MASSACHUSETTS WATER RESOURCES AUTHORITY

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BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, May 13, 2015

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

Time: ***12:30 p.m.***

AGENDA

I. **APPROVAL OF MINUTES**

II. **REPORT OF THE CHAIR**

III. **REPORT OF THE EXECUTIVE DIRECTOR**

IV. **ADMINISTRATION, FINANCE & AUDIT COMMITTEE**

A. **Information**

1. Delegated Authority Report – April 2015
2. Update on Maintenance Program at MWRA
3. Third Quarter FY15 Orange Notebook
4. FY15 Financial Update and Summary as of April 2015

B. **Approvals**

1. Bond Defeasance of Future Debt Service

* **Please note start time of 12:30 p.m.**

IV. ADMINISTRATION, FINANCE & AUDIT COMMITTEE (cont'd)

C. Contract Awards

1. Lead Market Participant Services for Deer Island Treatment Plant: Direct Energy Business Marketing, LLC3 (materials to follow)

2. Maximo Upgrade Project: SHI International Corporation and Total Resources Management, Inc., Contract 7287

3. Medical Services for Occupational Health and Regulatory Programs: AllOne Health Resources, Contract A598

D. Contract Amendments/Change Orders

1. Purchase of Firewalls, Intrusion Prevention System, and Related Maintenance and Monitoring Services: NTT Com Security US, Inc., WRA-3224, Amendment 3

V. WASTEWATER POLICY & OVERSIGHT COMMITTEE

A. Contract Awards

1. Centrifuge Services, Deer Island Treatment Plant: Alfa Laval, Inc., Contract S537

2. Grit and Screenings Hauling and Disposal: W. L. French Excavating Corp., Contract S536

VI. WATER POLICY & OVERSIGHT COMMITTEE

A. Information

1. Change in Recommended Water Fluoridation Dosing

VII. PERSONNEL & COMPENSATION COMMITTEE

A. Approvals

1. PCR Amendments – May 2015

2. Extension of Contract Employee, IT Project Support Contractor, MIS

3. Appointment of IT Asset and Configuration Manager, MIS

4. Appointment of Work Coordination Center Manager, Operations

VII. PERSONNEL & COMPENSATION COMMITTEE (cont'd.)

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

1. Authority Accountability and Transparency Act Compliance

VIII. CORRESPONDENCE TO THE BOARD

IX. OTHER BUSINESS

X. EXECUTIVE SESSION

A. Real Estate:

1. Watershed Land Acquisition Program

B. Litigation:

1. Settlement of Lawsuit Judgment: The Dow Company, Contract No. 6394

2. Authorization to Commence Cost Recovery Litigation – Lumus Construction, Inc. and Hanover Insurance Company: Deer Island Wind Turbine #2

XI. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

April 15, 2015

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on April 15, 2015 at the Authority headquarters in Charlestown. Vice-Chairman Carroll presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Foti, Vitale and Walsh. Messrs. Beaton, Cotter, Flanagan and Pappastergion were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, Karen Gay-Valente, Director, Human Resources, Dianne Holland, Program Manager, Monitoring and Compliance, 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 11, 2015, as presented and filed with the records of the meeting.

REPORT OF THE CHAIR

Vice-Chairman Carroll noted that since there was a vacancy on the Board and four members not able to attend the meeting, all votes taken at today's meeting must be unanimous by the six members present and comprising a quorum.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported on various matters, including the formation of a distinguished Citizen Review Panel to assist MWRA over the next couple of months with the preparation of its required Five Year Report to the Governor and the Legislature.

APPROVALS

Establishment of an OPEB Trust

Upon a motion duly made and seconded, it was

Voted to establish an irrevocable trust for the sole purpose of accounting for funding of the Net OPEB Obligation. Annual funding will be reflected in the Current Expense Budget and determined at the discretion of the Board of Directors. Further, to adopt the declaration of trust, substantially as presented and filed with the records of this meeting, creating and establishing the Massachusetts Water Resources Authority Irrevocable OPEB Trust, and to appoint a five-member Board of Trustees to administer the Trust including the Executive Director, the Director of Finance, the Treasurer, the Budget Director and the Director of Human Resources.

Amendments to General Bond Resolution

Upon a motion duly made and seconded, it was

Voted 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 $92,105,000 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 and to deposit $10 million into an irrevocable OPEB Trust utilizing reserve funds made available as a result of the amendments to the General Bond Resolution.

Approval of Memorandum of Understanding between the Massachusetts Department of Fish and Game and the Massachusetts Water Resources Authority for a Public Access Fishing Pier at Deer Island

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute and enter into a Memorandum of Understanding with the Massachusetts Department of Fish and Game and other fisheries offices, substantially in the form presented and filed with the records of the meeting, authorizing the Department to undertake and fund the permitting, design and construction of a fishing pier and associated 20 pier parking spaces within the public access portion of Deer Island. Further, to authorize the Authority to fund 20 additional parking spaces to supplement existing parking spots for general public access use, and to provide general oversight and monitoring of the use of the fishing pier and parking areas.

Memorandum of Agreement between Massachusetts Water Resources Authority and the City of Somerville - Contract 7335, Section 4 Webster Avenue Pipe and Utility Bridge Replacement

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Agreement with the City of Somerville, substantially in the form presented and filed with the records of the meeting, related to reimbursement to the Authority for construction costs associated with the replacement of Somerville's 20-inch-diameter water main.

Appointment of Project Manager, Quality Assurance

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Don Martel (Unit 6/Grade 10) to the position of Project Manager, Quality Assurance (Unit 9, Grade 25), at an annual salary of $95,364.21, to be effective April 18, 2015.

Appointment of Project Manager, Engineering & Construction Department

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Carmine DeMaria, Sr. Engineer (Unit 9/Grade 23) to the position of Project Manager in the Engineering and Construction Department (Unit 9/Grade 25), at an annual salary of $95,364.88, to be effective April 18, 2015.

PCR Amendment – April 2015

Upon a motion duly made and seconded, it was

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

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 $358,654.12 for a period of one year, from June 1, 2015 through May 31, 2016.

Technical Assistance Consulting Services, Hazardous Materials: Geosphere Environmental Management, Inc., Contract 600TA; and Green Seal Environmental, Inc., Contract 601TA

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select Geosphere Environmental Management, Inc., and Green Seal Environmental, Inc., to provide Technical Assistance Consulting Services in the category of Hazardous Materials, and to authorize the Executive Director, on behalf of the Authority, to execute Contract 600TA with Geosphere Environmental Management, Inc., and Contract 601TA with Green Seal Environmental, Inc., each in an amount not to exceed $450,000, for a term of three years, and to authorize a Notice to Proceed for the first year of each contract in an amount not to exceed $150,000. Further, to authorize the Executive Director to approve separate Notices to Proceed, if recommended by staff, to commence the second and third year terms of each contract, for the same yearly not to exceed amounts.

Mystic River Streamgages - Joint Funding Agreement: U.S. Geological Survey, Contract OP-281

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director to enter into a multi-year, Joint Funding Agreement (Contract OP-281) with the United States Geological Survey for the installation, maintenance, and ongoing operation of three streamgages in the Mystic River Watershed at a cost of $144,900, from the date of the Notice to Proceed to September 30, 2017.

Section 4 Webster Avenue Pipe and Utility Bridge Replacement: NEL Corporation, Contract 7335

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7335, Section 4 Webster Avenue Pipe and Utility Bridge Replacement, to the lowest responsible and eligible bidder, NEL Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute and deliver said contract in the bid amount of $1,759,000, for a term of 214 calendar days from the Notice to Proceed.

Diver Assisted Suction Harvesting of Invasive Plants at Stillwater Basin, Wachusett Reservoir: AE Commercial Diving Services, WRA-1559

Upon a motion duly made and seconded, it was

Voted to approve the award of a purchase order contract for the control of invasive plants at Stillwater Basin in the Wachusett Reservoir to the lowest eligible and responsible bidder under Bid WRA-1559, 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 $350,000.

CONTRACT AMENDMENTS/CHANGE ORDERS

Nut Island Headworks Electrical and Conveyors Improvements: Malcolm Pirnie, Inc., Contract 7312, Amendment 4

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Amendment No. 4 to increase the amount of Contract 7312 with Malcolm Pirnie, Inc., Nut Island Headworks Electrical and Conveyors Improvements, in the amount of $68,100 and to extend the term by 376 days, from May 6, 2015 to May 19, 2016.

Spot Pond Water Storage Facility Design/Build Project: Walsh Construction Co., Contract 6457, Change Order 14

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 14 to extend the term of Contract 6457 with Walsh Construction Company, Spot Pond Water Storage Facility Design/Build Project, by 115 calendar days to August 15, 2015, at no additional cost to the Authority; and to authorize the Executive Director to approve additional change orders as may be needed to Contract 6457 in amounts not to exceed the aggregate of $250,000, and 180 days in accordance with the Management Policies of the Board of Directors.

Preliminary Design and Owner's Representative Services for Spot Pond Storage Facility: Camp Dresser & McKee, Inc., Contract 7233, Amendment 2

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Amendment No. 2 to increase the amount of Contract 7233 with Camp Dresser & McKee, Inc., Preliminary Design and Owner's Representative Services for the Spot Pond Storage Facility, by $142,000 and to extend the term by nine months to August 15, 2017.

Northern Intermediate High, West Street Transmission Main – Reading: P. Caliacco Corp., Contract 7066, Change Order 4

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order 4 to increase the amount of Contract 7066 with P. Caliacco Corp., Northern Intermediate High, West Street Transmission Main - Reading, for an amount not to exceed $200,000, with no increase in contract term; and to authorize the Executive Director to approve additional change orders as may be

needed to Contract 7066, in amounts not to exceed the aggregate of $250,000 and 180 days, in accordance with the Management Policies of the Board of Directors.

OTHER BUSINESS

2014 Breakdown of MWRA Staff

To follow up on a question asked by Mr. Vitale at one of the morning Committee meetings, Human Resources and Affirmative Action and Compliance staff provided a hand-out breaking down the numbers and percentages of minorities, females and veterans at MWRA in 2014 (on file with the records of the meeting). Mr. Blackmon said he would be interested to see a similar breakdown at the management level.

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation.

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
Blackmon		
Foti		
Vitale		
Walsh		
Wolowicz		
Carroll		

Voted to enter executive session for the purpose of discussing strategy with respect to litigation, in that such discussion in open session may have a detrimental effect on the litigating position of the Authority.

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EXECUTIVE SESSION

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The meeting returned to open session at 1:30 p.m.

OTHER BUSINESS (continued)

One Boston Day

Mr. Vitale read aloud the following statement and Vice-Chairman Carroll directed that it be included in the records of the meeting:

Mayor Walsh has asked that those of us who work or live in the City actively participate in One Boston Day. One Boston Day is an idea conceived by the survivors of the Marathon Bombing and their families to inspire positive action among Boston's people. Mayor Walsh has announced that April 15 will be permanently established as a special day to encourage kindness and good will saying, "One Boston Day will inspire all of us to come together as the community we are and share the spirit of Boston by giving back. April 15 is a date that has come to stand for our city's deepest values. I hope everyone can mark this day in a way that is appropriate and inclusive for each of our experiences."

The meeting adjourned at 1:35 p.m.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

April 15, 2015

A meeting of the Administration, Finance and Audit Committee was held on April 15, 2015 at the Authority headquarters in Charlestown. Vice-Chairman Vitale presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Foti, and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Michele Gillen, Pam Heidell, Tom Durkin, Kathy Soni, Karen Gay-Valente, Leo Norton, Russ Murray, John Nelson, and Bonnie Hale. The meeting was called to order at 10:20 a.m.

Information

Delegated Authority Report – March 2015

Staff gave an overview of the report, and there was question and answer on some of the items. Mr. Laskey noted that due the number of Board members unable to attend today's meetings, a recommendation regarding proposed revisions to the delegated authority levels would be brought forward at a later date.

2014 Annual Update on New Connections to the MWRA System

In conformance with the Authority's system expansion policy, staff provided and summarized the 2014 annual report.

FY15 Financial Update and Summary as of March 2015

Staff reviewed the March financial update and there was general discussion and question and answer, particularly on the MWRA's internship program.

Approvals

*Establishment of an OPEB Trust

Staff described the complex nature of GASB-45 and OPEB (Other Post Employment Benefits), especially as related to both the rating agencies and spending in future years, and there was detailed discussion and question and answer. Mr. Foti asked about a reference in article 5.1 to the inclusion of a Board member on the OPEB Trust Board of Trustees which was not included in the recommendation; Messrs. Laskey and Remsberg noted that that was mistakenly left in from an earlier draft and

* Approved as recommended at April 15, 2015 Board of Directors meeting.

would be removed. The Committee recommended approval of the Trust (with Mr. Carroll opposed) (ref. agenda item B.1).

*Amendments to General Bond Resolution

The Committee recommended approval of amendments to the General Bond Resolution (ref. agenda item B.2).

(Mr. Foti left the meeting.)

Contract Awards

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

Staff summarized this annual maintenance contract; the Committee recommended approval (ref. agenda item C.1).

(Mr. Foti returned to the meeting.)

*Technical Assistance Consulting Services, Hazardous Materials Assessment: Geosphere Environmental Management, Inc., Contract 600TA; and Green Seal Environmental, Inc., Contract 601TA

Staff reviewed the nature of the services to be performed under these contracts, and the Committee recommended approval of the two awards (ref. agenda item C.2).

On a separate matter, Mr. Laskey noted that the required annual meeting of the Personnel and Compensation Committee independent of management – where the Board reviews salaries and benefits - was planned to be scheduled on May 13, 2015.

The meeting adjourned at 11:30 p.m.

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* Approved as recommended at April 15, 2015 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Delegated Authority Report – April 2015

COMMITTEE: Administration, Finance & Audit

X INFORMATION
__ VOTE

Michele S. Gillen
Director, Administration

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

John Sabino
Director of Procurement

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, 2015.

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

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPAC
C-1.	04/08/15	**SPOT POND STORAGE FACILITY DESIGN/BUILD PROJECT** RE-DESIGN AND INSTALL THE ELECTRICAL AND COMMUNICATION DUCTBANKS ON EXECUTIVE DRIVE; REMOVE LEDGE IN PIPELINE ROAD.	6457	13	WALSH CONSTRUCTION CO.	$214,829.86
C-2.	04/10/15	**KEY PROJECT WORK CREW SERVICES AT DEER ISLAND AND NUT ISLAND** AWARD OF CONTRACT TO A NON-PROFIT, DEPARTMENT OF CHILDREN AND FAMILIES APPROVED, ORGANIZATION TO PERFORM ADDITIONAL LANDSCAPING AND PUBLIC ACCESS AREA CLEANING SERVICES AT DEER ISLAND AND NUT ISLAND FOR A TERM OF SEVEN MONTHS.	OP-276	AWARD	ROCA, INC.	$50,000.00
C-3.	04/10/15	**WESTERN OPERATIONS FACILITIES GROUNDSKEEPING SERVICES** AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER FOR GROUNDSKEEPING SERVICES AT THE JOHN J. CARROLL WATER TREATMENT PLANT, NORUMBEGA COVERED STORAGE FACILITY AND RESERVOIR 3 IN FRAMINGHAM FOR A TERM OF 610 CALENDAR DAYS.	OP-270	AWARD	GREENSCAPE LAND DESIGN, INC.	$108,466.00
C-4.	04/13/15	**NUT ISLAND HEADWORKS ELECTRICAL AND CONVEYORS IMPROVEMENTS** ADDITIONAL RESIDENT ENGINEERING SERVICES TO ENSURE CONTINUED AVAILABILITY OF A FULL-TIME ELECTRICAL RESIDENT ENGINEER TO PROVIDE OVERSIGHT UNTIL CURRENT END DATE; ADDITIONAL CONSTRUCTION ADMINISTRATION SERVICES NEEDED FOR SERVICES SUCH AS REVIEW OF CONTRACTOR REQUESTS FOR INFORMATION (RFI) AND SUBMITTALS SUCH AS SHOP DRAWINGS.	7312	3	MALCOLM PIRNIE, INC.	$156,500.00
C-5.	04/29/15	**CRANE MAINTENANCE SERVICE** DECREASE ESTIMATED BID ITEM QUANTITIES TO REFLECT ACTUAL QUANTITIES USED AS FOLLOWS: LOAD TESTING OF INDIVIDUAL CRANES; NON-EMERGENCY AND EMERGENCY ON-CALL MAINTENANCE SERVICE; REPLACEMENT PARTS AND MARK-UP.	OP-200	2	SAFEWAY OVERHEAD CRANE SERVICE, INC.	($49,980.31)
C-6.	04/29/15	**METROPOLITAN OPERATIONS PAVING** DECREASE ESTIMATED BID ITEM QUANTITIES TO REFLECT ACTUAL QUANTITIES USED AS FOLLOWS: PAVEMENT CUTTING; EXCAVATION, REMOVAL AND DISPOSAL OF EXISTING PAVEMENT; COLD PLANING; GRADING; CONTROL DENSITY FILL; DENSE GRADE CRUSHED STONE; CAST-IN-PLACE CONCRETE; BINDER COURSE; RAISING AND RESETTING GRANITE CURB; BITUMINOUS CONCRETE BERM CURB; THERMOPLASTIC STRIPE; PAINTED TRAFFIC MARKINGS; RESETTING CASTINGS; INFRA-RED TREATMENT; AND TRAFFIC CONTROL OFFICERS.	OP-193	4	NEWPORT CONSTRUCTION CORP.	($131,996.18)

PURCHASING DELEGATED AUTHORITY ITEMS - April 1 - 30, 2015

NO.		TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	4/3/15	**ONE CIRCUIT BREAKER** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE CIRCUIT BREAKER FOR THE DEER ISLAND TREATMENT PLANT. LARGE CIRCUIT BREAKERS ARE INCORPORATED THROUGHOUT DEER ISLAND'S ELECTRICAL DISTRIBUTION SYSTEM FOR EQUIPMENT PROTECTION IN THE EVENT OF A SHORT CIRCUIT OR GROUND FAULT. THESE CIRCUIT BREAKERS ARE CONSIDERED CRITICAL ELECTRICAL EQUIPMENT. STAFF HAVE RECOMMENDED THAT MWRA PURCHASE A SPARE CIRCUIT BREAKER FOR DEER ISLAND'S SOUTH SYSTEM PUMP STATION. HAVING A SPARE CIRCUIT BREAKER FOR THIS CRITICALLY IMPORTANT PUMP STATION WOULD ALLOW MWRA STAFF TO IMMEDIATELY REPLACE A FAILED UNIT.	WRA-4007Q		US ELECTRICAL INC.	$47,400.00
P-2.	4/3/15	**SUPPLY AND DELIVERY OF CONCRETE PRODUCTS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF CONCRETE PRODUCTS. MWRA'S WATER PIPELINE UNIT REPLACES AN AVERAGE OF 20 MAIN LINE VALVES AND 10 BLOW-OFF VALVES THROUGHOUT THE WATER DISTRIBUTION SYSTEM EACH YEAR. THE PIPELINE UNIT IS ALSO RESPONSIBLE FOR THE REPAIR OF AN AVERAGE OF 10 LEAKS PER YEAR. THIS VALVE REPLACEMENT AND LEAK REPAIR WORK REQUIRES EXCAVATION AND SUBSEQUENT RESTORATION UTILIZING SEVERAL DIFFERENT CONCRETE PRODUCTS. BID WRA-3969 IS FOR A ONE-YEAR PURCHASE ORDER CONTRACT TO SUPPLY MWRA'S WATER PIPELINE UNIT WITH ITS CONCRETE PRODUCTS ON AN AS-NEEDED BASIS. MWRA WILL ONLY PAY FOR PRODUCT SUPPLIED.	WRA-3969		AGGREGATE INDUSTRIES	$64,007.00
P-3.	4/3/15	**FLO-DAR WASTEWATER FLOW METER REPAIRS** AWARD OF A TWO-YEAR, SOLE SOURCE BLANKET PURCHASE ORDER FOR AS-NEEDED REPAIR SERVICES OF MWRA'S FLO-DAR WASTEWATER FLOW METERS AND APPURTENANCES. HACH COMPANY'S FLO-DAR FLOW METERS, WHICH WERE INSTALLED UNDER MWRA'S WASTEWATER METER REPLACEMENT CONTRACT SEVERAL YEARS AGO, PROVIDE A REVOLUTIONARY APPROACH TO OPEN CHANNEL AND SEWER FLOW MONITORING. FLO-DAR METERS MEASURE SURFACE VELOCITY OF THE WATER USING RADAR TECHNOLOGY. MWRA'S FLO-DAR UNITS ARE MANUFACTURED EXCLUSIVELY BY HACH COMPANY. UNTIL OCTOBER 2008, ALL OF MWRA'S WASTEWATER METERS WERE COVERED UNDER AN EXTENDED SERVICE AGREEMENT WITH THE ORIGINAL INSTALLATION CONTRACTOR, RJN. SINCE THE EXPIRATION OF THAT AGREEMENT, MWRA METERING STAFF PERFORM ALL ROUTINE MAINTENANCE AND ASSESSMENT OF REPAIR NEEDS. MAJOR WORK THAT EXCEEDS MWRA STAFF'S CAPABILITIES REQUIRES THE METER TO BE SENT BACK TO HATCH FOR REPAIR. MWRA WILL ONLY PAY FOR REPAIR AND CALIBRATION SERVICES PROVIDED.			HACH COMPANY	$75,000.00
P-4.	4/8/15	**STAINLESS STEEL PIPING AND ASSOCIATED PLUMBING SUPPLIES** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR STAINLESS STEEL PIPING AND ASSOCIATED PLUMBING SUPPLIES FOR THE DEER ISLAND TREATMENT PLANT. OVER THE PAST SEVERAL YEARS, DEER ISLAND MAINTENANCE STAFF HAVE REPAIRED (WITH BANDS) OR REPLACED NUMEROUS SECTIONS OF LEAKING BLACK, CAST-IRON PIPING AND FITTINGS THROUGHOUT THE DIGESTER VENTING SYSTEM LOCATED IN THE FOAM SEPARATOR ROOMS IN DIGESTER MODULES I AND II. DEER ISLAND ENGINEERING STAFF HAVE REVIEWED THE SYSTEMS' OPERATION AND RECOMMEND THAT MWRA REPLACE THE EXISTING CAST-IRON PIPING WITH SCHEDULE 10, 304 STAINLESS STEEL PIPING AND FITTINGS.	WRA-3964		METROPOLITAN PIPE & SUPPLY CO.	$49,400.30
P-5.	4/8/15	**MINI-CRANE** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE MINI-CRANE FOR THE DEER ISLAND TREATMENT PLANT. DEER ISLAND TREATMENT PLANT EQUIPMENT AND PIPING SYSTEMS LOCATED IN GALLERIES AND OTHER INTERIOR LOCATIONS ARE STILL MOSTLY ORIGINAL PLANT EQUIPMENT INSTALLED UNDER THE BOSTON HARBOR PROJECT. PLANT STAFF HAVE RECENTLY BEEN ENCOUNTERING PROJECTS THAT INVOLVE LARGER AND HEAVIER SECTIONS OF PIPE, IN ADDITION TO MOTORS, VALVES, AND OTHER ASSETS REQUIRING REPLACEMENT. WEIGHT IS BECOMING MORE OF A CONSIDERATION IN TERMS OF LIFTING EQUIPMENT, AS SOME OF THE FAILED ITEMS OR REPLACEMENT MATERIALS ARE EXCEEDING THE CAPACITY OF THE EXISTING MANUAL LIFTING AND MOVING EQUIPMENT. THEREFORE, STAFF RECOMMEND THAT MWRA PURCHASE A MINI-CRANE. THE SPECIFICATIONS FOR THIS PIECE OF EQUIPMENT WERE DEVELOPED TO ENSURE DEER ISLAND'S NEEDS WOULD BE MET, INCLUDING ELECTRONIC OPERATIONS FOR INDOOR USE, CAPABILITY FOR EXTERIOR USE IN ALL WEATHER CLIMATES, AND COMPACT SIZE AND OPERATION ALLOWING MOVEMENT IN TIGHT LOCATIONS WITH LIMITED ACCESS. THE SPECIFICATIONS ALSO INCLUDE A MINIMUM OF A TWO-HOUR TRAINING SESSION (AND UP TO EIGHT HOURS) FOR MWRA STAFF ON THE SAFE OPERATION AND BEST MAINTENANCE PRACTICES FOR THIS PIECE OF EQUIPMENT.	WRA-3986		ALLEY CAT CRANE SERVICE, INC.	$86,000.00
P-6.	4/8/15	**ANNUAL MAINTENANCE AND UPGRADE OF THE PORTIA PORTFOLIO AND INVESTMENT MANAGEMENT SOFTWARE** APPROVAL OF A SOLE SOURCE PURCHASE ORDER FOR THE MAINTENANCE, SUPPORT AND UPGRADE OF THE CASH AND DEBT MANAGEMENT SOFTWARE. THE CASH AND DEBT MANAGEMENT SOFTWARE ALLOWS THE TREASURY DEPARTMENT TO MANAGE MWRA FIXED INVESTMENTS AND TRACK INTEREST AND HOLDINGS ON THESE INVESTMENTS. THE MWRA'S LONG TERM INVESTMENT PORTFOLIO CONSISTS OF ABOUT $300M OF CALLABLE AGENCY SECURITIES MADE UP OF APPROXIMATELY 20 SECURITIES IN 50 DIFFERENT FUNDS (PORTFOLIOS). THIS REQUEST WILL PROVIDE INSTALLATION, TRAINING AND SERVICE FOR SS&C'S PORTIA SOFTWARE. ALL APPLICATIONS TYPICALLY REQUIRE PERIODIC UPGRADES TO ENHANCE FUNCTIONALITY, INTRODUCE NEW TECHNOLOGY, AND MAINTAIN VENDOR SUPPORT. SUPPORT FOR THE CURRENTLY INSTALLED VERSION (8.0.12) REQUIRES UPGRADE TO THE CURRENT VERSION (11.5). UPGRADING TO THE LATEST VERSION OF SS&C'S PORTIA WILL ALLOW CONTINUED SUPPORT OF THE APPLICATION.			SS&C TECHNOLOGIES, INC.	$94,134.76
P-7.	4/8/15	**SUPPLY AND DELIVERY OF GRAVEL BORROW** AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF GRAVEL BORROW FOR THE CLINTON ADVANCED WASTEWATER TREATMENT PLANT'S LANDFILL. THE CLINTON ADVANCED WASTEWATER TREATMENT PLANT'S SLUDGE LANDFILL IS DESIGNED TO ACCEPT ANAEROBICALLY DIGESTED SLUDGE, GRIT, AND SCREENINGS. THE SLUDGE, GRIT, AND SCREENINGS ARE MIXED WITH FILL AND PLACED IN THE LANDFILL. COVER MATERIAL (CLEAN FILL - ALSO REFERRED TO AS "GRAVEL BORROW") IS THEN APPLIED AND COMPACTED OVER THE SLUDGE. THE CLINTON PLANT USES APPROXIMATELY 11,000 CUBIC YARDS OF GRAVEL BORROW EACH YEAR TO MEET ITS LANDFILL PERMIT REQUIREMENTS. DELIVERIES WILL BE MADE ON AN AS-NEEDED BASIS AND MWRA WILL ONLY PAY FOR PRODUCT DELIVERED AND RECEIVED AT THE LANDFILL.	WRA-4000		W.J. GRAVES CONSTRUCTION CO.	$159,500.00

PURCHASING DELEGATED AUTHORITY ITEMS - April 1 - 30, 2015

NO.		TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-8.	4/10/15	**ONE MICROWAVE SAMPLE PREPARATION SYSTEM** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE MICROWAVE SAMPLE PREPARATION SYSTEM FOR THE CENTRAL LABORATORY AT THE DEER ISLAND TREATMENT PLANT. THE DEPARTMENT OF LABORATORY SERVICES (DLS) RECOMMENDS THE PURCHASE OF A REPLACEMENT MICROWAVE SAMPLE PREPARATION SYSTEM FOR THE DIGESTION OF ENVIRONMENTAL SAMPLES AND SOLID MATERIALS (WATERS, SLUDGE, SEDIMENT, FERTILIZER, AND TISSUE) PRIOR TO ELEMENTAL ANALYSIS. THE ONE RECOMMENDED MICROWAVE DIGESTION SYSTEM WILL REPLACE THE LAB'S TWO EXISTING UNITS.	WRA-3997Q		CEM CORPORATION	$26,893.40
P-9.	4/10/15	**140 OFFICE CHAIRS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 140 OFFICE CHAIRS FOR THE CHELSEA FACILITY AND THE CHARLESTOWN NAVY YARD. OVER THE PAST YEARS, MWRA HAS REPAIRED A NUMBER OF OFFICE CHAIRS. REPAIRS PRIMARILY CONSISTED OF REPLACEMENT ARMS, CASTERS, AND BACK SUPPORTS. WHEN NEW REPLACEMENT PARTS BECOME LESS AVAILABLE, STAFF UTILIZED PARTS FROM BROKEN OR WORN CHAIRS TO REPAIR THOSE IN BETTER CONDITION. STAFF ALSO ARRANGED FOR UPHOLSTERY CLEANING IN ATTEMPT TO MAXIMIZE CHAIR LIFE. TASK CHAIRS IN THE CHARLESTOWN NAVY YARD WERE ALSO IN NEED OF REPLACEMENT; MANY OF THESE DATED BACK TO THE ORIGINAL FIT-OUT OF MWRA SPACE.	WRA-4006Q		NEW ENGLAND OFFICE SUPPLY, INC.	$39,700.00
P-10.	4/10/15	**63 POWER QUALITY METERS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 63 POWER QUALITY METERS FOR THE DEER ISLAND TREATMENT PLANT. POWER QUALITY METERS TRANSMIT IMPORTANT OPERATIONAL PARAMETERS SUCH AS ENERGY (KWH), VOLTAGE, AND CURRENT USAGE TO PICS, WHICH IS CRITICAL IN BALANCING AND MANAGING THE ELECTRICAL LOAD AT EACH MEDIUM AND LOW-VOLTAGE SWITCHGEAR AT THE DEER ISLAND TREATMENT PLANT. THE EXISTING POWER QUALITY METERS, WHICH WERE INSTALLED IN MID 1990 WHEN THE ELECTRICAL DISTRIBUTION SYSTEM WAS FIRST PUT INTO COMMISSION, ARE NOW OBSOLETE AND COMMUNICATION AT SOME FACILITIES HAS BEEN COMPLETELY LOST. REPLACEMENT PARTS FOR THE METERS ARE NO LONGER AVAILABLE BY EITHER THE ORIGINAL EQUIPMENT MANUFACTURERS OR THROUGH THIRD-PARTY VENDORS. THEREFORE, STAFF RECOMMEND THAT THEY BE REPLACED.	WRA-3985		GRAYBAR ELECTRIC CO., INC.	$53,712.54
P-11.	4/10/15	**REPLACEMENT OF ACTIVATED CARBON** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE REPLACEMENT OF ACTIVATED CARBON AT THE NUT ISLAND HEADWORKS AND BRAINTREE-WEYMOUTH REPLACEMENT PUMP STATION FACILITY. THE ODOR CONTROL SYSTEM AT THE NUT ISLAND HEADWORKS INCLUDES WET SCRUBBERS AND FIVE CARBON BEDS. TO REDUCE OPERATING COSTS, THE WET SCRUBBERS WERE TAKEN OFF LINE IN 2009, REQUIRING THE ODOR CONTROL SYSTEM TO DEPEND ALMOST EXCLUSIVELY ON THE CARBON BEDS. CARBON IN THE FIVE BEDS AT NUT ISLAND WERE REPLACED INTERMITTENTLY OVER THE LAST SEVERAL YEARS. SUMMER AND FALL OF 2013 AND 2014 WERE PERIODS THAT SAW HIGH CONCENTRATIONS OF HYDROGEN SULFIDE AT NUT ISLAND, WHICH EXPENDED ALMOST ALL OF THE EFFECTIVENESS OF ALL OF THE CARBON BEDS. THEREFORE, STAFF RECOMMEND THAT ALL FIVE CARBON BEDS AT NUT ISLAND BE REPLACED. THE ODOR CONTROL SYSTEM AT THE BRAINTREE-WEYMOUTH REPLACEMENT PUMP STATION CONSISTS OF A SINGLE DUAL-BED CARBON VESSEL. THE CARBON WAS REPLACED IN AUGUST 2011, AND AGAIN IN JUNE 2014. ALTHOUGH THE BEDS ARE NOT FULLY DEPLETED, EXPERIENCE HAS SHOWN THAT THE BEDS WILL NOT REMAIN EFFECTIVE THROUGH ANOTHER SUMMER/FALL HIGH HYDROGEN SULFIDE PERIOD. STAFF RECOMMEND THAT THE DUAL CARBON BEDS AT BRAINTREE-WEYMOUTH BE REPLACED SOME TIME BEFORE THE END OF THE SUMMER.	WRA-3979		CARBON ACTIVATED CORPORATION	$122,780.00
P-12.	4/10/15	**ONE 10-WHEEL DUMP TRUCK WITH SANDER** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE 10-WHEEL DUMP TRUCK WITH A SANDER. WRA-914, ASSIGNED TO THE WATER PIPE MAINTENANCE UNIT IN CHELSEA, IS A 2007 10-WHEEL DUMP TRUCK USED TO TOW TRAILERED EQUIPMENT AND MATERIALS, AND TO HAUL FILL MATERIAL TO AND FROM JOB SITES. BASED ON THE AGE, AND MECHANICAL CONDITION OF WRA-914, STAFF PLANNED TO INCLUDE ITS REPLACEMENT IN THE FY16 CAPITAL IMPROVEMENT PROGRAM BUDGET PROCESS. HOWEVER, DURING THE UNPRECEDENTED SNOWSTORMS THIS PAST WINTER, IT BECAME CLEAR THAT A MORE RELIABLE AND ROBUST DUMP TRUCK, WITH A PLOW AND SANDER, THAT COULD BE DEPLOYED TO AUGMENT EXISTING SNOW REMOVAL EQUIPMENT WAS NEEDED. THEREFORE, STAFF RECOMMEND THAT MWRA ACCELERATE THE REPLACEMENT OF WRA-914 INSTEAD OF CONTINUING TO REPAIR AND MAINTAIN IT. WRA-914 MEETS THE CURRENT CRITERIA FOR REPLACEMENT IN ACCORDANCE WITH MWRA'S VEHICLE REPLACEMENT POLICY.	WRA-3998		MINUTEMAN TRUCK, INC.	$162,589.72
P-13.	4/10/15	**ONE FORKLIFT, ONE FRONT-END LOADER AND ONE BACKHOE** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE FORKLIFT, ONE FRONT-END LOADER, AND ONE BACKHOE. THE CHELSEA MAINTENANCE FACILITY SERVES AS MWRA'S MAIN STORAGE LOCATION FOR PIPE, FITTINGS, VALVES, PRE-CAST CONCRETE ITEMS, MASONRY SUPPLIES, BRICK AND DISCHARGE HOSES. THESE ITEMS ARE MOVED AND LOADED ON A DAY-TO-DAY BASIS FROM DELIVERY TRUCKS, ONTO STORAGE PADS AND RACKS, AND THEN ONTO VEHICLES AND TRAILERS FOR DEPLOYMENT AND USE AT VARIOUS JOB SITES. CURRENTLY, THE WATER PIPE MAINTENANCE WATER UNIT USES BACKHOE/LOADERS AND A 1994 JCB 930 FORKLIFT. STAFF HAVE DETERMINED THAT THE EXISTING FORKLIFT HAS EXCEEDED ITS LIFE EXPECTANCY AND IT IS NOW MORE COST EFFECTIVE TO REPLACE IT RATHER THAN TO CONTINUE TO REPAIR THIS 21-YEAR-OLD PIECE OF EQUIPMENT. DEER ISLAND IS ALSO IN NEED OF A FRONT-END LOADER AND BACKHOE . DURING THE UNPRECEDENTED SNOW STORMS THIS PAST WINTER, IT BECAME CLEAR THAT DEER ISLAND'S SINGLE FIVE-YEAR-OLD FRONT-END LOADER, ITS ONE APPROXIMATELY 20-YEAR-OLD SMALL SKID LOADER, ITS ONE NEW 6-WHEEL DUMP TRUCK OUTFITTED WITH PLOW AND SANDER, AND SEVERAL OTHER PICK-UP TRUCKS EQUIPPED WITH PLOWS, WERE NOT ENOUGH TO SATISFACTORILY KEEP CLEAR ALL OF THE ROADWAYS AND NEEDED ACCESS AREAS ON AND LEADING TO THE ISLAND. AN ADDITIONAL FRONT-END LOADER IS NEEDED TO SUFFICIENTLY CLEAR AREAS WITH HIGH DRIFTED SNOW. THE ONE EXISTING FRONT-END LOADER FAILED TWICE, AND THE SMALL SKID LOADER FAILED ONCE DURING THE JANUARY/FEBRUARY 2015 SNOW STORMS. THEREFORE, STAFF RECOMMEND THAT DEER ISLAND'S EQUIPMENT INVENTORY BE AUGMENTED BY THE ADDITION OF A BACKHOE AND ONE ADDITIONAL FRONT-END LOADER.	WRA-3991		SUNBELT RENTALS	$347,932.00

