survey work of $298k and lower than budget Lab & Testing report preparation and as-needed services for the Harbor Monitoring program of $135k.
Other Materials	3,057,303	3,617,401	560,098	18.3%	Higher spending for Vehicle Purchases of $743k due to timing and unbudgeted gas detection equipment of $120k, offset by underspending for Equipment/Furniture of $222k and Computer Hardware of $147k. Some of the underspending is timing related.
Other Services	18,213,993	17,742,696	(471,297)	-2.6%	Underspending for Sludge Pelletization of $528k due to lower than budget sludge quantities (y-t-d 95.9 tpd vs. 101.9 tpd budgeted), offset by higher spending for Space Lease/Rentals of $107k, Police Details of $63k, and Membership/dues of $55k.
Total Direct Expenses	**172,709,891**	**169,143,640**	**(3,566,251)**	**-2.1%**	
Indirect Expenses					
Insurance	1,731,261	1,602,938	(128,323)	-7.4%	Lower spending for Claims of $116k and Premiums of $12k.
Watershed/PILOT	22,504,574	22,314,874	(189,700)	-0.8%	Lower PILOT (Payment in Lieu of Taxes) expense of $194k.
HEEC Payment	2,791,246	2,783,250	(7,996)	-0.3%	
Mitigation	1,295,621	1,244,892	(50,729)	-3.9%	Lower Mitigation for Quincy of $33k and Winthrop of $17k.
Addition to Reserves	140,001	140,001	-	0.0%	
Pension Expense	12,431,515	12,447,338	15,823	0.1%	
Post Employee Benefits			-		
Total Indirect Expenses	**40,894,218**	**40,533,293**	**(360,925)**	**-0.9%**	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY14 Budget YTD April	FY14 Actuals YTD April	FY14 YTD Actual vs. FY14 Budget		Explanations
			$	%	
Debt Service					
Debt Service	324,612,214	324,612,214	-	0.0%	Debt Service expenses are at the budgeted level after the transfer of $10.6 million of a favorable year-to-date variance to the Defeasance Account.
Debt Service Assistance	-	(853,660)	(853,660)		The variance of $854k is due to the receipt of Debt Service Assistance from the Commonwealth of Massachusetts which will be used in FY15 to lower community assessments.
Total Debt Service Expenses	**324,612,215**	**323,758,555**	**(853,660)**	**-0.3%**	
Total Expenses	**538,216,325**	**533,435,489**	**(4,780,834)**	**-0.9%**	
Revenue & Income					
Rate Revenue	519,903,904	519,903,904	-	0.0%	
Other User Charges	7,305,359	7,243,963	(61,396)	-0.8%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY14 Budget YTD April	FY14 Actuals YTD April	FY14 YTD Actual vs. FY14 Budget		Explanations
			$	%	
Other Revenue	5,417,525	10,032,050	4,614,525	85.2%	The higher non rate revenue is due mostly to the following: In April, MWRA and all defendants finalized a negotiated "no admissions" settlement agreement to avoid future litigation costs and risks, and MWRA received payments totaling $3.1 million in exchange for the dismissal of all disputed claims of all parties to the 2010 water main break cost recovery lawsuit. The monies received were treated as revenue which results in additional favorable variance for FY14. Other non-rate revenue of $427k is for the sale of unbudgeted emergency water for the Town of Hudson, $233k is for the receipt of a Homeland Security grant for the Carroll Plant security gate, $199k is for the sale of surplus equipment, $166k is for higher energy revenue due to higher Demand Response and Renewable Portfolio Standard (RPS) sales, reimbursement of cost as a result of Audit review of $79k, timing of Fore River Railroad Corporation reimbursement of $50,000, and a variety of other items totaling $361,000.
Rate Stabilization	2,894,231	2,894,231	-	0.0%	
Investment Income	9,804,733	10,098,390	293,657	3.0%	
Total Revenue	**545,325,752**	**550,172,538**	**4,846,785**	**0.9%**	
Net Revenue in Excess of Expenses	**7,109,427**	**16,737,049**	**9,627,619**		

ATTACHMENT 3
Capital Improvement Program Variance Explanations

	FY14 Budget YTD April	FY14 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			$	%	
Interception & Pumping (I&P)	$6,974	$4,891	($2,083)	-29.9%	Underspending mainly due to lower than budgeted award for Nut Island Electrical & Grit/Screens Conveyance - Construction contract of $1.6M and schedule changes for Prison Point Piping Rehab of $224,000 and North System Hydraulic Study of $186,000.
Treatment	$23,698	$12,318	($11,380)	-48.0%	Underspending on North Main Pump Station VFD Replacement Construction of $3.8M and Centrifuge Backdrive Replacement of $902,000 due to timing of equipment delivery, Scum Skimmer Replacement of $1.5M due to timing of equipment delivery and review and approval by MWRA staff, NMPS & WTF Butterfly Valve Replacements of $1.4M, HVAC Equipment Replacement - Design/ESDC of $658,000, Clinton Digester Cleaning & Rehabilitation of $633,000, Power System Improvements - Construction of $500,000, Fire Alarm System Replacement - Design of $467,000, Thermal Power Plant Boiler Controls Replacement of $417,000 and Cryogenic Chillers Replacement of $300,000 due to schedule shifts, and Electrical Equipment Upgrades - Construction 4 of $1.0M due to timing. Offset by overspending on Digester Modules 1 and 2 Pipe Replacement of $803,000 and Expansion Joint Repair Construction 2 of $342,000 due to work scheduled for FY13 performed in FY14.
Residuals	$295	$380	$85	29.0%	
CSO	$31,039	$14,060	($16,979)	-54.7%	Underspending on Cambridge Sewer Separation of $13.9M primarily due to timing of payments for contracts 8B and 9, Reserved Channel Sewer Separation of $1.3M due to timing of expenditures, South Dorchester Sewer Separation (Commercial Point) of $1.1M due to schedule change for inflow removal work, and North Dorchester Bay Outfall of $446,000 due to reduced scope resulting in less than anticipated design services.
Other Wastewater	($471)	$4,534	$5,005	-	Overspending on Infiltration and Inflow (I/I) due to community requests for grants and loans being greater than budgeted.
Total Wastewater	**$61,536**	**$36,184**	**($25,352)**	**-41.2%**	

ATTACHMENT 3
Capital Improvement Program Variance Explanations

	FY14 Budget YTD April	FY14 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			$	%	
Drinking Water Quality Improvements	$28,387	$23,539	($4,849)	-17.1%	Underspending for Spot Pond Storage Facility of $3.4M mainly for site issues and timing of equipment delivery, Carroll Water Treatment Plant of $1.5M mainly for Existing Facility Modifications, CP7 - Design due to schedule shift.
Transmission	$5,780	$4,006	($1,774)	-30.7%	Underspending for Watershed Land of $960,000 due to the timing of land acquisitions, Hultman Aqueduct Rehabilitation of $604,000 mainly due to updated costs and timing of final work, and Dam Projects of $271,000 due to less than anticipated design services.
Distribution & Pumping	$8,199	$3,689	($4,511)	-55.0%	Underspending on Weston Aqueduct Supply Mains of $2.7M mainly due to the award being lower than budget for WASM3 Design/Construction Administration/Resident Inspection of $1.9M and work anticipated in FY14 but completed in FY13 for Watertown Section Rehabilitation of $621,000, Northern Intermediate High Redundancy & Storage of $854,000 mainly due to lower award for Gillis Pump Station Improvements and less than anticipated design services. Also, underspending on Valve Replacement of $375,000 due to timing of equipment purchases, Southern Spine Distribution Mains $289,000 due to the completion of Sections 21, 43 & 22 Design below budget, and Lynnfield Pipeline of $149,000 due to timing of final work.
Other Waterworks	$2,194	$6,068	$3,874	-	Overspending on Local Water Pipeline Assistance Program due to community requests for loans being greater than budgeted by $4.1M.
Total Waterworks	**$44,561**	**$37,302**	**($7,259)**	**-16.3%**	
Business & Operations Support	$5,695	$4,140	($1,555)	-27.3%	Underspending on Alternative Energy Initiatives of $1.1M mainly due to the Deer Island Wind Turbine repairs being funded via warranty and lower than projected as-needed technical assistance for energy initiatives, Capital Maintenance Planning & Development of $836,000 due to lower than projected use of as-needed technical assistance, and Centralized Equipment Purchase of $211,000 due to timing of security equipment purchases. Offset by overspending of MIS-related projects of $561,000 due to progress of IT Strategic Plan implementation.
Total MWRA	**$111,792**	**$77,626**	**($34,166)**	**-30.6%**	

ATTACHMENT 4

FY14 Projection vs FY14 Approved Budget

TOTAL MWRA	FY14 Approved Budget	FY14 Projection	Change FY14 Projection vs FY14 Approved Budget	
			$	%
EXPENSES				
WAGES AND SALARIES	$ 94,874,284	$ 91,964,696	$ (2,909,588)	-3.1%
OVERTIME	3,580,025	3,427,072	(152,953)	-4.3%
FRINGE BENEFITS	18,063,825	18,072,137	8,312	0.0%
WORKERS' COMPENSATION	2,000,000	2,400,358	400,358	20.0%
CHEMICALS	10,671,225	10,527,640	(143,585)	-1.3%
ENERGY AND UTILITIES	22,760,588	22,507,652	(252,936)	-1.1%
MAINTENANCE	27,761,580	28,290,162	528,582	1.9%
TRAINING AND MEETINGS	330,917	314,190	(16,727)	-5.1%
PROFESSIONAL SERVICES	6,083,402	5,458,377	(625,025)	-10.3%
OTHER MATERIALS	5,969,470	5,834,079	(135,391)	-2.3%
OTHER SERVICES	22,278,700	21,838,437	(440,263)	-2.0%
TOTAL DIRECT EXPENSES	**$ 214,374,017**	**$ 210,634,800**	**$ (3,739,215)**	**-1.8%**
INSURANCE	$ 2,093,618	$ 2,000,101	$ (93,517)	-4.5%
WATERSHED/PILOT	27,214,833	26,636,833	(578,000)	-2.1%
HEEC PAYMENT	3,346,854	3,379,550	32,696	1.0%
MITIGATION	1,566,797	1,525,477	(41,320)	-2.6%
ADDITIONS TO RESERVES	169,304	169,304	-	0.0%
RETIREMENT FUND	7,455,103	7,470,926	15,823	0.2%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	4,976,411	4,976,411	-	0.0%
TOTAL INDIRECT EXPENSES	**$ 46,822,920**	**$ 46,158,603**	**$ (664,317)**	**-1.4%**
STATE REVOLVING FUND	$ 75,960,617	$ 73,548,811	$ (2,411,805)	-3.2%
SENIOR DEBT	204,471,302	203,337,968	(1,133,333)	-0.6%
DEBT SERVICE ASSISTANCE	-	(853,660)	(853,660)	
CURRENT REVENUE/CAPITAL	9,200,000	9,200,000	-	0.0%
SUBORDINATE MWRA DEBT	100,117,241	100,117,241	-	0.0%
LOCAL WATER PIPELINE CP	4,127,811	341,921	(3,785,890)	-91.7%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
VARIABLE DEBT	-	(12,441,396)	(12,441,396)	
CORE FUND DEPOSIT	132,238	132,238	-	0.0%
DEFEASANCE ACCOUNT	-	19,772,424	19,772,424	
BOND REDEMPTION	-	-	-	
TOTAL DEBT SERVICE	**$ 397,226,267**	**$ 396,372,607**	**$ (853,660)**	-0.2%
TOTAL EXPENSES	**$ 658,423,205**	**$ 653,166,010**	**$ (5,257,192)**	**-0.8%**
REVENUE & INCOME				
RATE REVENUE	$ 628,721,002	$ 628,721,002	$ -	0.0%
OTHER USER CHARGES	8,127,379	8,127,379	-	0.0%
OTHER REVENUE	6,444,291	10,640,291	4,196,000	65.1%
RATE STABILIZATION	3,500,000	3,500,000	-	0.0%
INVESTMENT INCOME	11,630,534	12,030,534	400,000	3.4%
TOTAL REVENUE & INCOME	**$ 658,423,205**	**$ 663,019,204**	**$ 4,596,000**	**0.7%**
VARIANCE		$ (9,853,194)	$ 9,853,194	

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Bond Defeasance of Future Debt Service

COMMITTEE: Administration, Finance & Audit

X VOTE
INFORMATION

Thomas J. Durkin, Treasurer
Matthew R. Horan, Deputy Treasurer
Preparer/Title

Rachel C. Madden
Director, Administration & Finance

Consistent with MWRA's multi-year rates management strategy, MWRA staff are recommending the execution of an approximately $30 million defeasance in June 2014 to reduce future year rate increases. The $30 million in available funds is derived from the use of $3.0 million surplus funds from FY13 and $26.7 of the FY14 surplus to prepay debt coming due in FY15 through FY18. The defeasance of debt, coupled with aggressive management of our operational expenses, have been the keys to our ability to keep assessment increases predictable and manageable.

RECOMMENDATION:

To authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of approximately $27,220,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by approximately $31,273,400 in the FY15 through FY18 timeframe.

DISCUSSION:

During FY12, the MWRA established a budgetary defeasance account into which all surplus funds associated with capital finance budget were allocated. During FY13 and FY14, MWRA has continued to utilize the defeasance account with the intent to use those funds to defease outstanding debt to provide targeted rate relief in future years. After the final close out of the FY13 budget, there was $3,007,657 in surplus funds remaining (beyond the $25.6 million used for defeasance), which were allocated to the defeasance account to be utilized as part of the FY14 defeasance. In order to mitigate rate increases, staff reflected the use of $20 million from

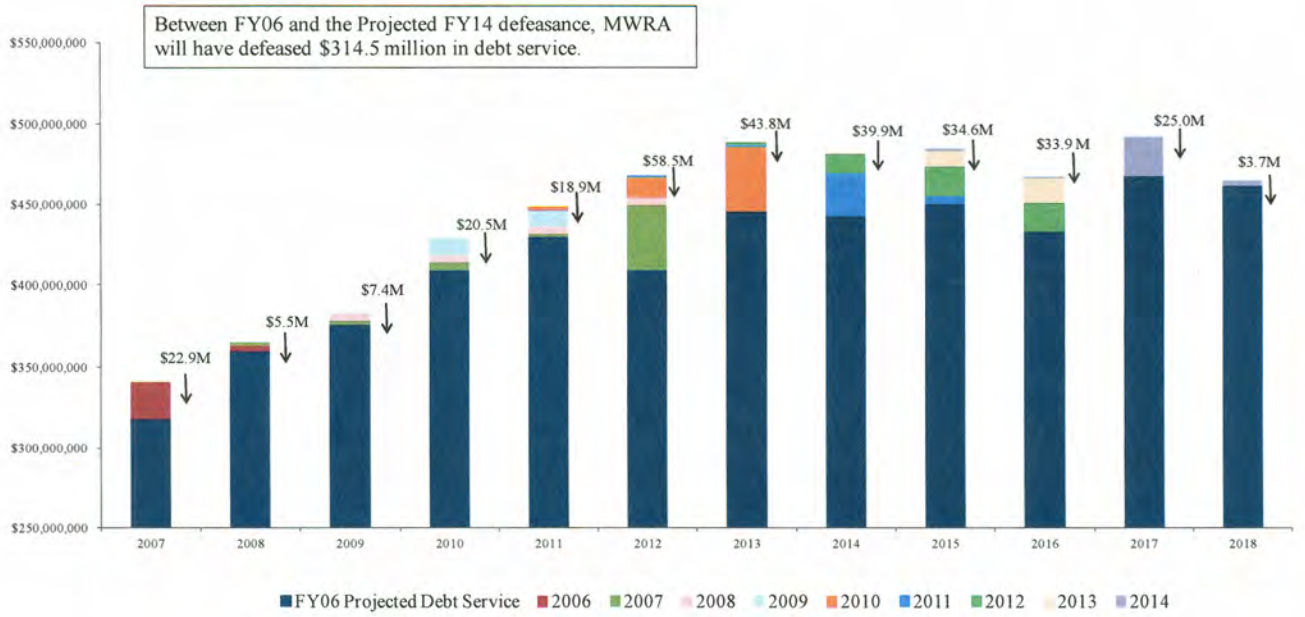
the FY13 and FY14 surpluses to defease bonds for future rate relief in the Proposed FY15 Budget. Now based on current year-end projections, staff are requesting approval to use additional surplus funds to increase the size of the defeasance to $30 million, comprised of $3.0 million from FY13 and $26.7 million from FY14, for even greater debt service reductions in future years. The following table shows the impact of only the proposed defeasance on the future rate revenue requirement, versus the projections in the Final FY14 CEB.

	2015	2016	2017	2018
FY14 Rate Revenue Percent Increase	3.6%	4.1%	8.5%	2.6%
Proposed FY15 Projections with $30M Defeasance	**3.6%**	**4.3%**	**5.1%**	**4.8%**

These projected rate increases are based on the Proposed FY15 CEB which included a $20 million defeasance and now reflects an additional $10 million ($30 million total). These projections only include the impact of the $30 million defeasance. Other budgetary changes will affect the rate projections presented as part of the FY15 Draft Final Budget at the June Board Hearing.

MWRA's ongoing use of defeasances has had a significant impact lowering future debt service payments and controlling the annual rate revenue increases. The chart below shows the impact of the defeasances since 2006, inclusive of the $30 million proposed FY14 defeasance.

Impact of the FY06 - Projected FY14Defeasances



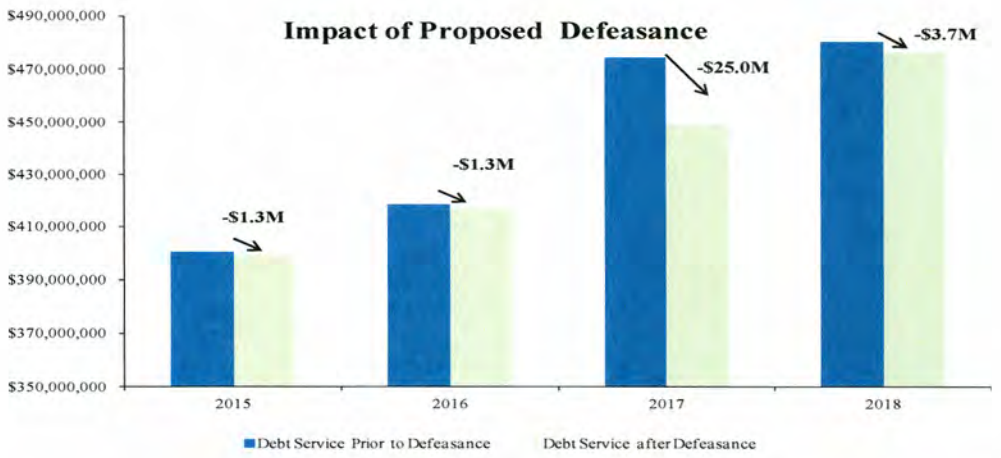
Staff reviewed all available defeasance candidates, and have identified the maturities of the series listed in the following table as the most advantageous defeasance candidates.