PURCHASING DELEGATED AUTHORITY ITEMS - April 1 - 30, 2015

NO.		TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-14.	4/14/15	**ADDITIONAL SOFTWARE LICENSES FOR DATA DIODES** AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ADDITIONAL SOFTWARE LICENSES FOR MWRA'S RECENTLY PURCHASED SECURITY DATA DIODES. IN SPRING 2014, MWRA CONDUCTED A COMPETITIVE PROCUREMENT PROCESS FROM AMONG VENDORS LISTED ON THE COMMONWEALTH OF MASSACHUSETTS' CONTRACT ITC47, FOR THE PURCHASE OF A DATA DIODE SYSTEM THAT WILL ENSURE THE MOST UP-TO-DATE AND SECURE PROTECTION OF MWRA'S SCADA NETWORK. THIS DATA DIODE SYSTEM PROTECTS THE SCADA NETWORK BY ENSURING THE COMMUNICATION TRAFFIC IS LIMITED TO ONLY ONE DIRECTION, OUT OF THE SCADA NETWORK AND DIRECTLY INTO MWRA'S MIS NETWORK. IN MWRA'S APPLICATION, WATER QUALITY MUST BE RECORDED FOR REGULATORY PURPOSES ON A 24/7 BASIS, WITH NO INTERRUPTIONS. DURING VALIDATION TESTING, STAFF LEARNED THAT ANY INTERRUPTION OF THE DATA TRANSFER, CAUSED BY ANY NUMBER OF MINOR EVENTS, FROM ROUTINE MAINTENANCE ON THE DATABASE TO A SIMPLE RE-BOOT OF THE SYSTEM, WOULD RESULT IN A LOSS OF HISTORICAL WATER AND WASTEWATER SCADA DATA ON THE MIS NETWORK. ALTHOUGH THE MISSING DATA WOULD REMAIN TEMPORARILY AVAILABLE FOR RETRIEVAL ON THE SCADA NETWORK, CURRENTLY, THERE IS NO MECHANISM TO ACCESS AND TRANSMIT IT TO THE MIS NETWORK FOR DATA ARCHIVING. THIS LOSS OF HISTORICAL DATA WOULD BE UNACCEPTABLE. IN ORDER TO RETRIEVE THE MISSING PROCESS DATA, STAFF RECOMMEND THAT MWRA PURCHASE AN ADD-ON SOFTWARE FEATURE ("OPC-HDA") THAT CAN BE CONFIGURED ON THE EXISTING DIODE SYSTEM.			WATERFALL SECURITY SOLUTIONS, LTD	$81,000.00
P-15.	4/21/15	**INMAGIC PRESTO SOLUTION LICENSES, IMPLEMENTATION AND SUPPORT** AWARD OF A PURCHASE ORDER FOR INMAGIC PRESTO LICENSES, IMPLEMENTATION AND SUPPORT. THE LIBRARY IS THE REPOSITORY FOR STANDARD PUBLICATIONS, ENGINEERING DOCUMENTS, CDS, MWRA REPORTS, ONLINE SUBSCRIPTIONS, AND CIRCULATED PERIODICALS. THE LIBRARY FUNCTION IS CURRENTLY SUPPORTED BY THREE CUSTOM DEVELOPED APPLICATIONS, USING OUTDATED AND UNSUPPORTED PRODUCTS. TWO APPLICATIONS WERE DEVELOPED IN 2002 AND ONE IN 2006. THE EXISTING LIBRARY SPECIFIC APPLICATIONS NEED TO BE REPLACED WITH AN INTEGRATED SOLUTION THAT MEETS THE LIBRARY'S REQUIREMENTS AND AT THE SAME TIME ELIMINATE FURTHER INTERNAL PROGRAMMING EFFORTS. AFTER A THOROUGH REVIEW OF SIX SOFTWARE PRODUCTS, MIS AND LIBRARY STAFF RECOMMEND THE PURCHASE OF INMAGIC PRESTO AS THE SOFTWARE THAT WILL FULFILL ALL THE LIBRARY NEEDS AND TECHNICAL REQUIREMENTS.	WRA-3980Q ITS42		ENPOINT TECHNOLOGIES, INC.	$62,615.00
P-16.	4/29/15	**QUALITY ASSURANCE DIVING SERVICES** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR QUALITY ASSURANCE DIVERS NEEDED FOR MWRA'S INVASIVE AQUATIC PLANT CONTROL (DIVER ASSISTED SUCTION HARVESTING OR DASH) CONTRACT AT STILLWATER BASIN IN THE WACHUSETT RESERVOIR. STAFF HAVE DETERMINED THAT REPEATED ANNUAL DASH WORK IS REQUIRED TO REDUCE THE INVASIVE PLANT POPULATIONS TO ALLOW NATIVE PLANTS TO RETURN AND FLOURISH. TO ENSURE THAT ALL OF THE DASH WORK IS COMPLETED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CONTRACT, AND TO ENSURE MAXIMUM SUCCESS OF MWRA'S INVASIVES REMOVAL EFFORTS, STAFF RECOMMEND THAT MWRA AGAIN AWARD A SEPARATE CONTRACT FOR DIVING SERVICES TO PERFORM A QUALITY CONTROL FUNCTION OVERSEEING THE DASH WORK. MWRA HAS EMPLOYED THIS STRATEGY IN THE PAST. THE RECOMMENDED CONTRACT WILL HAVE A DIVER VISUALLY INSPECT THE COMPLETED WORK ZONES OF THE DASH CONTRACTOR ON A WEEKLY BASIS TO ASSESS REMOVAL EFFORTS.	WRA-3992		APEX COMPANIES, LLC	$52,992.00
P-17.	4/29/15	**20 POWER LINE CONDITIONERS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 20 POWER LINE CONDITIONERS FOR THE DEER ISLAND TREATMENT PLANT. POWER LINE CONDITIONERS ARE INSTALLED THROUGHOUT THE ELECTRICAL DISTRIBUTION SYSTEM ON DEER ISLAND TO ENSURE THAT "CLEAN" POWER IS DELIVERED TO SENSITIVE ELECTRICAL EQUIPMENT. DEER ISLAND HAS TWO POWER LINE CONDITIONERS INSTALLED AT EACH OF THE 47 DISTRIBUTED PROCESS UNITS (DPUS). INFORMATION OBTAINED THROUGH THESE DPUS IS FED INTO THE PROCESS INFORMATION AND CONTROL SYSTEM (PICS). THE POWER LINE CONDITIONERS CURRENTLY IN OPERATION ARE APPROACHING 20 YEARS OLD. DUE TO AGE AND THE STRESSFUL CONDITIONS UNDER WHICH THEY OPERATE, THE UNITS ARE NOW SHOWING SIGNS OF DETERIORATION. SEVERAL OF THESE UNITS HAVE RECENTLY FAILED AND HAVE BEEN REPLACED. STAFF RECOMMEND THE PURCHASE OF AN ADDITIONAL 20 POWER LINE CONDITIONERS FOR IMMEDIATE (AND SOME SPARE) REPLACEMENTS.	WRA-3983		US ELECTRICAL SERVICES, INC.	$55,200.00
P-18.	4/29/15	**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-4003		JCI JONES CHEMICALS, INC.	$153,450.00
P-19.	4/30/15	**COMPUTER CENTER ENVIRONMENT SUPPORT SERVICES** AWARD OF A THREE YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER TO PROVIDE COMPUTER CENTER ENVIRONMENT SUPPORT SERVICES. THE COMPUTER CENTER AT THE MWRA'S CHELSEA FACILITY IS SUPPORTED BY AIR CONDITIONING EQUIPMENT, BATTERY POWERED UPS SYSTEM, POWER DISTRIBUTION UNITS, AND AN INERGEN FIRE PROTECTION SYSTEM. THE MWRA CHELSEA FACILITY IS SEEKING A THREE YEAR PURCHASE ORDER CONTRACT FOR EMERGENCY RESPONSE AND PREVENTIVE MAINTENANCE SERVICES ON THESE POWER AND ENVIRONMENTAL SYSTEMS. THIS CONTRACT PROVIDES ANNUAL, SEMI-ANNUAL, AND QUARTERLY PREVENTATIVE MAINTENANCE.	WRA-3981		ELECTRONIC ENVIRONMENTS CORP.	$86,985.00

POSITION CONTROL REGISTER (PCR) LOCATION CHANGES APRIL 2015

DATE OF CHANGE	POSITION TITLE	CURRENT PCR#	CURRENT COST CENTER	NEW PCR #	NEW COST CENTER	REASON FOR CHANGE
5/18/2015	Electrician	5470076	Equipment General	3396026	Equipment Maintenance	To meet staffing needs for western electrical maintenance.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May13, 2015
SUBJECT: MWRA Maintenance and Asset Protection Programs

COMMITTEE: Administration, Finance & Audit

_X_ INFORMATION
____ VOTE

John P. Vetere, Deputy Chief Operating Officer
Carolyn M. Fiore, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Director, Planning & Sustainability
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

This staff summary presents an overview of MWRA's maintenance program. From MWRA's inception, prioritized maintenance of the water and sewer infrastructure entrusted to MWRA has been a major initiative. The goal of MWRA's maintenance program is to ensure that all necessary maintenance is identified, prioritized, and performed to ensure reliable water and wastewater services to protect public health and the environment. Staff will also provide an overview presentation of key aspects of the program at this meeting. Staff are presenting a second staff summary at this meeting recommending the award of a contract to upgrade MWRA's computerized maintenance management system, Maximo. Maximo is an integral part of MWRA's maintenance program providing the planning, scheduling, and tracking tools for all maintenance activities.

RECOMMENDATION:

For information only.

BACKGROUND:

MWRA has developed and implemented a well-structured, robust maintenance and asset protection program that includes predictive, preventive, and corrective maintenance, condition monitoring and assessments, as well as, capital rehabilitation and replacement. The program is guided by rigorous planning processes, including the Master Plan, the Capital Improvement Program, and the Current Expense Budget. These processes, together with continuous staff updates, such as the Orange Notebook Performance Measures, provide the Board of Directors and MWRA the Advisory Board opportunities to review and direct staff efforts related to maintenance and asset management.

What Does MWRA Own?

MWRA assets are located in an area of more than 800 square miles, spanning from the Chicopee Valley to Boston Harbor. MWRA owns and maintains approximately 120,000 individual pieces of equipment. The focus of the agency's overall asset maintenance strategy is to utilize industry-best practices to extend equipment and facility life, to ensure MWRA's ability to continuously provide safe drinking water and environmentally appropriate wastewater transport and treatment, and to protect the ratepayers' investment in those assets.

MWRA's water system has more than 200 separate facilities, including the John J. Carroll Water Treatment Plant, with a capacity of 405 million gallons per day (mgd), the William A. Brutsch Water Disinfection Facility, with a capacity of 16 mgd, 11 pump stations, and 14 below- or above-ground storage tanks. The water transmission system has 105 miles of active tunnels and aqueducts (mostly 10 to 14 feet in diameter), 39 miles of standby aqueducts, and 36 tunnel shaft structures and associated valve chambers.

Nash Hill Water Storage Tanks

UV Reactors at the William A. Brutsch Water Disinfection Facility

There are four hydroelectric generators, which take advantage of the flow of water downhill from the reservoirs toward the metropolitan area, and there are 20 Real-Time Water Quality Monitoring Stations. The metropolitan distribution system has 285 miles of pipeline (mostly ranging in size from 24 to 60 inches in diameter), 2,092 main line valves to control flow, 1,206 blow-off valves to dewater pipes, 1,335 air release valves, and 48 control valves.

There are 233 flow meters, including 28 active master meters, to monitor flow in MWRA's facilities, and 167 revenue meters to record flow into community systems. MWRA also has responsibility for 17 dams at its six emergency reservoirs within the metropolitan area, and shares responsibility with the Department of Conservation and Recreation (DCR) for the nine major dams, dikes and spillways at the Quabbin and Wachusett Reservoirs.

MWRA's wastewater system has 65 facilities, including two treatment plants, the Deer Island Treatment Plant, with a capacity of 1.27 billion gallons per day, and the Clinton Advanced Wastewater Treatment Plant, with a capacity of 12 million gallons per day. There are 13 pumping stations, a screen house and four remote head works, four Combined Sewer Overflow (CSO) facilities, and two CSO storage facilities.

The system includes the 9.5-mile-long Deer Island outfall tunnel and emergency outfalls at both Deer Island and Nut Island, 23 miles of tunnels, 61 siphons with a total of over 7 miles of piping, and 240 miles of interceptors and appurtenant facilities, including 4,175 structures (manholes, head houses, vaults, chambers). Flow within the wastewater system is measured by 208 meters including 188 revenue meters.

Cryogentic Oxygen Facility at the Deer Island Treatment Plant

Fixed Cover of One of Two Digesters at the Clinton Advanced Wastewater Treatment Plant

The Chelsea Administration and Maintenance Buildings, the Southborough Operations and Maintenance Facilities, and the Barre Maintenance Facility are also maintained by MWRA staff. MWRA also manages a fleet of 490 vehicles that includes excavators, cranes, vactor trucks, bucket machines, portable generators and pumps, dump trucks, front-end loaders, backhoes, heavy- and light-duty trucks, and SUV and passenger vehicles. MWRA's fleet has had a high rate of vehicle availability (an average of 97% for FY14), which ensured adequate vehicles were available for all snow plowing during the past winter and allowed MWRA to provide assistance to communities in need.

These statistics only begin to tell the whole story. Within each water and wastewater facility are a multitude of individual components that must be tracked and managed. For example, a pumping station has multiple individual pumps, each with a motor, gear box, shafts and the pump itself. Electrical equipment will include transformers, motor controls, variable frequency drive equipment, monitoring instrumentation, both local and SCADA controls, communication equipment, lighting, and HVAC equipment. Wastewater pumping stations also include screens, grinders, and odor control equipment. Availability is enhanced at many facilities with back-up power generators and on-site fuel storage. Facilities are interconnected by telephone, radio, and microwave communication links, and are monitored and controlled at MWRA's central Operations Control Centers, which also contain additional equipment requiring monitoring, regular updating, and maintenance.

In addition, maintenance of the Pelletizing Plant in Quincy, the Union Park CSO Facility, the Marlborough Warehouse, and three wind turbines is performed under contracted services.

DISCUSSION:

Facility Asset Management Program (FAMP)

Since 1985, when MWRA was created to assume responsibility for the water and wastewater systems from the MDC, MWRA has developed systems, added resources, trained staff, and established an agency culture to place a high priority on maintaining pre-existing and new assets to prevent the system from falling back into disrepair. MWRA's formalized asset management program, based upon industry-best practices, began in 2000 when MWRA adopted a new maintenance approach called Reliability Centered Maintenance, which became a major component of the agency's maintenance approach. This component, in turn, is supported by other program features such as an expanded condition monitoring program (vibration, temperature, oil analysis, etc.) and an enhanced use of a computer maintenance management system; in MWRA's case – Maximo. MWRA also established planning and scheduling positions to assist in efficient maintenance activities. MWRA's FAMP program identified and implemented industry-best practices for maintenance throughout MWRA. Benchmarking of public, private, and industrial organizations throughout FAMP implementation was also completed.

The components or building blocks of the FAMP program are shown below:

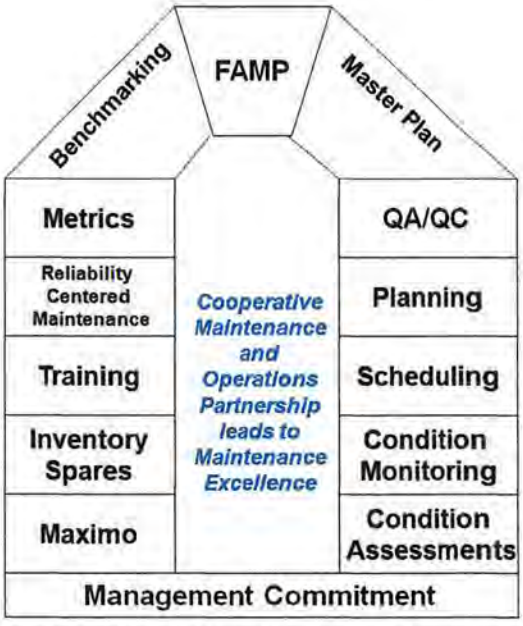


Figure 1. MWRA' S Faculty Asset Management Program

Reliability Centered Maintenance

The use of Reliability Centered Maintenance (RCM) methods at MWRA provide the backbone for the maintenance program. The RCM approach is to review the preventive maintenance program for all assets to ensure that the correct maintenance activities are completed and to identify assets where condition monitoring can be beneficial. The use of condition monitoring

techniques, such as vibration, acoustic ultrasonic, infrared thermography, leak detection, and TV inspection are used to identify potential failures, thereby providing staff with sufficient time to plan to correct these issues prior to failure.

Proper planning and scheduling of work is needed to execute:

- preventive maintenance work orders;
- predictive maintenance work orders;
- corrective and project work orders; and
- emergency work orders.

To complete daily maintenance activities, the correct and adequate inventory and spare parts need to be available, the correct work activities need to be planned, and work needs to be scheduled to balance the work load at appropriate maintenance intervals. The formation of work coordination groups at MWRA, considered an industry-best practice, has been successful in supporting MWRA's overall maintenance goals. MWRA completes more than 67,000 work orders per year.

As shown in Figure 2 below, 33% of craft hours are spent on preventive and predictive maintenance and 67% of craft hours are spent on corrective and project maintenance. The work order and craft hour distribution follows industry-best practices. As shown in Figure 3 below, 78% of work orders are for preventive and predictive maintenance, 22% are for corrective maintenance, and only 0.1% are for emergency work orders. The implementation of maintenance best practices and a fully developed predictive and preventive maintenance program has resulted in minimal emergency maintenance.

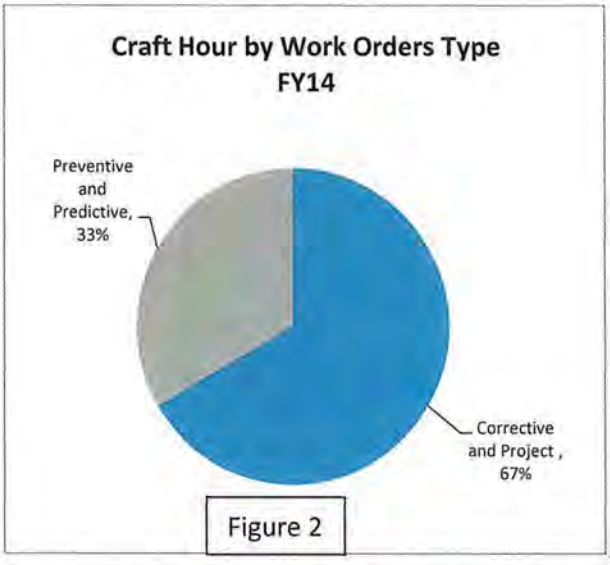


Figure 2

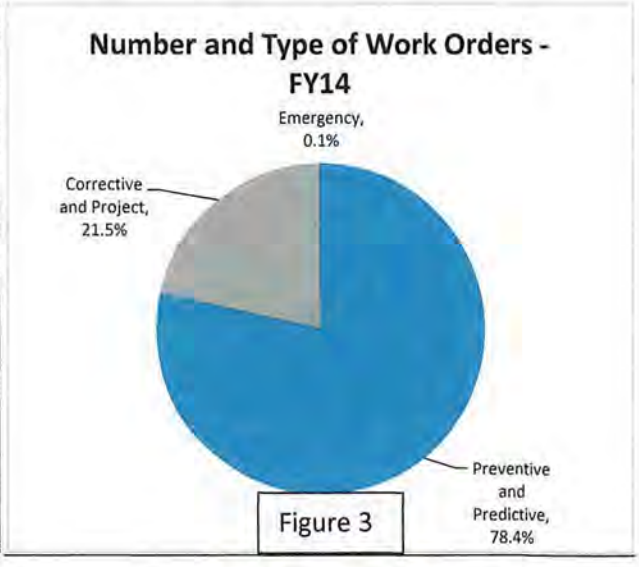


Figure 3

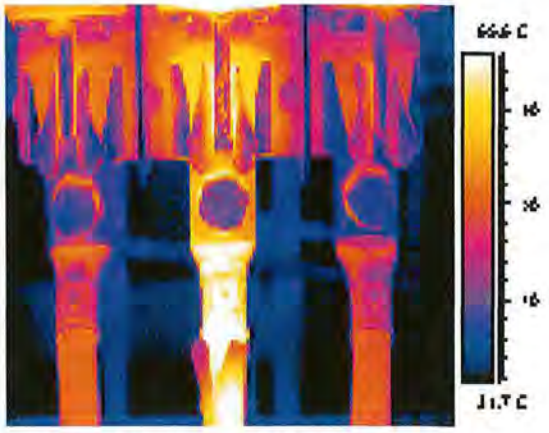
Condition Monitoring

The likelihood of failure of a key piece of equipment is not just based on age, calendar time, or run time, but on specific measurable condition characteristics. Condition Monitoring focuses resources on monitoring the condition of key assets with specialized techniques, not just spending time and money on preventive maintenance on the basis of a schedule tied to time alone, or waiting until it a failure has occurred.

MWRA staff use a variety of condition assessment tools and techniques to determine how well pieces of equipment are operating, and to determine what and when maintenance activities should occur. The techniques are also used as part of the process to determine when replacement is more cost effective than continued repair. All the information collected as part of condition assessments is captured and stored within Maximo, GIS, or other specialized databases.

For equipment and materials, these techniques can include:

- electrical testing
- thermal imaging (see figure to the right)
- infrared temperature
- vibration analysis
- acoustical ultrasound
- lubrication or coolant analysis
- ultrasonic thickness testing
- laser alignment



Thermal Imagaing of Electrical Connections; White Area Reflects Overheating from Bad Connection

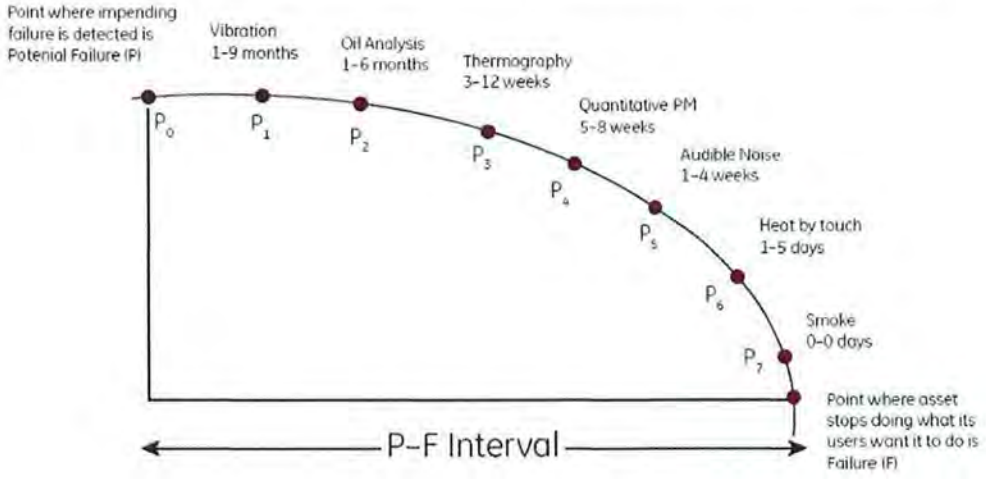
For water and wastewater pipes, these techniques can include:

- TV inspection of pipe interiors for wastewater piping
- acoustical or correlation leak detection for water pipes
- cathodic protection testing of corrosion potential

For valves, valve exercising provides both a condition assessment – is the valve fully or partially operable? – as well as preventative maintenance – operating the valve regularly helps ensure that it will be operable when needed and not frozen in position.

Computerized hydraulic modeling of water and wastewater systems can also provide valuable information about the condition and capacity of pipe network elements.

The figure below, taken from a Water Environment Research Foundation case study of MWRA's maintenance program, shows how various condition monitoring techniques can detect a potential equipment problem before it occurs. Corrective actions can be scheduled and follow-up monitoring performed. If corrective actions do not remediate the problem, equipment replacement or more intensive maintenance can be scheduled before the asset fails.



One example of using condition assessment to ensure proper operation, while avoiding unnecessary expense, is oil analysis and lubrication filtering. Rather than routinely changing lubricating oil on a schedule, regular testing of the condition of the oil, and filtering out contaminants as needed, greatly extends the life of the oil, while decreasing labor and materials costs.

Acoustic Ultrasonic Checking of a Bearing

Infrared monitoring of steam traps has been able to detect traps that were stuck open, wasting steam. Acoustic ultrasound testing has been able to detect potential problems with bearings, which can be resolved before damage occurs. In some cases, laser alignment checking revealed couplings in poor condition and shaft misalignment, which staff were able to remedy prior to costly damage to the pump itself.

Aligning a Pump

Condition Monitoring has been invaluable in identifying equipment replacements to be added to the Capital and Expense budgets prior to equipment failures. Some examples include, electrical equipment replacements (transformers, bus duct, switchgear) at both Deer Island and Metro facilities from electrical testing results; water pipeline repairs/replacements from leak detection; wastewater pipeline replacements from internal TV inspection; and various equipment replacements (pumps, compressors, gearboxes) from vibration and acoustic ultrasonic testing.

Condition Assessments

Condition assessments identify areas, assets or facilities that require upgrade. These are completed on a periodic basis by engineering firms or MWRA's engineering staff based on the expected useful life. The assessments can be at the facility level or component level.

Facility condition assessments are completed as identified in the Master Plan. Areas targeted by the Master Plan include facilities that are close to the end of their useful life. These assessments and upgrades are critical to maintaining facility reliability and availability so that water and wastewater systems meet all public health, environmental, and permit requirements. Condition assessments are completed by MWRA engineering staff or specialized consultants to determine the current condition of equipment and facilities, and identify any upgrades necessary to extend facility life. Typically, upgrades identified as result of condition assessments are budgeted and implemented under the Capital Improvement Program.

Component level assessments include items such as coatings, roofing, gearboxes, and pumps. As a result of coating and roofing assessments, projects are added to the CIP or CEB to repair or replace these components. Gearboxes and pumps are assessed by industry experts to determine the condition and then are repaired or replaced.

Some current projects include: the Prison Point Pump and Gearbox Replacement; Headworks Upgrades, Caruso Pump Station HVAC and Generator Replacement, Deer Island North Main Pump Station Motor and VFD Replacement, and Chemical Feed Pump Replacements and Upgrades to Piping Systems at the Carroll Water Treatment Plant (to optimize pump reliability and chemical dosing control).

MWRA owns and maintains a wastewater transport system that includes approximately 277 miles of interceptors comprised of 220 miles of gravity mains; 18 miles of force mains; 6 miles of siphons; 19 miles of tunnels; and 14 miles of outfalls. Approximately 29% of the system is 51 to 100 years old, and 33% is 101 to 125 years old. The life cycle commonly cited in industry literature as the average useful life of sewer pipes is 100 years[1]. To ensure the availability of this system, the wastewater pipelines are periodically internally TV-inspected to determine their condition and are graded. This grade, along with the pipe age, type, risk, and consequence of failure, is used to add these pipelines to the CIP for replacement.

Staff Training

As part of MWRA's maintenance optimization efforts, operations and maintenance staff were cross-trained, and multi-disciplinary teams were developed to increase efficiency, break down trade silos to improve team work, and to speed up work completion. Light maintenance tasks are now included in the job descriptions of all trades and operations staff. The team format increases efficiency by reducing down time waiting for specific trades to support a multi-discipline work order. In addition, light maintenance, such as HVAC filter changes, light bulb replacements, and lubrication, are now assigned to an area maintenance team and/or operations, not to a specific trade. This allows flexibility to assign these tasks to any one of a number of staff based upon availability, and the priorities of the week or day.

Light maintenance task orders performed by operations staff have increased from less than 2% in FY02, prior to implementation of cross-training and the optimization program, to approximately 7% in FY14, authority-wide, with more than 10,000 hours of preventive maintenance completed by operations staff. Operations staff completing preventive maintenance has allowed maintenance staff more work time to resolve maintenance issues. Monthly status on this metric is tracked in the Yellow Notebook and long-term progress is presented at the end of each fiscal year.

1 This excludes tunnels and outfalls, the useful lives of which are generally longer than that of the other components of the interceptor system, but which are not well defined. The 2013 Master Plans recommend that condition of both the water and wastewater tunnels be evaluated.

Maintenance Tracking and Reporting

An important element of a successful maintenance program is the creation and use of key performance indicators to track compliance and progress with program goals. MWRA has had an aggressive system of transparently reporting on high-level performance measures for many years in the monthly and quarterly *Key Indicators of MWRA Performance* reports (the Yellow and Orange Notebooks). The monthly (Yellow) report is posted on MWRA's internal intranet site for use by staff and management, and the quarterly report (Orange) is provided to the Board and also posted on MWRA's internet site. Approximately three dozen key indicators related specifically to maintenance are reported on each month. These include indicators of equipment availability, predictive and preventative maintenance task orders, and backlog. Inspection and maintenance of interceptors and water mains, valves, and meters are reported on with targets set each fiscal year. The quarterly Orange Notebook is the subject of a separate staff summary being presented at this meeting.

The staff who schedule maintenance activities receive weekly and monthly reports of the predictive and preventative maintenance activities that must be conducted during that period from the Maximo system, and use those reports to direct staff and equipment each day. Daily reports of work accomplished, staff hours, and other resources expended, are fed back into Maximo to track progress and cost. These can be used to adjust the expected necessary effort for similar tasks going forward.

Daily and weekly equipment availability reports, and reports of control system alarms are used each week to review system performance, identify potential issues, and establish or modify work order priorities.

At the end of each year, staff review progress toward longer-term goals with multi-year reviews of key performance indicators and establish targets for the next fiscal year. MWRA also provides an extensive report each fall to EPA on the prior fiscal year's wastewater system maintenance activities as required by MWRA's NPDES permit.

The following are examples of the type of year-end statistics that are reported on maintenance:

- 99.9% of all preventative maintenance work orders were completed in FY14. Preventive and predictive maintenance work has increased from FY98 to FY14. Emergency Maintenance is 0.1% of all work orders; 40 total emergency work orders were completed in FY14.
- 7,787 predictive maintenance work orders were completed in FY14. Predictive Maintenance work includes vibration, acoustic ultrasonic, ultrasonic thickness, and oil analysis, and is proactive maintenance work to extend equipment useful life by monitoring and trending equipment characteristics. Predictive maintenance work orders have increase from 2% of all work orders in FY04 to more than 11% of all work orders in FY14.

Inventory: How Does MWRA Track What It Owns?

MWRA uses a combination of several tools to manage the inventory of its assets and plan for maintenance. Linear assets, such as the water and wastewater pipe networks, are mapped and tracked with MWRA's Geographic Information System (GIS). The location and attributes of each section of pipe and associated appurtenances are recorded in GIS, including information on size, materials, and condition. The data on the pipe networks in GIS is linked to the computerized simulation models used to understand system operations and plan for improvements. Changes in GIS can be fed directly to those models to keep them up to date. To facilitate easy access to more detailed information about the networks, record plans and detail records (close-up drawings of valves and other appurtenances) are linked to GIS and can be accessed by engineering or operations staff in the office or in the field.

Facilities, equipment, and vehicles are tracked through Maximo, an IBM product. Use of Maximo began on Deer Island in 1995 and has since been extended to almost all other water and wastewater facilities. Approximately 120,000 individual pieces of equipment across MWRA's water and wastewater systems are tracked and managed by Maximo. Some specialized assets, such as MIS equipment and assets in facilities such as the Pelletizing Plant and the Union Park CSO facility that are operated under contract, are currently tracked in separate systems.

The Maximo software is used for work order management, planning and scheduling, asset management, resource management, recording of maintenance costs, and generation of reports and analyses. Maximo contains the historical record for all maintenance activities, thus allowing staff to better address a problem with a facility, or a specific asset group. It includes job plan features that allow users to document safety requirements for hazardous materials and areas, including lockout/tag-out procedures and confined space entry requirements. Maximo provides document management capabilities to streamline maintenance and regulatory reporting functions.

Each asset record includes specific information about that specific item, such as a pump, an instrument, a valve, or a motor. This includes data on the manufacturer, the model, date installed, size, and related operational information. The complete maintenance history is recorded, as well as results of all previously completed condition analyses. The asset record includes schedules for predictive maintenance activities, such as vibration analysis, schedules for preventative maintenance activities, and can include information on what materials and staff are needed for each activity and the expected time required.

Quality Assurance and Quality Control of the Maximo data, and the planning and scheduling processes, are completed regularly. MWRA's Internal Audit Department has completed several rigorous reviews of the Maximo data and the maintenance processes that resulted in improvements to the use and scheduling of work. In addition, maintenance managers audit the work in progress, and planners and schedulers audit completed work and Maximo data.

As maintenance activities occur on a specific piece of equipment, or as condition monitoring is conducted, that information is put into the Maximo record to facilitate future maintenance planning as discussed below. The Maximo software and the data it contains are the heart of MWRA's maintenance and asset protection strategy.

MWRA is proposing to upgrade Maximo to the latest release (from version 5.2 to 7.6) and purchase additional modules. The upgrade project will provide additional functionality for staff, and will also involve combining the two separate Maximo applications (one at Deer Island and the other for the rest of MWRA's water and sewer systems), as well as adding the Clinton Advanced Wastewater Treatment Plant into a single multi-site system. MIS assets will also be added. As mentioned earlier, a separate staff summary is being presented at this meeting for the Maximo upgrade.

Maintenance Planning and Scheduling

Maximo is used to provide work orders to staff daily to complete the highest priority corrective and project work, along with preventive and predictive maintenance. Maximo is used daily by all maintenance staff and is a critical part of the success of the maintenance program. Maximo, with the guidance of the work coordination center staff, facilitates the timely and efficient maintenance work management process. Maximo provides other benefits, including quick and easy reporting, equipment maintenance history, detailed work order record of materials and services, and ensures that preventive maintenance is scheduled and tracked.

The bedrock of maintenance management is a sound work order system. Knowledge and control of the tasks to be performed are essential to all functions. For all MWRA maintenance groups, the source of this information is the Maximo work order system. An effective work order system screens out duplication or unnecessary work, establishes responsibility by attaching a group and supervisor, provides work order information, an avenue to control maintenance work, an understanding for technicians on what is needed to be done, a means to track labor, materials, tools and any outside services costs. This information can be displayed in reports to document or track status of all maintenance. For example, backlog, preventive maintenance compliance, predictive maintenance compliance, and budget information are metrics that are developed and monitored from Maximo data.

Maintenance schedules are developed and entered into the Maximo system, or are modified over time in several ways. During the construction of new or rehabilitated facilities, each construction contract requires a review the equipment operation and instruction manuals to identify the preventive maintenance tasks to be completed to protect equipment warranties. These preventive maintenance tasks are provided electronically and entered into Maximo and then used to initially issue preventative maintenance work orders. Over time, these initial schedules may be modified by staff based on a review of how the systems or equipment operates, looking at the consequences of failure, and condition assessment findings. Initially, the computerized maintenance management system approach was implemented at Deer Island, and at other new

facilities, but over time, almost all other existing assets have been incorporated into the system, with maintenance schedules based on industry-best practices or MWRA's experience.

An important observation as MWRA was developing its overall asset management and maintenance programs was that simply accepting the manufacturer's maintenance schedules did not necessarily best serve MWRA's interests. The manufacturer issuing a warranty benefits by making conservative recommendations for the maintenance of its product, thus reducing its risk that a claim will be made. To implement the manufacturer's recommended maintenance on each piece of equipment in a working plant without consideration of its working environment, operational frequency, or consequences of failure, is inefficient and not cost effective. MWRA has implemented Reliability Centered Maintenance for plant components to optimize the workload associated with preventative maintenance without increasing the risk of failure. The use of the RCM model has resulted in additional condition monitoring techniques such as vibration analysis, oil analysis, and infrared testing.

Who Performs Maintenance?

The majority of maintenance of MWRA assets is completed by in-house staff. More than 40% of all MWRA employees or 491 total positions (See Table 1 below) work to support maintenance. Staff dedicated to maintenance include maintenance managers, planners and schedulers, condition monitoring staff, electricians, M&O specialists, instrumentation specialists, SCADA staff, plumbers, facility specialists, building and grounds staff, water and wastewater pipe maintenance, valve inspection, meter maintenance, machinists, welders, laborers, vehicle repair staff, and warehouse support. As a result of successful partnering with MWRA's unions through the collective barging process, Operators perform "light maintenance" allowing for more "wrench time" by the skilled trades and cross-functional training and responsibilities have been implemented.

Table 1
MWRA Maintenance Staff

Function	Department	Number of Staff
Deer Island	Facility Maintenance	4
	Grounds Maintenance	17
	Equipment Maintenance	105
	Planning and Scheduling	9
	Condition Monitoring	3
Water Operations	Valve Maintenance and Inspection	12
	Pipeline Maintenance	23
	Water Pipeline Inspection and Leak Detection	9

Metropolitan Maintenance	Facility Maintenance	18
	Grounds Maintenance	17
	Wastewater Pipeline	23
	Equipment Maintenance	58
	Planning and Scheduling	11
Western Operations	Facility Maintenance	12
	Grounds Maintenance	30
	Equipment Maintenance	32
	Planning and Scheduling	2
SCADA	Water	21
	Wastewater	9
Metering	Maintenance	17
	Data Analysis	7
Chelsea Facility	Facility Maintenance	10
Fleet Services	Vehicle Maintenance	11
Clinton	Maintenance staff	3
Warehouse	Materials Management	28
TOTAL		491

Operating a Vactor Truck

Masonry Work on a Manhole

Repairing Cupola Roof on the Foss Reservoir Gatehouse

Replacing the Catalyst on an Ozone Destruct Unit at the Carroll Water Treatment Plant

Where specialized training, experience, and tools are required, or if the need for services is one time or intermittent, or where the maintenance services are outside of MWRA's core business activities, MWRA has relied on contractors to support maintenance (See Table 2 below). Some of the contractor services include elevators, cranes, overhead doors, trash removal, hydraulic equipment, centrifuges, steam turbine generators, boilers, cryogenic oxygen generation, ozone generators, and combustion turbine generators. These services account for between $13 to $16 million per year or approximately 50% of the maintenance materials and services budget.

Table 2 **Major Service Contracts**	
Laser alignment	Landscape services
Boiler maintenance	Locksmith services
CCTV maintenance	Lube oil analysis
Centrifuge maintenance	Manhole Rehabilitation
Combustion Turbine Generator maintenance	Oil separator cleaning
Continuous emissions monitoring	Overhead door maintenance
Catch Basin Contract	Painting
Copier/fax maintenance	Pest control
Crane maintenance	Plant instrumentation and control system (PICs) maintenance
Cryogenic Oxygen facility maintenance	Pipe Cleaning
Digester Mixer overhauls	Pratt Whitney Preferred service
Electrical testing	Reactor Mixer gearbox rebuild
Elevator maintenance	Recycle contract (Scrap/Paper)
Facilities coatings	Security
Fire alarm	Slide Gate repairs
HVAC chemical treatment (*Legionella* testing)	Steam turbine generator maintenance
Hydro turbine generator maintenance	Trash removal
Hydraulic maintenance	Vibration analysis
Invasive Control	Wastewater metering
Janitorial services	Water tank cleaning
Lab hood certification	Water meter flow testing
Lab instrument repairs	

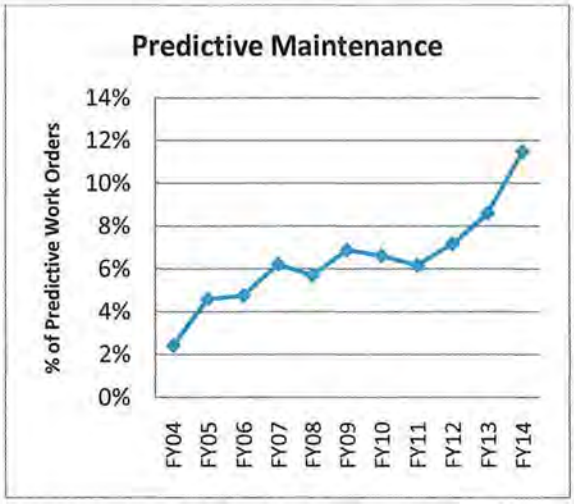
Master Plan

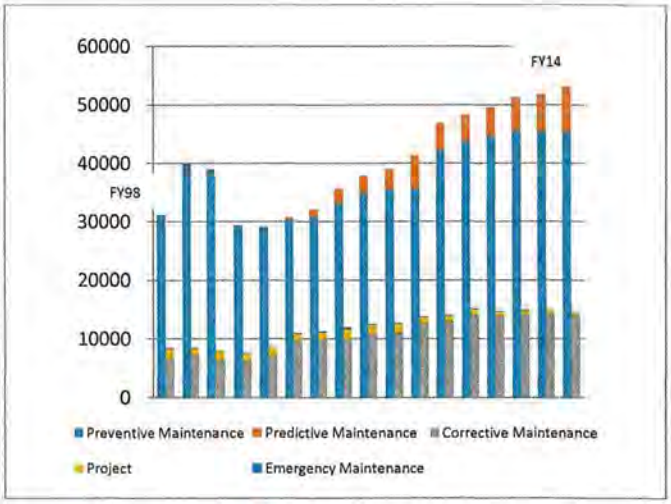
MWRA's Master Plan includes details of long-term asset protection projects. These projects are projected to be needed based upon age and condition of facility and infrastructure assets. Short-term and long-term replacements are identified. The use of condition assessments is critical to determine when and what assets require replacement. These assessments are completed by engineering firms or internal MWRA engineering staff on an ongoing basis to determine what replacements and improvements are necessary to extend the asset life. These plans are incorporated into MWRA's budget.

In summary, MWRA's FAMP program consists of all of the components described above. The key to the success of the FAMP program has been an agency-wide (management, union, operations, maintenance, engineering and support staff) commitment to ensure all equipment and infrastructure assets are well maintained and meet operational requirements.

Is Enough Maintenance Being Done?

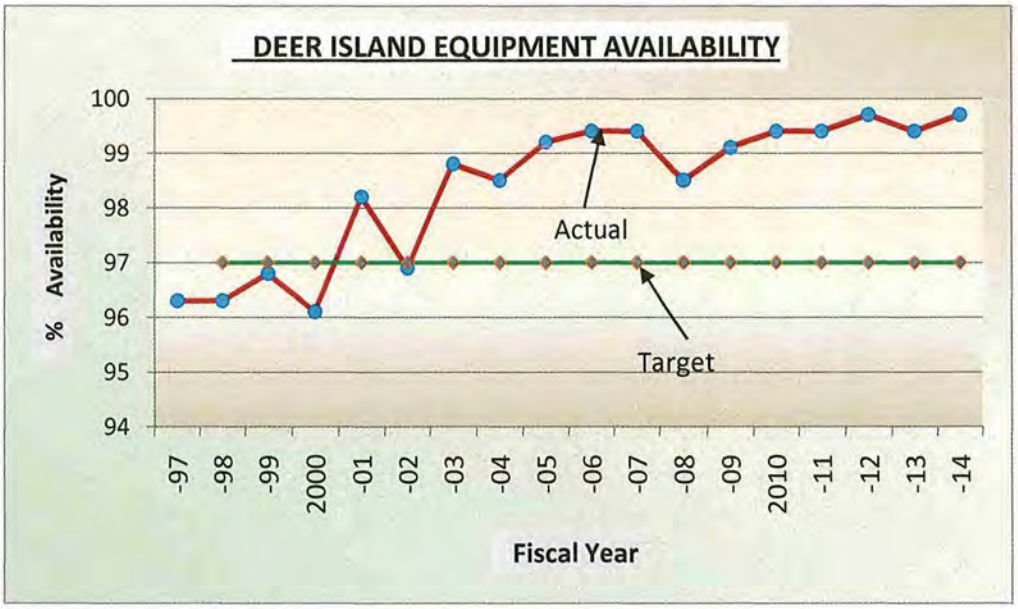
MWRA senior staff reviews the status of maintenance and operation of all water and wastewater facilities by the use of extensive metrics in the Yellow and Orange Notebooks. Thirty-six maintenance metrics were developed by benchmarking best practices for all areas of MWRA. The maintenance metrics for MWRA's maintenance program support that the correct and adequate maintenance is being completed. These metrics demonstrate preventive and predictive maintenance compliance at industry-best levels, and maintenance backlogs remain within industry standards.



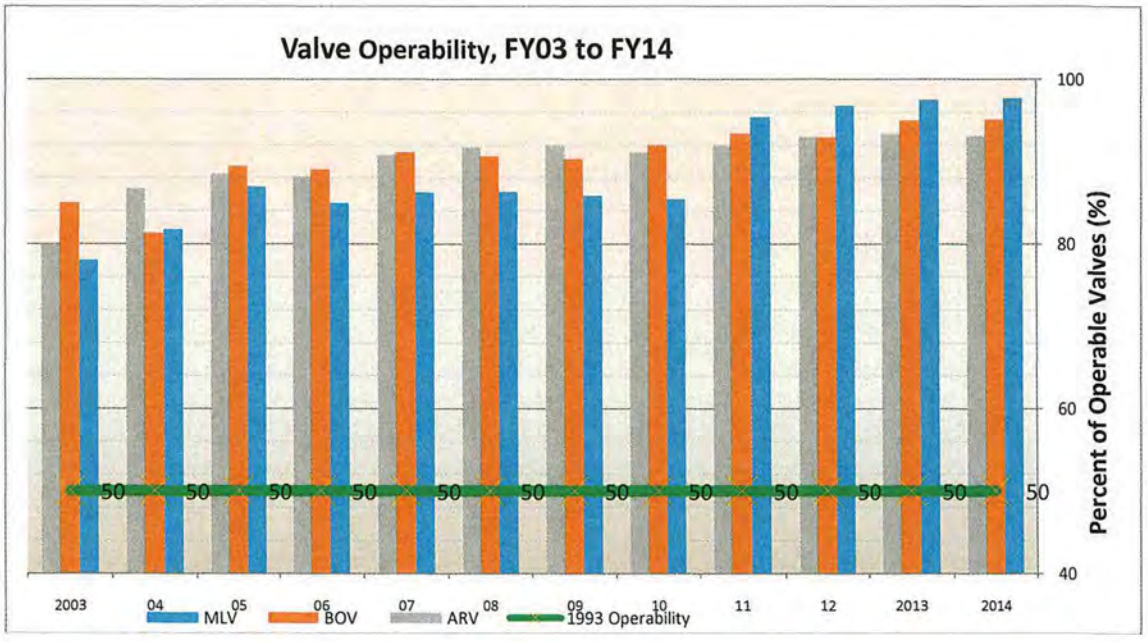


More importantly, MWRA historically has maintained a high level of equipment availability for operations. At each major facility, regular feedback from facility operators is used to supplement the scheduled work orders generated by the maintenance system. For example, at Deer Island, an equipment availability report is generated daily that details the critical equipment required to treat the maximum flow of 1.3 billion gallons per day. Higher maintenance priority is assigned to equipment that drops below the number required, and work orders are rescheduled to return to 100%. During FY14, critical equipment availability averaged 99.6%. Deer Island has been better than the industry-best practice benchmark of 97% for each of the past nine years.

The critical equipment for wastewater collection and transport to Deer Island includes pumps and screens in the pump stations, CSOs, the screen house, and headworks. Operational staff evaluate the availability of critical equipment on a daily basis and report on a weekly basis. The critical equipment availability for FY14 for "off-island" wastewater facilities was 99.98%.



On the water side, MWRA has experienced essentially 100% critical equipment (treatment and pump station) availability due to both the practice of redundancy and effective maintenance. Valves are used to control water in every water distribution system, allowing flow re-direction, and both planned and emergency shutdowns. Valve operability is one key measure of the health of the water distribution system. MWRA has more than 5,000 valves in its system. When MWRA began to evaluate its distribution system in the early 1990s, only about half of the valves were found to be operable making emergency and planned shutdowns difficult and disruptive to customers. Since that time, hundreds of valves have been replaced. Valve maintenance staff perform regular valve exercising to maximize the operability of the valves and have been very successful repairing broken valves when encountered in the field. The target for main line valve operability has steadily increased from 84% in FY03 to 95%. Targets for the three other classes of valves have also been increased to 95%.



These maintenance efforts have pushed valve operability to their highest point in the last 25 years. There are 2,092 main line valves that control the flow of water in the distribution pipelines and isolate flow in and around pump stations, tanks, and reservoirs. These are the most critical category of valves, and their operability is now 97.7%, up from approximately only 50% in 1993 only 78% in FY03.

As a result of MWRA's structured and well-resourced maintenance program, MWRA has been able to provide reliable water and wastewater services and meets all federal and state regulatory requirements. The taste and safety of the drinking water has improved, as has the water quality of Boston Harbor and its major tributaries.

Outside Maintenance Reviews

MWRA's maintenance program has been recognized nationally and locally as a leader. MWRA received the 2002 NACWA National Asset Management Award, the 2004 MRO software (Maximo provider) Strategic Asset Management Best Practices Award, and in 2007, the NEWEA Asset Management Award. MWRA has provided presentations and site visits to discuss asset management for utilities across the United States and from foreign countries, leading industries, and local agencies. Foreign visitors have ranged from Japan, Northern Ireland, Australia, and Israel. Wastewater utility visits included Detroit, Seattle, King County, Gwinett County, Cape Fear, and Jacksonville. Industries that visited included Intel, Gillette, Cargill, P&H Mining, and Wentworth University. State agencies included Massport, Mass Department of Transportation, and the Boston Water and Sewer Commission. MWRA is considered a leader in implementing maintenance and asset management best practices that are recognized beyond just the water and wastewater industry.

MWRA's facilities and maintenance program were reviewed in October 2014 by CDM and the Triennial Consulting Engineer Report, required by the General Bond Resolution, was issued. The report is considered by bond investors and rating agencies when determining bond ratings. The report states:

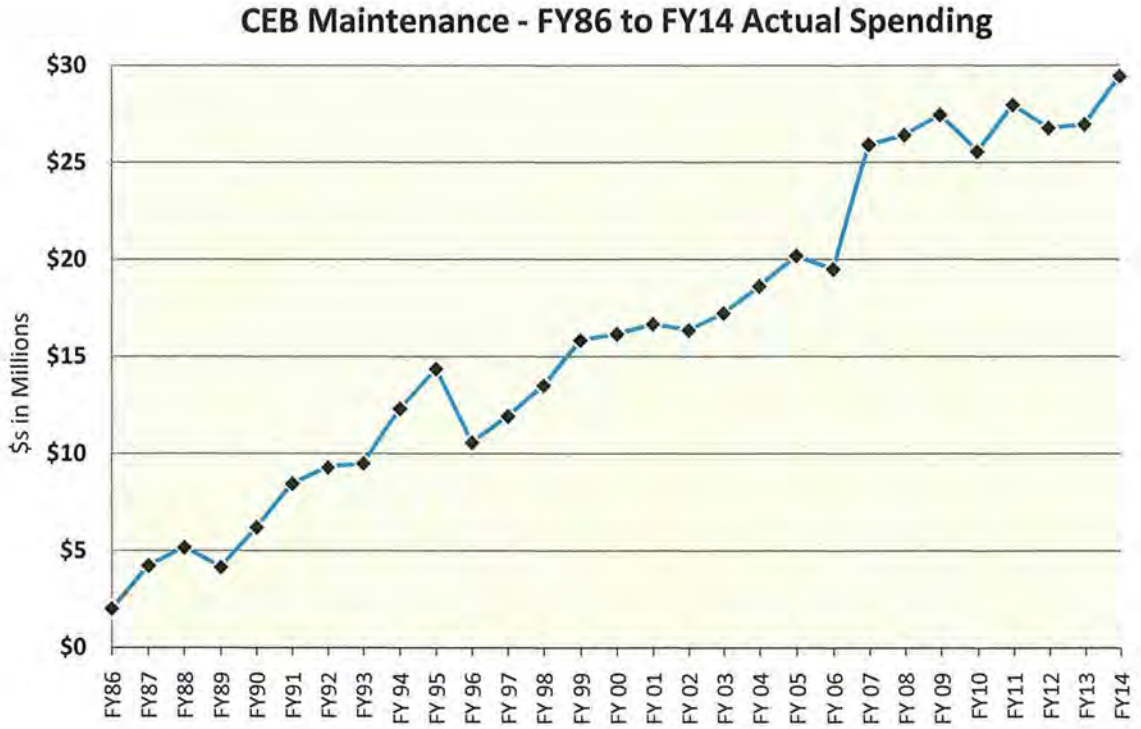
> "It is our opinion that the Authority facilities are all in operable condition and are well maintained. The Authority's senior management has in place a system for assessing the adequacy of staff, equipment and both capital and maintenance needs. Overall the Authority's staff understands that maintenance of the investment made in major capital projects, along with a continuous reassessment of how to efficiently operate the facilities, will optimize the useful life and minimize the cost to operate and maintain the Authority's Systems."

MWRA's Board of Directors directed staff to conduct two separate staffing studies to determine the appropriate staffing level for the agency. The most recent was completed by Amawalk Consulting Group, LLC May 2012. This report states:

> "The challenge that every utility faces is to achieve the balance of operating efficiently while at the same time investing an appropriate level of time and expense to maintain and enhance the infrastructure. The Authority's track record in providing reliable service and meeting its regulatory requirements indicates that the MWRA is placing a significant emphasis on maintenance and asset management while at the same time operating at very reasonable cost per MGD."

BUDGET/FISCAL IMPACTS:

MWRA has been committed to ensuring assets are well protected and replaced as needed by increasing spending on maintenance year to year. MWRA annual Current Expense Budget (CEB) and multi-year Capital Improvement Program (CIP) budget provide the funds necessary to conduct all maintenance on assets and provide for the periodic rehabilitation of assets and facilities as they reach the end of their useful life. MWRA, since its inception, has continued to increase maintenance spending in both the CEB and CIP. In FY16, $29 million in CEB funds is planned to be spent on maintenance. As shown below, CEB spending has increased from $2 million in FY86 to over $29 million in FY14 to support replacing components as necessary to maintain asset and facility condition. More than $469 million in CEB funding alone has been spent on maintenance during this time period.



As part of developing the annual Current Expense Budget, meetings are held each year with maintenance, operations, process control, and engineering staff to solicit information on the condition of assets and areas that are requiring additional maintenance. Staff feedback is critical to determining which assets require repair or replacement in the next fiscal year. This feedback provides a sense of ownership for the maintenance staff and ensures equipment materials or services are procured to keep the equipment operating.

In addition to protecting assets with regular assessment and maintenance, MWRA must plan for each assets eventual need for substantial rehabilitation or replacement. At some point it becomes more cost effective to rehabilitate or replace even well-maintained assets. Rehabilitation and replacement costs are budgeted as part of the Capital Improvement Plan, and the long-term need for capital spending is developed as part of the MWRA's Master Plans.

Capital spending at MWRA varies year by year and includes new facilities required to meet federal and state mandates, facilities to provide redundancy for water transmission and distribution to ensure uninterrupted water delivery, maintenance projects and other projects. Higher capital maintenance costs were initially spent by MWRA to "catch-up" on the lack of maintenance by MDC.

From 1985 to the present, approximately $1.5 billion of capital spending through the CIP has been devoted solely to maintenance (asset protection and rehabilitation) or an average of $54 million per year. These maintenance projects include projects such as water and wastewater pump station rehabilitation, rehabilitation or replacement of existing pipelines and interceptors, and replacement of equipment which had reached the end of its useful life, such as the $59 million Deer Island Primary and Secondary Clarifier Rehabilitation Project to replace the carbon steel chains and sprockets.

The $1.5 billion is in addition to the $6.7 billion spent for new facilities such as the Deer Island Treatment Plant, Combined Sewer Overflow facilities; the John J. Carroll Water Treatment Facility, the MetroWest Tunnel, Covered Water Storage Tanks, Water Redundancy Projects, Watershed Land Acquisition, Local I/I and Water Pipeline Financial Assistance, and other projects, although it can be argued that many of these facilities were necessary to allow for maintenance of existing facilities. For example, construction of the MetroWest Tunnel provided much needed redundancy for the Hultman Aqueduct, but it was also necessary to allow MWRA to repair the leaking Hultman Aqueduct.

As facilities built by MWRA such as Deer Island and the Carroll Water Treatment Plant or substantially rehabilitated such as the water pump stations age, it can be expected that even with regular preventive maintenance, equipment and portions of the plant will require periodic rehabilitation through the capital budget.

For future maintenance needs, MWRA's 2013 Water and Wastewater Master Plans provide a 20 to 40-year look ahead for system rehabilitation and replacement needs, including specific projects in the near term as well as appropriate asset and condition based allowances for more distant needs. The Master Plans document the investment needs of MWRA's regional water and wastewater systems over the next four decades (FY14-53) through the identification of 367 prioritized projects, most of which are maintenance projects. The Master Plans have been used in determining each year's CIP and in setting the CIP spending level caps.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: FY15 Third Quarter Orange Notebook

COMMITTEE: Administration, Finance & Audit

X INFORMATION
___ VOTE

Stephen Estes-Smargiassi, Director, Planning & Sustainability
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

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, maintenance, financial, workforce, and customer service parameters tracked by MWRA management each month. Significant outcomes for the third quarter are noted below.

Effects of Winter Weather on Key Performance Indicators

As was discussed in detail at the March Board meeting, while there were no impacts on water or wastewater system service during the series of record-breaking winter storms and extended extreme cold weather, many routine activities were delayed due to snow cover or to MWRA staff being diverted to snow removal activities.

Many of the routine maintenance activities such as leak surveys (Page 6), main line valve exercising (Page 7), and wastewater pipeline cleaning (Page 8), all suffered slowdowns during this quarter due to weather. With the disappearing snow and more seasonal weather, these activities are picking up in the current quarter, and staff will attempt to recover any slippage by the end of the fiscal year.

Deer Island plant flows were below average in January and February as much of the precipitation came in the form of snow that did not immediately melt. March was approximately typical on average, but with significantly higher flow in mid-March due to rainfall events and snow melt. (Page 1) While the March storms resulted in four blending events at Deer Island for a total of just over 36 hours of blending, the required 700 million gallons per day (mgd) of secondary capacity was available, and all secondary permit limits were met at all times. (Page 2)

As was discussed in March, the record breaking winter did result in increased overtime. Total overtime for the Operations Division for the third quarter was $1.3 million, which is $417,000

over budget. The portion of the overtime resulting from the successive snow storms and extreme cold weather totaled approximately $372,000. Year to date in FY15, overtime spending was $3.3 million, which was $628,000 over budget. (Pages 42, 5, and 9)

Deer Island Energy Use and Cost

The cost of electricity purchased at Deer Island during the third quarter (actuals for January and February) was 5.7% lower than budgeted, due mainly to lower-than-expected power usage during the quarter (primarily due to lower wastewater flows) even though the unit price for electricity was slightly (2.8%) over budget. (Page1) Year-to-date (through February), electricity costs are $1,527,111 (27.6%) lower than budgeted as the year-to-date Total Energy Unit Price and Total Power Purchased were both lower than budget by 13.3% and 9.2%, respectively. (Page1)

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

for

Third Quarter FY2015

Q1	Q2	Q3	Q4
		■	

Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
May 13, 2015

Board of Directors Report on Key Indicators of MWRA Performance
Third Quarter FY15

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

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

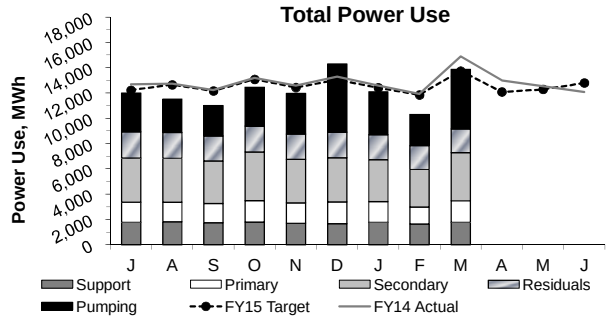
May 13, 2015

OPERATIONS AND MAINTENANCE

Deer Island Operations

3rd Quarter - FY15

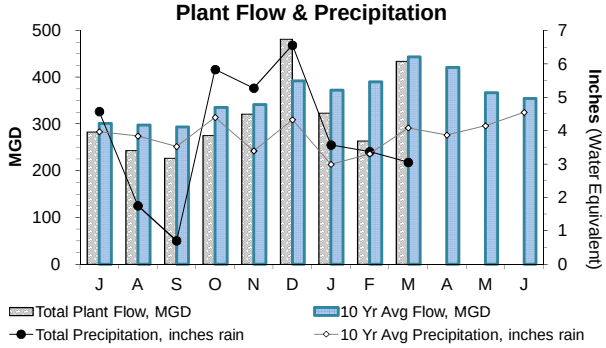
Total Power Use



Total Power Use in the 3rd Quarter was 4.5% below target as Total Plant Flow for the quarter was 7.6% below the 3 year average plant flow for the same period.

Note: Power usage projections are based on 3 year averages.

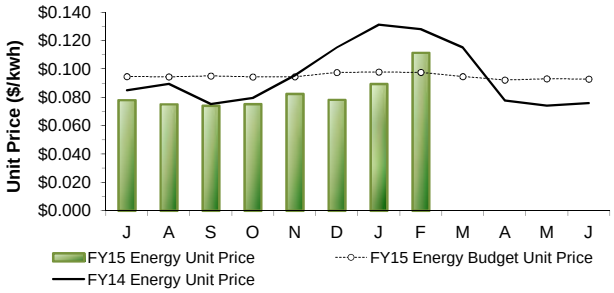
Plant Flow & Precipitation



Total Plant Flow for the 3rd Quarter was 15.2% below target with the 10 year average plant flow (340.5 MGD actual vs. 401.8 MGD expected) as precipitation for the 3rd Quarter was 4% lower than target (9.99 inches actual vs.10.38 inches expected). Nearly all the precipitation that fell in January through early March was in the form of snow which had little impact on plant flow. Significant rainfall and snowmelt due to rain and warmer temperatures did not impact plant flows until mid-March. Consequently, several new monthly low flow records were set in February.