Series	Maturity	Principal	Defeasance Cost [1]
2004B	12/1/2017	$10,545,000	$ 10,764,688
2010A	8/1/2017	$ 1,210,000	$ 1,318,900
2010B	8/1/2017	$ 9,735,000	$ 11,195,250
2011B	8/1/2017	$ 2,105,000	$ 2,420,750
2012A	8/1/2017	$ 2,825,000	$ 3,164,000
2013A	8/1/2017	$ 800,000	$ 872,000
	Total	**$27,220,000**	**$ 29,735,588**

(1) Defeasance cost is only anticipated funds from surplus and does not included current year deposits. Assumes no interest earned on the escrow.

The following table and graph detail the savings associated with the defeasance of the bonds shown above for FY15 through FY18:

	Budget Reduction by Fiscal Year				Total CEB
	2015	2016	2017	2018	Savings
Defeasance CEB Savings	$ 1,292,550	$ 1,292,550	$ 24,997,550	$ 3,690,750	$ 31,273,400



The total debt service reduction attributable to the defeasance is $1.5 million higher than the defeasance cost because the 2004 Series B bonds are currently callable in December 2014 and the payment of that bond will yield interest savings. The interest savings are the result of paying off the bonds prior to maturity and therefore interest does not accrue.

Staff anticipate using funds from the FY13 and projected FY14 surpluses to purchase governmental securities in an amount sufficient to make all future interest and principal payments on the bonds to be defeased, offset by the interest earned on the Treasury securities. In order to provide the CEB savings in FY15, the defeasance must be completed prior to June 30, 2014.

The governmental securities purchased are deposited with an escrow agent (bond trustee). Once established, an escrow is irrevocable, replacing any future debt service payments due for the bonds being escrowed, and therefore reducing the rate revenue requirement. Establishing an escrow reduces debt service requirements for each fiscal year from the time it is executed until the defeased bonds mature.

Establishing an escrow to defease debt requires that MWRA's bond counsel draft an agreement to this effect and an independent verification agent must certify that the funds in the escrow are sufficient to pay the remaining debt service. Bonds that are escrowed to maturity are not included in the MWRA's debt cap or debt service coverage calculations. Staff will continue to monitor market conditions and the maturities available to be defeased to ensure that the bonds selected provide MWRA with the highest available debt service savings.

If the FY14 surplus is less than the amount necessary to complete the defeasance, staff are requesting authorization to use Bond Redemption as supplemental funding for the escrow. If the FY14 surplus is greater than the $27 million needed for the proposed defeasance, staff will present options to the Board for its utilization after the close of the fiscal year.

BUDGET/FISCAL IMPACT:

The defeasance of these bonds will decrease the FY15 through FY18 debt service requirement as shown above. The cost associated with bond counsel and financial advisory services will be paid out of the Treasury Department's professional services budget.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Frederick A. Laskey
Executive Director

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WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

Chair: J. Walsh
Vice-Chair: P. Flanagan
Committee Members:
J. Carroll
J. Foti
A. Pappastergion
B. Swett
H. Vitale

to be held on

Wednesday, May 14, 2014

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following AF&A Comm.

AGENDA

A. Information

1. Update on the Operation and Maintenance of the Pelletizing Plant

2. Quincy Power Failure – Damage to Pelletizing Plant (information to follow)

B. Approvals

1. Memorandum of Understanding and Financial Assistance Agreement with BWSC for Implementation of CSO Control Projects, Amendment 14, and Progress of BWSC-Implemented CSO Projects and Projected Financial Assistance through December 2014

C. Contract Awards

1. Valve and Piping Replacements at Various Facilities – Deer Island Treatment Plant: Carlin Construction Co., Contract 7275

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee

April 16, 2014

A meeting of the Wastewater Policy and Oversight Committee was held on April 16, 2014 at the Authority headquarters in Charlestown. Chairman Walsh presided. Present from the Board were Messrs. Carroll, Cotter, Foti, Pappastergion and Vitale; Mr. Flanagan joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Dave Kubiak, Carl Leone, Jae Kim, Dave Duest, Rick Adams, John Vetere, Patrick Phillips, Michele Gillen, and Bonnie Hale. The meeting was called to order at 11:00 a.m.

Information

Progress of Cambridge-Implemented CSO Projects and Projected Financial Assistance through September 2014

Staff provided a status update.

Update on Co-Digestion Project at the Deer Island Treatment Plant

This item was referred to the full Board meeting in the afternoon (ref. agenda item A.2).

Approvals

I/I Local Financial Assistance Program Annual Update and Revision of Program Guidelines

Staff gave a presentation on Infiltration/Inflow program results through February 2014 and reviewed revisions to the Program Guidelines regarding sunset dates for Phases 6 and 7, as proposed by the MWRA Advisory Board. (Mr. Flanagan joined the meeting during the presentation.) The Committee recommended approval of revisions to Section 1.3 of the I/I Local Financial Assistance Program guidelines, as presented and filed with the records of the meeting (ref. agenda item B.1).

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* Approved as recommended at April 16, 2014 Board of Directors meeting.

Contract Awards

*Technical Assistance Consulting Services – Surveying: GEOD Consulting, Inc., Contract 597TA

The Committee recommended approval of the contract award for as-needed unanticipated or surveying projects (ref. agenda C.1).

*Electrical Equipment Upgrade Construction 4 – Resident Engineering and Inspection, Deer Island Treatment Plant: AECOM Technical Services, Inc., Contract 7416

Staff summarized the scope of work of the contract and the number and type of consultant staff proposed. There was general discussion and question and answer, particularly on the various reasons for there being just one bidder and for the Engineer's Estimate being so much lower than the bid. The Committee recommended approval of the contract award (ref. agenda item C.2).

*Electrical Testing and Technical Services – Metropolitan Boston: Infra-Red Building and Power Service Co., Inc., Contract OP-237

Staff discussed the type of services to be provided, noting that they were taking best practices learned at the Deer Island Treatment Plant and implementing them in the field. There was general discussion. The Committee recommended approval of the contract award (ref. agenda item C.3).

*Process and Control System (PICS) Service and Maintenance Contract - Deer Island Treatment Plant: ABB Automation, Inc.

Staff discussed the sole-source nature of the renewal of this extended warranty, service and maintenance agreement. The Committee recommended approval of the agreement (ref. agenda item C.4).

The meeting adjourned at 11:50 a.m.

* Approved as recommended at April 16, 2014 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Update on the Operation and Maintenance of the Pelletizing Plant

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
VOTE

Rachel C. Madden, Director
Administration and Finance

David F. Duest, Director, Deer Island WWTP
Carl Pawlowski, Manager, Residuals Operations
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

Since 1991, MWRA's Pelletizing Plant at the Fore River Shipyard has been operated and maintained under contract with New England Fertilizer Company (NEFCo). The current contract, Contract S345, Operations and Maintenance Agreement of the Fore River Pelletizing Plant, began on May 31, 2001 and expires on December 31, 2015. While the expiration date is still almost 19 months from now, MWRA has completed two initiatives in an effort to determine what the best options are for continued residuals processing beyond 2015. This staff summary provides the Board with a review of the efforts made to date and also provides an update on the three options currently under review by staff and the associated factors for each option under consideration. The three options are: a new competitively bid 20-year contract, a new competitively bid five-year contract, or a five-year contract extension with NEFCo followed by a future 20-year competitively bid contract. Staff plan to present a separate staff summary to the Board for approval of the recommended option before the expiration of the current contract.

RECOMMENDATION:

For information only.

BACKGROUND:

MWRA provides wastewater treatment services to more than 2.5 million customers in 43 communities in the metropolitan Boston area. Wastewater is conveyed to the Deer Island Treatment Plant where MWRA provides primary and secondary treatment, followed by disinfection, dechlorination, and disposal of the treated effluent through a 9.5-mile ocean outfall tunnel into Massachusetts Bay.

Residuals collected by primary and secondary treatment are further processed in Deer Island's egg-shaped anaerobic digesters. Digester gas, a byproduct of anaerobic digestion, is beneficially utilized on Deer Island to provide heat and generate electricity to offset some of the electricity needed to operate the plant. The remaining residuals (sludge), after digestion, are temporarily stored on Deer Island and then pumped seven miles through a pipeline to MWRA's Pelletizing Plant located in the Fore River Staging Area in Quincy (pictured on the right). At this facility, the digested sludge is dewatered in centrifuges and then dried in thermal dryers (as shown in following diagram and Figures 2 and 3 below). The resulting pellets are then beneficially used and marketed as a Class A fertilizer.

Figure 1: MWRA's Biosolids Processing Plant

Existing Solids Process Flow Diagram

Figure 2: Dewatering Centrifuges

Figure 3: Dryer Furnaces

In December 1991, MWRA stopped the decades-old practice of discharging sludge directly in Boston Harbor. At that time, MWRA began operation of the Pelletizing Plant following a competitive procurement process that resulted in MWRA awarding the first operating contract to NEFCo. A successor contract, also competitively bid, began in 2001 and runs to the end of 2015. NEFCo has been the only contract operator of the facility since it went on-line.

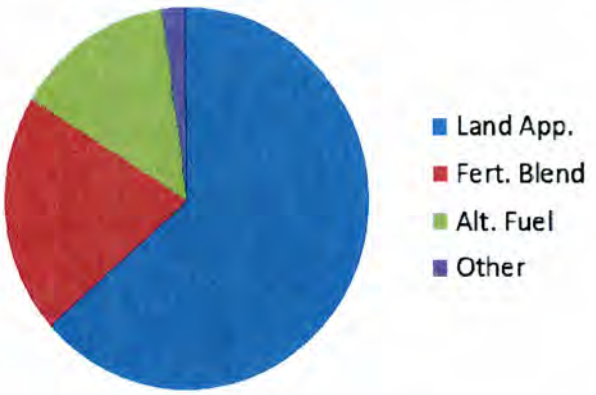


Figure 4: Product Diversity

NEFCo is responsible for the contract operation of the Pelletizing Plant and is ultimately responsible for receiving digested sludge and disposing of that material in a beneficial way. More specifically, NEFCo dewaters the sludge using centrifuges, dries the product, and produces a fertilizer pellet in the right form and consistency using thermal dryers. NEFCo then markets the material for beneficial use through a diversified portfolio of customers to ensure that the material has an end use 365 days per year. Figure 4 on the left depicts the various sources included in NEFCo's portfolio. On average, NEFCo converts 103 dry tons per day of digested sludge to a fertilizer pellet and then finds that material a permanent home for disposal.

Originally, MWRA decided to contract out this operation because it involved the use of a newer treatment technology and involved developing and maintaining national markets for a Class A fertilizer product, tasks unlike anything that existing staff had ever been involved with. In addition, there were only limited U.S. installations of this technology (the Quincy facility was among the first five built in this country). While today there are many more "dryer facilities" – approximately 25 – throughout the country than there were in 1991, there still remain only a few firms, such as NEFCo, that specialize in the operation and maintenance aspect.

DISCUSSION:

In preparation for the expiration of the existing contract operation, MWRA staff began preliminary planning in mid-2009 under Contract 7147, Condition Assessment of the Residuals Processing Facility (Pelletizing Plant). That study showed that the Pelletizing Plant is generally in excellent condition, with no significant capital expenditures required over the next 20 years or longer with continued maintenance. The study recommended only minor improvements, mostly to outdated electronic equipment. NEFCo has completed all of the recommended modifications resulting from Contract 7147.

The next step began in 2012 with Contract 7147A, Technology Options Assessment, which involved a review of MWRA's past decisions for residuals processing. Prior to any potential future major capital expenditures, staff wanted to review the existing operation, optimize the use

of existing facilities, and recommend changes that may improve green energy production and/or reduce sludge production. That study recommended a few potential changes at Deer Island and only a few longer-term improvements for the Pelletizing Plant were suggested. Staff are evaluating the few recommendations for the Pellet Plant.

The Technology Options Assessment recommendations primarily pertaining to Deer Island were specific in the areas of digestion and digester gas utilization. The long-range recommended improvements to the Pelletizing Plant included replacing several smaller drying trains with a fewer number of larger drying trains (without increasing the current capacity of the facility) to achieve energy efficiency gains. This recommendation would require a substantial capital investment for a facility with a long remaining life. Any changes of this type would have to be made with an estimated payback period in mind. In order to extend the life of the facility beyond 20 years, staff anticipate that other mechanical, instrumental, HVAC and electrical systems would need evaluation and some replacement, due to age or obsolescence. This would also need to be evaluated in any new contract discussion or planning.

The final step includes incorporating the recommendations that prove worthy of implementation and contracting within the next phase of an operations and maintenance agreement. Staff are of the opinion that a competitively bid, long-term agreement for the operation and maintenance of the Pelletizing Plant provides the agency with the most cost-effective means for biosolids processing beyond 2015. Staff are still evaluating how best to implement that long-term contract. The options currently under review include a competitively bid, 20-year contract now, a competitively bid five-year contract (followed by a long-term agreement), or a five-year extension of the current contract with NEFCo, followed by a competitively bid, long-term, 20-year operations and maintenance contract.

Timing the long-term agreement correctly provides MWRA with the best chance of getting the best value. Staff are considering factors, including the level of competition, risk, pending projects that impact biosolids quantity and quality, data from similar projects at other facilities, potential for any emerging technologies, potential upgrades for the Pelletizing Plant, and scope of services improvements to develop a comprehensive bid package for a cost-effective, long-term operations and maintenance agreement.

Heat drying and pelletization is fast becoming the method of choice for many publically owed treatment works seeking alternatives for sludge disposal needs. Air permit requirements for incinerators and landfill policy changes regarding organics are leading this push. At this time, only two or three larger firms are bidding on proposals of MWRA size and scope. One of these firms was near bankruptcy one year ago but has since been recovering. Staff expect competition to grow in the near future as more and more projects come on line.

A comprehensive bid for a 20-year contract might be best if MWRA operated in steady state with well-defined planned capital expenses and process efficiency plans going into the future. Given the timing of the recommendations of the Residuals Technology Assessment, there is more uncertainty in the near future, including the potential lack of competition, which may impact how MWRA may want to revise/update the future contract. Factors pushing for shorter-term options now include potential process changes at Deer Island that may increase or decrease

sludge production and may also impact the quality of the biosolids, such as co-digestion, sludge pre-treatment, and struvite/phosphorus recovery. Knowing more about exactly how these issues will impact the overall process will reduce risk and could help tighten bid specifications. In addition, MWRA has a Pellet Plant that has been paid for, is in good condition, and continues to have a useful life beyond the end of the current contract.

NEFCo is currently building a very large pelletizing facility in Detroit, Michigan utilizing more efficient and modern, larger drying trains. The target Substantial Completion date for the Detroit project is March 2016. The expected shakeout period is approximately two years. Learning more about the actual costs of operating these larger dryer trains in Detroit will help MWRA determine whether a similar installation makes sense for its Pelletizing Plant.

Compensation in a future contract is also under evaluation. Currently MWRA pays NEFCo an annual fee that is the sum of a fixed component, a variable component, and extraordinary items. The fixed component is how much MWRA pays for the first 90 tons per day of biosolids sent to the Pellet Plant. The variable component represents the amount MWRA pays for the amount of biosolids that exceeds 90 tons per day. Extraordinary items include a sum for capital improvements in the original bid for each year of the contract. MWRA may want to re-evaluate how it structures the future contract and look for ways to perhaps minimize variables.

Staff will continue to evaluate the three most likely scenarios discussed above, including discussions with NEFCo on possible terms for a 5-year contract extension to the existing contract. Staff will return to the Board for approval of a final recommendation at a future meeting.

BUDGET/FISCAL IMPACT:

The FY14 Current Expense Budget includes $14,508,156 for Contract S345. MWRA will budget accordingly for future fiscal years to fund the operation of the Pelletizing Plant.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Update on Power Surge at MWRA's Pelletizing Plant

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
____ VOTE

John P. Vetere, Deputy Chief Operating Officer
David F. Duest, Director, Deer Island WWTP
Carl Pawlowski, Manager, Residuals Operations
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

On May 7, 2014, at approximately 10:20 a.m., a power outage in Quincy resulted in a complete shutdown of MWRA's Pelletizing Plant. When NEFCo restarted the plant, several 300-horsepower variable frequency drives (VFDs) controlling the centrifuges in the sludge dewatering operation were found to be damaged from the power disruption. NEFCo staff were able to restart operations within hours of the event, matching its processing production to Deer Island's sludge pumping rates. The outage significantly reduced the plant's total processing capacity from its normal operational levels for approximately 28 hours. NEFCo staff have been working with the original equipment manufacturer (OEM) and the OEM will be covering the repairs/replacement under warranty.

RECOMMENDATION:

For information only.

BACKGROUND:

Residuals collected and digested at the Deer Island Treatment Plant are pumped seven miles through a pipeline to MWRA's Pelletizing Plant located in the Fore River Shipyard in Quincy (see Figure 1). At this facility, digested sludge is dewatered in centrifuges and then dried in thermal dryers (see Figures 2 and 3 on the following page). The resulting pellets are then marketed and beneficially used as a Class A fertilizer.

Figure 1: MWRA's Pelletizing Plant

Figure 2: Dewatering Centrifuges

Figure 3: Dryer Furnaces

The Pelletizing Plant is equipped with 12 centrifuges for sludge dewatering feeding into six dryer trains (each train includes a thermal dryer, a separator, a screener, a crusher, and a recycle bin) that convert the digested sludge into a fertilizer pellet. Each dryer train has the capacity to process approximately 50 dry tons per day (dtpd) of material at maximum capacity. The Deer Island Treatment Plant sends, on average, 103 dtpd of digested sludge to the Pelletizing Plant seven days a week, but only pumps the material 4.5 days per week. NEFCo operates the Pelletizing Plant five days per week (24 hours per day) to match Deer Island's production. Typically, when the plant is in operation, NEFCo operates six centrifuges and three dryer trains to keep up with production.

DISCUSSION:

At approximately 10:20 a.m. on May 7, 2014, a series of power dips and spikes in NGRID's electrical system serving the City of Quincy knocked all operating equipment in the Pelletizing Plant offline. The power outage, which was caused by a truck accident that took down an electric/telephone pole in Quincy, impacted more than 2,500 homes. At the time of the accident, the plant was operating Centrifuges 5 and 6, feeding Dryer Train 3, Centrifuges 7 and 8, feeding Dryer Train 4, and Centrifuges 11 and 12, feeding Dryer Train 6.

Dryer Train 1 was in standby mode, while Dryer Trains 2 and 5 were off line for maintenance. The resulting power spikes and dips caused the 300-horsepower VFDs on Centrifuges 7, 8, 11, and 12, serving Dryer Trains 4 and 6, to burn out circuits within the drive, causing the drives to fail (see photo on the right). There was only minor damage to VFD 12. Centrifuges 5 and 6, serving Dryer Train 3, were not impacted by the short-term loss of power.