Total Electricity Pricing

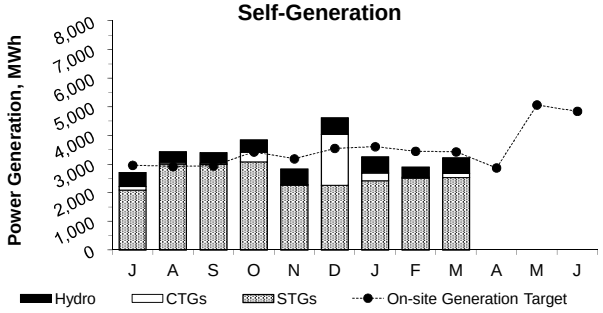
(includes spot energy price, ancillary costs, and NSTAR's transmission & distribution costs)



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 (actual only through February) was 2.8% higher than the FY15 budget estimate for the same period. The Total Energy Unit Prices for March is not yet available as the complete invoice for this month is still pending receipt as of reporting time. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

Note: Only the actual energy prices are being reported. Therefore, the data lags by one (1) month due to the timing of invoice receipt.

Self-Generation

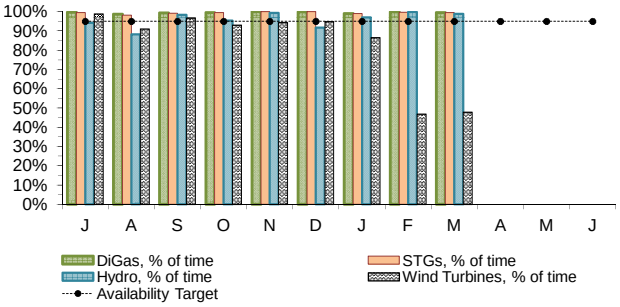


Power generated on-site during the 3rd Quarter was 4.5% lower than target. The STG power generation was 5% below target as the DiGas BTU content was slightly lower than expected in January possibly due to slightly lower solids destruction in the digesters for the month. The Hydro Turbines were also 5% lower than target as the 3-year average plant flow was 7.6% below target. The CTGs generated nearly twice as much power as expected this quarter mainly due to CTGs operation from January 26 -27 (during Blizzard Juno as a precautionary measure in case of power loss from high wind conditions) and in March for Opacity Testing and corrective maintenance on a water injection issue.

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 129.2 MWh was generated by the Solar Panels and 493.9 MWh was generated by the Wind Turbines in the 3rd Quarter .

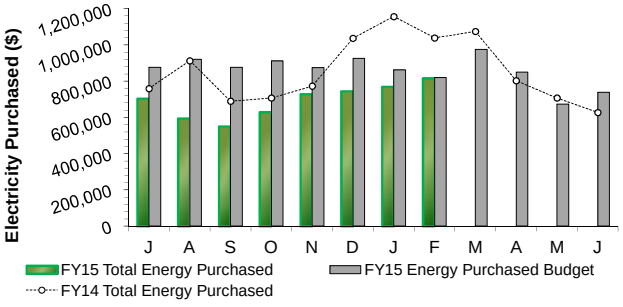
Self-Generation Equipment On-Line

(% of Time in Operation)



The DiGas, STGs, and Hydro Turbines, all met or exceeded the 95% availability target for the 3rd Quarter. Wind Turbine availability fell below target as Wind Turbine #2 has remained offline since January 25 pending repairs to the main power cable.

Total Cost of Electricity

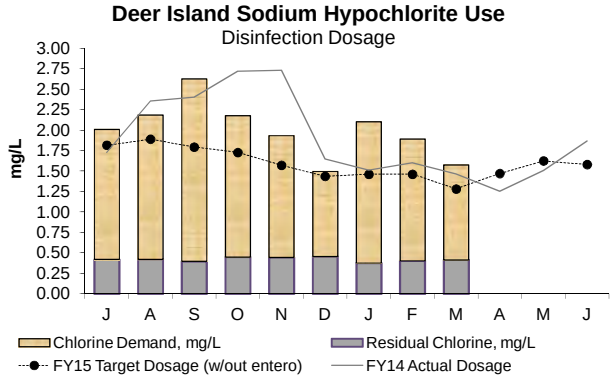


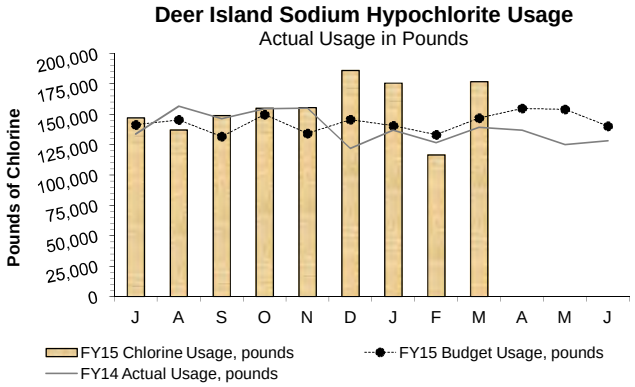
The cost of electricity Purchased during the 3rd quarter (actuals for January and February only) was 5.7% lower than budgeted due mainly to lower than expected power usage in the quarter. Year-to-date costs are $1,527,111 (27.6%) lower than budgeted (actuals only) as the year-to-date Total Energy Unit Price and Total Power Purchased are both lower than budgeted by 13.3% and 9.2%.

Note: Only months with complete Electricity Purchased data are being reported. Therefore, the data lags by one (1) month due to the timing of invoice receipt.

Deer Island Operations

3rd Quarter - FY15





The disinfection dosing rate in the 3rd Quarter was 33% higher than the target. DITP maintained an average disinfection chlorine residual of 0.40 mg/L this quarter with an average dosing rate of 1.86 mg/L (as chlorine demand was 1.46 mg/L). Dosing was higher-than-expected in January and February due to a higher chlorine demand as a result of stronger wastewater caused by the lower-than-expected plant flows during these months, followed by high dosing during several heavy rain events coupled with significant snow melt which contributed to the activation of several lengthy secondary blending events in March. As a result, the actual hypochlorite usage in pounds of chlorine was 11.6% higher than the target for the quarter.

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	99.4%	8.50
A	1	1	0	99.95%	1.90
S	0	0	0	100.0%	0.00
O	1	1	0	98.5%	11.82
N	4	4	0	99.5%	9.99
D	5	5	0	94.5%	72.22
J	1	1	0	99.98%	1.73
F	0	0	0	100.0%	0.00
M	4	4	0	99.2%	36.05
A					
M					
J					
Total	18	18	0	98.7%	142.21

99.7% of all flows were treated at full secondary in the 3rd Quarter. There were a total of five (5) separate secondary blending events in the quarter; all due to high plant flows resulting from heavy rain, sometimes combined with significant snow melt. The five (5) blending events combined produced a total of 37.78 hours of blending and 106.70 Mgal of flow blended with secondary effluent. The Maximum Secondary Capacity for the quarter was 700 MGD.

Secondary permit limits were met at all times during the 3rd Quarter of FY15.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

In the 3rd Quarter, the plant achieved a maximum average hourly flow rate of 922.7 MGD during the late evening of March 26. Plant flows were impacted by considerable snow melt during the rain event on this day. Pumping and treatment operations at DITP continued without incident throughout the entire quarter even as a record blizzard and several near-blizzards passed through the region in February.

Boston's total seasonal snowfall record was broken after 2.9 inches of snow fell on March 15. A total of 108.6 inches of snow fell at Boston's Logan Airport for the 2014-2015 season as of midnight on March 16 which broke the previous record of 107.6 inches set in the 1995-1996 season.

Even though a record breaking amount of snow fell, little to no snow melt occurred this quarter until mid-March due to below average cold temperatures. As a result, the monthly plant flows were not impacted by the near target amount of precipitation this quarter until mid-March and there were no significant spikes in the maximum daily plant flow this quarter except in early January (as a result of a rain event) and not again until mid-March (due to rain coupled with snow melt).

Deer Island Operations & Maintenance Report (continued)

Environmental/Pumping (continued):

Consequently, three (3) February low flow records were broken this quarter:

Total Plant Flow – 263.94 MGD in February (previous February record was 293.92 MGD in 2012)
North System Flow – 173.30 MGD in February (previous February record was 189.93 MGD in 2012)
South System Flow – 90.64 MGD in February (previous February record was 98.62 MGD in 2007)

Primary and Secondary Treatment:

Progress on the major Primary and Secondary Scum Tip Tube Replacement Project that began on June 2 continued through Q3. The primary scope of this project is to replace 88 of the 96 primary treatment tip tubes, 72 treatment tip tubes in Secondary Batteries A and B, and modification of 36 secondary tip tubes in Secondary Battery C. The contractor is limited by the construction documents to working in no more than four (4) primary clarifiers (preferably limited to one battery) and three (3) secondary clarifiers (one or two per battery to minimize capacity constraints so as to not reduce the overall secondary capacity). Construction was approximately 67.0% complete for the primary clarifiers and 39.0% complete for the secondary clarifiers by the end of the quarter. The contract is currently on schedule and functional testing is on-going. While the contract is currently on schedule, progress was limited, especially in January and February, due to the unprecedented winter conditions.

Energy and Thermal Power Plant:

Solar power generation accounted for 1.29% (129.2 MWh) and Wind Turbine generation accounted for 4.93% (493.9 MWh) of the total power generated on-site in the 3rd Quarter. Overall, total power generated on-site accounted for 27.6% of Deer Island's total power use for the quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 26.3% of Deer Island's total electrical power use for the quarter.

CTG-2B maintenance major audit began on January 12 and required the unit to be taken out of service through January 16 once all the major maintenance was completed. The contractor worked extended shifts to complete this major work in a compressed timeframe. Additional minor non-invasive work was performed on Saturday and Sunday (January 17-18). CTG-1A, which completed the same maintenance in October 2014, remained available for operation during the entire period of the CTG-2B maintenance work.

DITP experienced a sudden unanticipated power loss to the Bus B-side of the treatment plant electrical system at approximately 1:30 pm on Saturday, February 28 which resulted in the temporary shutdown of approximately half of the equipment in operation at the time, including several pumps, secondary mixers, the cryogenic oxygen plant, the Thermal Power Plant, the Hydro Turbine, and several odor control treatment systems. Power was restored to all operational equipment and areas that were impacted by this power loss by being placed on the Bus A-side of the electrical system (which remained operational through the entire event). Equipment around the plant was re-energized in order of operational priority and there were no negative impacts to the treatment process as a result of this power loss.

The power loss was determined to have occurred due to one of the main breakers tripping open to protect equipment from a perceived hazard. DITP staff and specialty contractors investigated the area around the tripped breaker to determine the cause of the trip. DITP's electrical contractor thoroughly tested the relays and meters around the breaker. All equipment successfully passed the testing and was found to be operating as designed. DITP electrical staff and speciality contractors found there were two (2) loose connections between the transformers (which measure voltage) and the main bus. Staff believe that these loose wires could have led to false signals being received at the breaker, which could have caused it to trip, stopping all power feed to the B side of the DITP electrical grid. Staff believe this is the most likely cause of the breaker trip. The connections were tightened and the system was put back in its normal operating mode.

As a follow up to the unanticipated power loss, staff and electrical contractors rigorously inspected and tested the PTs ("potential transformers") in the Main Switchgear for both the Bus B- and Bus A-sides of the electrical system in March. The inspection for Bus B took place on March 3 and on March 10 for Bus A. No interruption to plant process equipment occurred and at least one CTG unit was available during the inspection periods. All devices inspected were working properly and no additional loose connections were found.

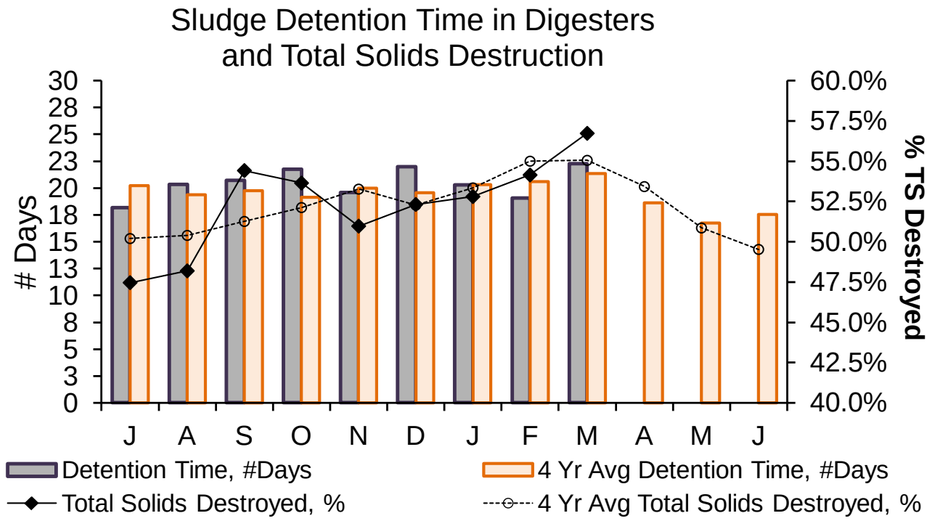
Opacity testing for each CTG unit was completed on March 11 as part of the annual regulatory requirements for emissions reporting on the CTGs and the results of this test demonstrated the units were in compliance. The test requires each CTG to be operated (one at a time) at full load for one hour. A water injection issue, however, did occur while CTG-1A was operating at full load which did not have any impact on the Opacity testing. Staff working with the assistance of the manufacturer was able to troubleshoot and affect the necessary repairs to the CTG by the next day. The CTG was operated at full load without issue, as a post-repair check, after the Water Injection Mod Valve was recalibrated.

Clinton AWWTP:

Construction of the primary tanks 3 and 4 which began July 1st 2014 continued with the installation of the mechanical components of the tanks. The tanks were put back in service on April 1, 2015 and have been running without incident. The basement of the digester building was waterproofed around perimeter. Electrical contractors started installation of security card readers on entry doors of all buildings and nine surveillance cameras have been installed at various locations around the plant.

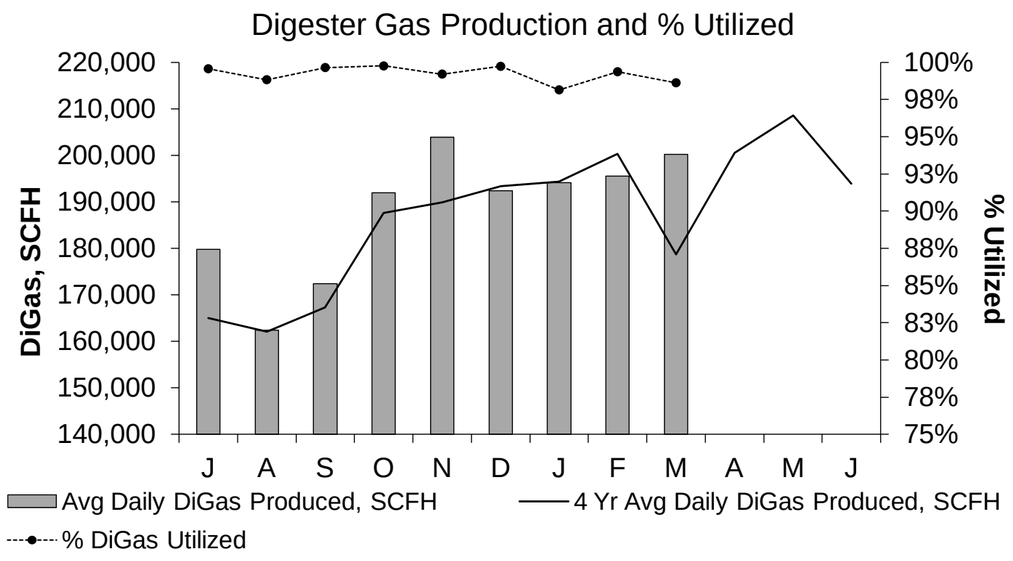
Deer Island Operations and Residuals

3rd Quarter - FY15



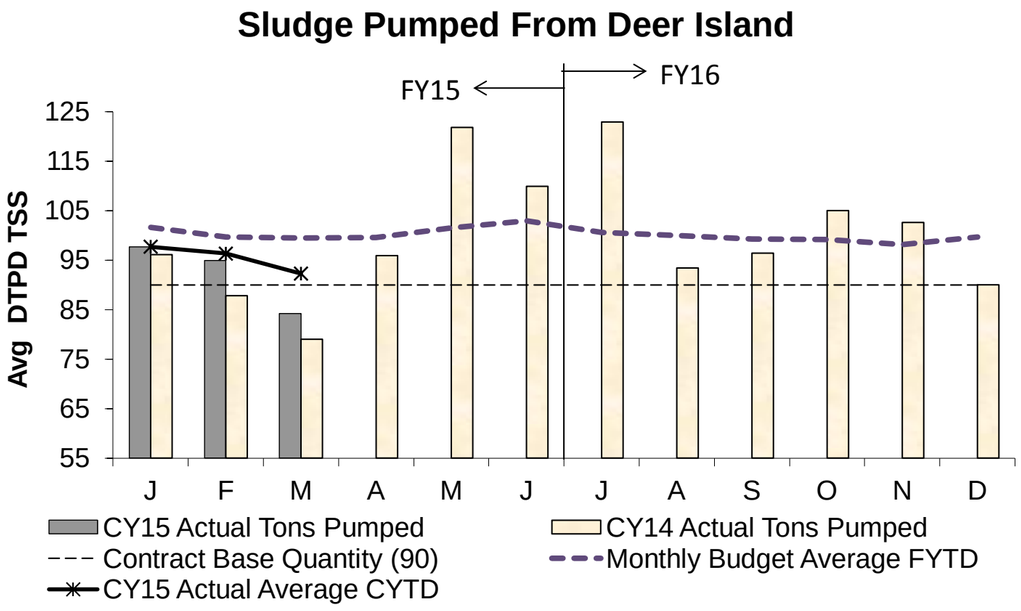
Total solids (TS) destruction following anaerobic sludge digestion averaged 54.6% during the 3rd Quarter, similar to the 4 year average of 54.5%. The sludge detention time in the digesters of 20.6 days was on target with the 4 year average of 20.8 days as DI operated with an average of 8.0 digesters during the 3rd Quarter.

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.

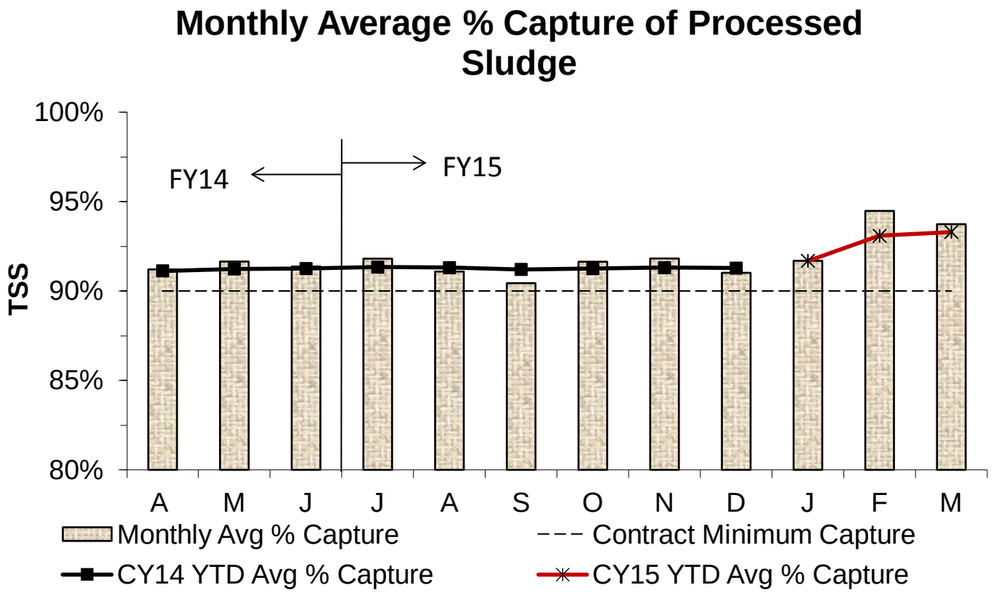


The Avg Daily DiGas Production in the 3rd Quarter was 2.9% higher than the target 4 Year Avg Daily DiGas Production for the same period. On average, 98.7% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant.

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 (FY15's budget is 102.9 DTPD/TSS).



The average total quantity of sludge pumped in the 3rd Quarter of FY15 was 95.4 DTPD - lower than FY15's average budget of 102.9 DTPD. The lower amount is due to lower sludge production as a result of colder weather and higher solids destruction.



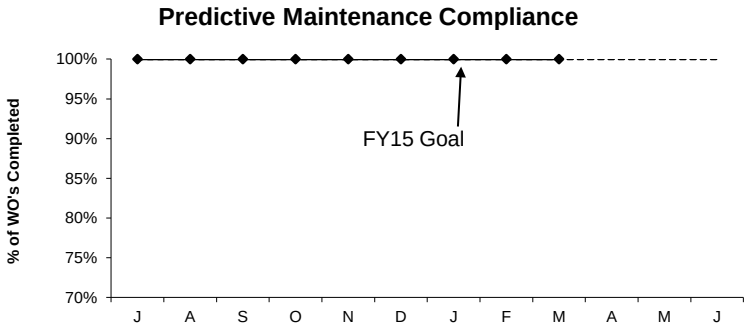
The contract requires NEFCo to capture at least 90% of the solids delivered to the Biosolids Processing Facility in Quincy. The CY15 YTD average capture is 92.69%

Deer Island Maintenance

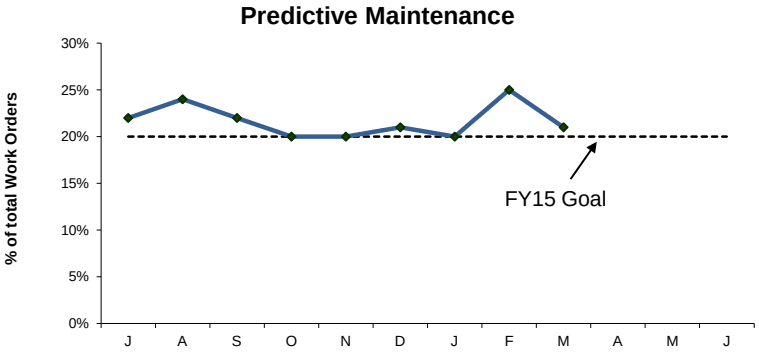
3rd Quarter FY 15

Productivity Initiatives

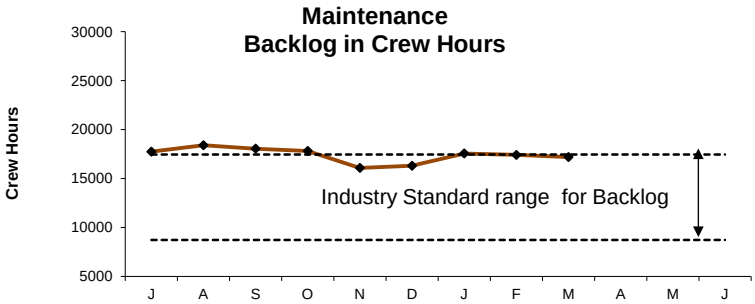
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.



Deer Island's FY15 predictive maintenance goal is 100%. DITP completed 100% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program.



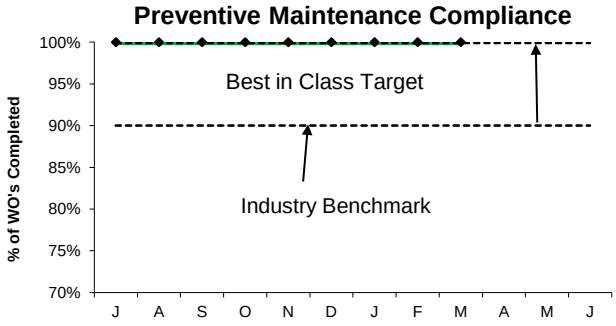
Deer Island's FY15 predictive maintenance goal is 20% of all work orders to be predictive. 22% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.



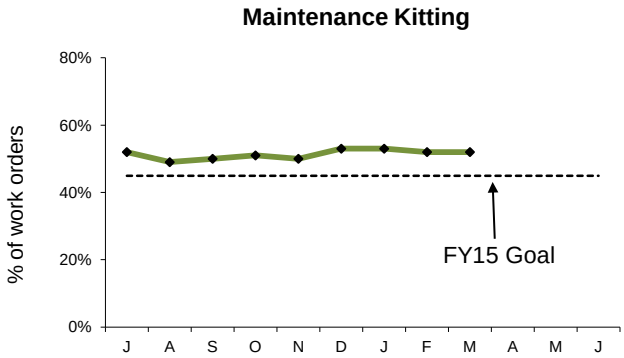
DITP's maintenance backlog at Deer Island is 17,398 hours this quarter. DITP is within the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by three vacancies, an HVAC Technician, a Welder/Fabricator, and an M&O Specialist. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

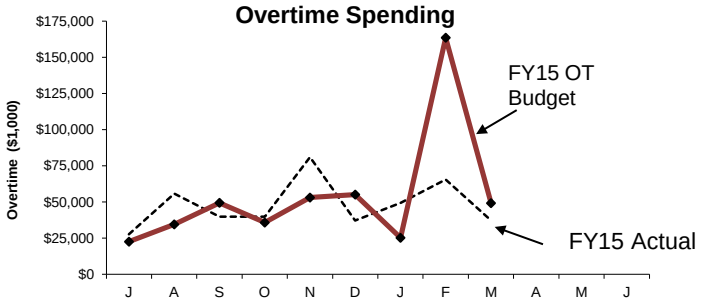
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.



Deer Island's FY15 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 FY15 maintenance kitting goal is 45% of all work orders to be kitted. 51% 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.



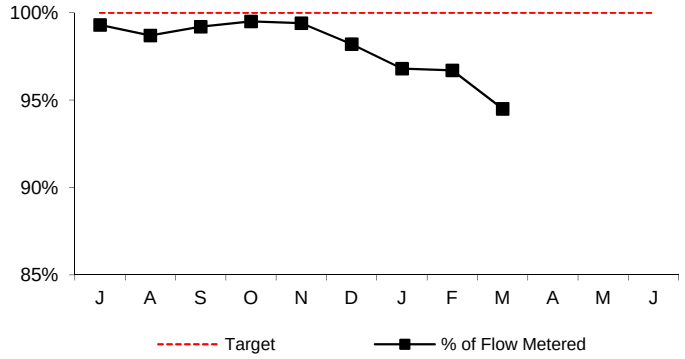
Maintenance overtime was over budget by $86K this quarter and $55k over for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarters overtime overtime was predominately used for installation of new HVAC units and coil replacements throughout Deer Island, the Blizzard of February 2015, numerous snow storms, and high flow coverage.

Operations Division Metering

3rd Quarter - FY15

WATER METERS

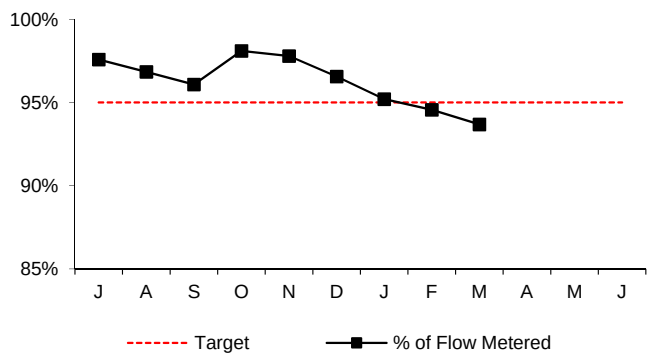
Percent of Total Revenue Water Deliveries Calculated Using Meters



The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During the 3rd Quarter of FY15, meter actuals accounted for 96.90% of flow; only 3.10% of total revenue water deliveries were estimated. The following is the breakdown of reasons for estimations:
In-house and Capital Construction Projects - 2.37%
Instrumentation Failure - 0.73

WASTEWATER METERS

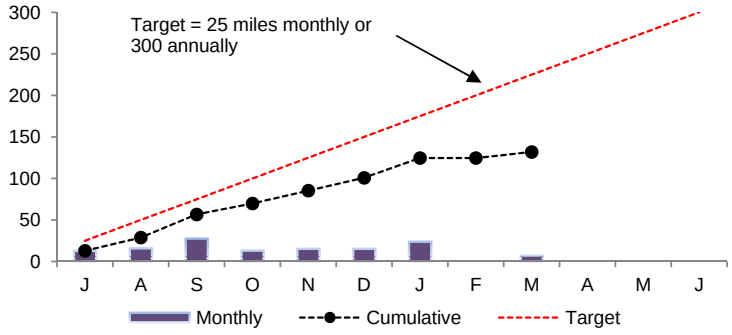
Percent of Total Wastewater Transport Calculated Using Meters



The target for revenue wastewater transport calculated using meters is 95%. Estimates are generated for meters missing data due to instrument failure and/or erratic meter behavior. Estimates are produced using data from previous time periods under similar flow conditions. During the 3rd Quarter of FY15, meter actuals accounted for 94.5% of flow; 5.5% of wastewater transport was estimated.

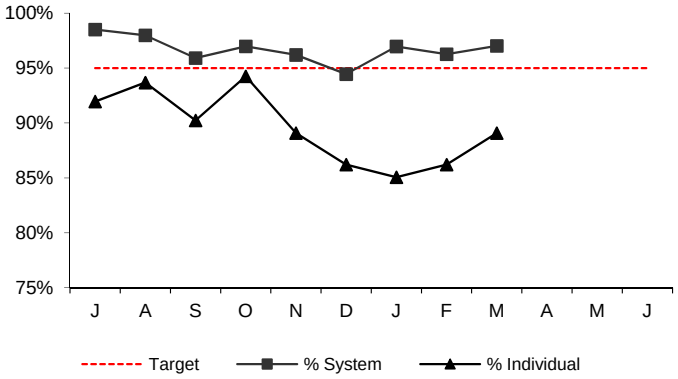
WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



Due to record breaking snowfall totals during the 3rd Q of FY15, only 31.10 miles of water mains were inspected. The total inspected for the fiscal year is 131.93

% Wastewater Meter Uptime



During the 3rd Quarter of FY15,out of a possible 1,503,360 data points, only 48,613 points were missed resulting in a system-wide up time of 96.8%. Of the 174 revenue meters installed, on average 23 experienced down time greater than the 5% target resulting in a 86.8% individual meter uptime. For the 3rd Quarter of FY15, down time for a individual meter is defined by any individual meter having less than 2,736 data points out of a potential 2,880 data points.

Water Distribution System

Month	J	A	S	O	N	D	J	F	M	A	M	J
Leaks Detected	6	1	7	5	2	1	4	0	1			
Leaks Repaired	8	1	1	4	7	3	1	0	1			
Backlog	4	4	10	11	6	4	7	7	7			
Avg. Lag Time	12.9	22.4	24.5	31.9	38.7	41.4	43.0	48.6	53.7			

During the 3rd Quarter of FY15, five (5) new leaks were detected : two in West Roxbury, two in Dorchester and one in Revere. The leak in Revere was detected on March 13th and repaired the same day. Additionally, Comm. Ave. @ Mass Pike, Newton was also repaired. The other four leaks detected during the 3rd Quarter of FY15 remain unrepaired.

At the end of the 3rd Quarter there are seven (7) leaks that need to be repaired: four (4) from the 3rd Quarter, one (1) from the 2nd Quarter, (1) one from the 1st Quarter and one (1) from the 4th Quarter of FY14. With the exception of the leak carried over from FY14, the remaining unrepaired leaks are due in large part to a Winter moratorium that is in effect until April 15th for all non-surfacing leaks. The remaining leak from FY14 is the second leak on the GE Bridge, Revere/Lynn line. This leak remains unrepaired due to an extensive coordination of resources including the rental of a barge.