Figure 4: Damage to VFD on Centrifuge 7

Upon inspection immediately after the power outage, NEFCo staff identified evidence of electrical burns within the failed units. A summary of the equipment impacted is shown in the table below.

NEFCo staff were able to immediately return Centrifuges 1 and 2 and Dryer Train 1 to service. Shortly thereafter, Centrifuges 5 and 6 and Dryer Train 3 were placed on line. After approximately three hours, NEFCo restored processing production to match that of Deer Island's seven-day production rate (~100 dtpd) with these two dryer trains.

Centrifuge #	Dryer Train #	Status Before Outage	Impact due to Outage	Current Status
1	1	Offline but available	None	In operation within one hour of trip
2		Offline but available	None	
3	2	Out for maintenance	None	Out for maintenance
4			None	
5	3	In operation	Tripped; No damage	In operation within three hours of trip
6		In operation	Tripped; No damage	
7	4	In operation	Tripped; VFD damage	VFD replaced 5/12; Available
8		In operation	Tripped; VFD damage	VFD replaced; Available
9	5	Dryer Out for Maintenance; Centrifuges available	None	Dryer bearing repaired; Train available if needed 5/12
10			None	
11	6	In operation	Tripped; VFD damage	Repaired 28 hours after trip; On-line
12		In operation	Tripped; Minor VFD damage	Repaired 24 hours after trip; On-line

Within 24 hours of the electrical trip, NEFCo staff returned a third train (Dryer Train 6) to partial capacity with one working centrifuge (Centrifuge 11), then to full capacity with a second centrifuge (Centrifuge 12) after 28 hours by utilizing parts from off-line trains. Within three days, NEFCo staff completed repairs to a fourth dryer train (Train 5), which was out of service due to a bearing failure unrelated to the power outage. The VFDs serving Centrifuges 7 and 8 were the last to be repaired relating to the power failure. These units were replaced under warranty on Monday, May 12. Currently, only Dryer Train 2 is out of service for maintenance (as it was prior to the power outage).

NEFCo operated the facility 24/7 throughout the weekend until the inventory levels were returned to normal and a fourth dryer train was made available for operation after inventory levels increased during the equipment down time.

In summary, the power outage resulted in no impacts to Deer Island. The VFDs that were damaged should have been able to withstand the electric surge and dip caused by the power outage and will be replaced under warranty by the OEM. This will be further studied by NEFCo staff and the OEM.

BUDGET/FISCAL IMPACT:

NEFCo staff worked with the OEM of the damaged equipment and the OEM replaced the damaged equipment under warranty. NEFCo's additional staff time, which has yet to be totaled or reviewed, will be covered under NEFCo's contract.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Memorandum of Understanding and Financial Assistance Agreement with BWSC for Implementation of CSO Control Projects, Amendment 14 and Progress of BWSC Implemented CSO Projects and Projected Financial Assistance through December 2014

COMMITTEE: Wastewater Policy & Oversight

___ INFORMATION
_X_ VOTE

Anandan Navanandan, P.E., Chief Engineer
David A. Kubiak, P.E., Sr. Program Manager
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute Amendment 14 to the Memorandum of Understanding and the Financial Assistance Agreement with Boston Water and Sewer Commission for Implementation of CSO Control Projects, increasing the award amount by $3,143,982.04 from $289,451,416.24 to $292,595,398.28.

DISCUSSION:

Under the Memorandum of Understanding (MOU) and Financial Assistance Agreement (FAA) between MWRA and BWSC for the Implementation of CSO Control Projects, BWSC is responsible for implementing nine of the 35 projects in MWRA's Long-Term CSO Control Plan. Under the MOU and FAA, BWSC also improved a portion of its Lower Dorchester Brook Sewer to reduce CSO discharges to BWSC's Dorchester Brook Conduit and Fort Point Channel in accordance with the terms and conditions of Amendment 9 to the MOU and FAA approved by the Board on June 4, 2008. BWSC has completed most of the projects, and remaining work is associated with ongoing construction of the Reserved Channel sewer separation project and the continuing removal of stormwater inflow from BWSC systems in Dorchester as part of the South Dorchester Bay sewer separation project.

The MOU provides a framework within which BWSC and MWRA cooperate in the management of the CSO projects. The FAA is the funding mechanism by which MWRA funds are made available to BWSC to pay eligible design and construction costs. The MOU and FAA were originally executed in 1996, and the total award amount in the agreements through Amendment 13, executed on December 27, 2012, is $289,451,416.24. Proposed Amendment 14 will increase the award amount of the MOU and FAA by $3.14 million. Amendment 14 increases the award amount for the Reserved Channel sewer separation project by $4.80 million to cover additional storm drain installation (and associated stormwater removal from the sewer system), additional utility coordination and related police details and engineering services during construction.

Amendment 14 will maintain the remaining, unspent funds of $3.8 million for ongoing stormwater inflow removal in Dorchester. In addition, Amendment 14 will increase or decrease the award amount for each of the several completed BWSC projects in line with actual eligible cost, resulting in a $1.66 million net decrease in the award amount for these completed projects.

Table 1: Current Authorizations and Proposed Amendment 14

Project	Current Authorization	Amendment 14	Amended Authorization
South Dorchester Bay BOS088/089 Sewer Seperation	$ 54,187,455.58	$ 465,864.81	$ 54,653,320.39
South Dorchester Bay BOS090 Sewer Seperation	$ 64,781,012.23	$ (565,484.04)	$ 64,215,528.19
Neponset River BOS093/095 Sewer Seperation	$ 2,444,394.10	$ 104,692.31	$ 2,549,086.41
Constitution Beach BOS002 Sewer Separation	$ 3,768,888.10	$ (37,573.09)	$ 3,731,315.01
Stony Brook Sewer Sepatration	$ 44,332,716.10	$ (45,332.54)	$ 44,287,383.56
Independent Floatables Control and Outfall/Regulator Closings	$ 933,333.10	$ 12,602.85	$ 945,935.95
Fort Point Channel Sewer Separation and System Optimization	$ 9,977,175.31	$ (90,085.27)	$ 9,887,090.04
Regulator RE070/11-2 Relocation and Sewer Separation	$ 2,030,000.00	$ -	$ 2,030,000.00
Morrissey Boulevard Drain	$ 32,904,545.10	$ (565,434.01)	$ 32,339,111.09
Reserved Channel Sewer Separation	$ 64,105,781.52	$ 4,796,440.89	$ 68,902,222.41
Bulfinch Triangle Sewer Separation	$ 9,986,115.10	$ (931,709.87)	$ 9,054,405.23
Total	$ 289,451,416.24	$ 3,143,982.04	$ 292,595,398.28

In November 2013, BWSC submitted a request to MWRA to expand the Reserved Channel sewer separation work (primarily storm drain installation) within the original project area established by MWRA during the CSO planning phase. Since the development of BWSC's Master Drain Plan in February 2008 for the sewer separation work, a number of parcels within the sewer separation area have been redeveloped with on-site separate sewer and storm drain services, creating opportunities or necessities for further stormwater collection. Also, with the progress of BWSC's sewer separation construction in the area, other opportunities to remove sources of stormwater flow from the sewer system have been identified that were not recognized in the 2008 Master Drain Plan. This additional work includes approximately 2,130 linear feet of new storm drain ranging in size from 12-inch to 15-inch primarily in BWSC's Contract 4 area (see Figure 1 on page 3).

In addition, the eligible cost of BWSC's Contract 3B has risen by $971,529 as a result of nine (9) change orders and item overruns in the contract, mostly driven by vertical and horizontal conflicts with other utilities in this highly congested area of South Boston. As a result of these conflicts, BWSC has substantially modified its design during construction on East First, East Second, East Third, I, K, and Summer streets. The revisions required substantial changes to BWSC infrastructure and increased the necessary sewer and storm drain installations.

Due to the changes made during construction to contracts 3B and 4, and the resulting additional pipe installations, BWSC is preparing a first amendment to its Construction Services and Resident Inspection contract, awarded in December 2008, estimated to increase the eligible cost of these services by $981,000, from $5,081,400 to $6,062,400.

Progress of Work

BWSC continues to make significant progress toward completing the CSO projects it is responsible for implementing on schedules that comply with milestones in Schedule Seven of the Federal Court Order in the Boston Harbor Case. Through June 2014, BWSC will spend a total of approximately $277.3 million for eligible CSO work funded by MWRA. BWSC has completed the South Dorchester Bay, Stony Brook, Neponset River, Constitution Beach, Fort Point Channel and Bulfinch Triangle sewer separation projects, the Morrissey Boulevard Storm Drain project and the Region-wide Floatables Control project (BWSC outfalls only). Together these projects involved the installation of more than 245,000 linear feet (46 miles) of new storm drain and allowed the closing of CSO outfalls to the Neponset River and Tenean, Malibu, Savin Hill and Constitution beaches. Described below is the progress of CSO work BWSC continues to perform that is eligible for MWRA funding.

Reserved Channel Sewer Separation

BWSC continues to make scheduled progress with its nine construction contracts for the $68.9 million Reserved Channel Sewer Separation project (see Figure 1). Table 2, on the next page, describes each contract, progress made, and current schedule for completion. BWSC plans to complete all work associated with the Reserved Channel sewer separation project by December 2015, in compliance with Schedule Seven.

Figure 1
Reserved Channel Sewer Separation Area,
Construction Contracts and Affected CSO Outfalls

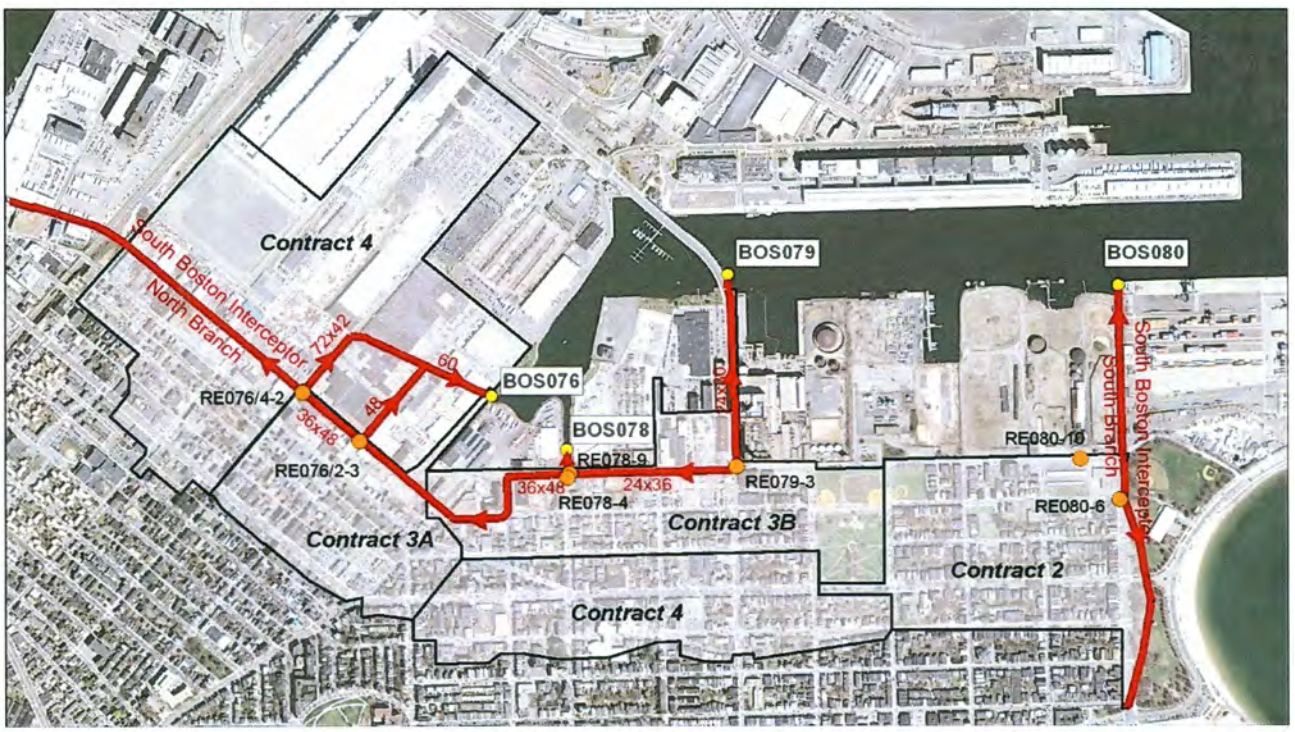


Table 2: Reserved Channel Sewer Separation Project Status

BWSC Contract	Description	Eligible Cost Estimate	Status
1	Restoration of four outfalls: 076, 078, 079 and 080. Also includes tidegate installation and culvert installation.	$3,947,299	Substantially complete
2	Installation of approximately 3,690 linear feet of 4 to 20 inch water pipe, 13,050 linear feet of 10 to 66 inch sewer and drain pipe, 63 four to six foot diameter manholes, 27 special manholes, 12 catch basins, and 3,500 linear feet of minor drain.	$5,110,962	Substantially complete
3A	Installation of approximately 9,220 linear feet of 4 to 16 inch water pipe, 12,380 linear feet of 8 to 84 inch sewer and drain, 80 four to seven foot diameter manholes, 6 special manholes, 22 catch basins, and 5,300 linear feet of minor drain.	$11,092,266	Substantially complete
3B	Installation of approximately 10,840 linear feet of 12 to 72 inch storm drain, 4,350 linear feet of 12 to 72 inch replacement sanitary sewer, replacement of 10,700 linear feet of 4 to 20 inch water pipe, 90 four to six foot diameter manhole, 9 special manholes, 6 catch basins, and 5,000 linear feet of minor drain.	$11,000,000	90% complete
4	Installation of approximately 12,200 linear feet of 12 to 48 inch storm drain,, 1,700 linear feet of 12 to 24 inch replacement sanitary sewer pipe, replacement of 9,700 linear feet of 8 to 16 inch water pipe, 104 four to six foot diameter manholes, one catch basin, and 5,400 linear feet of minor drain.	$10,476,646	75% complete
5	Sewer cleaning and lining.	Ineligible	Awarded February 2014
6	Downspout disconnections.	$661,442	Awarded January 29, 2014
7	Permanent pavement restoration of approximately 16,000 linear feet of roadway.	$1,135,425	Substantially complete
8	Permanent pavement restoration of approximately 37,500 linear feet of roadway.	$5,481,856	35% complete

Installation of 48" drain on East Third Street
Reserved Channel Contract 3B

Drain manhole installation, K Street at East Broadway
Reserved Channel Contract 4

South Dorchester Bay Sewer Separation - Stormwater Inflow Removal

BWSC substantially completed the South Dorchester Bay sewer separation project in 2007, eliminating CSO discharges to the Commercial Point and Fox Point CSO treatment facilities and the beaches of South Dorchester Bay. Confirmation from BWSC that CSOs were eliminated allowed MWRA to decommission the two facilities in November 2007. Since then, BWSC has

continued to locate and remove private inflow sources, primarily by disconnecting downspouts, to further reduce the amount of stormwater in the sewer system and meet the sewer system performance objectives in the MOU and FAA.

For several years, MWRA's CIP has included funds for additional work to adequately relieve the separated sewer system and control the potential for system flooding with the CSO relief points now eliminated. Approximately $5.4 million of the $118.9 million budget in MWRA's FY14 CIP for the South Dorchester Bay sewer separation project is allocated for this purpose.

On November 11, 2010, BWSC issued the Notice to Proceed with a design contract for the identification of additional inflow sources to be removed and the preparation of associated construction documents. The consultant has completed field investigations and a flow metering program and has performed flow isolation in areas suspected to have high inflow amounts. BWSC presented the results of the investigations and recommendations for inflow removal at a workshop for MWRA staff in February 2012. BWSC expects to issue the draft final report this summer. In the meantime, BWSC expects to substantially complete a construction contract this summer that is eliminating stormwater inflow sources at approximately 20 locations in Dorchester, at an eligible cost of $204,000.

MWRA Oversight and Funding

The FAA establishes eligible and ineligible costs. Generally, all reasonable force account and contract costs incurred by BWSC as a direct result of implementing eligible portions of the CSO projects are funded. The FAA calls for MWRA to disburse grant funds to BWSC semiannually, based on a documented, detailed estimate of project costs for the projected six-month period. MWRA's review and acceptance of the cost estimate is required prior to disbursement of funds to the BWSC CSO account.

Staff review the scope and cost of engineering and construction contracts issued by BWSC, as well as BWSC's change orders and amendments. Staff also routinely review the progress of the BWSC projects and expenditures. Monthly meetings are held with BWSC to coordinate activities, resolve any critical issues, understand the status of eligible costs and maintain schedules. BWSC submits monthly reports that describe actual work progress and the force account and contract-related expenditures for each project. Staff are satisfied with the progress of BWSC's work and the quality of project management and administration.

MWRA's Internal Audit Department (IAD) routinely reviews BWSC's compliance with the terms and conditions of the FAA. IAD is currently completing an audit of BWSC's engineering, construction and force account costs for calendar year 2013.

<u>MWRA Funding and Eligible Expenditures through June 2014</u>

Since execution of the MOU and FAA in 1996, MWRA has transferred a total of $282,663,413.76 into BWSC's CSO account to cover eligible design and construction costs through June 2014. In addition, the account has accumulated $1,761,843.12 in interest which BWSC has used to pay eligible project costs, in accordance with the FAA. The estimated total eligible cost incurred by BWSC through June 2014 is estimated to be $282,183,311.64. The balance in the CSO account is estimated to be $560,213.65 as of June 30, 2014.

Funding for Second Half of Calendar Year 2014

BWSC submitted a request for funds transfer that estimates it will perform $3,433,297.89 of eligible work in the period July through December 2014. Staff have reviewed the request and propose a transfer of $1,389,173.56 to cover the anticipated eligible expenditures through December 2014. Staff plan to transfer $1,389,173.56 to the BWSC CSO account soon. The difference between the requested and proposed transfers includes monies previously transferred but recouped from projects completed at lower than estimated cost and slower spending on Reserved Channel Contracts 6 (downspout disconnects) and Contract 8 (paving) compared to expected progress at the time of BWSC's request.

The current total MOU/FAA amount is $289,451,416.24. If approved, Amendment 14 will increase the amount to $292,595,398.28. Including the pending transfer, the total amount of MWRA funds transferred into the BWSC CSO account is $282,663,413.77. Staff expect to make additional transfers to the BWSC CSO account totaling $9.9 million through December 2016 (the termination date of the MOU/FAA with BWSC) to cover the remaining eligible costs for construction of the Reserved Channel sewer separation project and additional Dorchester inflow removal.

Table 3 shows funds provided by MWRA, including the pending transfer, to cover past and anticipated eligible costs through June 2014 for each project and phase.