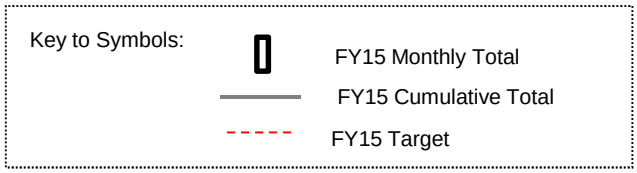
Water Distribution System Valves

3rd Quarter - FY15

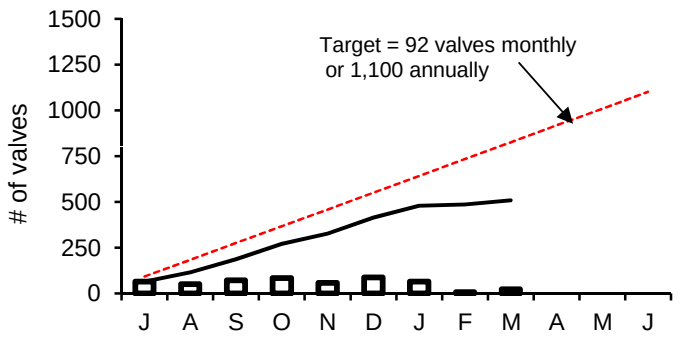
Background

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	
		FY15 to Date	FY15 Targets
Main Line Valves	2,159	96.1%	95%
Blow-Off Valves	1,317	91.9%	95%
Air Release Valves	1,380	91.6%	95%
Control Valves	49	100.0%	95%

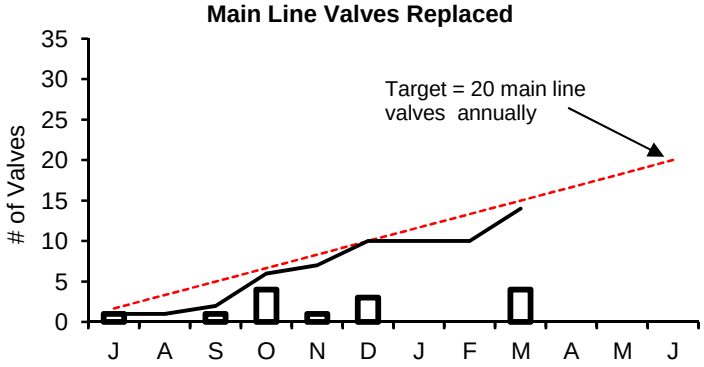


Main Line Valves Exercised



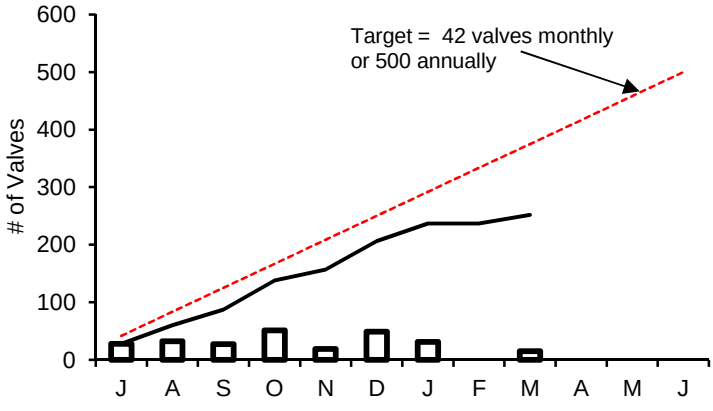
Due to record breaking snowfall totals during the 3rd Q of FY15, staff only exercised 94 main line valves. The total for the fiscal year to date is 508.

Main Line Valves Replaced



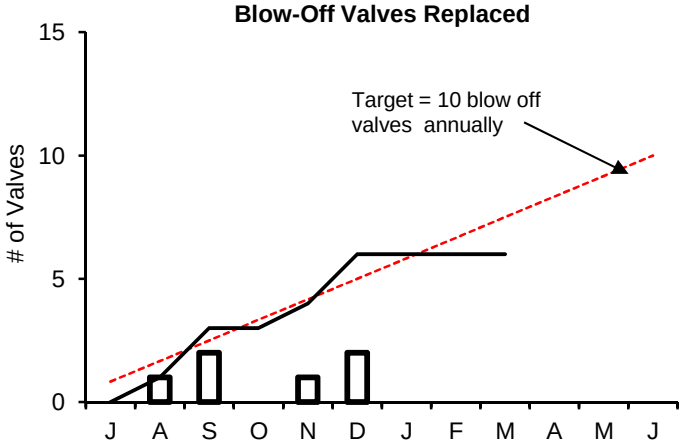
During the 3rd Q of FY15 staff replaced four main line valves. The total for the fiscal year to date is fourteen.

Blow-Off Valves Exercised



Due to record breaking snowfall totals during the 3rd Q of FY15, staff only exercised 46 blow-off valves. The total for the fiscal year to date is 252.

Blow-Off Valves Replaced



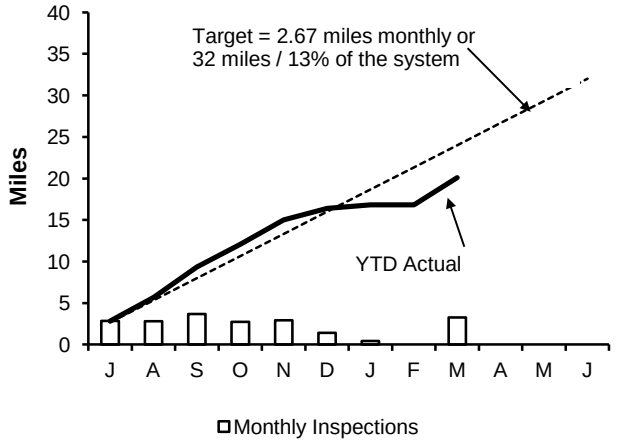
During the 3rd Q of FY15 no blow-off valves were replaced. The total for the fiscal year to date is six.

Wastewater Pipeline and Structure Inspections and Maintenance

3rd Quarter - FY 15

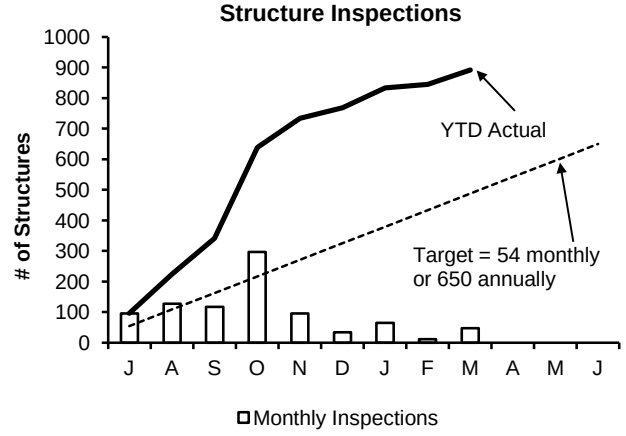
Inspections

Pipeline Inspections



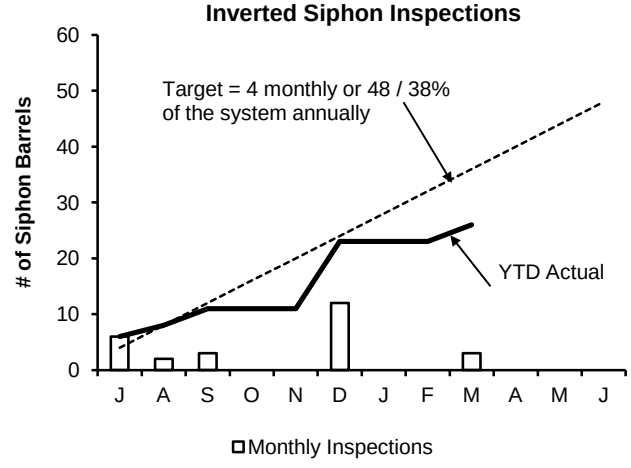
Staff internally inspected 3.68 miles of MWRA sewer pipeline during this quarter. The year to date total is 20.09 miles. Community Assistance was provided to the city of Somerville, and Reading this quarter. Staff inspected 6,087 linear feet of various diameter lines in Somerville and 1,448 linear feet of 12" diameter lines in Reading this quarter.

Structure Inspections



Staff inspected the 24 CSO structures and performed 88 additional manhole/structure inspections during this quarter. The year to date total is 892 inspections.

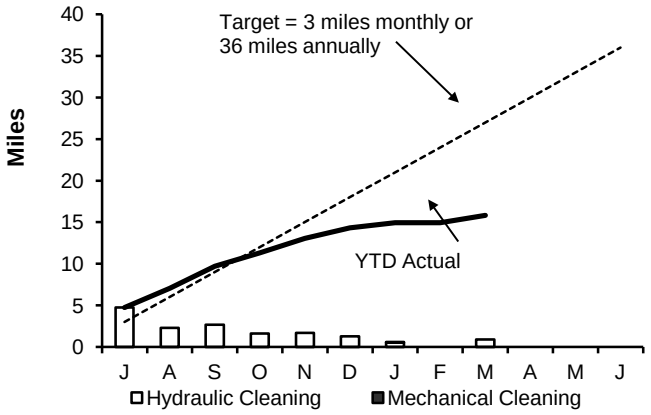
Inverted Siphon Inspections



Staff only inspected 3 siphon barrels during this quarter,due to winter weather conditions. Year to date total is 26 inspections.

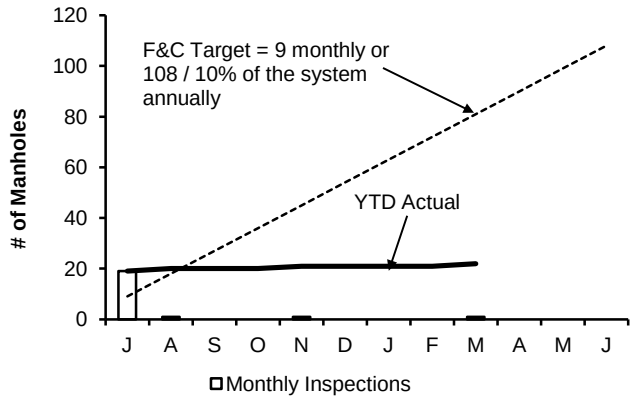
Maintenance

Pipeline Cleaning



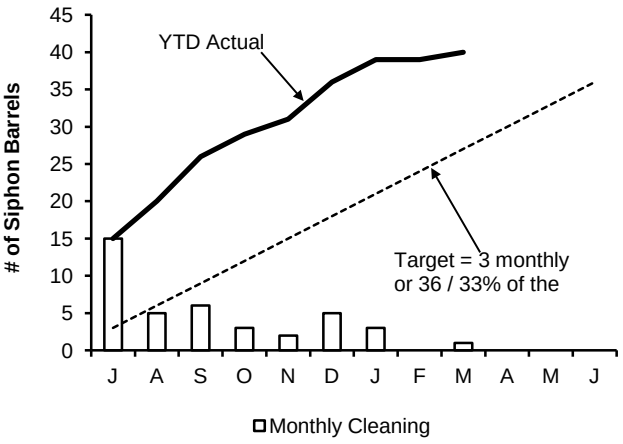
Staff only cleaned 1.44 miles of MWRA's sewer system and removed 20 yards of grit and debris during this quarter, due to winter weather conditions. The year to date total is 15.84 miles.Community Assistance was provided to the city of Somerville, Everett and Waltham. Staff cleaned 1,700 linear feet, 1,600 linear feet and 600 linear feet respectively this

Manhole Rehabilitation



Staff replaced 1 frames & cover during this quarter.The year to date total is 22. Staff are finishing up other critical work and will redirect their efforts on replacing Frames and Covers full time starting in May.

Inverted Siphon Cleaning



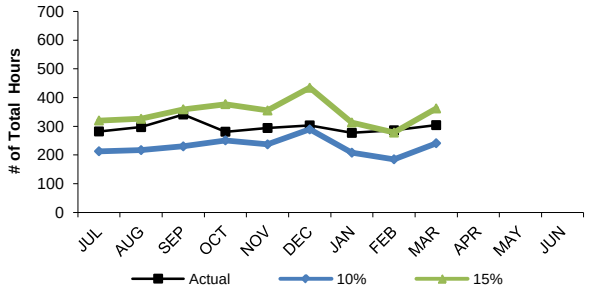
Staff cleaned 4 siphon barrels during this quarter. The year to date total is 40 barrels.

Field Operations' Metropolitan Equipment & Facility Maintenance

3rd Quarter, FY15

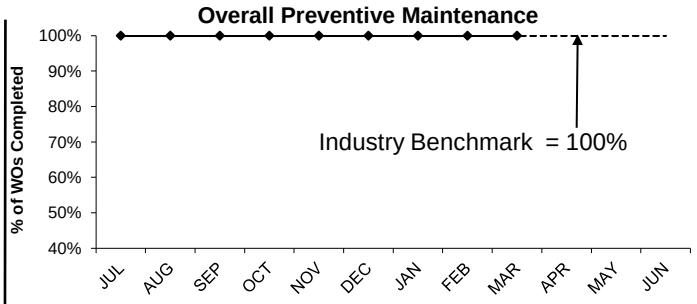
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus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

Operations Light Maintenance PM Hours



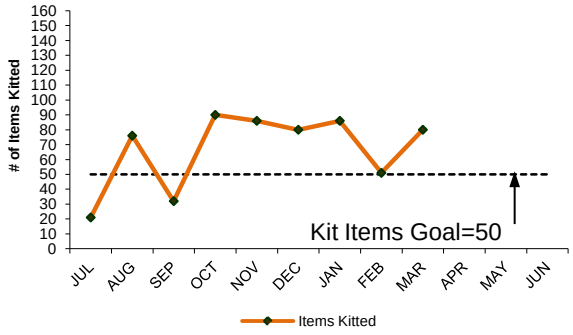
Operations staff averaged 289 hours of preventive maintenance during the 3rd Quarter, an average of 14% of the total PM *hours* for the 3rd Quarter, which is within the industry benchmark of 10% to 15%.

Overall Preventive Maintenance



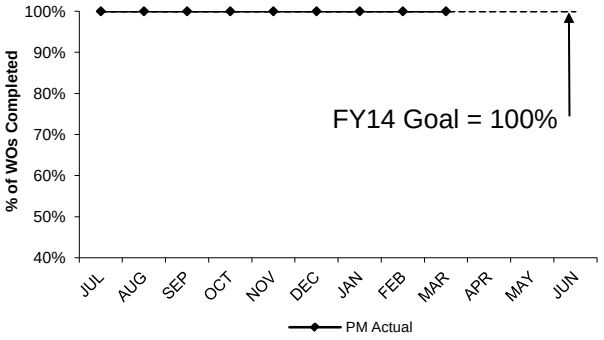
The Field Operations Department (FOD) preventive maintenance goal for FY15 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 3rd Quarter.

Items Kitted Utilizing Maximo



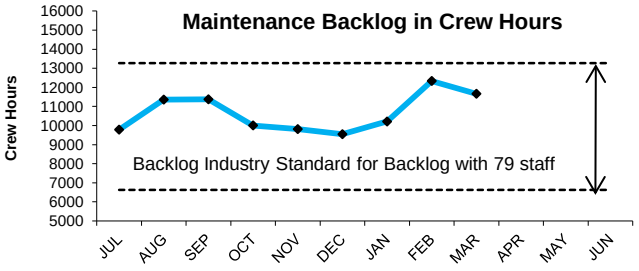
In an effort to more efficiently complete work, maintenance staff and work coordination staff have utilized the Lawson/Maximo interface to better kit stock and non stock material. The goal for FY15 is to "kit" 50 stock and non stock items total per month. An average of 72 items were kitted during the 3rd Quarter.

Operations Light Maintenance % PM Completion



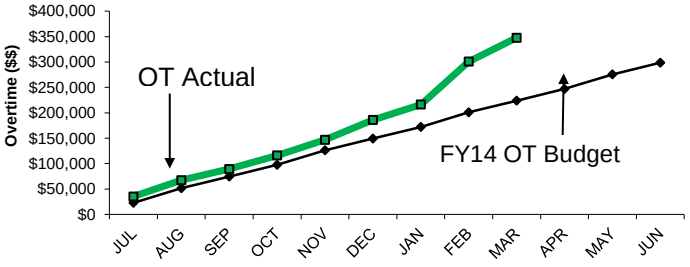
Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY15 PM goal is completion of 100% of all PM work orders assigned. Operations completed an average of 100% of PM work orders in the 3rd Quarter.

Maintenance Backlog in Crew Hours



The 3rd Quarter backlog average is 11,405 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 two vacant positions, one Facility Specialist and one Mechanic.

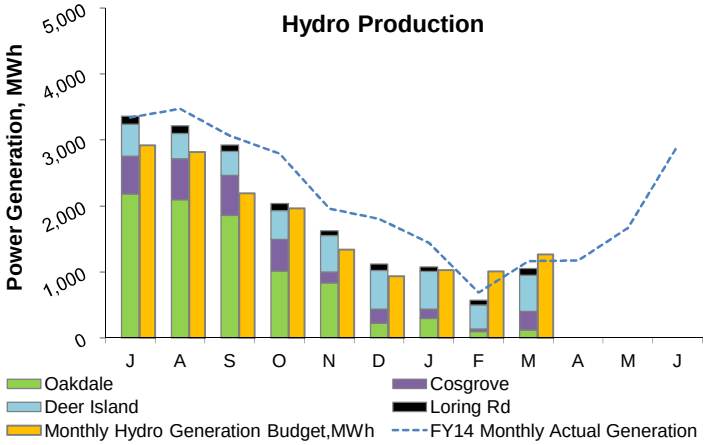
Overtime Spending



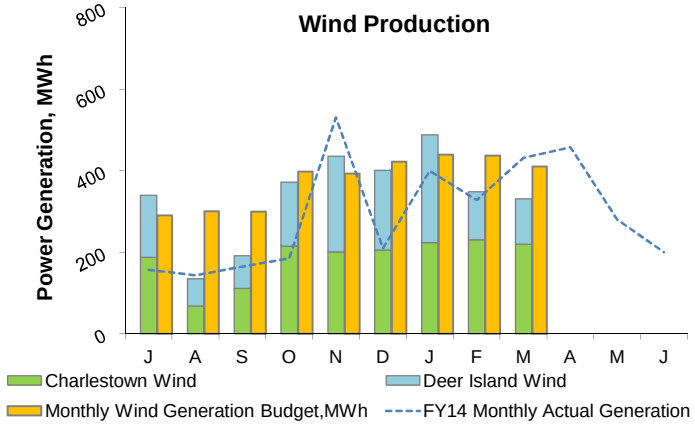
Maintenance overtime was $87k over budget for the 3rd Quarter. Overtime was used for weather events, critical maintenance repairs, and upgrades to the Chelsea Administration Building.

Renewable Electricity Generation: Savings and Revenue

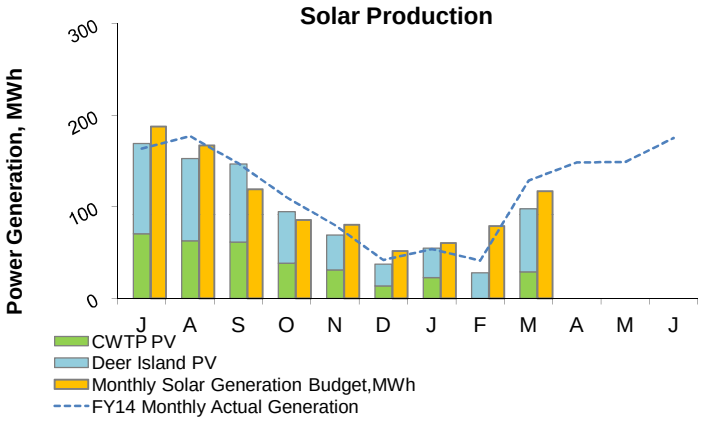
3rd Quarter - FY15



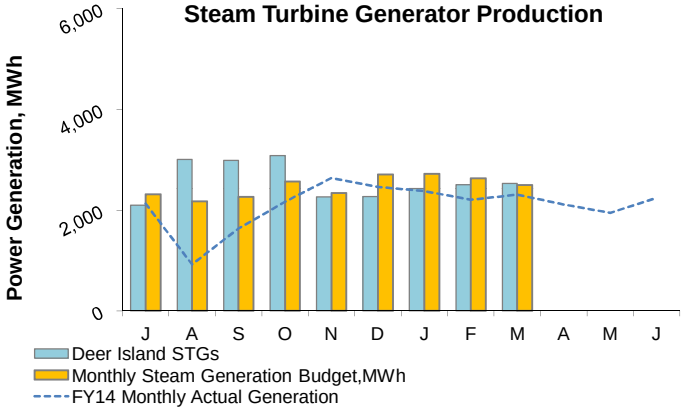
In the 3rd Quarter, the renewable energy produced from all hydroelectric facilities totaled 2,697 MWh. Cosgrove was taken off-line temporarily in February for maintenance work. The total energy produced to date in FY15 is 16,979 MWh. The total savings and revenue[2] to date in FY15 (actual only through February[1]) is $792,182; 14% below budget[3], partly due to the fact that the actual electricity unit price for Deer Island has been 12% below the budgeted[3] estimate for the same period. The savings and revenue value does not include RPS REC revenue (see next page).



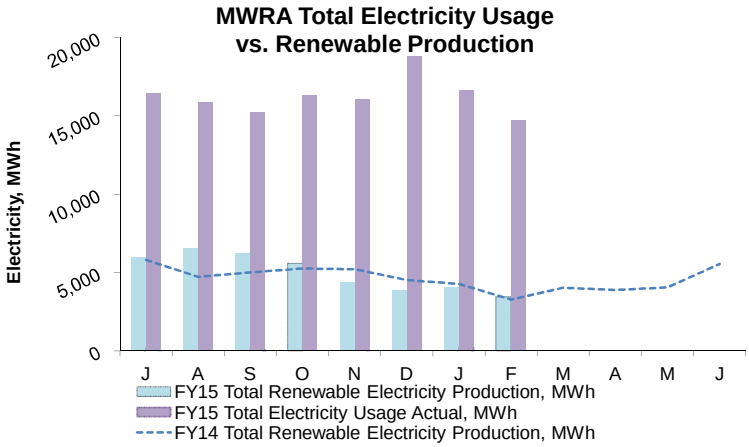
In the 3rd Quarter, the renewable energy produced from all wind turbines totaled 1,168 MWh. DI T2 wind turbine has been off-line since the end of January pending the repair of its main power cables. The total energy produced to date in FY15 is 3,044 MWh. The total savings and revenue[2] to date in FY15 (actual only through February[1]) is $390,342; which is 8% above budget[3]. The savings and revenue value does not include RPS REC revenue (see next page).

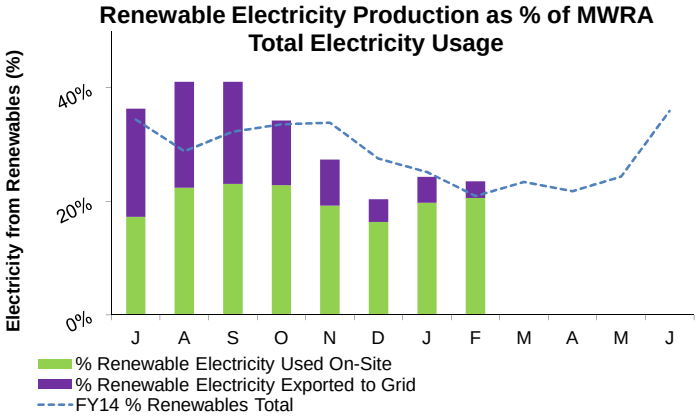


In the 3rd Quarter, the renewable energy produced from all solar PV systems totaled 181 MWh, 30% below budget, this is mostly due to snow covering solar panels in the winter months. The total energy produced to date in FY15 is 851 MWh. The total savings and revenue[2] to date in FY15 (through February[1]) is $87,671; 6% below budget[3]. The savings and revenue value does not include REC revenue (see next page).



In the 3rd Quarter, the renewable energy produced from all steam turbine generators totaled 7,456 MWh. The total energy produced to date in FY15 is 23,149 MWh. The total savings[2] to date in FY15 (through February[1]) is $1,702,484; 9% below budget[3]. Although total FY15 power generation remains above budget electricity savings is less due to lower electricity pricing. The savings and revenue value does not include RPS REC revenue (see next page).





In the first 8 months of FY15, MWRA's electricity generation by renewable resources totaled 40,014 MWh. MWRA's total electricity usage was approximately 130,012 MWh. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 97% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget.

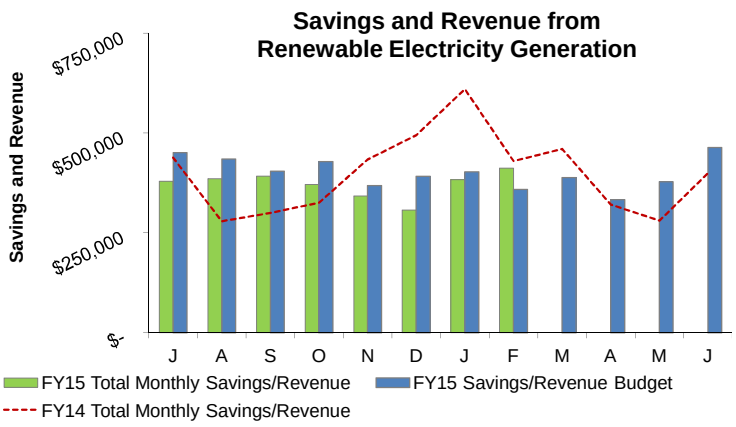
In the first 8 months of FY15, green power generation represented approximately 31% of total electricity usage. All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.

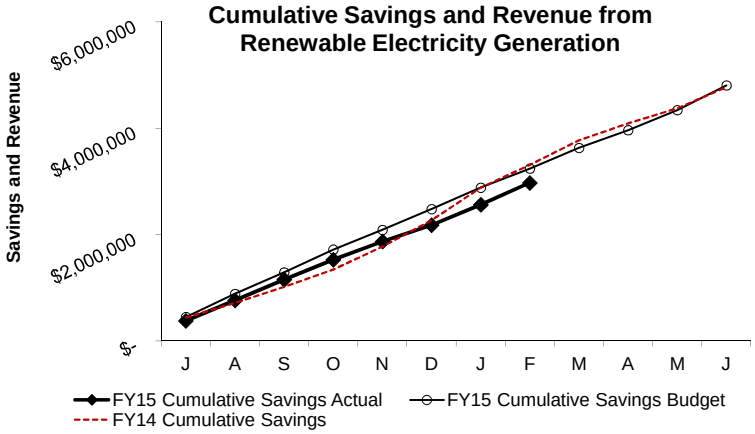
Notes:

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

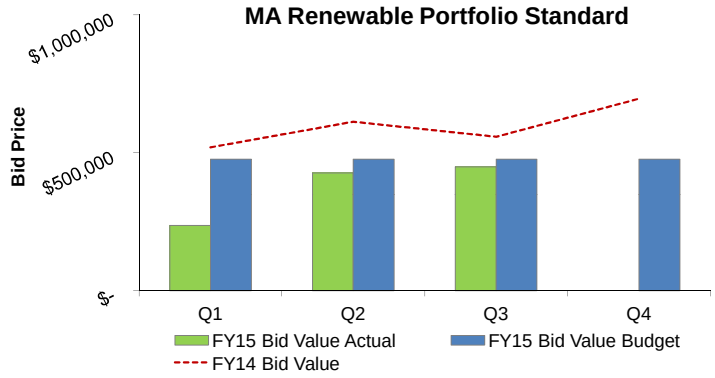
Renewable Electricity Generation: Savings and Revenue

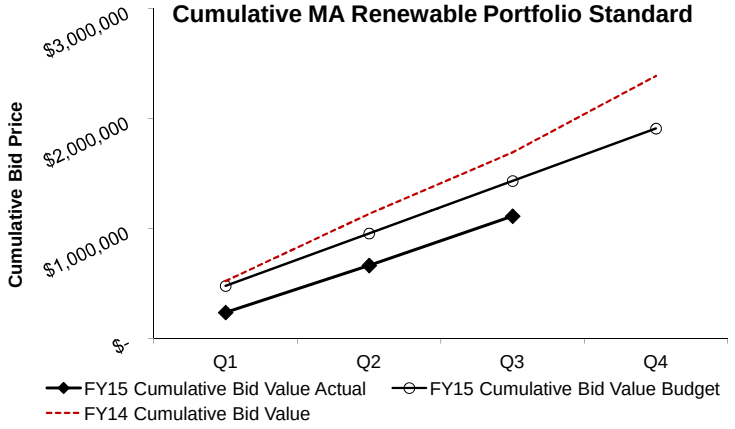
3rd Quarter - FY15



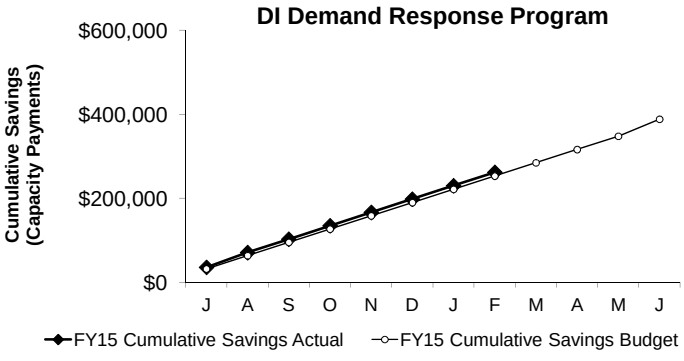


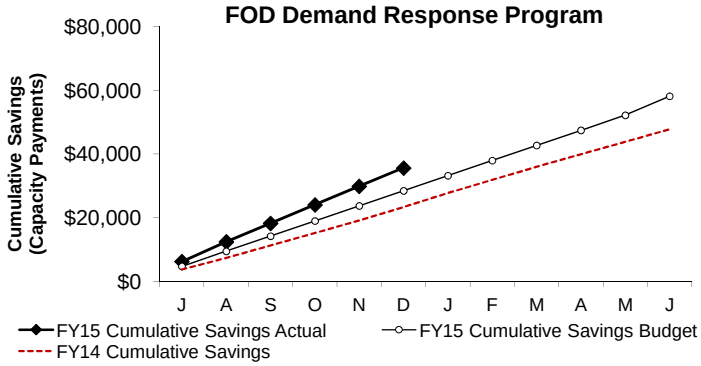
Savings and revenue from MWRA renewable electricity generation in the first 8 months of FY15 (actual only through February[1]) is $2,972,678; which is 8% below the budget[3]. This is partly due to the fact that the actual electricity unit price for Deer Island has been 12% lower on average than the budgeted[3] estimate for the same period. Savings and revenue[2] from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs).
The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).





Bids were awarded during the 3rd Quarter[1] from MWRA's renewable energy assets; 7,593 Class I Renewable Energy Certificates (RECs) and 115 Solar RECs were sold for a total value of $449,031 RPS revenue; which is 6% below the budget[3].
REC values reflect the bid value on the date that bids are accepted. Cumulative bid values reflects the total value of bids received to date.

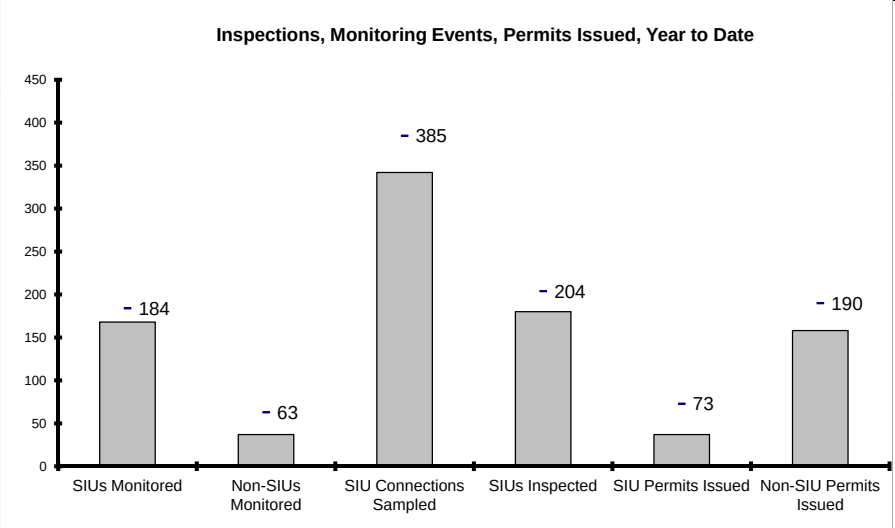




Deer Island, 2 Water, and 4 Wastewater facilites[4] participate in the ISO-New England Demand Response Programs. By agreeing to have its generators available to run and thus relieve the New England energy grid of some of MWRA's load during times of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates back-up generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. Cumulative savings (Capacity Payments only) through December[1] for FOD total $35,584 and $261,755 for DI through February[1].