Table 3: Pending and Total Payments for BWSC Implemented Projects

Project	Phase	FY14 CIP	MWRA Funding Jul-Dec 2014	Total MWRA Funding thru Dec 2014	Status*
South Dorchester Bay Sewer Separation (Fox Point area)	Engineering	$ 11,414,412	$ 136,535.86	$ 11,562,185	Complete
	Construction	42,754,139	336,759.04	$ 43,091,135	
South Dorchester Bay Sewer Separation (Commercial Point area)	Engineering	17,664,846	4,815.95	$ 16,684,456	Substantially
	Construction	47,110,806	(829,397.80)	$ 43,680,017	Complete
Neponset River Sewer Separation	Engineering	469,614	-	$ 469,614	Complete
	Construction	1,974,781	104,692.17	$ 2,079,473	
Constitution Beach Sewer Separation	Engineering	673,278	25,907.69	$ 699,186	Complete
	Construction	3,095,610	(63,481.02)	$ 3,032,129	
Stony Brook Sewer Separation	Engineering	10,137,127	295,503.57	$ 10,473,552	Complete
	Construction	34,195,412	(247,424.77)	$ 33,813,831	
Floatables Control	Engineering	554,979	12,956.81	$ 567,936	Complete
	Construction	378,000	(0.01)	$ 378,000	
Fort Point Channel Sewer Separation	Engineering	1,868,273	152,251.74	$ 2,020,525	Complete
	Construction	8,108,435	(241,870.44)	$ 7,866,565	
Regulator RE070/11-2 Relocation and Sewer Separation	Engineering	-	-	$ -	Complete
	Construction	2,030,000	-	$ 2,030,000	
Morrissey Boulevard Drain	Engineering	4,494,099	(158,719.53)	$ 3,867,423	Complete
	Construction	28,320,446	194.05	$ 28,320,841	
Reserved Channel Sewer Separation	Engineering	14,377,594	269,383.28	$ 13,877,434	Design/
	Construction	50,430,935	2,394,119.31	$ 50,483,881	Construction
Bulfinch Triangle Sewer Separation	Engineering	1,323,150	(112,745.76)	$ 1,124,201	Complete
	Construction	8,620,510	(690,306.59)	$ 7,930,204	
TOTAL BY PHASE	Engineering	62,977,372	625,889.61	$ 61,346,512	
	Construction	227,019,074	763,283.94	$ 222,706,076	
TOTAL		**$ 289,996,446**	**$ 1,389,173.55**	**$ 284,052,587**	

*Substantially complete projects may incur additional eligible costs associated with water quality monitoring, additional inflow removal, construction claims and/or final contract closeout.

BUDGET/FISCAL IMPACT:

Amendment 14, if approved will increase the Total Award Amount of the MOU and FAA from $289,451,416.24 to $292,595,398.28. The FY14 CIP Budget includes $289,996,446 for the BWSC-implemented CSO control projects. The Final FY15 CIP Budget will be updated to reflect the $292,595,398.28. BWSC's Reserved Channel Contract 2 received $2.3 million of stimulus funding based on the American Recovery and Reinvestment Act of 2009.

MBE/WBE PARTICIPATION:

For the BWSC-implemented projects funded by MWRA, MBE/WBE participation requirements are included in compliance with DEP SRF requirements and as required by BWSC policy.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Valve and Piping Replacements, Various Facilities, Deer Island Treatment Plant
Carlin Contracting Co., Inc.
Contract 7275

COMMITTEE: Wastewater Policy & Oversight

____ INFORMATION
__X__ VOTE

Rachel C. Madden, Director
Administration and Finance

William Carter, Project Manager, DITP
David F. Duest, Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 7275, Valve and Piping Replacements, Various Facilities, Deer Island Treatment Plant, to the lowest responsible and eligible bidder, Carlin Contracting Co., Inc., and authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $16,960,425, for a contract term of 1,095 calendar days from the Notice to Proceed.

DISCUSSION:

Under Contract 7275, a number of valves, piping, and flow meters in various facilities at the Deer Island Treatment Plant will be replaced. Facilities impacted include the North Main Pump Station, Winthrop Terminal Facility, South System Pump Station, Primary Clarifiers, Secondary Clarifiers and Gravity Thickeners.

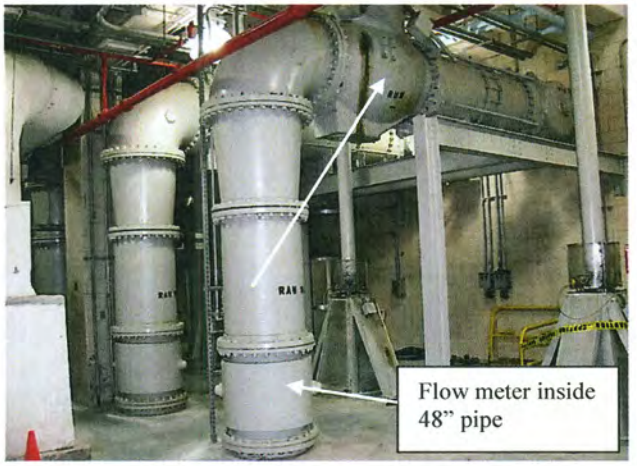
The North Main Pump Station and Winthrop Terminal Facility receive raw wastewater from the North Sewer System. Both facilities discharge into the common North System tunnels, which convey the raw wastewater to the North System Headworks Facility for grit removal. The existing pumps, piping and valves at these two facilities were installed as part of the Boston Harbor Project and now have been in service for almost 20 years. Some of the large valves on the discharge side of the North Main Pump Station and Winthrop Terminal Facility wastewater pumps can no longer provide complete closure, which increases the difficulty of performing maintenance on the pumps. Therefore staff recommend that these valves be replaced. In addition, staff are concerned that the flow meters (each of the pumps has an associated flow meter) are no longer providing the necessary reliable level of accuracy and recommend that these be replaced, as well.

The North Main Pump Station contains ten raw wastewater pumps, each with two 60-inch discharge butterfly valves (one lower valve for start-up, one upper valve for isolation – 20 valves in total – examples are shown in the following two pictures).

Lower 60-inch Butterfly Valve in NMPS

Upper 60-inch Butterfly Valve in NMPS

The Winthrop Terminal Facility contains six raw wastewater pumps. Each pump arrangement consists of a knife gate valve on the suction piping, and a swing check valve and plug valve on the discharge piping. In addition there are three 48-inch plug valves on the two force mains leaving the facility (as shown in the pictures below).



Check Valve and Flow Meter in WTF

48-inch Plug Valve on WTF Force Main

Removing and replacing these critical valves and meters will require close coordination between MWRA staff and the contractor. This is one of the most complex construction projects to be performed on Deer Island since the Boston Harbor Project. Staff estimate that to complete this work, there will be as many as 50 eight-hour, nighttime shutdowns of all pumping at both the North Main Pump Station and Winthrop Terminal Facility. Each of the 50 individual shutdowns involves risk as the replacement must be completed within the allotted eight-hour time limit during favorable weather conditions or the sewer system upstream of the Chelsea Creek Headworks will back up, potentially causing Sanitary Sewer Overflows.

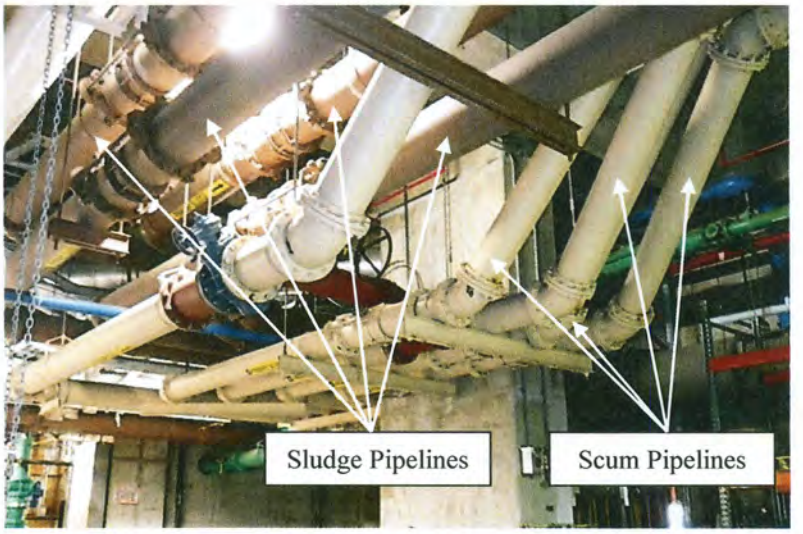
Work will require the installation of a temporary dewatering system capable of pumping down the North System tunnels to a low enough level to allow for the safe removal and installation of the valves and flow meters. The contractor will only be allowed to work on one pump at a time throughout the contract term and work scheduling may be altered by wet-weather events that directly impact flow and operating conditions.

The South System Pump Station receives raw wastewater from MWRA's South Sewer System. The facility contains eight raw wastewater pumps that discharge flow into the Grit Effluent Distribution Chamber for primary treatment. Each pump has a 54-inch check valve on the discharge end. Each check valve has a top-mounted, self-contained, hydraulically operated "dashpot" (like an actuator – see picture below) that closes the check valve in a controlled manner to prevent water hammer damage when a pump is stopped intentionally or unexpectedly. Although the South System Pump Station's valves are in good working order at this time, the cylinders, seals, and shafts of the dashpots no longer provide the reliable operation that is needed to ensure avoided water hammer damage.

Top-Mounted Dashpot on Check Valve in SSPS

Similar to the work in the North Main Pump Station, the contractor will only be allowed to work on one pump at a time (but a complete station shutdown will not be required).

There are eight glass-lined, ductile-iron pipelines that generally are located in parallel throughout the Primary Clarifier galleries and the Residuals Galleries (see one section pictured on the right) through which sludge is pumped. Glass-lined pipe is important because it protects the ductile-iron pipe from corrosion, and because blockages are avoided as the sludge flows more easily through the glass lining. Much of these pipelines were installed under the Boston Harbor Project and imperfections in the glass lining, over time, have led to corrosion of the ductile-iron pipe. To ensure the safe and uninterrupted operation of the sludge transfer system, this contract includes the replacement of

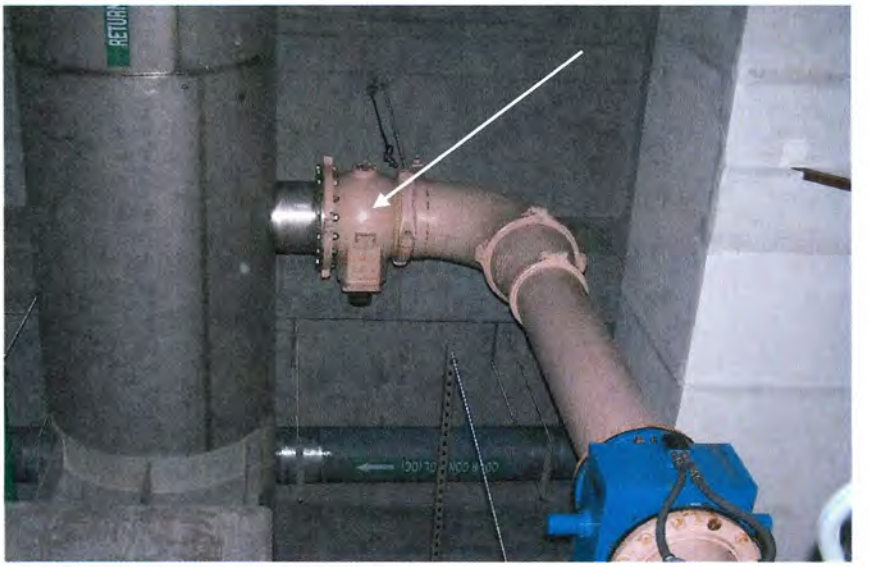


Primary Sludge and Primary Scum Piping

approximately 6,500 linear feet of 14-inch-diameter, and 1,550 linear feet of 10-inch-diameter glass-lined piping.

In the Residuals Gallery, adjacent Primary Scum Piping also needs to be replaced due to its age and condition. The contractor will install new cross connections in these lines to minimize process downtime, as well as provide additional redundancy in the future.

There are 84 16-inch, glass-lined plug valves on the discharge ends of the Return Sludge pumps (one is shown on the right). Many of these valves have lost their ability to close completely, which does not allow for total isolation if maintenance or repair is necessary. Staff recommend that all of these plug valves be replaced. In order to replace these valves, the entire Return Sludge Line header must be isolated and drained. This requires each battery of Secondary treatment to be taken out of service, one at a time, while the work is performed.



16-inch Plug Valve on Return Sludge Line

Procurement Process

Contract 7275 was advertised and bid in accordance with Chapter 149 of Massachusetts General Laws. On March 27, 2014, three bids were received and opened with the following results:

Contractors	Bid Price
Carlin Contracting Co., Inc.	$16,960,425
Walsh Construction Company*	$17,325,573
O'Connor Corporation	$17,671,576
Engineer's Estimate	*$18,328,562*

*The second low bidder, Walsh Construction Company, filed a protest with the Attorney General due to Carlin Contracting Co., Inc.'s failure to submit a DCAM Certificate of Eligibility with its bid. However, MWRA staff verified promptly after bids were opened that Carlin was properly certified by DCAM. The Attorney General concurred that MWRA had the discretion to accept Carlin's bid under the circumstances and denied the protest.

MWRA staff and MWRA's Design Consultant, AECOM, reviewed Carlin Contracting Co., Inc.'s bid, which is approximately 7.5% lower than the Engineer's Estimate. The difference between the Engineer's Estimate and Carlin Contracting's bid can be attributed to three main reasons. First, is an $850,000 difference in the cost assumed for the piping, valves, and flow meters. Manufacturers and vendors will often quote a list price to the design consultants for

equipment and materials but give the contractors a lower competitive price because they are bidding against other manufacturers. Another cost variance resulted from the Contractor locking in its pricing on materials, avoiding escalation factors that were assumed in the Engineer's Estimate. AECOM assumed an escalation factor of 5%, which resulted in an approximate $100,000 differential. Finally, AECOM assumed a contractor overhead rate of 20% whereas Carlin's bid included an overhead rate of only 17%. After discussions with the Contactor, MWRA staff and AECOM have determined that Carlin Contracting's bid meets all of the requirements of the specifications, and the bid price is reasonable, complete, and includes the payment of prevailing wage rates, as required.

A total of 10 references were checked and all were found to be favorable. Carlin Contracting Co., Inc. has significant experience in wastewater treatment plant upgrades throughout New England. These types of projects all required close coordination with the owner while performing the work and adhering to multiple work constraints while maintaining existing plant operations. All references indicated that Carlin has shown that it possess the expertise and skill set necessary to successfully completing these types of projects.

Staff are of the opinion that Carlin Contracting possesses the skill, ability, and integrity necessary to successfully complete the work under this contract and is qualified to do so. Therefore, staff recommend the award of this contract to Carlin Contracting Co., Inc. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The Proposed FY15 CIP contains $14.6 million for Contract 7275. The budget estimate was developed at 60% final design completion. After the budget was developed, additional changes were made to the final design, which increased the overall estimated cost of the project by approximately $1.7 million, and the overall length of the contract from 24 months to 36 months. The overall estimated impact of the extended contract duration is approximately $600,000. There also was an increase in the prevailing wage rates after budget submittal, which resulted in an increase of approximately $335,000.

Staff also added to the scope of work based upon additional considerations during final design. For example, new vent lines for the return sludge header system were added to the contract. This work was originally scheduled to take place in a future contract but staff felt that it would be more economical, and have less operational impacts, if the work was completed on all of the return sludge line work in one contract rather than two.

The FY15 Draft Final CIP was updated to reflect the $16,960,425 bid amount.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.24% and 3.60%, respectively. MWRA's Affirmative Action and Compliance Unit has determined that Carlin Contracting Co., Inc.'s bid meets these requirements.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

WATER POLICY AND OVERSIGHT COMMITTEE MEETING

Chair: A. Pappastergion
Vice-Chair: B. Swett
Committee Members:
J. Barrera
J. Carroll
J. Foti
H. Vitale
J. Walsh
J. Wolowicz

to be held on

Wednesday, May 14, 2014

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following Wastewater Comm.

AGENDA

A. Information

1. Chicopee Valley Aqueduct - Shea Avenue Repair (information to follow)

B. Approvals

1. Wilmington Water Supply Continuation Agreement

C. Contract Awards

1. Northern Intermediate High, West Street Transmission Main – Reading: P. Caliacco Corp., Contract 7066

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

April 16, 2014

A meeting of the Water Policy and Oversight Committee was held on April 16, 2014 at the Authority headquarters in Charlestown. Chairman Pappastergion presided. Present from the Board were Messrs. Carroll, Cotter, Flanagan, Foti, Vitale and Walsh; Ms. Wolowicz joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Steve Estes-Smargiassi, John Gregoire, Dave Coppes, Nava Navanandan, and Bonnie Hale. The meeting was called to order at 11:50 a.m.

Information

Update on Sustainable Water Management Initiative

Staff described the background of the initiative and the regulations released for public comment in April.

Contract Awards

*Control of Invasive Plants at Stillwater Basin, Wachusett Reservoir: AE Commercial Diving Services, WRA-3800

Staff gave a presentation depicting ongoing efforts to control invasive plants in Stillwater Basin. (Ms. Wolowicz joined the meeting.) There was general discussion and question and answer. The Committee recommended approval of the contract award (ref. agenda item B.1).

Contract Amendments/Change Orders

*Quabbin UV Disinfection Facilities: Daniel O'Connell's Sons, Inc., Contract 6776, Change Order 5

Staff gave a presentation explaining the work to be performed under this change order. There was general discussion, and the Committee recommended approval of Change Order 5 (ref. agenda item C.1).

The meeting adjourned at 12:10 p.m.

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* Approved as recommended at April 16, 2014 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Shea Ave. CVA Leak Repair, Belchertown
J. D'Amico, Inc.
Contract 6468

COMMITTEE: Water Policy & Oversight

_X_ INFORMATION
___ VOTE

John P. Vetere, Deputy Chief Operating Officer
Paul T. Rullo, P.E. Program Manager
A. Navanandan, P.E. Chief Engineer
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only.

BACKGROUND:

Contract 6468 is for the repair of a leak on the Chicopee Valley Aqueduct (CVA) near Shea Avenue in Belchertown. This 36-inch diameter pipeline delivers drinking water to Wilbraham, South Hadley, and Chicopee (See Attachment 1). Repairs include excavation for removal and replacement of approximately 16 feet of piping and a 36-inch valve and vault. The work also includes installation of two temporary valves (line stops) and bypass piping to maintain uninterrupted delivery of drinking water while the repair is being made (See Attachment 2).

Line stops and bypasses are used to temporarily shut down a pipeline system so that modifications, or repairs, can be made without interruption of service. Line stops have been used successfully on numerous MWRA projects in the past, including projects on the CVA. MWRA used two 48-inch line stops and bypass piping on the CVA during construction of the Quabbin Disinfection Facility in Ware and four 36-inch line stops during construction of the Nash Hill Tanks in Ludlow. MWRA intends to install two 48-inch line stops and bypass on the CVA under the Quabbin UV Disinfection project next month to allow the replacement of a 48-inch diameter butterfly valve as staff presented to the Board on April 16, 2014.