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

Toxic Reduction and Control
3rd Quarter, FY15



EPA Required SIU Monitoring Events
for FY15: 184
YTD : **168**

Required Non-SIU Monitoring Events
for FY15: 63
YTD : **37**

SIU Connections to be Sampled
For FY15: 385
YTD: **342**

EPA Required SIU Inspections
for FY15: 204
YTD: **180**

SIU Permits due to Expire
In FY15: 73
YTD: **37**

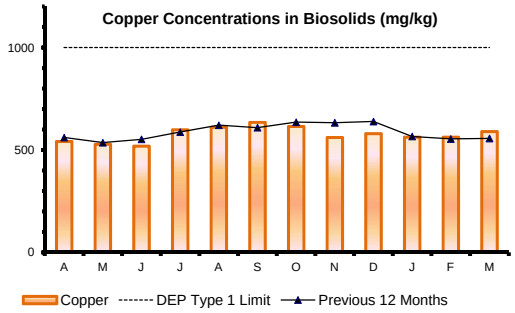
Non-SIU Permits due to Expire
for FY15: 190
YTD: **158**

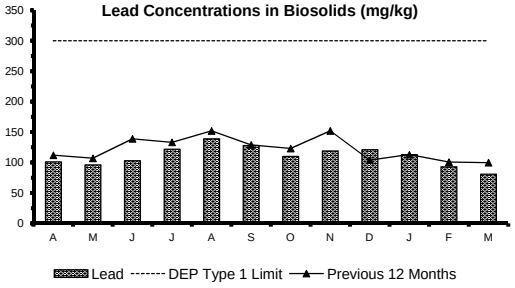
Significant Industrial Users (SIUs) are MWRA's highest priority industries due to their flow, type of industry, and/or their potential to violate limits. SIUs are defined by EPA and require a greater amount of oversight. EPA requires that all SIUs *with flow* be monitored at least once during the fiscal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

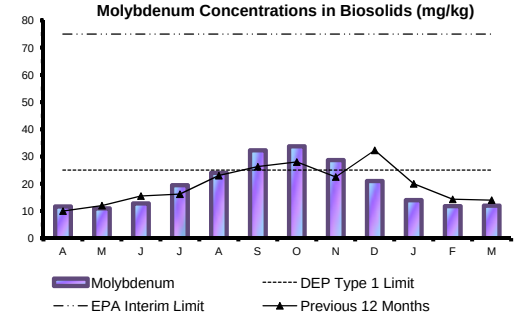
TRAC's annual monitoring and inspection goals are set at the beginning of each fiscal year but they can fluctuate due to the actual number of SIUs at any given time. During the course of the year, some SIUs do not discharge and cannot be monitored. TRAC also monitors one-third of the non-SIUs each year. 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	0	10	0	1	0	1	0	12
Aug	2	9	0	1	0	2	2	12
Sep	5	19	0	2	0	0	5	21
Oct	3	6	0	1	1	2	4	9
Nov	2	6	0	0	0	2	2	8
Dec	2	15	1	1	0	0	3	16
Jan	3	43	0	1	0	2	3	46
Feb	0	6	0	0	0	0	0	6
Mar	16	22	2	3	0	3	18	28
Apr							0	0
May							0	0
Jun							0	0
% YTD	89%	86%	8%	6%	3%	8%	37	158







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 this the 3rd Quarter of FY15, one hundred and one permits were issued, twenty one of which were SIUs. Nineteen SIU and seventy-one non-SIU permits were issued in the 120-day timeframe while two SIU and four non-SIU permits were issued in the 120-day to 180-day timeframe. The remaining five non-SIU permits were in the over 180-day timeframe mainly because of late payment of permit fees and delays while the adequate permit category was being determined.

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

Field Operations Highlights
3rd Quarter – FY15

Western Water Operations and Maintenance

John J. Carroll Water Treatment Plant:

Staff completed the half plant shutdown of both sides of the treatment process including all annual maintenance tasks associated with the shutdown. Contractor staff were able to remove the temporary sluice gates that were installed to facilitate the construction of the UV treatment process. Maintenance tasks for the Ultra Violet system were completed including cleaning of Quartz sleeves and replacement of lamps that had reached their normal service life.

Hultman /Metro West Tunnel: The operability of the critical mainline valves along the Hultman Aqueduct and the Metro West Tunnel were tested for remote and local operation.

Metro Water Operations & Maintenance

Incidents and Leaks:

Late January, most of February, and early March were dominated by the record winter weather. Snow removal operations were required at the Chelsea facility, all Metro water facilities, tunnel shafts, meter sites, and pressure reducing valve sites. Staff worked around the clock for many days dealing with the storms and post-storm clean up. Snow removal operations hampered many of the normal maintenance activities. Revere experienced several water main breaks in the first week of the February; MWRA water pipeline staff repaired two of the breaks to augment the city's staff. Lynn experienced several leaks during the early part of the February, including on the Lynnway and the MBTA (T) bus facility on Western Ave. In all cases, our staff responded to assist the city with any field issues, including leak detection assistance.

Water Pipeline Program:

Work continued at Fisher Ave in Brookline on the Meter 98 reconstruction. In mid January, the road was initially to be closed for a two week period of time to allow for the deep excavation required to make a new connection and remove the existing connection to the MWRA 42" main. The road closure and work schedule were greatly impacted due to the severe winter weather that occurred during the quarter. Work did continue at the site, including snow removal efforts after every storm to continue progress. New tees were cut into the existing 42" and 30" mains during February for the new connections to what will be the new Meter 98. Work resumed in earnest in March, with the advent of better weather. The last of the snow was removed from the work area, to allow for the installation of piping and valves preparing for the installation of the meter chamber, and re-opening of Fisher Ave to thru traffic. Three new valves were installed during March for the work – one each on the 42" and 30" branch piping, and one on the meter bypass piping. Work was restarted at the Section 80 valve replacement site on Quinobequin Road in Newton. A second crew began work on a leak on Section 80, which is also at the site of a blow off retrofit project. Isolation of Section 80 to perform the work was coordinated with Needham and Wellesley. The valve replacement was completed and pressure tested during March, and the site work will be completed early next month; the leak repair and blow off retrofit will take until early May.

SCADA & Process Control

SCADA**:**

The Department of Homeland Security & Idaho National Labs performed a SCADA network cyber security assessment. Completed programming for upgrade of Bellevue tanks including new Contaminate Monitoring System. Performed SCADA network upgrades Upgraded WABWTF SCADA nodes to full redundant configuration.

Wastewater Operations & Maintenance

North Main Pump Station Shutdown Planning Meetings: Staff continue to prepare for the North Main Pump Station contract equipment upgrades and modifications, providing wastewater system operating conditions, monitoring points, system modeling information and regulatory notification comments, and developing operational control strategies for the shutdowns.

Wastewater Operator Training Program: Wastewater Operations has implemented an in house Operator Training program. Trainees shadow Wastewater Operators one day a week at field facilities (pumping stations, headworks and CSOs) and/or at the Deer Island Treatment Plant. Trainees also attend wastewater exam training once per week. The program culminated with the trainees taking the grade 2 wastewater operator's license examination in January 2015. The goal of the program is to have an adequate pool of internal candidates for future wastewater operator positions and in case of extreme emergencies.

TRAC

Enforcement: TRAC continues to pursue several enforcement cases. We are in negotiations with two of the industries.

Metering and Monitoring

Meter Systems: Staff are working with Telog and MIS to improve functionality of the new web module. Staff continues to work on a new scope of services for the wastewater meter replacement contract. Notified Arlington, BWSC, Chicopee, Everett, Framingham, Lexington, Malden, Melrose, Milton, Newton, Norwood, Revere, Saugus, Somerville, Waltham, Westborough State Hospital (RH White), Weston, Winchester and Winthrop of higher demands and potential leaks. Staff converted four (4) water meters to wireless communication.

Environmental Quality -- *Water Supply*

Community Support: In conjunction with Laboratory and Training staff advertised training dates for seven half-day drinking water sampler training sessions in April and May. Training will review how to sample drinking water and perform a chlorine residual field test. Other topics of interest include Total Coliform Rule sampling plans, the Revised Total Coliform Rule, and how to address water quality complaints.

Staff provided assistance to the Wellesley Water Department by conducting water storage tank depth sampling associated with a storage tank reactivation. Notified all fully served and partially served Water Superintendents regarding important sampling issues associated with Total Coliform Rule sampling programs. Winter storms in January and February limited the ability for some communities to collect their required number of samples per month. The email provided some guidance for the future.

Contaminant Monitoring System: The Contaminant Monitoring stations at Arlington Covered Reservoir and Bellevue Standpipes are fully installed and providing continuous data through both the SCADA and Verizon networks.

Environmental Quality -- *Wastewater*

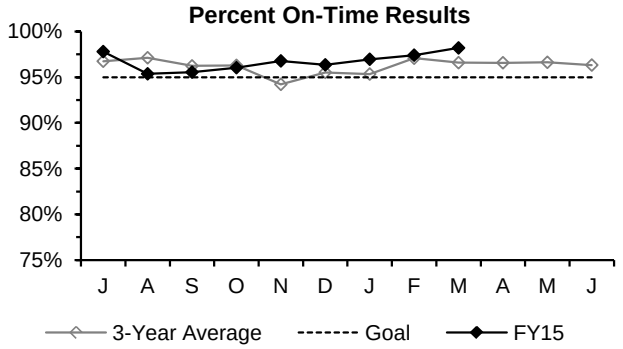
Contingency Plan: Staff performed threshold tests on Ambient Monitoring data as they were received, as required by Deer Island's NPDES permit. Staff prepared and posted Quarterly Report required by permit-attached Contingency Plan.

Ambient Monitoring: Conducted first and second annual water column surveys in the face of unprecedented amounts and duration of sea ice in Boston Harbor and regionally. Staff and consultants began the analysis and interpretation of 2014 monitoring results in preparation for an annual monitoring review meeting to be held in early April. Completed preparation of 2014 data sets for annual meeting/annual reports. Completed report on computer modeling of Massachusetts Bay for calendar year 2013.

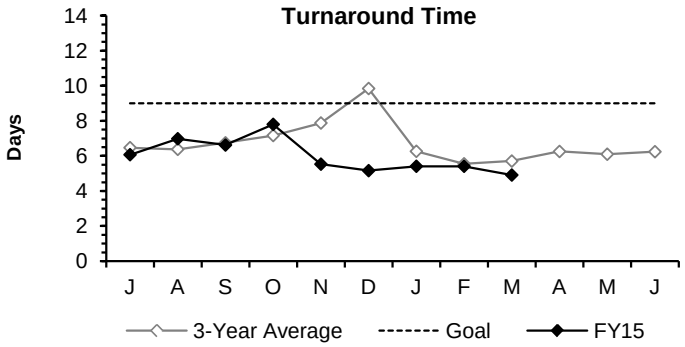
Clinton Influent Gates: Received approval of permit application from DEP.

Laboratory Services

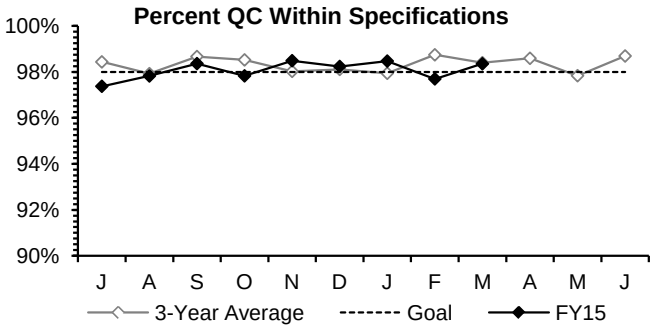
3rd Quarter - FY15



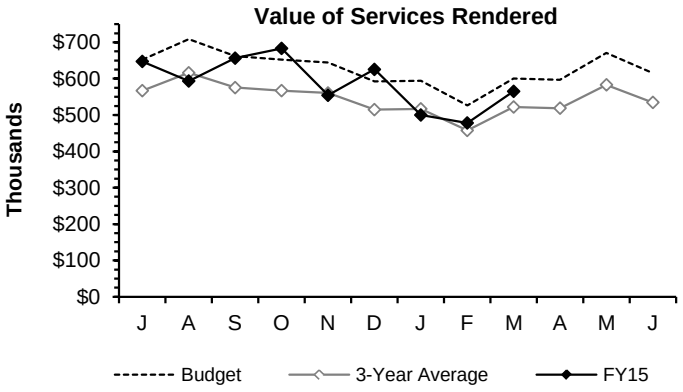
The Percent On-Time measurement was above the 95% goal



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



Percent of QC tests meeting specifications was above the 98% in-house goal two out of three months of the quarter.



Value of Services Rendered was above the seasonally adjusted budget projection each month of the quarter. Year to date we are 4% below budget, while staffing has averaged 8% below budget.

Highlights:

Security/Mobile Lab:
The annual testing of cyanide samples at CWTP was completed using on-site sample processing in the Mobile Lab. Staff attended a training course on solid phase micro-extraction (SPME) SPME is a technique that allows us to extract and concentrate chemical from water in the field without the need to transport and use large amounts of hazardous solvents.

DITP:
Took DITP methane/non-methane hydrocarbon air monitoring testing back in house after replacing the instrument. Testing splits samples with the Pellet Plant lab for total solids and total suspended solids to gauge the comparability of these lab tests on the sludge pumped from Deer Island.

ENQUAL Clean Water:
Obtained good results on two sets of voluntary proficiency test samples for harbor and outfall monitoring parameters.

Budgeting:
Started testing the new time tracking "self entry" utility that MIS created. DLS has collected data on time spent on a test by test basis to allow us to better understand our costs since 1994 . This new utility will allow that system to become paperless and improve the usability of this data.

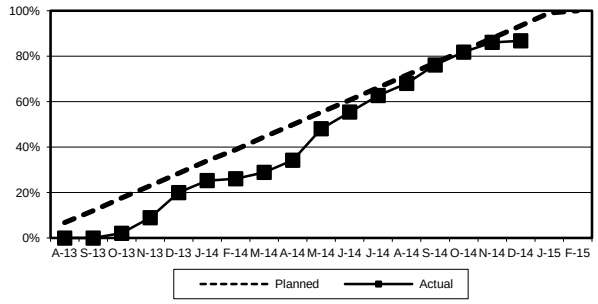
CONSTRUCTION PROGRAMS

Projects In Construction

Q2 – FY15

(Progress Percentages based on Construction Expenditures)

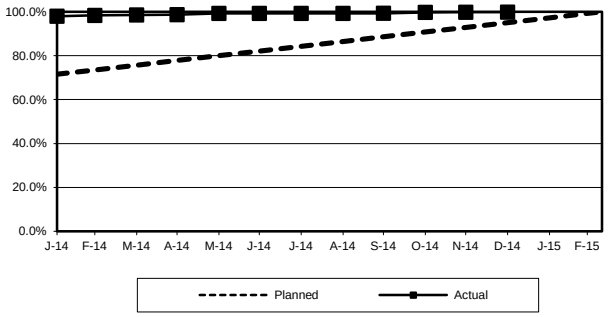
Nut Island Headworks Electrical and Conveyor Improvements Progress – December 2014



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 December, the electrical contractor continued with the installation of conduit for existing equipment on the bottom level of the facility and power feed cut-overs to existing equipment in the pump, blower and odor control areas. In addition, they began the cut-over of the carbon beds and pneumatic dampers.

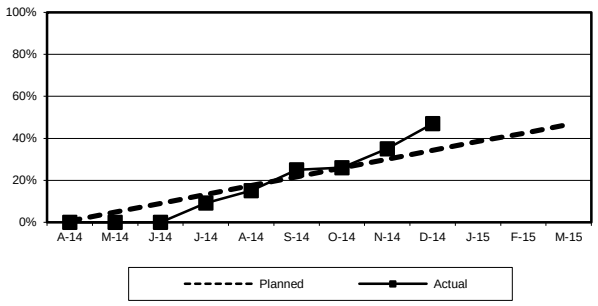
UV Disinfection Facilities CWTP Progress – December 2014



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 December, the electrical contractor mobilized back to the site to work on punchlist items generated by the State Electrical Inspector. Warrantee work was performed on the dehumidifier units and the flood alarm was activated and programmed for connection to SCADA. Contractor removed temporary sluice gates in B side of chlorine contact channel during half plant shutdown.

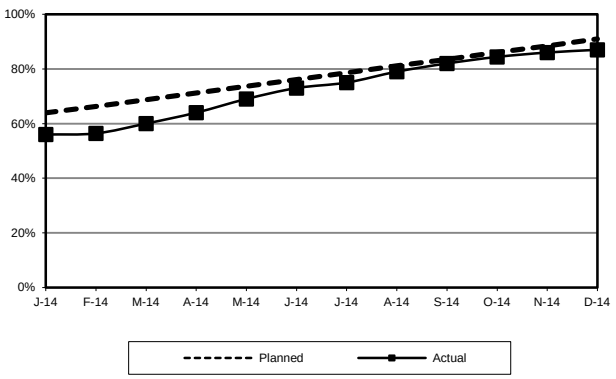
Clinton Digester and Primary Clarifier Rehab Progress - December 2014



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: As of December, Contractor continued with the sandblasting and painting of the digester floating cover. The coating of Primary Clarifiers 3&4 was completed, as well as the backfilling and railing installation.

Spot Pond Water Storage Facility Progress – December 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.

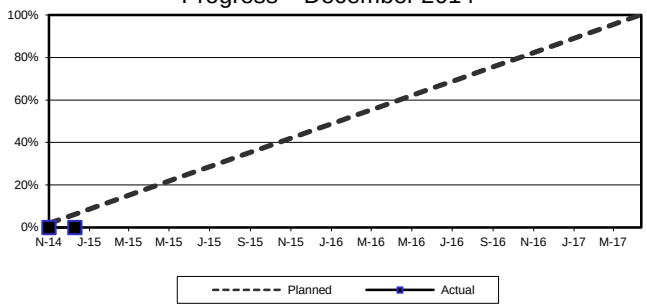
Status and Issues: As of December, the Contractor continued with the internal remedial work on Tank #2 walls and columns. They continued waterproofing the roof decks of both tanks. In addition, they worked on the mechanical piping, plumbing, electrical and HVAC installations in the pump station.

Projects In Construction

Q2 – FY15

(Progress Percentages based on Construction Expenditures)

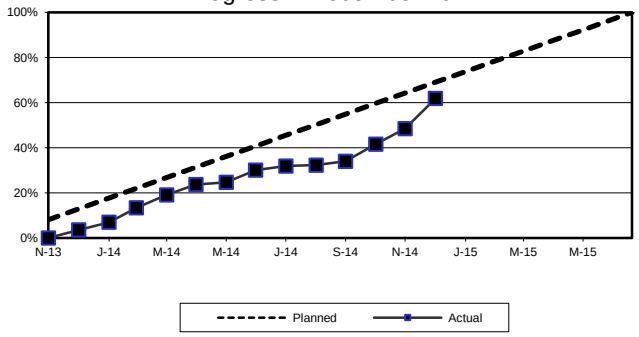
Water Mains: Section 36, W11C and S9-A
Progress – December 2014



Project Summary: This project includes the replacement of Section 36 in Arlington; the installation of a new water main (Section W11C); and the replacement of an inoperable 48-inch butterfly valve on Shaft 9-A pipeline in Medford.

Status and Issues: This contract was awarded on 11/4/14 to RJV Construction. As of December, the preliminary schedule was under review and the Contractor has installed the construction trailers at the Brattle Court Pump Station lot.

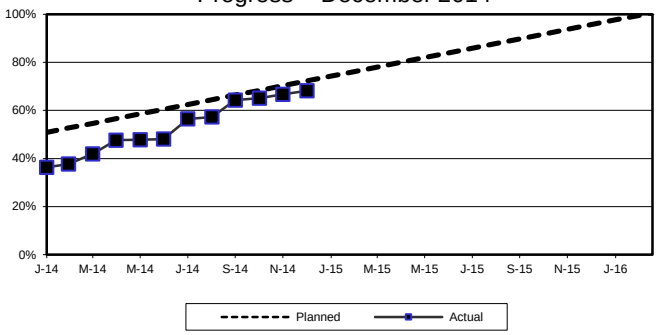
Pump, Gear Box and Diesel Engine Upgrade
Prison Point and Cottage Farm CSO Facilities
Progress - December 2014



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: During December, Philadelphia Gear performed factory testing of the Prison Point Right Angle Gear Drive #1 at their Delaware facility which was witnessed by FST. The new wear ring and pull out assembly inside Pump #1 was installed and factory testing of Pumps 1 – 4 at the Maryland facility was witnessed by FST.

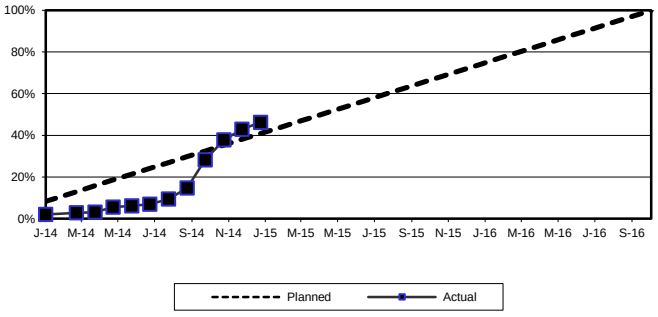
North Main Pump Station VFDs & Motors
Progress - December 2014



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: During December, VFD 2 4160V power on 12/11/14 and testing of systems started. Loop checks performed of field device wiring and VFD interface. Motor coupled and 4 hour run on 12/18/14. VFD 2 and Motor 2 started into the 48 hour IST on 12/18/14 and completed on 12/20/14. VFD 2 started 10 day OAD on 12/20/14 and ended on 12/30/14.

Primary and Secondary Clarifier Scum Tip Tubes
Progress - December 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: Through December the contractor, Walsh Construction, continued with the replacement of scum skimmers (Completed 88 of 196) and the installation of conduit and wiring in Secondary & Primary Areas from control panel to tube actuators.

CSO CONTROL PROGRAM

3rd Quarter - FY15

MWRA and the CSO communities have completed 32 of the 35 projects in the Long-Term CSO Control Plan. The three remaining CSO projects are in construction: Reserved Channel Sewer Separation by BWSC, CAM004 Sewer Separation by City of Cambridge, and Automated Gate/Floatables Control at Outfall MWR003 and Rindge Ave. Siphon Relief. The following table reports on the progress of the three CSO projects not yet complete, as well as BWSC's 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, 2015
		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 $ 4.1 M Complete Contract 2 Sewer separation $ 5.9 M Complete Contract 3A Sewer separation $11.8 M Complete Contract 3B Sewer separation $14.8 M Complete Contract 4 Sewer separation $13.9 M 92% complete Contract 5 Cleaning & Lining Ineligible Underway Contract 6 Downspout Disconnect $ 0.2M Underway Contract 7 Pavement restoration $ 1.2 M Complete Contract 8 Pavement restoration $ 4.8 M 50% complete BWSC construction was shut down for most of the quarter due to snow. Work recently resumed, and BWSC expects to complete all work for the Reserved Channel sewer separation project by December 2015, in compliance with Schedule Seven.
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 four additional sewer separation contracts (contracts 8A, 8B, 9 and Concord Lane) to complete the project. Contract 8A Sewer separation $10.6M Subst. complete Contract 8B Sewer separation $18.3M 77% complete Contract 9 Sewer separation $ 7.1M 58% complete Concord Lane Sewer separation $1.8M NTP 3/27/15 Cambridge recently received the final right of entry permit #3 for Concord Lane (private way) and issued the notice to proceed with construction on March 27th. Cambridge expects 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	MWRA issued the notice to proceed with construction on August 28, 2014. The contractor is 60% complete and plans to complete all work by October 31, 2015, in compliance with Schedule Seven.
South Dorchester Bay Sewer Separation Post-Construction Inflow Removal		N/A	N/A	N/A	As previously reported, BWSC has completed its investigation of alternatives for removing additional stormwater inflow from its Dorchester Interceptor. Meanwhile, 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 FY15 CIP includes $5.4 million for the inflow removal effort, of which approximately $2.7 million is allocated to awarded design and construction contracts.

CIP Expenditures
3rd Quarter - FY15

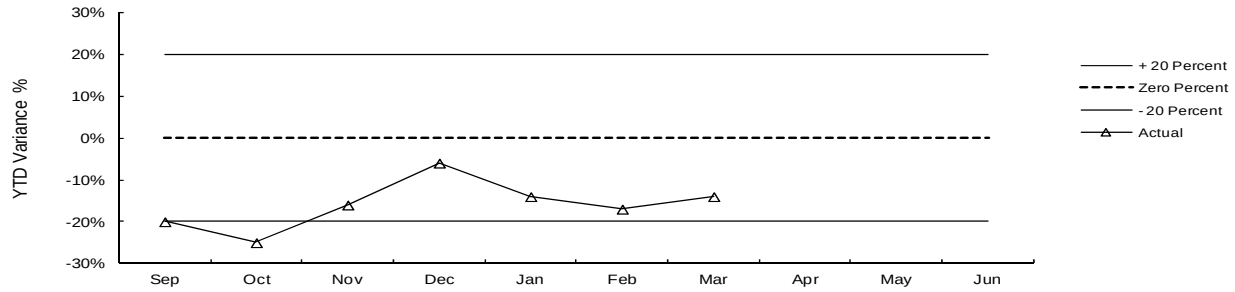
The Year-To-Date variances are highlighted below:

FY15 Capital Improvement Program Expenditure Variances through March by Program ($000)				
Program	FY15 Budget Through March	FY15 Actual Through March	Variance Amount	Variance Percent
Wastewater	57,098	60,137	3,040	5%
Waterworks	29,100	14,997	(14,103)	-48%
Business and Operations Support	5,555	3,500	(2,056)	-37%
Total	91,753	$78,634	(13,119)	-14%

Overspending within Wastewater is primarily due greater than anticipated community requests for grants and loans for the infiltration/inflow (I/I) Program, updated cost estimates as a result of increase in scope for Reserved Channel Sewer Separation, contractor progress on Scum Skimmer Replacement, and updated cost estimates for the Cambridge Sewer Separation, and award greater than budget for the MWR003 Gate & Siphon Construction 2 contract. This was offset by timing of work for Electrical Equipment Upgrade Construction 4, Butterfly Valve Replacement, Chelsea Headworks Design, North Main Pump Station VFD, and Nut Island Grit and Screenings Conveyance Construction contracts. Underspending in Waterworks is primarily due to timing of work and weather delays for the Spot Pond Storage Facility Design/Build contract, less than anticipated community requests for loans, less than anticipated spending on Section 36/C/S9-A11 Valve, design for the Southern Extra High and WASM 3 contracts, and timing of Watershed Land purchases, and Carroll Treatment Plant CP-7 Existing Facilities Modifications contract. This was partially offset by contractor progress for the Quabbin Ultraviolet Disinfection Construction contract.

CIP Expenditure Variance

Total FY15 CIP Budget of $137,600,000.



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 3/28/2015	$74 million
Unused capacity under the debt cap:	$792 million
Estimated date for exhausting construction fund without new borrowing:	Oct-15
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper outstanding: Commercial paper capacity:	$130 million $350 million
Budgeted FY15 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 – FY15

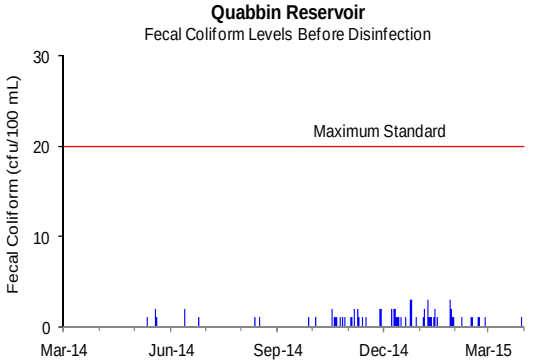
Source Water – Microbial Results

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 William A. Brutsch Water Treatment Facility (formerly Ware Disinfection Facility) 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.**

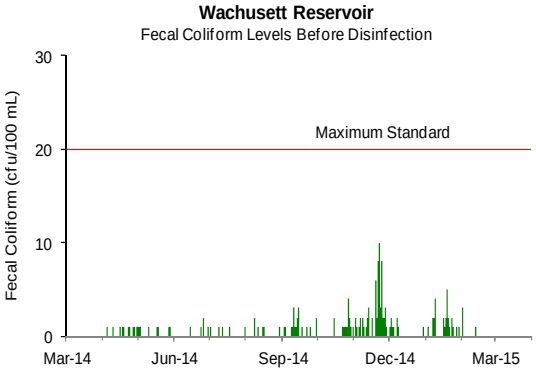


Sample Site: Wachusett Reservoir

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.**

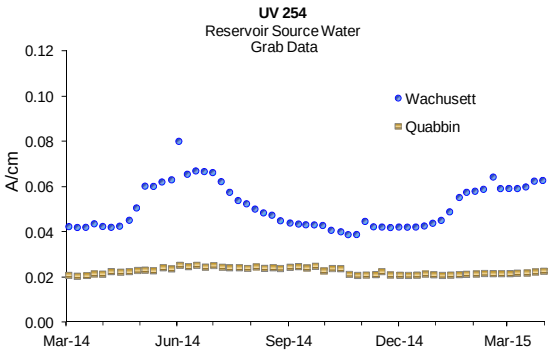


Source Water – UV Absorbance

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 0.023 A/cm.

Wachusett Reservoir UV-254 levels are currently around 0.063 A/cm.



Source Water – Turbidity

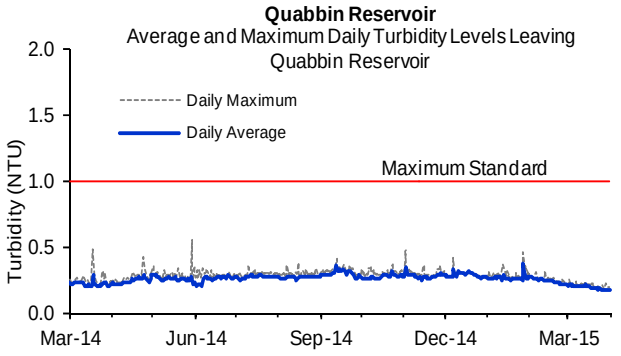
3rd Quarter – FY15

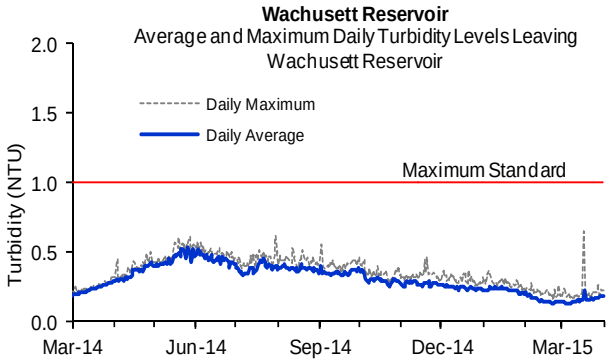
Turbidity is a measure of suspended and colloidal particles including clay, silt, organic and inorganic matter, algae and microorganisms. The effects of turbidity depend on the nature of the matter that causes the turbidity. High levels of particulate matter may have a higher disinfectant demand or may 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 William A. Brutsch Water Treatment Facility 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

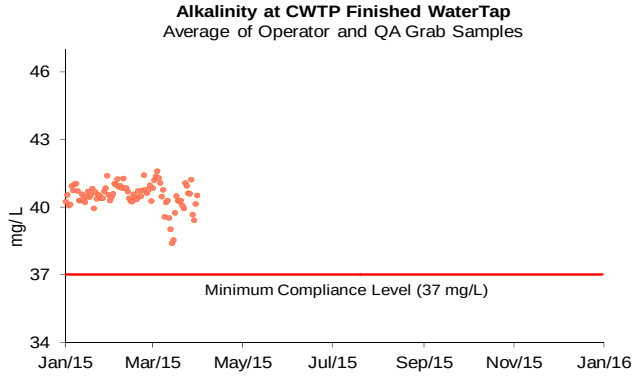


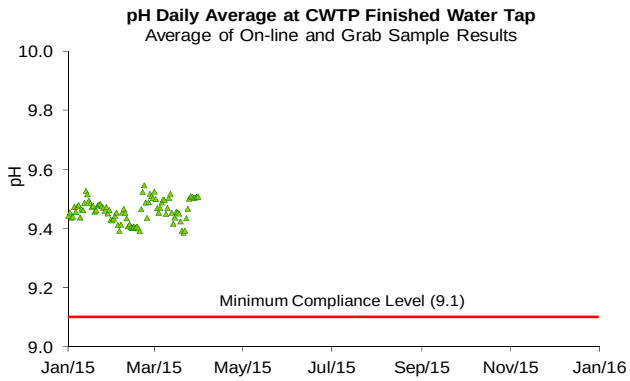


Treated Water – pH and Alkalinity Compliance

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 11 and 12, 2015. Distribution system sample pH ranged from 9.4 to 9.7 and alkalinity ranged from 30 to 43 mg/L. No sample results were below DEP limits for this quarter.





Treated Water – Disinfection Effectiveness

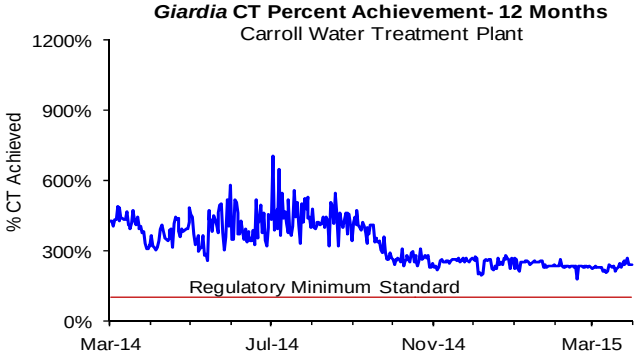
3rd Quarter – FY15

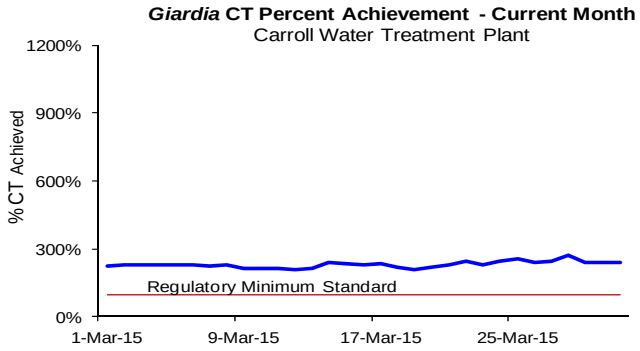
At the Carroll Water Treatment Plant (CWTP), MWRA meets the required 99.9% (3-log) inactivation of *Giardia* using ozone (reported as CT: concentration of disinfectant x contact time) and the required 99% (2-log) inactivation of *Cryptosporidium* using UV (reported as IT: intensity of UV x time). MWRA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

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

Wachusett Reservoir – MetroWest/Metro Boston Supply:

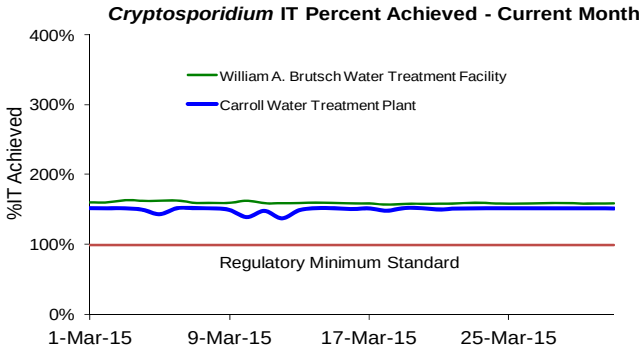
- Ozone dose at the CWTP varied between 1.5 to 1.8 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- *Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.