A construction Notice to Proceed was issued on March 11, 2014 to J. D'Amico Inc. in the amount of $768,995, with a contract term of 208 calendar days. The contract was scheduled so that the CVA would be repaired, tested, disinfected, and reactivated in mid May prior to the warm weather seasonal increase in water demand.

DISCUSSION:

The contractor immediately mobilized to begin site preparation, identify pipe characteristics of the CVA to order materials, and install the 24-inch diameter bypass piping. On April 18, 2014, the Contractor began to install the two line stops. The upstream line stop was installed successfully, but the downstream line stop (Figure 1) did not initially seat properly.

Figure 1. 36-Inch Line stop with Bypass

After several attempts and shipping in new parts from out-of-state and making physical modifications to the line stop, the downstream line stop was finally installed successfully on April 25, 2014.

The line stop experienced some minor leakage (line stops are not typically water tight) that was acceptable for the contractor to perform its work. Shortly after this date, the Contractor began demolition of existing piping at the leak location and successfully removed approximately 16 feet of piping, valves, and fittings. The present work area consists of a sheeted pit with exposed 36-inch CVA piping at each end.

On May 5, 2014, ten days after installation, the downstream line stop began to leak significantly into the trench at a rate of approximately 1,500 to 2,000 gallons per minute (see Figure 2).

The Contractor immediately identified two options to handle the leakage. Option 1 involved shutting down the flow in the CVA and calling back the line stop subcontractor to remove and reset the line stop. Option 2, which was selected, involved installing a temporary inflatable plug in the pipe and relieving the leakage through a temporary 12-inch outlet upstream of the plug. Option 2 was selected to minimize risks associated with shutting down the CVA and resetting the line stop, which had been problematic during the initial installation.

Figure 2. Water leaking into trench.

The temporary plug and 12-inch outlet (See Figure 3 on the following page) was successfully installed on May 9, 2014 and the contractor is currently constructing the pipe repairs as originally included in the construction contract. MWRA Operations is coordinating flow of the CVA system in an effort to minimize pressure fluctuations and associated leakage at the line stop. It is anticipated that the CVA will be fully repaired and reactivated by the end of May 2014.

BUDGET/FISCAL IMPACT:

This project was initiated after the FY14 CIP was developed. The Proposed FY15 CIP includes a budget of $550,000 for Contract 6468. The contract amount is $768,995. The FY15 Final CIP will reflect this increased amount.

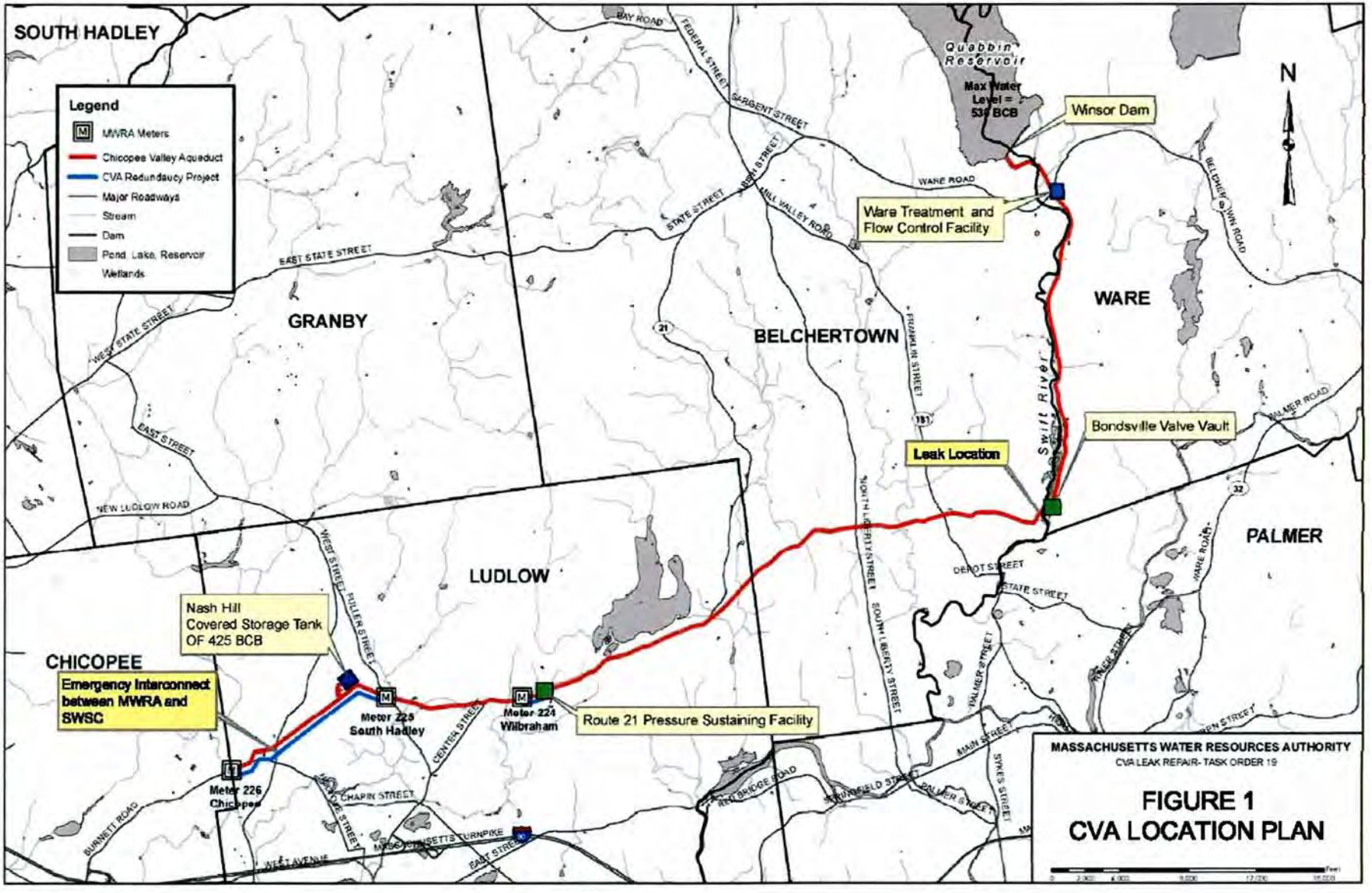
Figure 3. 12-Inch Outlet into Detention Basin

MBE/WBE PARTICIPATION:

There were no MBE or WBE participation requirements established for this contract due to limited opportunities for subcontracting.

ATTACHMENTS:

CVA Location Plan
Leak Repair Schematic


SOUTH HADLEY
Legend
MWRA Meters
Chicopee Valley Aqueduct
CVA Redundancy Project
Major Roadways
Stream
Dam
Pond, Lake, Reservoir
Wetlands
Quabbin Reservoir
Max Water Level = 535 BCB
Winsor Dam
Ware Treatment and Flow Control Facility
WARE
GRANBY
BELCHERTOWN
LUDLOW
CHICOPEE
PALMER
Swift River
Bondsville Valve Vault
Leak Location
Nash Hill Covered Storage Tank OF 425 BCB
Emergency Interconnect between MWRA and SWSC
Meter 225 South Hadley
Meter 224 Wilbraham
Meter 226 Chicopee
Route 21 Pressure Sustaining Facility
N
MASSACHUSETTS WATER RESOURCES AUTHORITY
CVA LEAK REPAIR- TASK ORDER 19
FIGURE 1
CVA LOCATION PLAN

Attachment 2

W B.1 (rev.)
IV A.3
5/14/14

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Wilmington Water Supply Continuation Agreement

COMMITTEE: Water Policy & Oversight

____ INFORMATION
__X__ VOTE

Pamela Heidell, Policy and Planning Manager
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

This Water Supply Continuation Agreement represents Wilmington's first contract renewal since the Town was admitted into the MWRA Water System in 2009. The Agreement contains numerous provisions addressing demand and supply, and also includes a revision to the interest rate for Wilmington's entrance fee payments. The interest rate for entrance fee payment has been the subject of Advisory Board discussions and recommendations related to MWRA System Expansion. Most recently, on April 17, 2014, as a result of Wilmington's request, the Advisory Board voted to adjust the interest rate for both Wilmington's and Stoughton's entrance fee payments to 4.34%, which is MWRA's current average fixed-rate cost. This is a reduction from 4.67%, MWRA's average fixed-rate cost in 2009, and the basis for Wilmington's original Schedule of Entrance Fee Payments.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a ten-year Water Supply Continuation Agreement with the Town of Wilmington, substantially in the form attached hereto.

DISCUSSION:

Introduction

The Town of Wilmington is one of 25 "contract" communities served by MWRA's Water System.[1] Water is supplied to a contract community pursuant to a Water Supply Continuation Agreement that reflects obligations that are to be fulfilled by both MWRA and the community. The distinction between contract and non-contract dates back to prior to the Enabling Act.

Wilmington was admitted into the MWRA Water System in May 2009, after years of local source shortfalls triggered by contamination that required Wilmington to take five of its nine

[1] Of MWRA's contact communities, fifteen are partially supplied and regularly use local sources to meet some portion of their demand, seven are fully served (including the three CVA communities), and three rely on MWRA only in unusual or emergency situations. All communities admitted to the MWRA system after MWRA's creation are contract communities.

wells off-line. Pursuant to MWRA Policy OP.10, *Admission of New Communities to the MWRA Water System*, first-time contracts for entrants into the MWRA system are five years in duration, whereas the term of subsequent contracts is typically ten years. Accordingly, Wilmington's Water Supply Agreement expired on April 30, 2014, and over the last several months, staff have worked with Wilmington to complete the contract renewal process for a new ten-year Water Supply Continuation Agreement. The development of a new Agreement is predicated upon the satisfaction of certain criteria and the completion of a process outlined in MWRA regulation 360 C.M.R. 11.00 entitled "*Regulations for the Continuation of Contract Water Supply.*" The Regulation requires the preparation of a Supplementary Report that includes supply and demand analyses, documentation of conservation and demand management efforts, and a description of various facets of the community's water supply system.

The Regulation also prescribes the execution of a written agreement between MWRA and each community that serves the following purposes: to specify how water supply needs of the community will be met in a manner consistent with the capabilities of the MWRA water supply system; to compel demand management and planning efforts; and to constitute a record of compliance with the factors and requirements specified in Section 8 (d) of the Enabling Act and MWRA regulations (360 C.M.R 11.00).

The Proposed Agreement

The proposed Agreement recites the facts establishing that the applicable criteria set forth in Section 8(d) of the Enabling Act as necessary conditions for the continuation of water supply have been satisfied. It also states the maximum annual water volumes and maximum daily water volumes that MWRA agrees to provide the community. Wilmington's proposed contract retains the maximum volume found in the contract that just expired (219 million gallons a year, or 0.6 mgd). An annual withdrawal of 219 million gallons was the basis of Wilmington's entrance fee payment to MWRA, and reflects only a portion of the 620 million gallons per year approved by the Water Resources Commission as part of the Town's Interbasin Transfer Act renewal request. (The Town's projection of water demand during the regulatory process for Wilmington's admission to MWRA has not yet materialized). Since its admission to MWRA, Wilmington's annual withdrawal from MWRA has averaged 89 million gallons (0.24 mgd), varying between a low of 0.1 mgd in 2009 and a high of approximately 0.5 mgd in 2010. The majority of Wilmington's water demand (approximately 2.1 mgd) still continues to be met from local well sources under Wilmington's Water Management Act (WMA) registration of 2.91 mgd.

Wilmington is located in the headwaters of the Ipswich River Basin, where local water source withdrawals have been found to impact streamflow. Proposed regulations emerging from the Sustainable Water Management Initiative do not affect Wilmington as they affect only WMA permits, not communities that only have WMA registrations.

The Supplementary Report submitted as part of the contract renewal process, anticipates that demand from MWRA will change little over the next ten years, and that Wilmington has no intention to either re-activate wells taken off-line due to contamination, or to evaluate or develop new local water supply sources. The proposed contract states that if Wilmington's plans change to reactivate the five wells it took off-line, or to develop new local water sources, it will notify MWRA immediately so that MWRA can plan accordingly in making capital decisions. At this time, MWRA is planning redundancy improvements to serve the Northern Intermediate High

Service Area (which serves Wilmington), which will provide both redundancy, as well as increased hydraulic capacity to meet maximum day demands of Wilmington plus communities at Wilmington's periphery. This is reflected in the contract as well.

The Water Supply contract contains a schedule for Wilmington's entrance fee payments. Wilmington is paying the entrance fee over a twenty-year period. In 2009, when Wilmington was admitted to MWRA's system, Wilmington agreed to pay MWRA a Net Entrance Fee of $2,809,320 and the entrance fee payment schedule reflected a 4.67% interest rate, MWRA's fixed-rate debt cost at that time. Earlier this year, Wilmington requested that the rate be revisited to reflect a lower interest rate. At the April 17, 2014 Advisory Board meeting, the Advisory Board voted to adjust the interest rate costs to MWRA's current prevailing fixed-rate cost of 4.34%. Accordingly, the proposed contract reflects a revised schedule of payments.

The contract renewal process provides an opportunity to assess the accomplishments that Wilmington has made to implement demand management and to protect local sources, pursuant to the Continuation of Water Supply regulations and Enabling Act requirements. Some key accomplishments are noted below.

UAW/Metering	• Unaccounted for Water (UAW) decreased from 9.4 % in 2009 to 3.6% in 2013 (MA Water Conservation UAW standard is 10% or less). • Reoccurring comprehensive leak detection, meter replacement, and meter calibration programs.
Drought/Emergency Contingency Planning	• Wilmington maintains a five-step emergency procedure plan to address water shortages.
Rate Structure	• Inclining block rate.
Residential/Outdoor Water Use	• Residential Gallons per Capita per day (RGPCD) of 56 RGPCD in 2013 (MA Water Conservation Standard is 65 RGPCD). • Outdoor water use restrictions. • Continued distribution of MWRA water conservation pamphlets and water conservation kits, in coordination with MWRA.
Protection of Local Sources	• Wilmington has a Groundwater Protection Districts Cverlay and Ground Water Protection District By-Law.

BUDGET/FISCAL IMPACTS:

Wilmington is assessed in accordance with MWRA's Community Charge Determination Policy. MWRA's Community Charge Determination Policy computes charges for water services on the basis of each community's metered water flows. Wilmington's proposed contract reflects a revised entrance fee repayment rate of 4.34% starting in April 2014, reflecting MWRA's current average fixed-rate debt cost; the prior MWRA/Wilmington water supply contract reflected 4.67%. Wilmington has 16 years remaining on its entrance fee repayment schedule; the total reduction in interest in Wilmington's entrance fee payments is $98,835 over the remaining years of the repayment schedule. Interest rates for entrance fee payment has been the subject of considerable discussion with prospective new MWRA water communities.

WATER SUPPLY CONTINUATION AGREEMENT
BETWEEN
MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
THE TOWN OF WILMINGTON

This Water Supply Agreement ("Agreement") by and between the Massachusetts Water Resources Authority ("MWRA") and the Town of Wilmington ("Town or Wilmington") (hereinafter jointly referred to as "the Parties"), documents the agreement and understanding of the Parties regarding the arrangement whereby MWRA will supply water to Wilmington from a connection to MWRA's water distribution main at Meter No. #339 to Wilmington's local distribution system.

RECITALS

1. Whereas, MWRA was created by the Massachusetts legislature in December 1984 (chapter 372 of the Acts of 1984), to operate, regulate, finance, and modernize the waterworks and sewerage systems serving the greater metropolitan Boston area;

2. Whereas, MWRA currently provides water supply and distribution services, and wastewater collection and treatment services, to certain cities, towns and special services districts ("Communities") within its service area;

3. Whereas, MWRA desires to continue to provide safe and sufficient water supplies to the Town;

4. Whereas, Section 8(d) of the Act permits the MWRA to extend its waterworks system to a new community and to provide the continued delivery of water to the new community under reasonable terms as determined by MWRA provided specific requirements are met;

5. Whereas, Wilmington, having met the conditions of Section 8(d) and the conditions of MWRA Policy OP.10, Admission of New Community to the Waterworks System, was duly admitted to the MWRA Waterworks system in May 2009, thereby acquiring certain rights and obligations conferred by that admission;

6. Whereas, a regulation entitled "Continuation of Water Contract Supply", promulgated by MWRA at 360 CMR 11.00 ("the Regulation") defines more specifically the requirements of section 8(d) of the Act and governs the continued delivery of water by the MWRA to communities purchasing water from MWRA;

7. Whereas, Wilmington executed a contract dated May 9, 2009 for the purchase of water from the MWRA which expires on April 30, 2014;

8. Whereas, Wilmington agreed to pay MWRA a Net Entrance Fee of $2,809,320 for its share of the value of the waterworks system in place at the time of its entrance. The Net Entrance Fee reflected an Entrance Fee of $3,126,210 minus the Total Net Asset Value

contributions of $316,890 previously paid pursuant to MWRA Policy OP.05. The Net Entrance Fee was to be paid to the MWRA in accordance with a schedule of payments attached to the 2009-2014 Water Supply Agreement;

9. Whereas, in 2014, Wilmington requested that the schedule of payments be modified for the remaining years of payments, and on April 17, 2014, the Advisory Board approved an adjustment to Wilmington's entrance fees to the current prevailing fixed-rate cost of the MWRA;

10. Whereas, in consideration of the payment of the Net Entrance Fee by Wilmington, the MWRA agrees to continue to assure a continuation of water supply to Wilmington from the MWRA's water supply system in accordance with the provisions of 360 CMR § 11.00;

11. Whereas, Wilmington, pursuant to the Regulation, has requested from MWRA that its water supply be continued and has submitted a continuation request and a Supplementary Report including a supply analysis, a demand analysis, a water management plan, an ordinance for the protection of local sources, and description of the local user charges system and accounting system which meets the Regulation's requirements for conservation based rates;

12. Whereas, Wilmington's Demand Analysis in the Supplementary Report indicated that Wilmington anticipated its demand from MWRA for the next ten years would not decrease;

13. Whereas, Wilmington's Supply Analysis in the Supplementary Report indicated that the Town has taken five of its nine wells offline due to NDMA and/or nitrite contamination and the feasibility of providing treatment of these wells to suitable drinking water standards appears uncertain and presents concern and DEP has agreed that use of the wells should be discontinued for the foreseeable future;

14. Whereas, Wilmington's Schedule for Use of New Local Water Sources in the Supplementary Report indicated there was no plan for the evaluation, development, and use of potentially feasible new local water supply sources identified in the Supply Analysis;

15. Whereas, Wilmington now requests 219 million gallons of water annually, or 0.6 mgd from MWRA, but may in the future request an additional volume of 401.5 million gallons annually for at total of 620.5 million gallons annually, as permitted through regulatory reviews;

16. Whereas, MWRA is designing redundancy improvements to the Northern Intermediate High system which are anticipated to be implemented during the contract term, and which shall increase reliability and the hydraulic capabilities of the MWRA system to serve and convey water to Wilmington;

17. Whereas, MWRA is aware that North Reading is pursuing admission to MWRA and a long term plan to serve North Reading may include some wheeling of water through Wilmington if Wilmington and North Reading are in agreement on such an arrangement; and

18. Whereas, MWRA and Wilmington wish to formalize their rights and obligations regarding the supply of water to Wilmington and therefore enter into this Agreement.

NOW, THEREFORE, in consideration of the mutual promises contained herein and for other good and valuable consideration, MWRA and Wilmington agree to the following:

1. The term ("Term") of this Agreement shall be ten (10) years beginning on May 1, 2014 and ending at midnight on April 30, 2024.

2. MWRA shall during the Term of this Agreement provide Wilmington with water on an annual volume basis stated in millions of gallons as follows:

2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
219 mg	219 mg	219 mg	219mg	219 mg

2019-2020	2020-2021	2021-2022	2023-2023	2023-2024
219 mg	219mg	219mg	219mg	219mg

or 0.6 mgd on an average daily basis; up to 1.2 millions of gallons per day ("mgd") on a typical maximum daily basis, subject to the hydraulic capabilities of MWRA's distribution system. In the event that Wilmington anticipates that its withdrawals from MWRA for the Town's consumption will exceed a flow rate of 1.2 mgd prior to the implementation of redundancy improvements to the MWRA's Northern Intermediate High System, Wilmington shall notify MWRA Operations. If, prior to implementation of Northern Intermediate High system improvements, Wilmington's withdrawals in excess of 1.2 mgd at meter 339 coincide with peak withdrawals of other MWRA Communities in this meter vicinity, MWRA reserves the right to restrict Wilmington's withdrawal to a maximum of 1.2 mgd. Wilmington may also withdraw up to 3.25 mgd for the Town's consumption if unusual conditions arise, after notification to MWRA. MWRA reserves the right to restrict peak maximum day withdrawals should problems be encountered.

3. The parties understand that long-term water demand in Wilmington is projected to increase and that Wilmington was approved by the Water Resources Commission to purchase up to 620.5 million gallons annually from the MWRA. The parties agree that, with the exception of emergencies, any withdrawal in excess of 219 million gallons annually will require a written contract revision signed by each of the Parties hereto and a revision to the Entrance Fee.

4. The parties agree that in the event that Wilmington determines that 219 million gallons per year to be supplied from the MWRA system is insufficient to meet the Town's non-

emergency requirements, Wilmington may petition the MWRA to amend this Agreement pursuant to pursuant to 360 CMR 11.11 and OP.10.

5. Notwithstanding the above, the Parties agree that in the event of an emergency, and in the absence of an Amended Agreement as described in paragraph 4 hereof, Wilmington may request that MWRA supply in excess of 219 million gallons a year, and if approved, the supply of water in excess of 219 million gallons a year will be assessed pursuant to the charges provisions of OP.05.

6. The parties agree that once MWRA's Northern Intermediate High improvements are implemented, maximum day withdrawals at Wilmington's meter 339 may further increase.

7. Wilmington agrees that during the Term it will operate its local water supply system in such a manner so as to make maximum feasible use of local water supply sources subject to the limits and conditions imposed by the Water Resources Commission.

8. Wilmington agrees that MWRA shall not be liable to the Town for any disruption of water service delivery attributable to the water distribution system of Wilmington or of the MWRA.

9. Wilmington agrees to pay MWRA its Net Entrance Fee in accordance with the schedule of payments attached hereto as Exhibit A and incorporated herein, reflecting MWRA's prevailing fixed rate cost in 2014.

10. The MWRA shall bill Wilmington and Wilmington shall pay to the MWRA charges for all water supplied under this Agreement at the MWRA's applicable prevailing rates. All billing and collection procedures, due dates, and interest charges for late payments shall be in accordance with the Act and MWRA's standard policies and procedures.

11. Wilmington agrees to continue in effect a full cost pricing system for water received from the MWRA water supply system.

12. Wilmington agrees that during the Term it shall continue the implementation of its current and proposed local demand management programs, including the following: participation in MWRA conservation programs, distribution of MWRA-provided materials to all water users, compliance with the MWRA's regulations for town-wide leak detection and repair (360 CMR §12.00), maintaining metering in 100 percent of the Town's distribution system, including all municipal facilities, and maintenance of efficient water fixtures in all public buildings, together with promotion of their use in industrial, commercial and residential areas.

13. Wilmington agrees that during the Term it shall not abandon any local source and substitute for it water from MWRA sources unless DEP has declared that the local source is to be or has been abandoned, is unfit for drinking, and cannot be economically restored for drinking purposes.

14. Wilmington agrees that during the Term if its plans change to either provide treatment for the five wells it took off-line and re-activate those wells, or to evaluate or develop new local water supply sources, it will notify MWRA immediately so that MWRA can plan accordingly in making capital investment decisions.

15. Wilmington agrees to continue in full force and effect its Zoning Bylaw Aquifer Protection District to preserve and protect existing and potential sources of drinking water supplies.

16. Any rate disputes arising between MWRA and Wilmington concerning the calculation of Wilmington's assessment shall be resolved in accordance with MWRA's Rate Basis Data Review and Dispute Resolution Process. Any other dispute arising between MWRA and Wilmington under the terms of this Agreement shall be resolved in accordance with the dispute resolution process set forth at 360 CMR § 11.14 and the administrative procedures set forth at 360 CMR § 1.00.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____ Date:_____
Frederick A. Laskey
Executive Director

TOWN OF WILMINGTON

By:_____ Date:_____
Michael A. Caira,
Town Manager

Town of Wilmington

REVISED MWRA Entrance Fee Repayment Schedule

Pmt No.	Payment Date	Scheduled Payment
1	4/15/2010	$ 219,162.77
2	4/15/2011	219,162.77
3	4/15/2012	219,162.77
4	4/15/2013	219,162.77
5	4/15/2014	212,985.86
6	4/15/2015	212,985.86
7	4/15/2016	212,985.86
8	4/15/2017	212,985.86
9	4/15/2018	212,985.86
10	4/15/2019	212,985.86
11	4/15/2020	212,985.86
12	4/15/2021	212,985.86
13	4/15/2022	212,985.86
14	4/15/2023	212,985.86
15	4/15/2024	212,985.86
16	4/15/2025	212,985.86
17	4/15/2026	212,985.86
18	4/15/2027	212,985.86
19	4/15/2028	212,985.86
20	4/15/2029	212,985.86

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Northern Intermediate High, West Street Transmission Main - Reading
P. Caliacco Corp.
Contract 7066

COMMITTEE: Water Policy & Oversight

INFORMATION
X VOTE

Rachel C. Madden, Director
Administration and Finance

Patrick T. Barrett, Program Manager
A. Navanandan, P.E., Chief Engineer
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 7066, Northern Intermediate High, West Street Transmission Main - Reading, to the lowest responsible and eligible bidder, P. Caliacco Corp. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $1,565,357, for a contract term of 180 calendar days from the Notice to Proceed.

DISCUSSION:

MWRA's Northern Intermediate High (NIH) service area provides water to the communities of Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn through a single 48-inch pipeline, which is fed by the Gillis Pump Station at Spot Pond in Stoneham. Although some of these communities are partially served by MWRA, the loss of this single transmission main would result in a rapid loss of service in Reading, Stoneham and Woburn, and potential water restrictions in Wakefield, Wilmington and Winchester.

The main pipeline that serves this area (Section 89) is a three-mile-long, four-foot-diameter, pre-stressed concrete cylinder pipe (PCCP) transmission main with no redundancy other than the low-capacity, century-old Section 29 that parallels its route for a short distance. The 10,500-foot length of Section 89 northwest of Spot Pond is constructed of PCCP with Class IV reinforcing wire, which was used by the now defunct Interpace Corporation for a short period of time in the 1970s. It has been well documented, based upon catastrophic pipe failures elsewhere in the country, that Class IV reinforcing wire is susceptible to hydrogen embrittlement, which can lead to premature pipe failure. In addition, records indicate that this portion of the Section 89 pipe was manufactured at Interpace's Hudson, New York Plant during a window of time when the

concrete coating over the Class IV reinforcing wires was defective, leading to cracking and spalling that can accelerate the corrosion of the reinforcing wires. Due to the lack of redundancy, Section 89 cannot be taken out of service for inspection or repairs.

The project goal is to design and construct a new pipeline that will provide redundancy to the community meters so that Section 89 can be removed from service for inspection and rehabilitation (see Attachment A).

On March 16, 2011, the Board approved the award of Contract 6906 to Fay, Spofford & Thorndike, LLC (FS&T) for Design, Construction Administration and Resident Inspection Services for the construction of a proposed pipeline seven miles long, which includes a 48-inch pipeline, that will extend from Gillis Pump Station to Meter 229 – Wakefield, and a 36-inch pipeline, which will extend from Meter 229 through Stoneham and Reading to a looped connection with the north end of the existing pipeline in Woburn. The total estimated cost of the new pipeline is $44.5 million as included in the FY14 CIP.

Contract Components and Schedule

The Town of Reading has identified a roadway reconstruction project, West Street Reconstruction, which the Town is proceeding with in conjunction with the Massachusetts Highway Department (MassDOT). This project alignment is the same as the proposed pipeline alignment on West Street from the Woburn/Reading city limits to the intersection of West Street and Oak Street. In order to minimize impacts with MassDOT's roadway reconstruction project, MWRA advanced the design of 2,400 linear feet of 36-inch water main. By advancing this portion of the design, MWRA will have the new transmission main installed prior to MassDOT's project, thereby eliminating the need to disturb a newly reconstructed roadway.

The project design originally included the bidding of two separate construction contracts. However, by coordinating with the Town of Reading and MassDOT, the project will now be completed with three construction contracts as follows:

- This first construction contract, Contract 7066, consists of 2,400 linear feet of 36-inch water transmission main in the Town of Reading (See Attachment B);

- The second construction contract, Contract 7471, will include the construction of 8,600 linear feet of 36-inch water transmission main in the City of Woburn and the Town of Reading with an anticipated Notice to Proceed for construction of August 2015;

- The third construction contract, Contract 7067, will include the construction of 20,000 linear feet of 48-inch-diameter transmission main in the Town of Stoneham (the Stoneham route is still under investigation and will be finalized in December 2014.)

At this time, staff do not anticipate that the splitting of the construction contracts from two to three will result in an increase in the overall design effort.

Procurement Process

Contract 7066 was advertised and bid in accordance with Massachusetts General Laws, Chapter 30. Bids were received and opened on April 24, 2014 from 13 contractors as follows:

Bidders	Bid Amount
P. Caliacco Corp.	**$1,565,357**
P. Gioioso and Sons, Inc.	$1,627,589
Albanese D&S, Inc.	$1,643,000
J. D'Amico Inc.	$1,663,990
Albanese Brothers Inc.	$1,800,940
Grove Construction Inc.	$1,827,500
RJV Construction Corp.	$1,835,500
M.E. Smith Inc.	$1,852,500
Engineers Estimate	*$1,869,478*
D&C Construction Company, Inc.	$1,897,911
R. Zoppo Corp.	$1,947,500
J.P. Cardillo and Sons, Inc.	$1,949,525
Baltazar Contractors, Inc.	$1,957,500
Revoli Construction Co., Inc.	$1,973,800

The Engineer's Estimate was $1,869,478. The three lowest bids are within 4.8% of each other, an indication of the reasonableness of the low bid, which is 16% below the Engineer's Estimate. FS&T analyzed the difference between the low bid and its Engineer's Estimate and concluded that the difference is primarily related to the current economic climate that has created a highly competitive bidding environment for construction and materials.

References for P. Caliacco Corp. were checked and found to be favorable. P. Caliacco Corp. has no current ongoing contracts with MWRA, but has successfully completed many MWRA projects within the past five years, including Southern Spine Distribution Mains, Contract 6845 ($6,411,536), Section 97a Water Main Extension, Contract 7021 ($1,865,000), East Boston Branch Sewer-Pipe Bursting, Contract 6841 ($8,853,701). Staff report that the Contractor's performance of these projects was very good and the projects were completed on schedule.

MWRA and FS&T have concluded that P. Caliacco Corp. possesses the skill, ability, and integrity necessary to perform the work under this contract, and is qualified to do so. Staff have determined that the bid price is reasonable, complete and includes the payment of prevailing wage rates, as required. Therefore, staff recommend that Contract 7066 be awarded to P. Caliacco Corp. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

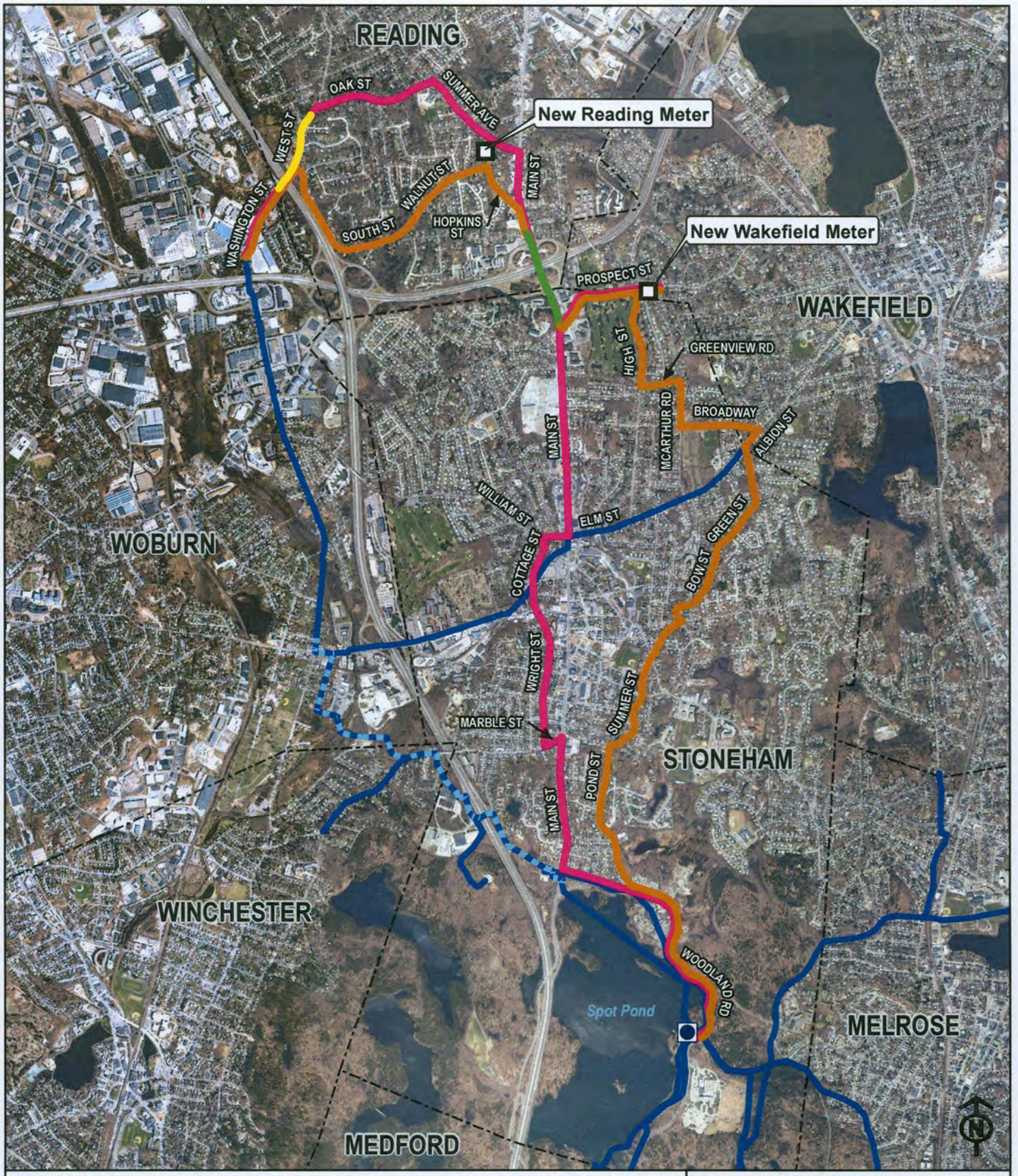
The FY14 CIP includes a budget of $43,009,049 for the entire Northern Intermediate High Redundant Pipeline Project, of which Contract 7066 represents a portion. The bid price of $1,565,357 is within the CIP budget.

MBE/WBE PARTICIPATION:

There were no MBE or WBE participation requirements established for this contract due to the limited opportunities for subcontracting.

ATTACHMENTS:

Attachment A Northern Intermediate High Redundant Pipeline Project, Route Overview
Attachment B NIH West Street Transmission Main – Reading, Contract 7066



MASSACHUSETTS WATER RESOURCES AUTHORITY
Northern Intermediate High Redundant Pipeline Project
Route Overview with MWRA Facilities
Attachment A

0 1,000 2,000 4,000 Feet

- Proposed Route
- Original Route
- Short-Term Improvements
- West St
- MWRA Mains
- Class IV PCCP
- New Meter Locations

2/6/2014 MwraGIS 1336-22

Attachment B

NIH West Street Transmission Main – Reading

MWRA Contract 7066

0 250 500 1,000 Feet

Proposed Route
Original Route
West St
MWRA Mains

4/28/2014 MWRAGIS 1336-25

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

PERSONNEL & COMPENSATION COMMITTEE MEETING

Chair: K. Cotter
Vice-Chair: J. Wolowicz
Committee Members:
J. Barrera
J. Carroll
P. Flanagan
J. Foti
A. Pappastergion
H. Vitale
J. Walsh

to be held on

Wednesday, May 14, 2014

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following Water Comm.

A. Approvals

1. Renewal of Employment Contract, Administrative Assistant, Clinton Wastewater Treatment Plant

2. Appointment of Program Manager, Environmental Quality Department

B. Annual Meeting of the Personnel & Compensation Committee Independent of Management

1. Authority Accountability and Transparency Act Compliance

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

April 16, 2014

A meeting of the Personnel and Compensation Committee was held on April 16, 2014 at the Authority headquarters in Charlestown. Chairman Cotter presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Flanagan, Foti, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Rachel Madden, Bob Donnelly, and Bonnie Hale. The meeting was called to order at 12:10 p.m.

Approvals

*PCR Amendments – April 2014

The Committee recommended approval of amendments to the Position Control Register (ref. agenda item A.1).

*Appointment of Chief Engineer

The Committee recommended approval of the appointment of Mr. Anandan Navanadan (ref. agenda item A.2).

*Appointment of Director, Construction

The Committee recommended approval of the appointment of Ms. Corinne Barrett (ref. agenda item A.3).

*Appointment of Manager, Process Control

The Committee recommended approval of the appointment of Mr. Ethan Wenger (ref. agenda item A.4).

*Appointment of Manager, SCADA and Process Control

The Committee recommended approval of the appointment of Mr. Brian Kubaska (ref. agenda item A.5).