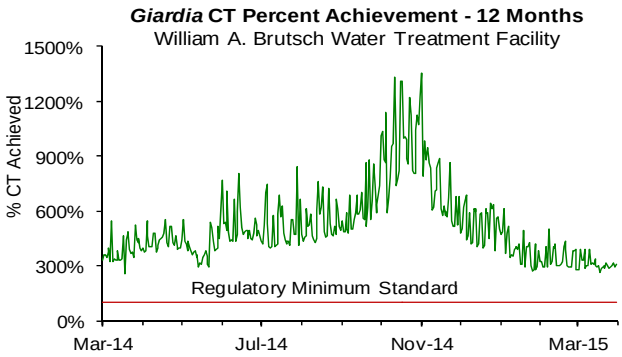


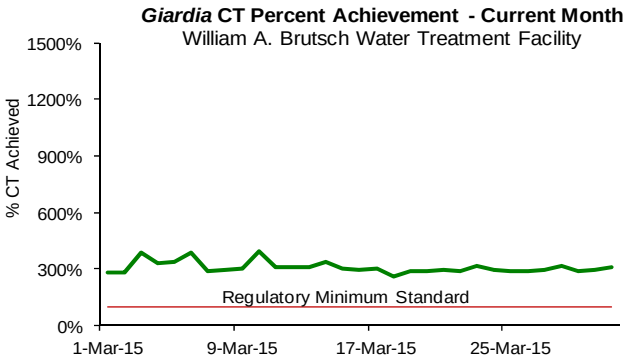


Quabbin Reservoir (CVA Supply) at: William A. Brutsch Water Treatment Facility

- The chlorine dose at WABWTF is adjusted in order to achieve MWRA's seasonal (June 1 – October 31) target of ≥1.0 mg/L at Ludlow Monitoring Station.
- The chlorine dose at WABWTF was steady at 1.3 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- *Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.
- The WABWTF UV treatment process officially went on-line for regulatory compliance on October 1.







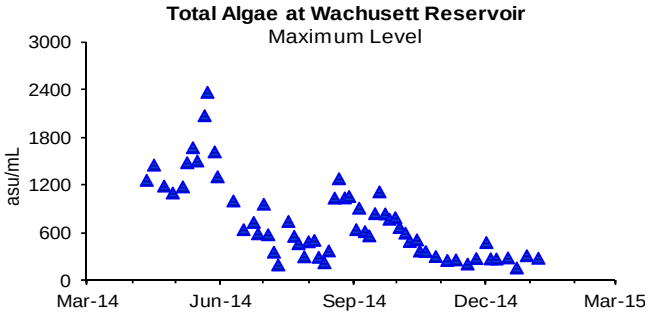
Source Water - Algae

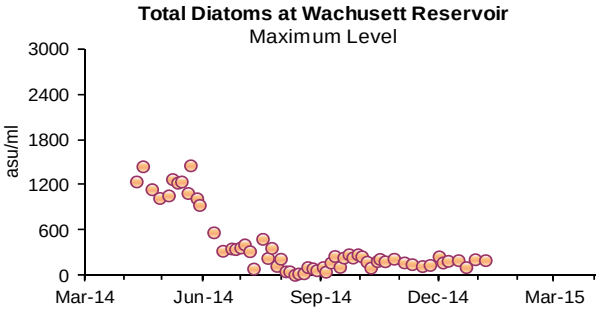
3rd Quarter – FY15

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, no complaints which may be related to algae were reported from local water departments. There have been no samples collected since January 6, 2015 as significant ice cover on the reservoir prevents safe algae sampling.



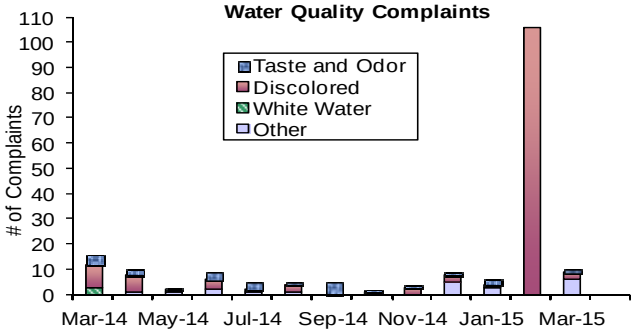


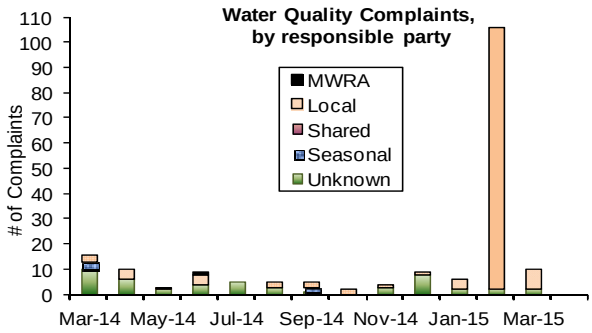
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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 122 complaints during the quarter compared to 88 complaints for 3rd Quarter of FY14. Of these complaints, 110 were for “discolored water”, 3 were for “taste and odor”, and 9 were for “other”. Of these complaints, 116 were local community issues and 6 were unknown in origin. In February, 101 discolored water complaints came from one community, due to a localized issue.





Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

3rd Quarter – FY15

While all communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), data from the 43 systems that use MWRA's Laboratory are reported below.

The MWRA TCR program has 141 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.

The TCR requires that no more than 5% of all samples in a month may be total coliform positive (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 whose presence likely indicates potential contamination of fecal origin. If *E.coli* are detected in a drinking water sample, this is considered evidence of a 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, four of the 6,091 community samples (0.07% system-wide) submitted to MWRA labs for analysis tested positive for coliform (South Hadley in January; Framingham, Waltham, and Hanscom AFB in February). No location violated the TCR during this time period. One of the 1,857 MWRA samples (0.05%) tested positive for total coliform. No community sample tested positive for *E.coli*. Only 3.5% 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	d	MWRA Locations	297	0 (0%)	0		1.80	2.19
	d	Shared Community/MWRA sites	1560	1 (0.06%)	0	No	0.06	1.96
		Total: MWRA	1857	1 (0.05%)	0	No	0.06	2.00
Fully Served		ARLINGTON	155	0 (0%)	0		0.07	1.67
		BELMONT	104	0 (0%)	0		1.29	2.00
		BOSTON	765	0 (0%)	0		1.64	2.09
		BROOKLINE	221	0 (0%)	0		0.06	1.92
		CHELSEA	169	0 (0%)	0		1.10	2.09
		DEER ISLAND	52	0 (0%)	0		1.43	1.86
		EVERETT	169	0 (0%)	0		0.86	1.11
		FRAMINGHAM	219	1 (0.46%)	0	No	0.21	2.05
		LEXINGTON	117	0 (0%)	0		1.51	2.18
		LYNNFIELD	18	0 (0%)	0		0.32	1.30
		MALDEN	233	0 (0%)	0		0.17	2.04
		MARBLEHEAD	72	0 (0%)	0		0.21	1.75
		MEDFORD	222	0 (0%)	0		1.14	1.87
		MELROSE	117	0 (0%)	0		0.09	1.62
		MILTON	98	0 (0%)	0		0.87	1.97
		NAHANT	30	0 (0%)	0		0.40	1.69
		NEWTON	274	0 (0%)	0		0.53	2.02
		NORTHBOROUGH	48	0 (0%)	0		0.20	1.83
		NORWOOD	99	0 (0%)	0		0.07	1.81
		QUINCY	276	0 (0%)	0		0.09	1.81
		READING	130	0 (0%)	0		0.57	1.61
		REVERE	180	0 (0%)	0		1.13	2.08
		SAUGUS	96	0 (0%)	0		1.41	1.84
		SOMERVILLE	270	0 (0%)	0		1.01	1.77
		SOUTHBOROUGH	30	0 (0%)	0		0.45	1.86
		STONEHAM	84	0 (0%)	0		1.13	1.86
		SWAMPSCOTT	54	0 (0%)	0		0.51	1.71
		WALTHAM	219	1 (0.46%)	0	No	1.44	2.08
		WATERTOWN	120	0 (0%)	0		0.95	2.04
		WESTBORO HOSPITAL	15	0 (0%)	0		0.04	0.60
		WESTON	48	0 (0%)	0		0.13	2.10
		WINTHROP	72	0 (0%)	0		0.22	1.89
		Total: Fully Served	*4776*	*2 (0.04%)*				
CVA&Partially Served	b	BEDFORD	57	0 (0%)	0		0.91	1.57
	b	CANTON	87	0 (0%)	0		0.02	0.99
	b	HANSCOM AFB	30	1 (3.33%)	0	No	0.52	1.57
	b	MARLBOROUGH	126	0 (0%)	0		0.61	1.98
	b	NEEDHAM	123	0 (0%)	0		0.10	0.64
	b	PEABODY	234	0 (0%)	0		0.09	1.13
	b	WAKEFIELD	136	0 (0%)	0		0.53	1.54
	b	WELLESLEY	113	0 (0%)	0		0.06	0.93
	b	WILMINGTON	87	0 (0%)	0		0.75	1.94
	b	WINCHESTER	91	0 (0%)	0		0.16	1.06
	b	WOBURN	180	0 (0%)	0		0.26	1.23
	c	SOUTH HADLEY FD1	51	1 (1.96%)	0	No	0.17	0.53
		Total: CVA & Partially Served	*1315*	*2 (0.15%)*				
		Total: Community Samples	*6091*	*4 (0.07%)*				

(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 – FY15

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).

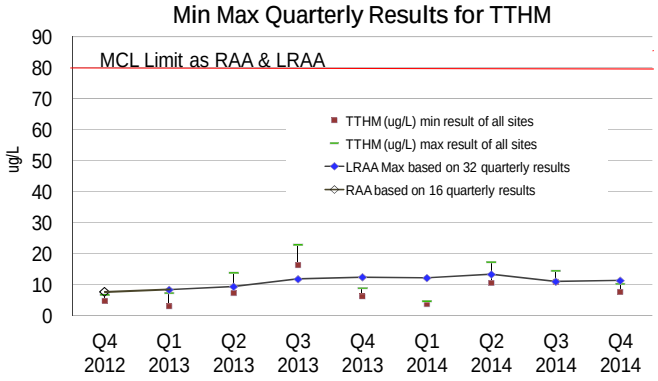
For the CVA communities, effective Q3 2013, under the Stage 2 DBP Rule, compliance is based on a LRAA for each community. Sampling locations have increased from 12 to 14 each quarter. Prior to Q3 2013, the running annual average is reported, and since Q3 2013, the maximum LRAA is reported (in addition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

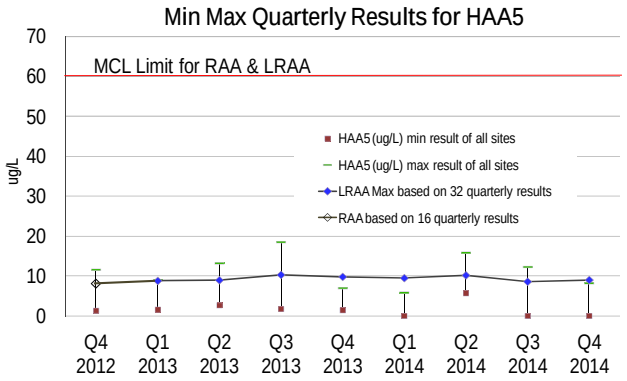
Partially served and CVA communities are responsible for their own compliance monitoring and reporting, and must be contacted directly for their individual results.

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.

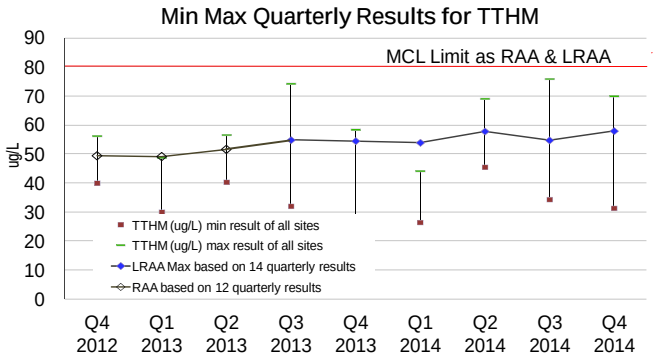
The RAA for TTHMs and HAA5s for MWRA's Compliance Program (represented as the line in the top two graphs below) remain below current standards. The LRAA for TTHMs = 12.1 ug/L; HAA5s = 9.0 ug/L. The current RAA for Bromate = 0.0 ug/L. CVA's DBP levels continue to be below current standards.

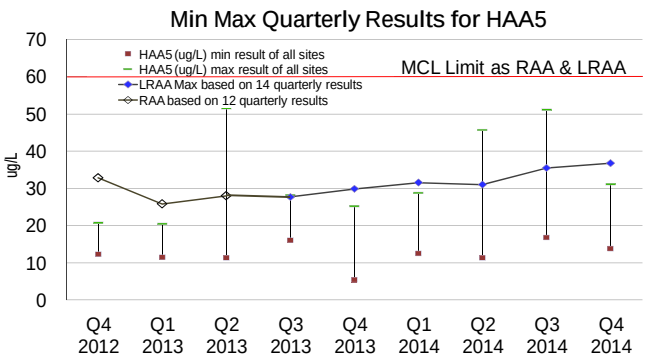
MetroBoston Disinfection By-Products





CVA Disinfection By-Products





Water Supply and Source Water Management

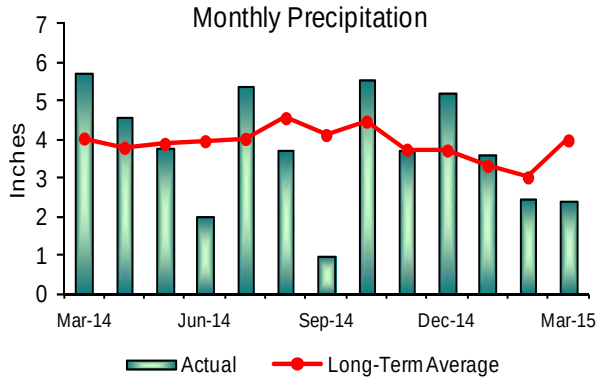
3rd Quarter – FY15

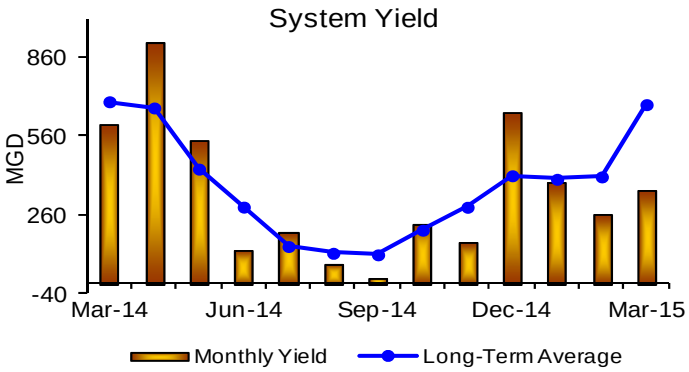
Background

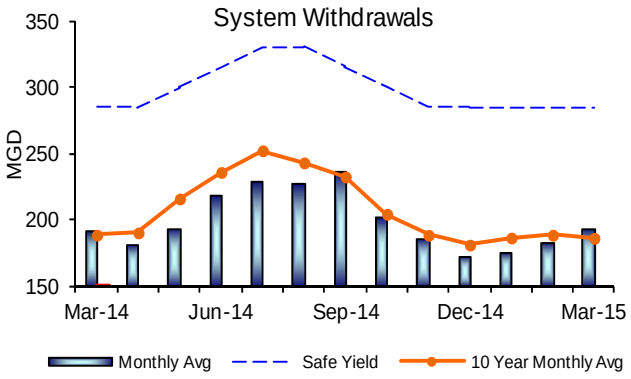
A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir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

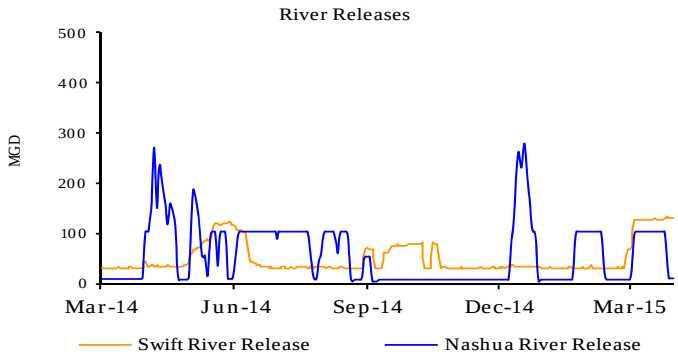
Outcome

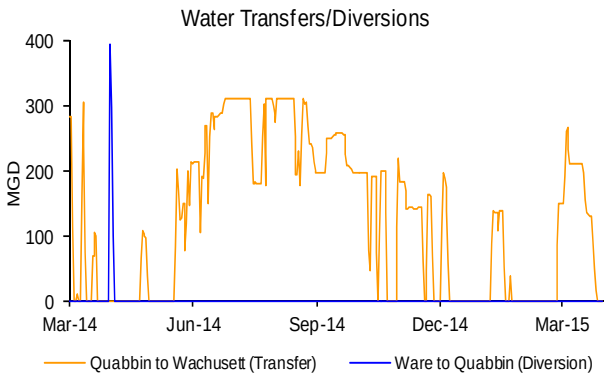
Quabbin Reservoir level remains within the normal operating range for this period of the year. The volume of the Quabbin Reservoir was at 94.9% as of March 31, 2015; a 1.6% increase for the quarter, which represents an increase of 6.5 billion gallons of storage. Yield and precipitation for the quarter were below their respective quarterly long term averages. Monthly withdrawal continues to be below its long-term average.

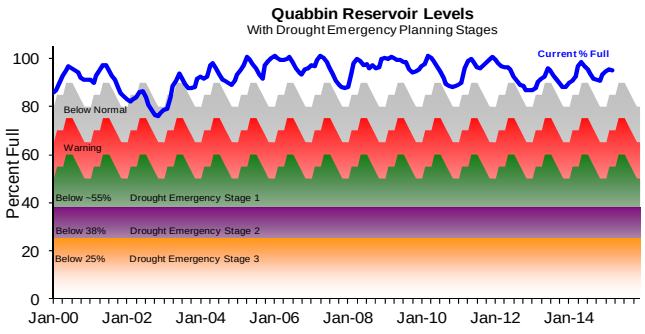












WASTEWATER QUALITY

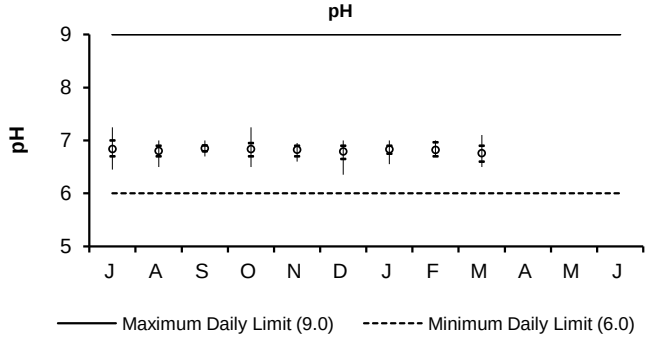
NPDES Permit Compliance: Deer Island Treatment Plant

3rd Quarter - FY15

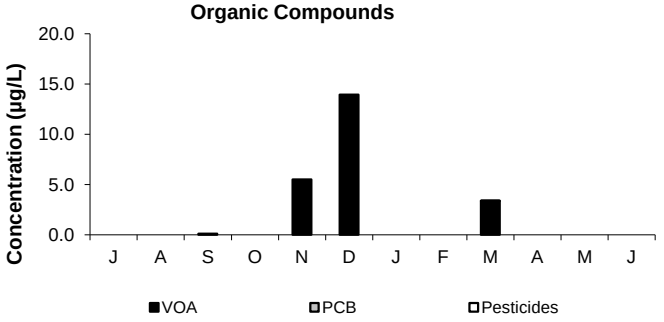
NPDES Permit Limits

Effluent Characteristics		*Units*	*Limits*	*January*	*February*	*March*	*3rd Quarter Violations*	*FY15 YTD Violations*
Dry Day Flow:		mgd	436	284.4	281.4	282.5	0	0
cBOD:	Monthly Average	mg/L	25	5.9	7.4	8.2	0	0
	Weekly Average	mg/L	40	7.7	8.3	9.8	0	0
TSS:	Monthly Average	mg/L	30	9.7	11.2	17.2	0	0
	Weekly Average	mg/L	45	12.8	12.0	22.8	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	16	10	35	0	0
	Weekly Geometric Mean	col/100mL	14000	8	7	9	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	6.6-7.0	6.7-7.0	6.5-7.1	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
	Inland Silverside	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Sea Urchin	%	≥1.5	50	50	25	0	0
	Inland Silverside	%	≥1.5	100	100	50	0	0

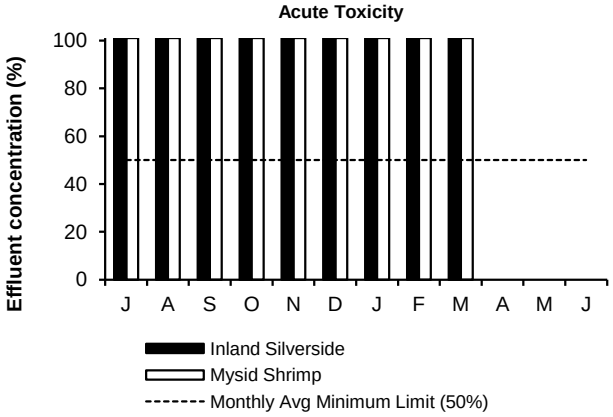
There have been no permit violations in FY15 to date at the Deer Island Treatment Plant.



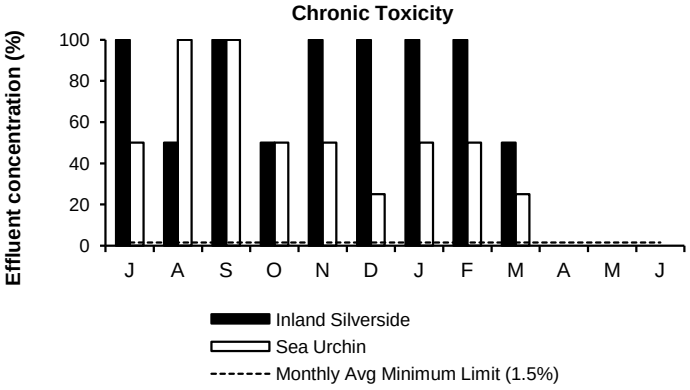
pH is a measure of alkalinity or acidity. Fluctuations in effluent pH are unlikely to impact on marine environments, which have significant buffering capacity. Because of the pure oxygen used in the activated sludge process, effluent pH tends to be at the lower end of the permit-required range. All pH 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 significantly reduces organic compounds in the effluent stream. In the 3rd Quarter, some volatile organic compounds were detected in the effluent in March. All other organic compounds were below the detection limit for the quarter.



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

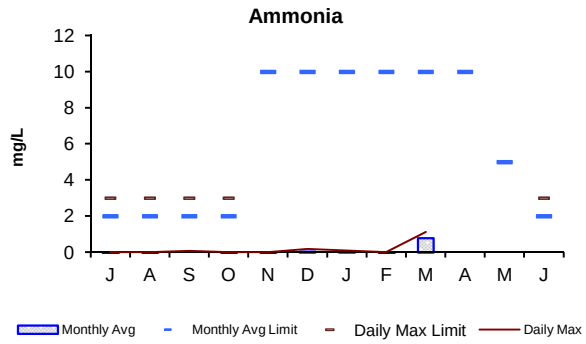
3rd Quarter - FY15

NPDES Permit Limits

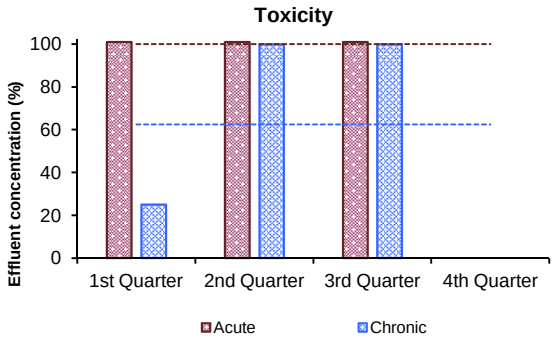
Effluent Characteristics		*Units*	*Limits*	*January*	*February*	*March*	*3rd Quarter Violations*	*FY15 YTD Violations*
Flow:	Running Average:	mgd	3.01	2.58	2.59	2.62	0	0
BOD:	Monthly Average:	mg/L	20	3.7	5.4	5.8	0	0
	Weekly Average:	mg/L	20	4.6	6.1	6.6	0	0
TSS:	Monthly Average:	mg/L	20	2.4	4.5	6.4	0	0
	Weekly Average:	mg/L	20	3.2	5.9	7.4	0	0
pH:		SU	6.5-8.3	7.1-7.6	7.0-7.4	6.9-7.4	0	0
Dissolved Oxygen:	Daily Minimum:	mg/L	6	9.7	9.2	9.8	0	0
Fecal Coliform:	Daily Geometric Mean:	col/100mL	400	9	6	3	0	0
	Monthly Geometric Mean:	col/100mL	200	7	3	4	0	0
TCR:	Monthly Average:	ug/L	50	0.22	<20	0.4	0	0
	Daily Maximum:	ug/L	50	6.67	<20	7.5	0	0
Total Ammonia Nitrogen:	November 1 - March 31							
	Monthly Average:	mg/L	2.0	<0.1	<0.1	0.79	0	0
	Daily Maximum:	mg/L	3.0	<0.1	<0.1	1.13	0	0
Copper:	Monthly Average:	ug/L	20	6.0	7.8	11.3	0	0
Phosphorus:	May 1 - Oct 31							
	Monthly Average:	mg/L	1.0	0.15	--	--	0	0
Acute Toxicity:	Daily Minimum:	%	≥100	*N/A	*N/A	>100	0	0
Chronic Toxicity:	Daily Minimum:	%	≥62.5	*N/A	*N/A	100	0	1

There has been one permit violation in FY15 at the Clinton Treatment Plant.
1st Quarter: There was one permit violation in the 1st Quarter of FY15. In September 2014, the chronic toxicity was 25%, which is below the permit minimum of 62.5%.
2nd Quarter: There were no permit violations in the second quarter of FY15.
3rd Quarter: There were no permit violations in the third quarter of FY15.

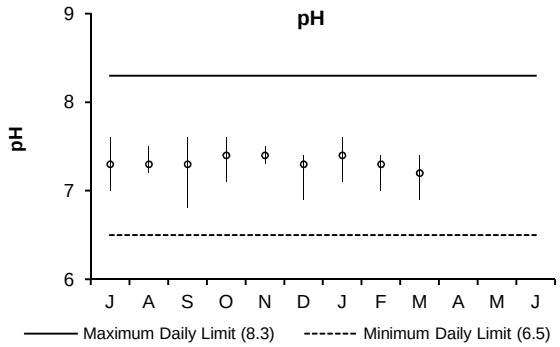
*Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



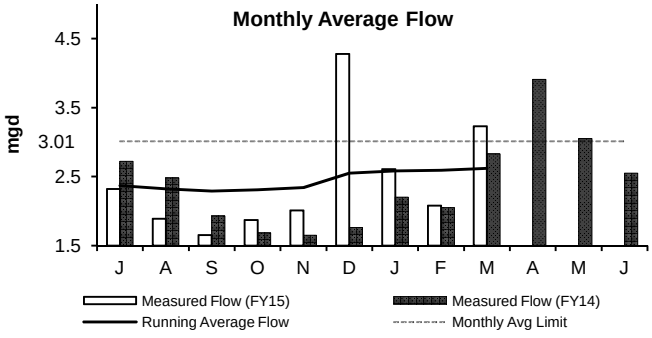
The 3rd Quarter's monthly average and daily maximum ammonia concentrations were below the permit limits. The monthly average and daily maximum limits for the 3rd Quarter are 10.0 mg/L and 35.2 mg/L. The permit limits are most stringent from June to October when warm weather conditions are most conducive 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. Toxicity limits were met during the 3rd Quarter.



pH is a measure of the alkalinity or acidity of the effluent. All daily pH results for the 3rd Quarter were within the range set by the permit.



The graph depicts the running annual average monthly flow, measured in million gallons per day, exiting the plant. March high flow did not cause the running annual average to exceed permit limits.

COMMUNITY FLOWS AND PROGRAMS

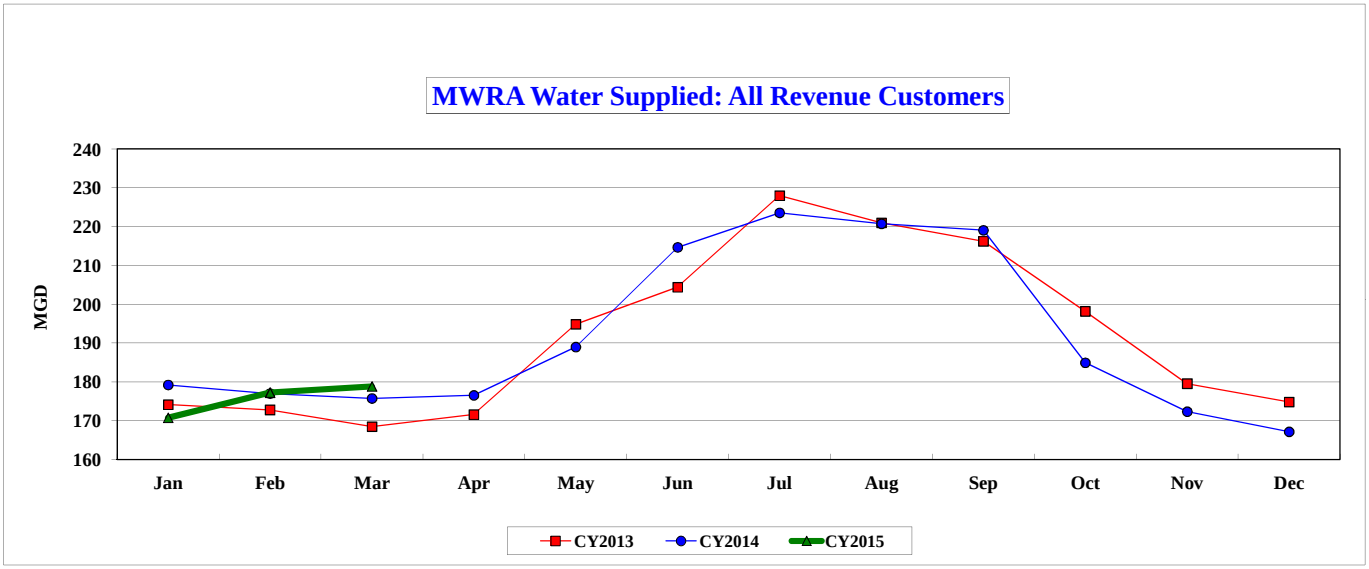
Total Water Use Report

MWRA Core Customers Water Supplied

3rd Quarter - FY15

MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2013	174.12	172.78	168.46	171.57	194.84	204.38	227.96	220.96	216.22	198.17	179.55	174.81	171.75	192.13
CY2014	179.21	176.99	175.74	176.54	188.97	214.66	223.54	220.73	219.05	184.92	172.33	167.15	177.32	191.73
CY2015	170.75	177.24	178.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	175.55	175.55

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total	Annual Total
CY2013	5397.61	4837.91	5222.33	5147.06	6039.97	6131.51	7066.85	6849.83	6486.47	6143.22	5386.45	5419.24	15457.85	70128.43
CY2014	5555.58	4955.63	5447.81	5296.07	5858.18	6439.79	6929.85	6842.75	6571.48	5732.47	5169.98	5181.51	15959.01	69981.09
CY2015	5293.17	4962.60	5543.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15799.42	15799.42



Attached for your information is the March 2015 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 2015 water use will be used to allocate the FY17 water utility rate revenue requirement.