*Appointment, Senior Program Manager, SCADA

The Committee recommended approval of the appointment of Mr. Augustin Serino (ref. agenda item A.6).

The meeting adjourned at 12:20 p.m.

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* Approved as recommended at April 16, 2014 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Renewal of Employment Contract, Administrative Assistant, Clinton Wastewater Treatment Plant

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COMMITTEE: Personnel & Compensation

___ INFORMATION
_X_ VOTE

David F. Duest, Director, Deer Island WWTP
Robert G. Donnelly, Director, Human Resources
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the renewal of a part-time employment contract with Ms. Jane Densmore, Administrative Assistant at the Clinton Wastewater Treatment Plant, for a period of one year, from July 1, 2014 to June 30, 2015, with an hourly rate of $21.75 for an annual compensation amount not to exceed $22,620.

DISCUSSION:

The Clinton Wastewater Treatment Plant continues to have a part-time need for assistance in completing routine administrative tasks related to maintaining accurate files for invoices, attendance records, purchasing requisitions, etc. These tasks do not require a full-time position.

Since March 2008, Ms. Jane Densmore has provided this administrative support and assistance at the Clinton Wastewater Treatment Plant under a part-time employment contract. Ms. Densmore works a maximum of 20 hours per week and is extremely proficient in utilizing MWRA's computerized system to prepare requisitions for the purchase of spare parts, equipment, and supplies. She also researches standardized industrial codes for parts and equipment, performs some basic accounting tasks, such as preparing monthly accrual reports, and maintains databases for the landfill leachate flows, generator readings, and water meter data. She assists in the preparation of the landfill groundwater and leachate analysis reports to the Clinton Conservation Commission and the Department of Environmental Protection.

Staff evaluate the continued need for this position on a yearly basis. At the present time, the need for a full-time position is not warranted, but part-time help is still required. Therefore, staff recommend that Ms. Densmore's part-time employment contract be renewed for another year.

BUDGET/FISCAL IMPACT:

Funding for this position is included in the Proposed FY15 Current Expense Budget.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Appointment of Program Manager
Environmental Quality Department

COMMITTEE: Personnel & Compensation

____ INFORMATION
_X_ VOTE

Carolyn Fiore, Deputy Chief Operating Officer
Robert G. Donnelly, Director, Human Resources
Betsy Reilley, Ph.D., Director, Environmental Quality
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Douglas Hersh, PhD, to the position of Program Manager (Unit 9, Grade 29), at the recommended salary of $99,318.82, to be effective May 17, 2014.

DISCUSSION:

The retirement of a Senior Program Manager in the Environmental Quality Department led to the promotion of her successor in January 2014, creating a subsequent vacancy in a Program Manager position. This staff summary recommends the appointment of that vacated Program Manager position.

The Environmental Quality Department's Wastewater Quality section includes 15 staff positions and is responsible for managing and reporting on all federal and state environmental and regulatory issues (primarily wastewater) related to MWRA's operations and projects. The department's main activities are monitoring sewage influent and effluent quality, monitoring the quality of Boston Harbor (and its rivers, tributaries, and Massachusetts Bay), managing quality and operations data, and complying with the reporting requirements of MWRA's National Pollutant Discharge Elimination System (NPDES) permits.

The Program Manager position reports to the Senior Program Manager, and oversees a group of five technical staff responsible for the management of NPDES-related data, including results from the Deer Island Treatment Plant, the Clinton Wastewater Treatment Plant, Combined Sewer Overflow facilities, as well as NPDES-required reporting of discharges from water facilities including the Carroll Water Treatment Plant (such as tank draining of treated water for half-plant maintenance in winter). This position manages activities related to complex environmental monitoring data, database management, and permit-required reporting.

Selection Process

The position of Program Manager was posted internally and three candidates were referred by Human Resources as meeting the qualifications for the position. The Director of Environmental Quality, a Senior Program Manager, and a representative from MWRA's Affirmative Action & Compliance Unit interviewed all three candidates. Upon completion of the interviews, Dr. Douglas Hersh was selected as the best candidate to fill this position.

Dr. Hersh came to MWRA in 1996 and since that time he has held various positions of increasing responsibility within the Environmental Quality Department. He will bring to this position extensive expertise and experience in data management, marine ecology, statistical analysis, report automation, and wastewater quality. For the past eight years, Dr. Hersh has held the position of Project Manager, Marine Information Analyst (Unit 9, Grade 25), and has been responsible for the management and oversight of a wide range of projects, including management of the environmental monitoring database, developing automated reporting systems, researching and recommending new technologies, and ensuring that proper data quality practices are followed.

Dr. Hersh earned a Bachelor of Science degree, *magna cum laude,* from the State University of New York at Stony Brook and a Doctoral degree in Biology from Boston University.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY14 and Proposed FY15 Current Expense Budgets for this position. The recommended salary is in accordance with Unit 9's current collective bargaining agreement.

ATTACHMENTS:

Resume of Douglas Hersh
Position Description
Organization Chart

Douglas Hersh

Professional Profile

For the past 17 years, I have been working in MWRA's Environmental Quality Department (ENQUAL) using my background in marine ecology and data analysis to analyze and interpret marine environmental quality data, to develop procedures, practices, and database applications to ensure the integrity of the long-term monitoring data.

Prior research and teaching experience give me the skills required to understand and present concepts related to marine systems. I have developed an advanced set of skills in database programming through my work in data management at MWRA.

My goals as Project Manager, Marine Information Analysis are to:

- expand the capability of ENQUAL to analyze and report on environmental quality data by automating and streamlining repetitive tasks such as data loading and quality assurance
- incorporate new technologies to analyze and present the results of environmental data analyses.
- organize data management activities within the department.

Relevant Skills

- Knowledge of principles of marine ecology from doctoral work on effects of anthropogenic eutrophication of coastal waters
- Extensive familiarity with ENQUAL business practices and goals and MWRA Laboratory Information Management System.
- Long working relationship with ENQUAL monitoring consultants and scientists, and MIS support staff.
- Ability to analyze and present data from large data sets using computerized tools including statistical and graphic packages
- Good writing skills
- Advanced programming skills in Oracle database using SQL, PL/SQL, Oracle Discoverer, S-PLUS
- NT – command programming
- Knowledge of Geographic Information Systems and spatial analyses
- Strong skills in use of Microsoft Office applications

Professional Experience

Massachusetts Water Resources Authority, Boston, MA
2006-2014
Project Manager Marine Information Analyst

Responsibilities in addition to those listed under Sewerage Quality Database Coordinator:

- Develop and enforce data management practice standards
- Research, recommend, and implement new technology
- Coordinate with MIS to support and maintain HOML Web Application and the ENQUAL environmental quality database.
- Provide technical support to department Oracle and ArcGIS users.
- Help support automated NPDES Discharge Monitoring Reporting.

1998 – 2006
Sewerage Quality Database Coordinator

Responsibilities:

- Design of Oracle database applications
- Statistical analysis of environmental data
- Development of data loading, checking, and reporting applications
- Report writing
- Training ENQUAD staff to use database and PC applications
- Acting Project Manager, Environmental Data in 2000

Massachusetts Water Resources Authority, Boston MA
1996 – 1998
Contract Environmental Data Analyst

Responsibilities:

- Investigate and fix data quality errors in environmental quality database
- Respond to data requests from outside agencies and internal staff
- Statistical analysis of environmental data
- Development of data loading, checking, and reporting applications
- Coordinator between ENQUAD department and Sewerage division Liaison to MIS department
- Train ENQUAD staff to use database and PC applications

Northeastern University, Boston MA
1994
Instructor

Responsibilities:

- Taught undergraduate-level class in marine ecology

State University of New York at Stony Brook
1985 – 1986
Research Technician

Responsibilities:

- Maintained fruit-fly (*D. melanogaster*) stocks.
- Conducted genetic research on transposons in wild-caught, fruit fly populations

Suffolk County Organization for the Promotion of Education, Shelter Island NY
1985
Environmental Education Instructor

Responsibilities:

- Taught marine and field-ecology to grade school students

Education

Boston University, Boston MA
Doctorate in Biology
1996

State University of New York at Stony Brook
Bachelor of Science
1985 - *Magna Cum Laude*

MWRA
POSITION DESCRIPTION

POSITION: Program Manager

PCR#: 2250003

DIVISION: Operations

DEPARTMENT: Environmental Quality

BASIC PURPOSE:

Manages activities of technical staff relating to data collection, data management, and NPDES data reporting.

SUPERVISION RECEIVED:

Works under the general direction of a Senior Program Manager.

SUPERVISION EXERCISED:

Supervises technical staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Supervises and manages professional staff, including assignment of projects, evaluation of performance, and staff development planning to ensure that the permit-required environmental monitoring data are complete, accurate and accessible, and available within the permit-required timeframe. Provides technical and administrative assistance to staff in the development and management of projects.

- Supervises professional multi-discipline scientific and data management work of substantial difficulty and importance, requiring application of scientific principles and the exercise of independent professional judgment.

- Develops and reviews NPDES-required data for reporting to regulators.

- Establishes and oversees data quality control and quality assurance procedures, and maintains records of QA/QC activities.

- Coordinates the development of algorithms for calculation of ambient Contingency Plan thresholds, and the procedure for determining when MWRA exceeds those thresholds within the time required by the NPDES permit.

- Coordinates activities with other MWRA departments, to integrate environmental findings and operational issues, in order to optimize the environmental benefits of MWRA planning and operations.

- Provides technical review of internal and consultant-prepared reports, data sets, and data analyses.

- Oversees preparation of department MIS budget request, coordination with MIS to ensure resources are available, and within-department assistance with hardware and software issues.

- Prepares annual and supplementary budget requests for the projects in the program. Oversees and reviews projects budgets and schedules for compliance with established department, division, and MWRA program goals.

- Presents findings to scientific community and the general public.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Knowledge of principles and practice of environmental/marine science as normally obtained through an advanced degree, either a Master's degree or Ph.D. degree program with specialization in a field such as microbiology, marine ecology, biological oceanography, or physical oceanography; and

(B) Demonstrated knowledge and understanding of wastewater compliance, regulations, and data management and reporting as acquired through seven (7) to nine (9) years of experience, 3 years of supervisory experience preferred; or

(C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Demonstrated abilities to manage projects and staff.

(B) Demonstrated ability to gather, analyze and present technical information in a clear and understandable manner.

(C) Knowledge and familiarity with relational databases.

(D) Demonstrated ability to communicate and work effectively in a team of scientists, engineers, and computer professionals. Excellent interpersonal, written and oral communication skills are required.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word-processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger handle feel or operate objects, including office equipment or controls, and reach with hands and arms. The employee frequently is required to sit, talk, and hear. The employee is occasionally required to stand and walk, stoop, kneel, crouch or crawl, taste or smell.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision requirements required by this job include close vision, distance vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment.

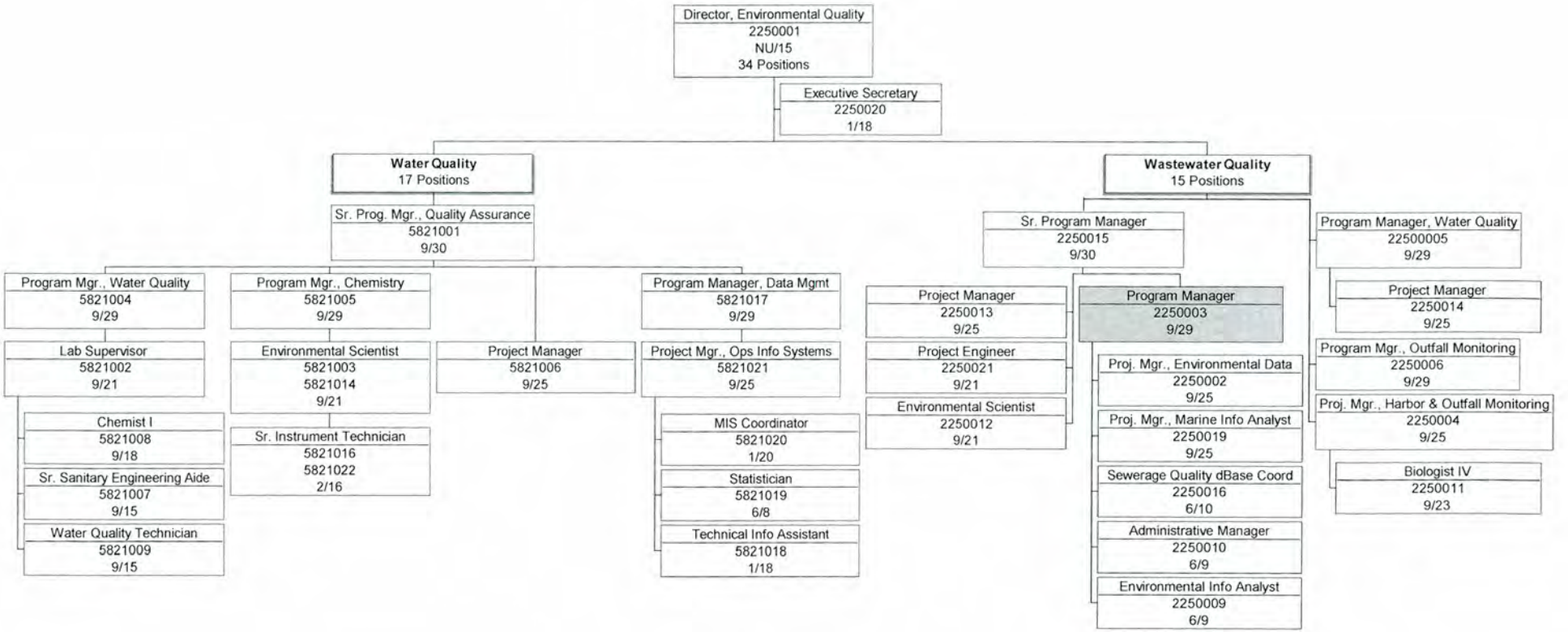
The noise level in the work environment is a moderately quiet office setting.

January 2014

Programs, Policy & Planning

Environmental Quality

May 2014



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 14, 2014
SUBJECT: Authority Accountability and Transparency Act Compliance

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COMMITTEE: Personnel and Compensation

__X__ INFORMATION
_____ VOTE

Rachel C. Madden
Director, Administration & Finance

Robert Donnelly, Director, Human Resources
Preparer/Title

Steven A. Remsberg
General Counsel

As required by the 2011 Authority Accountability and Transparency Act, the Personnel & Compensation Committee must meet independently of management at least once a year to establish and evaluate executive compensation, and analyze and assess comparable compensation for positions with similar functions and responsibilities at state agencies and authorities, and for-profit and non-profit private section employers. This meeting will occur at the beginning of the May 14, 2014 Personnel & Compensation meeting. Analyses of comparable salaries are attached to facilitate the Committee's review.

RECOMMENDATION:

For information only.

DISCUSSION:

The Authority Accountability & Transparency Act (G.L. c. 29, §29K) became law in July 2011 and required the Executive Office for Administration and Finance (A&F) to adopt regulations governing accountability and transparency for state authorities. As applicable to MWRA, the statute requires the Board to review executive compensation based on an analysis of comparable public and private-sector compensation; and to prepare an annual report of all Authority expenditures including disclosure of salaries of highly compensated employees who earn more than the Governor's salary. It also prohibits the Commonwealth from subsidizing the health insurance, pension, and other post-employment benefits of employees and retirees of authorities that participate in the state retirement system or the Group Insurance Commission. A&F filed interim emergency regulations in July 2011, and in 2013, A&F promulgated the permanent regulation.

The final regulation:

- Defines the statutory term "executive" as the authority's chief executive officer, chief financial officer, general counsel and others as determined by the authority's compensation committee.

- Defines "highly compensated employees," whose compensation is reported in the annual financial report, as those whose salary exceeds that of the Governor.

- Defines "meet independently of management" to exclude authority managers from statutorily required meetings of the authority's audit and compensation committees.

- Implements the benefits anti-subsidy statute, by requiring each state authority that participates in the state retirement system or the Group Insurance Commission to:

  - contribute the employer share of the cost attributable to that authority of the state retirement system (as determined by the PERAC actuary), and of the state group insurance system (as determined by the GIC);

  - be responsible for the full actuarial value of its liabilities as determined no less often than every 3 years by PERAC and the GIC after consulting A&F, the state Treasurer, and the State Board of Retirement.

At the April 2012 meeting, the Board took several steps in order to comply with the Transparency Act and the emergency regulations. As part of the compliance, the Board created the Administration, Finance and Audit Committee, as well as the Personnel and Compensation Committee, made adjustments to the sick leave buy back for executives and made certain minor adjustments to existing employment contracts. At both the April 2012 and May 2013 meetings, the Personnel and Compensation Committee met independently of management as required by the regulations. As a result of these actions, MWRA is in compliance with the permanent regulations and Transparency Act. Neither MWRA Board members nor the Administration, Finance and Audit Committee are required to meet independently with respect to the audited financials of the Authority because the statute carves out an exception for state authorities that are otherwise required to retain an outside independent audit firm.

As required by the regulation, staff recommend that the Personnel and Compensation Committee meet independently of management at this meeting. In order to facilitate the committee's review, comparable salaries analyses are included with this staff summary.

BUDGET/FISCAL IMPACT:

The passage and implementation of section 29K of chapter 29 of the General Laws will not have any impact upon either the FY14 CEB or CIP.

ATTACHMENTS

Attachment A:	Summary of Compensation Data for State Agencies, Authorities, Non-Profit Organizations and Private Companies
Attachment B:	Survey of Comparable National Water/Wastewater Utilities
Attachment C:	American Water Works Association – 2013 Water Utility Survey

Attachment A
Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies
April 2014

MWRA Position:	Executive Director			
Organization	**Sector**	**Title**	**Reporting Period**	**Annual Salary**
Northeast Utilities	Private Utility	President and CEO	2013	$1,161,250
Citizens Energy, Inc.	Non-Profit	President and CEO	2012	$642,155
Boston Foundation, Inc.	Non-Profit	President and CEO	2012	$556,401
Greater Boston Food Bank, Inc.	Non-Profit	President and CEO	2012	$348,370
City Year, Inc.	Non-Profit	President and Co-Founder	2012	$341,908
Mass Convention Center Authority	Quasi Public	Executive Director	2014	$257,525
Mass Port Authority	Quasi Public	Chief Executive Officer	2013	$256,925
MBTA	State	General Manager	2014	$220,000
Mass Housing Partnership	Quasi Public	Executive Director	2014	$215,270
Conservation Law Foundation	Non-Profit	President	2012	$189,378
Mass Health Connector Authority	Quasi Public	Executive Director	2014	$179,244
MWRA	Quasi Public	Executive Director	2014	$173,997
Mass Department of Transportation	State	Secretary, CEO MassDOT	2014	$159,135
Commonwealth of Massachusetts	State	Governor	2014	$151,800
Mass Department of Revenue	State	Commissioner of Revenue	2014	$149,290
Save the Harbor/Save the Bay	Non-Profit	President	2012	$143,351
Commonwealth of Massachusetts	State	State Auditor	2014	$134,952
Commonwealth of Massachusetts	State	Secretary of State	2014	$130,916
Commonwealth of Massachusetts	State	Attorney General	2014	$130,582
Commonwealth of Massachusetts	State	Treasurer	2014	$127,917
Boston Harbor Association	Non-Profit	President	2014	$123,769

Attachment A
Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies
April 2014

MWRA Position:	Chief Operating Officer			
Organization	**Sector**	**Title**	**Reporting Period**	**Annual Salary**
Northeast Utilities	Private Utility	Executive Vice President/COO	2013	$599,242
Citizens Energy, Inc.	Non-Profit	Chief Operating Officer	2012	$487,554
City Year, Inc.	Non-Profit	President (#2 Position)	2012	$278,648
Boston Foundation, Inc.	Non-Profit	Chief Investment Officer (#2 Position)	2012	$240,492
Mass Health Connector Authority	Quasi Public	Deputy Executive Director and COO	2014	$178,415
Mass Housing Partnership	Quasi Public	Managing Director	2014	$168,910
MWRA	Quasi Public	Chief Operating Officer	2014	$162,735
Greater Boston Food Bank, Inc.	Non-Profit	Chief Operating Officer	2012	$159,232
Mass Convention Center Authority	Quasi Public	Chief Facilties Officer	2014	$157,601
Conservation Law Foundation	Non-Profit	Chief Operating Officer	2012	$150,101
MBTA	State	Chief Operating Officer	2014	$150,000

MWRA Position:	Director, Administration and Finance			
Organization	**Sector**	**Title**	**Reporting Period**	**Annual Salary**
Northeast Utilities	Private Utility	Executive Vice President & CFO	2013	$570,750
Citizens Energy, Inc.	Non-Profit	CFO	2012	$289,000
Mass Port Authority	Quasi Public	Chief Financial Officer	2013	$210,000
City Year, Inc.	Non-Profit	Chief Financial and Admin Officer	2012	$205,152
Boston Foundation, Inc.	Non-Profit	Chief Financial Officer/Treasurer	2012	$199,608
Mass Housing Partnership	Quasi Public	Chief Finance & Admin Officer	2014	$158,010
Greater Boston Food Bank, Inc.	Non-Profit	Chief Financial Officer	2012	$157,277
MBTA	State	Deputy General Manager/CFO	2014	$156,586
MWRA	Quasi Public	Director, Admin & Finance	2014	$154,209
Mass Convention Center Authority	Quasi Public	Chief Financial Officer	2014	$140,005
Conservation Law Foundation	Non-Profit	Vice President, Finance and Admin	2012	$106,370

Attachment A
Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies
April 2014

MWRA Position:	General Counsel			
Organization	**Sector**	**Title**	**Reporting Period**	**Annual Salary**
Northeast Utilities	Private Utility	Sr. Vice President/General Counsel	2013	$444,423
Mass Port Authority	Quasi Public	Chief Legal Counsel	2013	$200,000
Mass Health Connector Authority	Quasi Public	General Counsel	2014	$175,621
Mass Housing Partnership	Quasi Public	Deputy Director & General Counsel	2014	$174,300
Mass Convention Center Authority	Quasi Public	General Counsel	2014	$157,602
MBTA	State	General Counsel	2014	$150,000
MWRA	Quasi Public	General Counsel	2014	$143,962

Attachment B
MWRA Survey of Comparable National Water/Wastewater Utilities - March 2014

Executive Director

Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2013 Bonuses	Employment Contract
Fairfax Water	Fairfax, Virginia	$140 Million	434	1.7 million	General Manager	$250,000	$5,876	$12,000		No
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.571 billion	1,811	19 million	General Manager	$346,846	car provided	$11,250		Yes
Washington Suburban Sanitary Commission	Laurel, MD	$699 million	1,565	1.8 million	General Manager/CEO	$262,650	$8,308	$23,000	$1,250	Yes
Seattle Public Utilities	Seattle, WA	925 million	1,362	1.3 million	Director	$197,689				No
Miami-Dade Water and Sewer Department	Miami, Fl	$356.6 million	2,479	2.3 Million	Department Director	$231,703				No
					Average Salary	**$257,778**				
MWRA					**Executive Director**	**$173,997**	**$8,400**			**Yes**

Chief Operating Officer

Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2013 Bonuses	Employment Contract
Fairfax Water	Fairfax, Virginia	$140 Million	434	1.7 million	Deputy General Manager	$218,000	$5,522	$115,000	12,000	No
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.571 billion	1,811	19 million	Assistant GM/ Chief Operating Officer	$276,806	car provided	$11,250		No
Washington Suburban Sanitary Commission	Laurel, MD	$699 million	1,565	1.8 million	Chief of Plant Operations	Vacant				
Seattle Public Utilities	Seattle, WA	925 million	1,362	1.3 million	Deputy Director, Field Ops & Maint.	$164,050				No
Miami-Dade Water and Sewer Department	Miami, Fl	$356.6 million	2,479	2.3 Million	Deputy Director	$200,571				No
					Average Salary	**$214,857**				
MWRA					**Chief Operating Officer**	**$162,735**	**$8,400**			**Yes**

General Counsel

Organization	Location	Budget	# Employees	Served	Title	Base Salary	Car Allowance	Comp	Bonuses	Contract
Fairfax Water	Fairfax, Virginia	$140 Million	434	1.7 million	No Match					
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.571 billion	1,811	19 million	General Counsel	$255,386	$600	$11,250		Yes
Washington Suburban Sanitary Commission	Laurel, MD	$699 million	1,565	1.8 million	General Counsel	$175,146	$8,308			Yes
Seattle Public Utilities	Seattle, WA	925 million	1,362	1.3 million	No Match (use city legal services)					
Miami-Dade Water and Sewer Department	Miami, Fl	$356.6 million	2,479	2.3 Million	Asst County Atty 3	$273,678				No
					Average Salary	**$234,737**				
MWRA					**General Counsel**	**$143,962**				**No**

Director, Administration & Finance

Organization	Location	Budget	# Employees	Served	Title	Base Salary	Car Allowance	Comp	Bonuses	Contract
Fairfax Water	Fairfax, Virginia	$140 Million	434	1.7 million	Director, Finance	$186,402				No
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.571 billion	1,811	19 million	Assistant GM/Chief Financial Officer	$268,902	$600	$11,250		No
					Assistant GM/Chief Administrative Officer	$268,944	$600	$5,879		No
Washington Suburban Sanitary Commission	Laurel, MD	$699 million	1,565	1.8 million	Chief Financial Officer	Vacant				
Seattle Public Utilities	Seattle, WA	925 million	1,362	1.3 million	Deputy Director, Finance &Admin	$162,952				No
Miami-Dade Water and Sewer Department	Miami, Fl	$356.6 million	2,479	2.3 Million	Asst Director, Finance	$114,866				No
					Average Salary	**$200,413**				
MWRA					**Director, Administration & Finance**	**$154,209**				**No**

Attachment C:
American Water Works Association
2013 Water Utility Compensation Survey

Survey Position: **Top Executive**
MWRA Position: **Executive Director**

Survey Scope: All utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
16	16	$208,750	$271,332	$173,997

Survey Scope: All water utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
7	7	$298,885	$307,886	$173,997

Survey Scope: All water/wastewater utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
9	9	$175,786	$242,900	$173,997

Survey Position: **Top Operations and Maintenance Executive**
MWRA Position: **Chief Operating Officer**

Survey Scope: All utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
12	16	$156,339	$150,527	$162,735

Survey Scope: All water utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
5	5	$199,095	$198,643	$162,735

Survey Scope: All water/wastewater utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
7	11	$128,667	$128,656	$162,735

Attachment C:
American Water Works Association
2013 Water Utility Compensation Survey

Survey Position: **Top Finance Executive**
MWRA Position: **Director, Administration and Finance**

Survey Scope: All utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
13	13	$158,177	$194,337	$154,209

Survey Scope: All water utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
5	5	$197,375	$220,410	$154,209

Survey Scope: All water/wastewater utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
8	8	$134,632	$178,041	$154,209

Survey Position: **Top Legal Executive**
MWRA Position: **General Counsel**

Survey Scope: All utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
10	10	$222,500	$205,297	$143,962

Survey Scope: All water utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
4	4	*	*	$143,962

*Data not published

Survey Scope: All water/wastewater utilities serving a population in excess of 1,000,000

# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
6	6	$182,545	$189,046	$143,962

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, May 14, 2014

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. BOARD ACTIONS

A. Approvals

1. Bond Defeasance of Future Debt Service (ref. AF&A B.1)

2. Memorandum of Understanding and Financial Assistance Agreement with BWSC for Implementation of CSO Control Projects, Amendment 14, and Progress of BWSC-Implemented CSO Projects and Projected Financial Assistance through December 2014 (ref. WW B.1)

3. Wilmington Water Supply Continuation Agreement (ref. W B.1)

4. Renewal of Employment Contract, Administrative Assistant, Clinton Wastewater Treatment Plant (ref. P&C A.1)

5. Appointment of Program Manager, Environmental Quality Department (ref. P&C A.2)

B. Contract Awards

1. Valve and Piping Replacements at Various Facilities – Deer Island Treatment Plant: Carlin Construction Co., Contract 7275 (ref. WW C.1)

2. Northern Intermediate High, West Street Transmission Main – Reading: P. Caliacco Corp., Contract 7066 (ref. W C.1)

V. CORRESPONDENCE TO THE BOARD

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

A. Real Estate

1. Watershed Land Acquisition Program

B. Security

1. Update on Security

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

April 16, 2014

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on April 16, 2014 at the Authority headquarters in Charlestown. Chairman Sullivan presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Vitale and Walsh; Mr. Barrera joined the meeting in progress. Mr. Swett was absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Rachel Madden, Director of Administration and Finance, and Bonnie Hale, Assistant Secretary. The meeting was called to order at 1:00 p.m.

APPROVAL OF MINUTES

Upon a motion duly made and seconded, it was

Voted to approve the minutes of the Board of Directors' meeting of March 12, 2014, as presented and filed with the records of the meeting.

(Mr. Barrera joined the meeting.)

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported on various matters, including the start-up of the new ultraviolet disinfection facilities at the Carroll Water Treatment Plant and a ceremony scheduled for Thursday, April 24th in Natick to mark the opening of a new section of trail along the Sudbury Aqueduct. He then commemorated the retirements of two long-standing MWRA employees, Daniel K. O'Brien and Jae R. Kim, describing their

important accomplishments and dedicated service, and the Board of Directors joined him in wishing them both well.

Update on Co-Digestion at the Deer Island Treatment Plant

This item was referred to the full Board by the Wastewater Policy and Oversight Committee. Mr. David Cash, Commissioner of the Mass. Dept. of Environmental Protection, described the background of the new regulations regarding a food waste ban going into effect in October 2014. Along with Chris Lucarelle of Waste Management Corp., he and staff responded to questions from the Board about how many establishments would be subject to the regulations, the estimated tons of food waste and number of trucks per day required to transport it, etc. There was detailed discussion and question and answer. Mr. Laskey indicated that he would like to be given time to assess and evaluate if MWRA could barge the material, how much it would cost, if dredging would be necessary, how much money would be saved by additional energy generation and many other questions needing to be answered before any recommendation for MWRA to continue beyond the co-digestion pilot program was made. Mr. Carroll also wanted to know how many of the affected establishments are located in the MWRA service area. Chairman Sullivan agreed that there are a number of questions that need to be answered and stated that this was a partnership with the Commonwealth, which stands ready to help if there are any final obstacles. Mr. Laskey concluded by saying that he hoped to come back as soon as possible with some answers and hard numbers, and that these updates to the Board would continue every month.

BOARD ACTIONS

APPROVALS

Approval of Standby Bond Purchase and Direct Purchase Agreements and Sixty-Seventh Supplemental Resolution

Upon a motion duly made and seconded, it was

Voted to: (1) approve the recommendation of the Selection Committee to award a Direct Purchase Agreement in the principal amount not-to-exceed $114,755,000 to Bank of America and a Standby Bond Purchase Agreement in the principal amount not-to-exceed $50,000,000 to Bank of New York Mellon; (2) adopt the Sixty-Seventh Supplemental Resolution authorizing the issuance of up to $114,755,000 of Massachusetts Water Resources Authority Multimodal Subordinated General Revenue Refunding Bonds and the supporting Issuance Resolution; and (3) adopt the Resolution Authorizing Replacement Liquidity Facility for Massachusetts Water Resources Authority Multimodal Subordinated General Revenue Refunding Bonds 2008 Series F.

I/I Local Financial Assistance Program Annual Update (and Revisions to Program Guidelines)

Upon a motion duly made and seconded, it was

Voted to approve revisions to Section 1.3 of the I/I Local Financial Assistance Program guidelines to establish sunset dates for the grant portion of remaining community financial assistance allocations under Phase 6 and 7 as proposed by the Advisory Board, substantially as presented and filed with the records of the meeting.

PCR Amendments – April 2014

Upon a motion duly made and seconded, it was

Voted to approve amendments to the Position Control Register, as presented and filed with the records of the meeting.

Appointment of Chief Engineer

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Anandan Navanandan, Director, Construction (Non-Union, Grade 16) to the

position of Chief Engineer in the Operations Division (Non-Union/Grade 16), at an annual salary of $138,000, to be effective on the date designated by the Executive Director.

Appointment of Director, Construction

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Ms. Corinne Barrett, Assistant Director, Construction (Non-Union, Grade 14) to the position of Director, Construction, (Non-Union, Grade 16) in the Operations Division at an annual salary of $131,145, to be effective on the date designated by the Executive Director.

Appointment of Manager, Process Control

Upon a motion duly made and seconded, it was

Voted to approve Executive Director's recommendation to appoint Mr. Ethan Wenger, P.E., (Unit 9, Grade 25) to the position of Manager, Process Control (Non-Union, Grade 14), at an annual salary of $109,100, to be effective April 19, 2014.

Appointment of Manager, SCADA and Process Control

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Brian L. Kubaska (Unit 9, Grade 30) to the position of Manager, SCADA and Process Control (Non-Union, Grade 14), at an annual salary of $121,431, to be effective on the date designated by the Executive Director.

Appointment, Senior Program Manager, SCADA

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Augustin A. Serino, (Unit 9, Grade 29) to the position of Senior Program Manager, SCADA (Unit 9, Grade 30), at an annual salary of $112,541, effective April 19, 2014.

CONTRACT AWARDS

Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support: Infor Global Solutions

Upon a motion duly made and seconded, it was

Voted to approve the award of a sole source purchase order contract for the annual maintenance and support of the integrated financial, procurement and human resources/payroll management system to Infor Global Solutions (formerly Lawson Associates, Inc.), and to authorize the Executive Director, on behalf of the Authority, to execute and deliver said purchase order contract in an amount not to exceed $338,352.94 for a period of one year from June 1, 2014 through May 31, 2015.

Citrix Application Virtualization and Mobile Device Management Design and Implementation: IntraSystems, Inc., State Blanket Contract ITC47, WRA3832-Q

Upon a motion duly made and seconded, it was

Voted to approve the award of a purchase order contract for technical consulting services to assess, design and implement the Citrix Application Delivery and Mobile Device management solution for the MWRA to the lowest eligible and responsible bidder, IntraSystems, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute and deliver said purchase order contract in an amount not to exceed $225,384.60 under State Blanket Contract ITC47.

Technical Assistance Consulting Services – Surveying: GEOD Consulting, Inc., Contract 597TA

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select GEOD Consulting, Inc., to provide surveying technical assistance consulting services, and to authorize the Executive Director, on behalf of the Authority, to execute Contract 597TA with GEOD Consulting, Inc. in an amount not to exceed $75,000, for a term of three years from the Notice to Proceed.

Electrical Equipment Upgrade Construction 4 – Resident Engineering and Inspection, Deer Island Treatment Plant: AECOM Technical Services, Inc., Contract 7416

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select AECOM Technical Services, Inc. to provide resident engineering and inspection services for the Deer Island Treatment Plant Electrical Equipment Upgrade Construction 4 project, and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7416 with AECOM Technical Services in an amount not to exceed $1,039,370.75, for a term of 27 months from the Notice to Proceed.

Electrical Testing and Technical Services – Metropolitan Boston: Infra-Red Building and Power Service Co., Inc., Contract OP-237

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract OP-237, Electrical Testing and Technical Services - Metropolitan Boston, to the lowest, eligible and responsible bidder, Infra-Red Building and Power Service Co., Inc., and authorize the Executive Director, on behalf of the Authority, to execute and deliver said contract

in the bid amount of $627,394, for a term of 1,095 calendar days from the Notice to Proceed.

Process and Control System (PICS) Service and Maintenance Contract - Deer Island Treatment Plant: ABB Automation, Inc.

Upon a motion duly made and seconded, it was

Voted to approve the renewal of a sole-source extended warranty, service and maintenance agreement for the Process Instrumentation and Control System at the Deer Island Treatment Plant, with ABB Automation, Inc., and authorize the Executive Director, on behalf of the Authority, to execute and deliver said contract in the amount of $1,186,776.00, for a term of three years, from July 1, 2014 through June 30, 2017.

Control of Invasive Plants at Stillwater Basin, Wachusett Reservoir: AE Commercial Diving Services, WRA-3800

Upon a motion duly made and seconded, it was

Voted to approve the award of purchase order Contract WRA-3800 for the control of invasive plants at Stillwater Basin in the Wachusett Reservoir to the lowest eligible and responsible bidder, AE Commercial Diving Services, and to authorize the Executive Director, on behalf of the Authority, to execute and deliver said purchase order contract in the bid amount of $259,600.

CONTRACT AMENDMENTS/CHANGE ORDERS

Quabbin UV Disinfection Facilities: Daniel O'Connell's Sons, Inc., Contract 6776, Change Order 5

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order 5 to increase the amount of Contract 6776, Quabbin UV Disinfection Facilities, with Daniel O'Connell's Sons, Inc., in an amount not-to-exceed $630,000; and to authorize the Executive Director to approve additional

change orders as may be needed to Contract 6776, in an amount not to exceed the aggregate of $250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

REPORT OF THE EXECUTIVE DIRECTOR (cont'd.)

Mr. Laskey reported that a check had been received as final settlement in the May 2010 water main break litigation.

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation and real estate.

Upon a motion duly made and seconded, it was, upon a roll call vote in which the members were recorded as follows:

Yes	No	Abstain
Barrera		
Carroll		
Cotter		
Flanagan		
Foti		
Pappastergion		
Vitale		
Walsh		
Wolowicz		
Sullivan		

Voted to enter executive session for the purpose of discussing strategy with respect to litigation and to consider the purchase, exchange, lease or value of real property, in that such discussion in open session may have a detrimental effect on the litigating and negotiating positions of the Authority.

It was noted that the meeting would return to open session solely for the consideration of adjournment.

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EXECUTIVE SESSION

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The meeting returned to open session at 1:55 p.m. and adjourned.