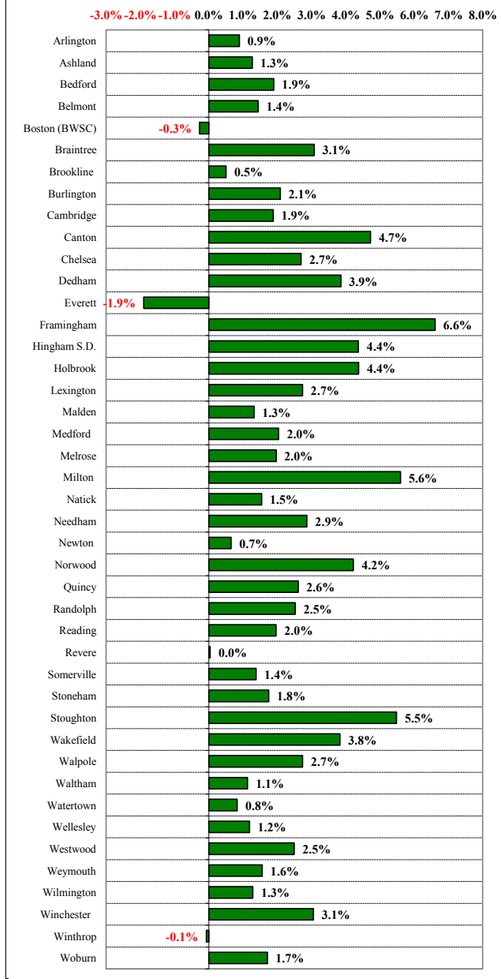
March 2015 water supplied of 178.8 mgd (for revenue generating users) is up 3.1 mgd or 1.8% compared to March 2014. System-wide year to date consumption for CY15 is lower than CY14 with 175.5 mgd being supplied to MWRA customers **through March**. This is 1.8 mgd lower than CY14, and is a decrease of 1.0%.

Community Wastewater Flows

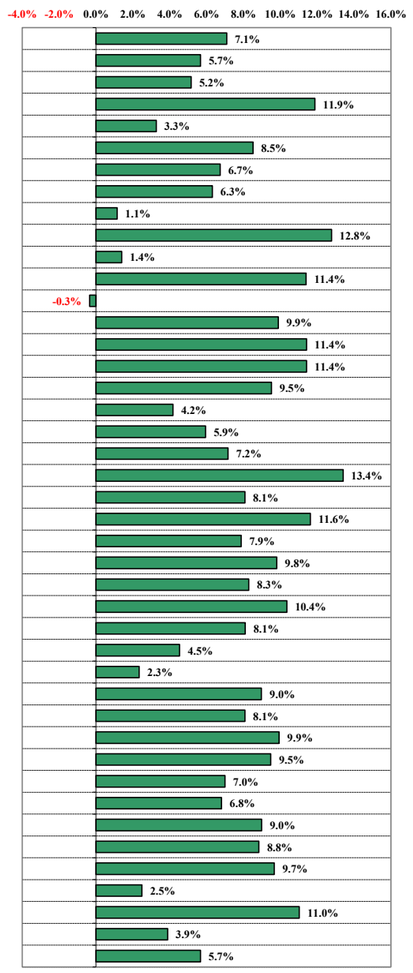
How Projected CY2015 Community Wastewater Flows Could Effect FY2017 Sewer Assessments [1,2,3]

The flow components of FY2017 sewer assessments will be calculated using a 3-year average of CY2013 to CY2015 wastewater flows compared to FY2016 assessments that will use a 3-year average of CY2012 to CY2014 wastewater flows.

Change in Average Flow

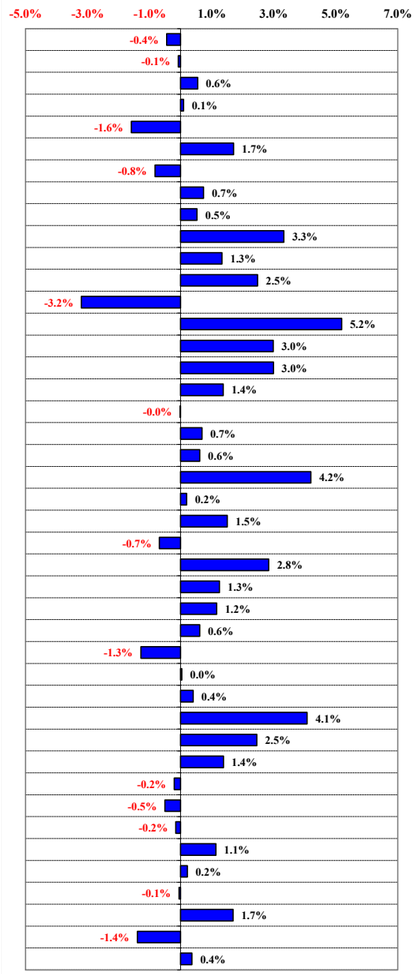


Change in Max. Month Flow

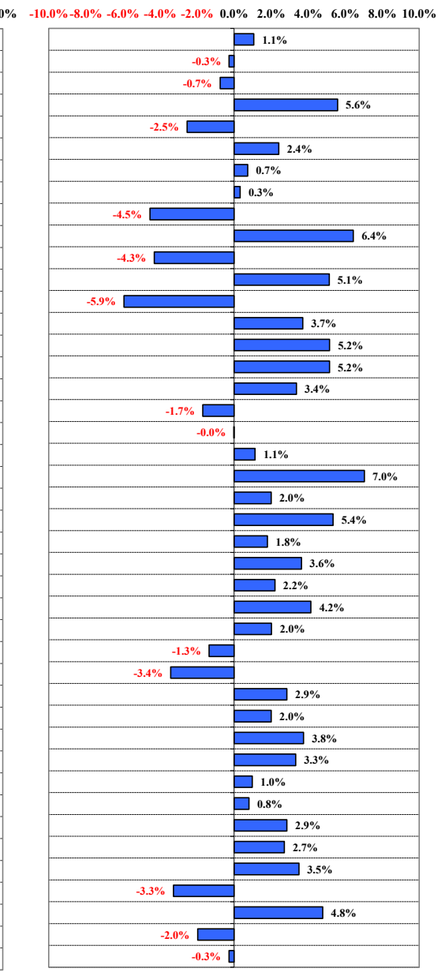


But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the <u>RELATIVE</u> change in CY2013 to CY2015 flow share compared to CY2012 to CY2014 flow share, compared to all other communities in the system.

Change in Average Flow Share

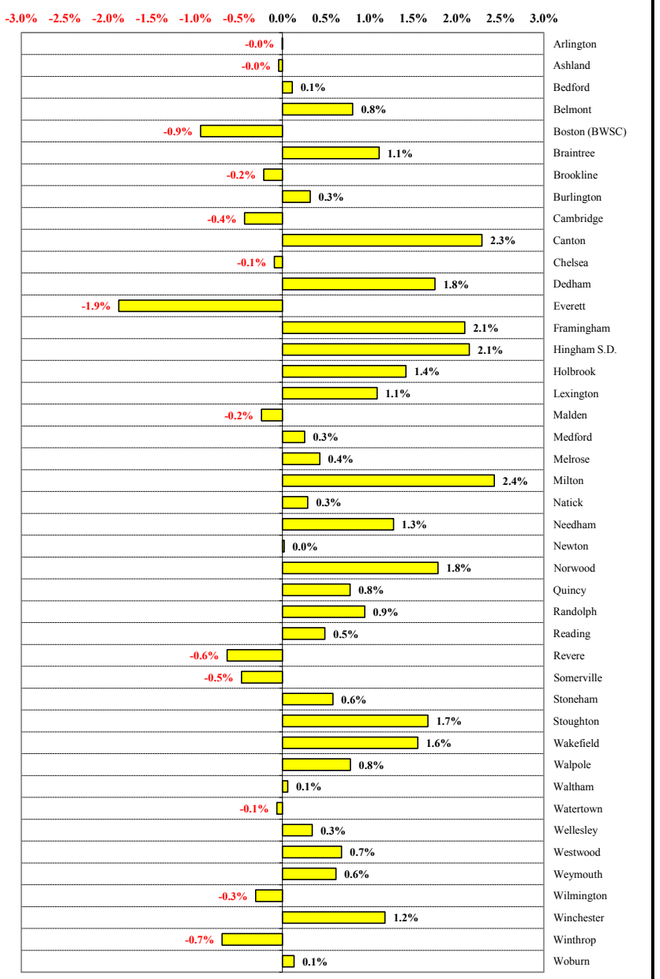


Change in Max Month Flow Share



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

Assessment Impact Due to Change in Flow Share



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 CY2012 to CY2015 average wastewater flows as of 03/24/15. Flow data is preliminary and subject to change pending additional MWRA and community review.**

[3] **CY2012 to CY2014 wastewater flows based on actual meter data. CY2015 flows based on actual meter data for January to February and projected flows for March to December.**

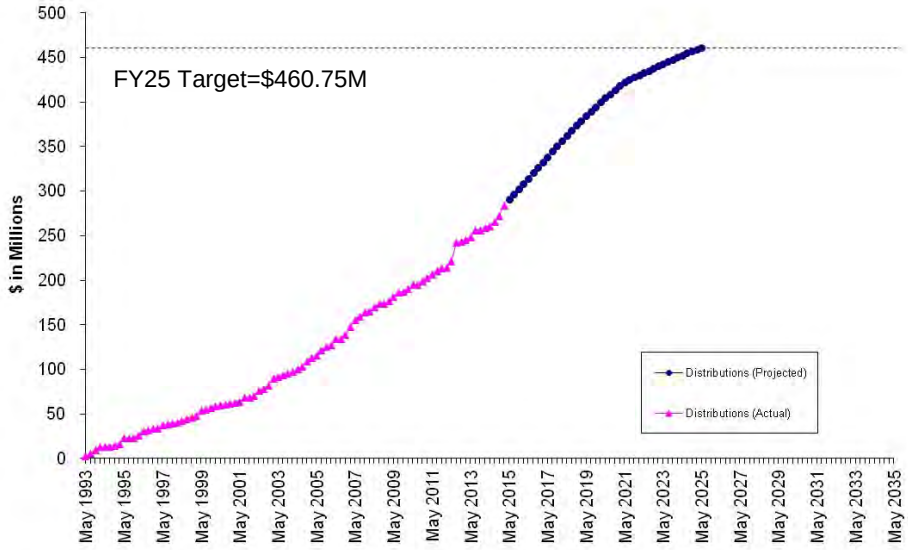
[4] **Represents <u>ONLY</u> the impact on the total BASE assessment resulting from the changes in average and maximum wastewater <u>FLOW SHARES</u>.**

Community Support Programs
3rd Quarter – FY15

Infiltration/Inflow Local Financial Assistance Program

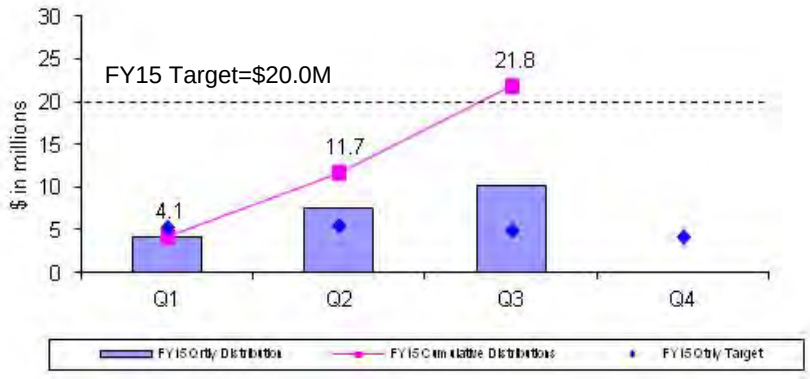
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides $460.75 million in grants and interest-free loans (average of about $14 million per year from FY93 through FY25) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total $300.75 million) were distributed as 45% grants/55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 and 10 funds (total $160 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period.

I/I Local Financial Assistance Program Distribution FY93-FY25



During the 3rd Quarter of FY15, $10.1 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Braintree, Dedham, Hingham, Natick, Norwood, Walpole, Waltham, Weymouth, and Winchester. Total grant/loan distribution for FY15 is $21.8 million. From FY93 through the 3rd Quarter of FY15, all 43 member sewer communities have participated in the program and more than $283 million has been distributed to fund 475 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY25 and community loan repayments will be made through FY36. All scheduled community loan repayments have been made.

FY15 Quarterly Distributions of Sewer Grant/Loans

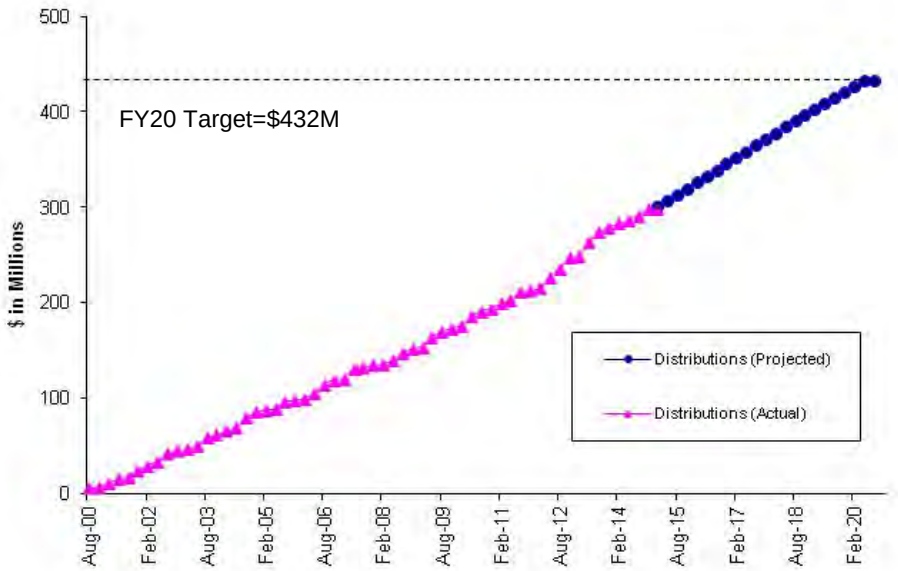


Community Support Programs
3rd Quarter – FY15

Water Local Pipeline and Water System Assistance Programs

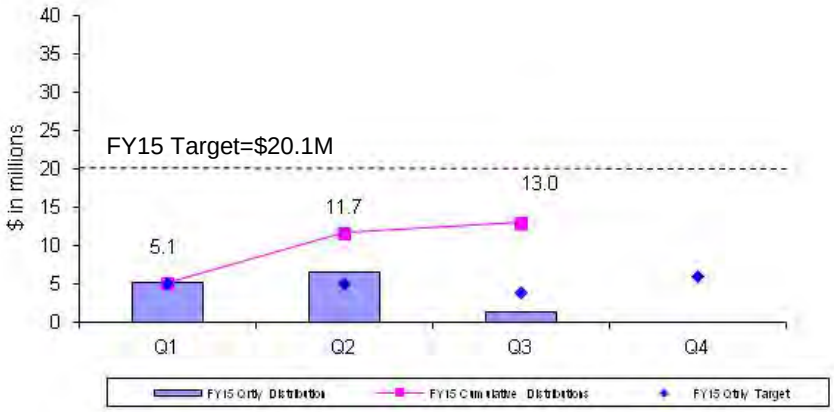
MWRA's Local Pipeline and Water System Assistance Programs (LPAP and LWSAP) provide $432 million in interest-free loans (an average of about $22 million per year from FY01 through FY20) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution 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.

Local Pipeline and Water System Assistance Programs Distribution FY01-FY20



During the 3rd Quarter of FY15, $1.3 million in interest-free loans was distributed to fund local water projects in Arlington and Winchester. Total loan distribution for FY15 is $13.0 million. From FY01 through the 3rd Quarter of FY15, more than $298 million has been distributed to fund 342 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.

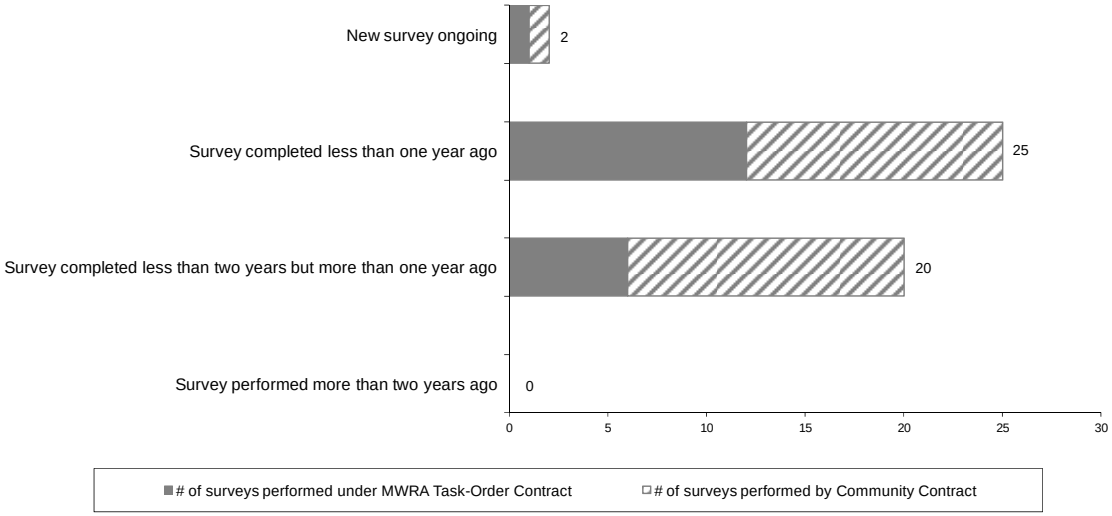
FY15 Quarterly Distributions of Water Loans



Community Support Programs
3rd Quarter – FY15

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 FY15, 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.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	18,484	806	62,026		81,316
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	6,382	1,886	2,301		10,569
Toilet Leak Detection Dye Tablets	------	5,041	2,207	1,679		8,927

BUSINESS SERVICES

Procurement: Purchasing and Contracts

3rd Quarter, FY15

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

Outcome: Processed 84% of purchase orders within target; Average Processing Time was 6.0 days vs. 7.17 days in Q3 FY14. Processed 54 % (7 of 13) of contracts within target timeframes; Average Processing Time was 154 days vs. 122 days in Q3 FY14.

Purchasing

	No.	TARGET	PERCENT IN TARGET
$0 - $500	1026	3 DAYS	76.4%
$500 - $2K	1004	7 DAYS	93.7%
$2K - $5K	153	10 DAYS	74.5%
$5K - $10K	107	25 DAYS	86.9%
$10K - $25K	88	30 DAYS	76.9%
$25K - $50K	12	60 DAYS	66.6%
Over $50K	15	90 DAYS	75.0%

The Purchasing Unit processed 2405 purchase orders, 303 less than the 2708 processed in Q3 FY14 for a total value of $8,150,857 versus a dollar value of $9,119,892 in Q3 FY14.

The purchase order processing target was not met for the $0 - 500 due to price confirmations; $2k - $5k due to sole source requirements and end user approvals; $10k - $25k due to item clarification and end user approval; $25k - $50k due to end user approval and staff summary requirements and the over $50k due to staff summary requirements.

Contracts, Change Orders and Amendments

Six contracts were not processed within the target timeline; one was intentionally delayed until market conditions relative to the cost of electricity improved; others exceeded target due to the need for specification revisions or contractor delays in providing insurance and bonds or other backup information.

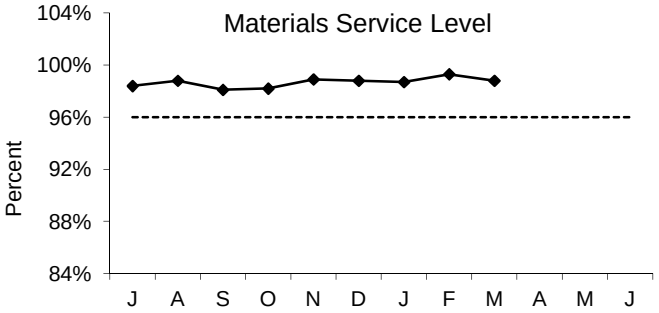
Procurement processed thirteen contracts with a value of $6,453,389 and five amendments with a value of $4,619,780.

Twenty six change orders were executed during the period. The dollar value of all non-credit change orders during Q3 FY14 was $1,506,723 and the value of credit change orders was $363,590.

Staff reviewed 30 proposed change orders and 27 draft change orders.

Materials Management

3rd Quarter - FY15



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 8,057 (98.8%) of the 8,141 items requested in Q3 from the inventory locations for a total dollar value of $1,923,668.

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 FY15 goal is to reduce consumable inventory from the July '14 base level ($7.7 million) by 2.0% (approximately $154,987), to $7.5 million by June 30, 2015 (see chart below).

Items added to inventory this quarter include:

- Deer Island – ball valve, terminal block, pressure switch and gas sensors for I&C; Baldor motor, air separator and motor for HVAC; brush fittings and proximity probe for Core; epoxy adhesive for Residuals.
- Chelsea – brake calipers, brake rotors, headlights, coolant tank and connector fluid for Fleet Services; Baldor motor, conveyor scaper, mechanical seal, actuator, ballasts, variable frequency drive, submersible pump and blower for Work Order Coordination Group; hex nuts and caulking anchors for Maintenance.
- Southboro – padlocks, abrasive disks and pads for Maintenance; oil filters for Fleet Services; Ultraviolet (UV) sensors for Carroll Water Treatment Plant.

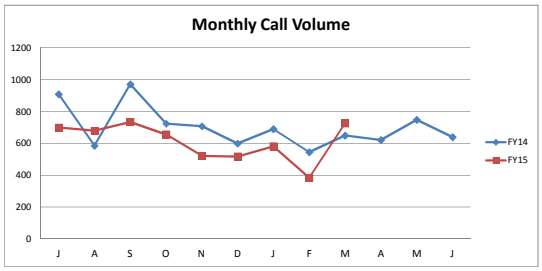
Property Pass Program:

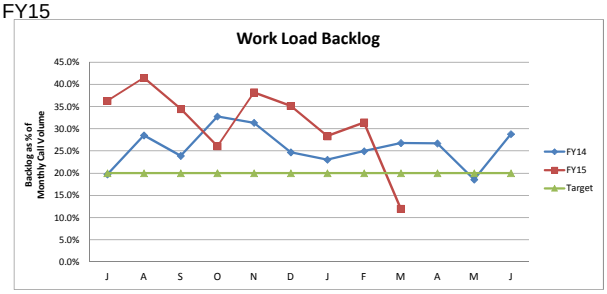
- Several audits were conducted for Chelsea welder's tool boxes and the Chelsea electric shop during Q3.
- Numerous obsolete monitors, computers, printers, scanners, projectors, mice, fax machines, cell phones and network switches have been received into Property Pass as surplus. Disposition is being handled as part of our ongoing recycling efforts.
- Scrap revenue received for Q3 amounted to $10,592. Year to date revenue received amounted to $49,909.
- Revenue received from online auctions held during Q3 amounted to $54,034. Year to date revenue received amounted to $127,207.

Items	Base Value July-14	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	7,749,357	7,671,794	-77,563
Spare Parts Inventory Value	7,358,692	7,817,445	458,753
Total Inventory Value	15,108,049	15,489,239	381,190

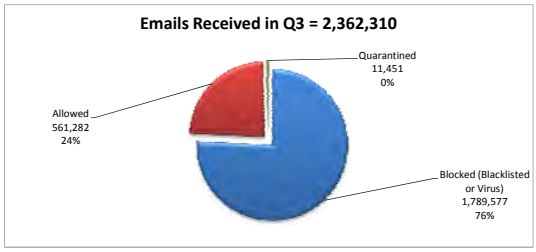
Note: New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

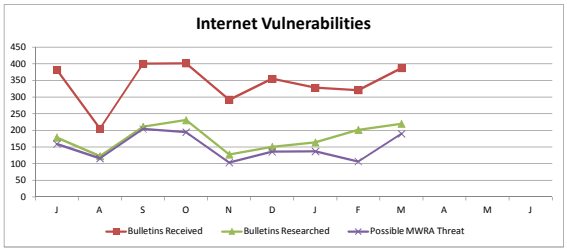
MIS Program
3rd Quarter FY15





Performance:
Call Volume: Peaked in March. FY15-Q3 call volume decreased by 10% from FY14-Q3 last year. Call Backlog: Peaked in January. FY15-Q3 backlog average is 4% above the targeted benchmark of 20%.





Information Security:
During Q3, staff pushed security fixes and updates to desktops and servers throughout the quarter in order to protect against 254 vulnerabilities. LANDesk Antivirus quarantined 16 distinct viruses from 14 MWRA PCs. PCs are current with anti-virus providers' signatures for all known malware.

Infrastructure:
Citrix Mobile Application Design and Development: Received cost quotes for both Netscaler SDX and XenDesktop Implementations. Netscaler Statement of Work(SOW) under development with a target for installation in May (after MWRA staff training in April). Blade Servers and Netscaler hardware has been received. MIS completed testing of iOS on 03/18/15. Updated WorxHome to version 10.0.3 (Build 59). 150 iPhone/iPads being managed with XenMobile, 31 Blackberry devices to be replaced with iPhones. Added text message email addresses in the Global Address List (GAL) and various distribution lists that will serve as alerts for critical emails and alarms. Created a Text Message User list that includes every MWRA cellular device.

Distributed Antenna System(DAS): In-Building Cellular was awarded the installation of the final DAS implementation for Deer Island. This will include five buildings: Winthrop, Disinfection, Main Switch, North and South Pump, and will enhance the Verizon cellular signal strength within the facilities. Expected completion is April 30, 2015.

Applications/Training/Records Center:
Strategic Sourcing and Contract Management: Migrated and tested all configurations and workflows in the production system in advance of the production system upgrade. The Landmark Supply Chain Management suite was successfully upgraded to version 9.1.1.4 and tested over the weekend of March 14th. Rolled out access to Crystal reports on the new Crystal Reports Server to users in Procurement. Provided a two-day training session to staff who will be working in Contracts Management. The first two Non-Professional Services contract events were put on the Supplier Portal in March and February.

e-Discovery Archive & Purge: This project will provide an automated and integrated solution for archiving electronic content and allow the Authority to store, manage and discover email and all critical business information sources across document types. Began data collection for Enterprise Vault Solution Design and Archiving Policies; compiled a list of Department contacts for the Business Definition phase. IT and Records Center staff completed the collection of the retention codes and periods and added them to the interim database for querying and reporting. Completed a web application to organize the record retention schedule data that includes records series codes by departments and DRMs. The data is now in a SQL database for better data management and will be used for the Active Records and Vital Records Filing Schemes. Conducted a demo of the Active Records Filing Scheme Tracking application at CNY, DI and Chelsea. Each demo was followed by a PowerPoint presentation given by the GLOBANET vendor so that attendees could see what their end user experience would be like when the Enterprise Vault application comes online.

Learning Management System (LMS): Went live with LMS. Created and posted a "How to Reset Password" job aid for CBT training. Installed the State Ethics Commission's training package. Created an SQL view to show employee completion of the training and built a query web application that provides training summaries and detail reports which can be exported to MS Excel. Expanded the application's reporting functionality to allow on-demand reports for the LMS Security Awareness class. Created accounts for the Advisory Board members so that they could take the Ethics Training class. Created SQL jobs to automate training reminders.

Electronic Lab Notebook (ELN): ELN is a replacement for physical log books that are used by laboratory staff. Log books contain information about sample state and other relevant information that is not currently stored in the Laboratory Information Management System (LIMS). This effort is required to ensure that LIMS is ready for new ELN sheets that will be added over the next one or two year period. On March 21, 2015 the ELN module was installed in LIMS in the production environment. Phase one of the project focuses on logs for the Water system. Phase II will focus on the Sewer system logs. To date there are 49 logs for the Water system, five have been completed, nine eliminated from the scope of the project and nine in various stages of development.

Pretreatment Information Management Systems (PIMS) Permit Notifications: New notification function for 16 general reports was added to PIMS. This function will notify TRAC Industrial Coordinators (ICs) about coming due dates for required actions defined in the permit. A notification is only generated if a required action was not completed and requires follow up by an IC. These actions relate to other requirements (not data submission) in the Permit that industry must complete on time (for example new PH meter installation).

MAXIMO Upgrade: MAXIMO is a computerized maintenance management system which is used to manage maintenance activities for Water and Wastewater assets. An initiative to upgrade the software and expand its use across multiple departments is underway by means of a competitive bidding process. The multi-department selection committee has released the RFQ/P, reviewed and scored proposals, and currently in negotiations with the top ranked firm.

Operations Management Monitoring System (OMMS): OMMS is a set of web applications that allow management to view near real-time operational data from MWRA authorized desktop computers and mobile devices. Recent expansion of this system now allows staff to monitor flows and pressures at 10 additional pump stations. A new category has also been added that organizes data by community which allows MWRA staff to quickly view a member community's flow and pressure.

Library & Records Center: The Library completed 47 research requests (143 YTD), added 22 books (116 YTD) and 40 Reports (99 YTD), distributed 83 periodicals (357 YTD) and 112 web requested books & reports (422 YTD). The Records Center added 133 boxes (515 YTD), conducted 1 training session, and attended 1 Records Conservation Board Meetings.

IT Training: For the quarter, 126 staff attended 16 classes and 4 workshops. 22% of the workforce has attended at least one class year-to-date. Citrix training was offered. Three Job aids were developed and published: Updating Your iPhone/iPad iOS Software, Using Citrix ShareFile, and Backing Up Data Files Using Windows 7.

Legal Matters
3rd Quarter - FY15

PROJECT ASSISTANCE

COURT AND ADMINISTRATIVE ORDER

- **Boston Harbor Litigation and CSO:** Reviewed draft CSO annual report. 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. Filed supplement to March 13, 2015 Compliance and Progress Report.

- **NPDES:** Reviewed letter notifying EPA and DEP of testing of pumps with river water at Prison Point CSO facility. Reviewed EPA's rule regarding sufficiently sensitive methods for chemicals in discharges from POTWs. Reviewed DEP's and EPA's residuals landfill relative to contract requirements for operation of residuals plant. Reviewed and revised cover letter to DEP related to the permit application for installation/replacement of influent gates at Clinton Wastewater Treatment Plant.

REAL ESTATE, CONTRACT AND OTHER SUPPORT

- **Orders of Conditions:** Recorded Certificate of Compliance related to Order of Conditions for DEP File 337-1061, Hultman Aqueduct, DEP File No. NE 6-491 related to shoreline protection (south) at DITP and DEP File 115-375 related to stormwater pollution prevention plan for MWRA's Wachusett Aqueduct south dike project.

- **Fore River:** Recorded grant of railroad easement from Quincy Shipyard, LLC to MWRA/FRRC and release of railroad easement by MWRA/FRRC related to straightening of the curve of the railroad track in the Fore River Shipyard. Drafted license permitting MBTA to use the FRRC engine house in Quincy to repair its engines and other equipment.

- **Regulations:** Reviewed new regulations that complete the transfer of regulation of Underground Storage Tanks (USTs) from the Dept. of Fire Services (DFS) to the DEP.

- **Watershed Acquisition:** Reviewed and commented on materials for the acquisition of a parcel of land in Sterling from Erikson Sterling Realty Trust (W-000179).

- **Public Access:** Finalized amendment to Natick's Sudbury Aqueduct Public Access Permit.

- **Newton MOA:** Forwarded first draft of an MOA to counsel for the City of Newton to enable the City to use MWRA land in the vicinity of Willow and Lyman streets for access to Newton's planned new Fire Station.

- **Net Metering Credit Agreement - Chelsea facility:** Reviewed and provided comments on the Net Metering Credit Agreement proposed by Lodestar Energy and Griffin Way LLC with regard to placing a photovoltaic arrangement on the roof of the Chelsea Facility.

- **Process Piping Regulations:** Researched issue of whether in-house employee pipefitters doing piping work for MWRA were required to be licensed under new regulations concerning process piping work, and concluded they were not.

- **Contract 7335 – Section 4 Webster Avenue Pipeline and Utility Bridge Replacement Project:** Drafted various documents pursuant to G.L. c. 79 § 5C (notice of taking by eminent domain), § 9(b) of the MWRA enabling act (removal of obstructions), and voluntary grant of easement in order to ensure that MWRA had a permanent easement and clear access at 48 Webster Ave., Somerville in support of the project. Drafted licenses with NSTAR and MBTA to gain access necessary for the Project.

- **Ward Street Headworks:** Drafted and sent a demand letter to former elevator service contractor demanding indemnity and payment of a fine imposed on MWRA for failure to maintain the Certificate for Use up to date.

- **Construction Contractor Claim:** Reviewed and made a recommendation on two (2) construction contractor claims.

MISCELLANEOUS

- Reviewed and approved thirty-four (34) Section 8(m) Permits.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

Nine demands for arbitration were filed.

One appeal was filed at the Civil Service Commission.

Matters Concluded

Received an arbitrator's decision in favor of MWRA finding that the MWRA did not violate a collective bargaining agreement when employees claimed they were not paid for work performed out of title.

LITIGATION/TRAC

New Matters

During the Third Quarter of FY 2015, no new lawsuits were received.

Significant Developments

Daniel O'Connell's Sons, Inc. v. MWRA v. Allied Locke: This action arises out of MWRA Contract No. 6899, Primary and Secondary Clarifier Rehabilitation, Deer Island Treatment Plant, under which plaintiff Daniel O'Connell's Sons, Inc. rehabilitated 102 primary and secondary clarifiers at DITP. Plaintiff seeks money damages for the additional costs associated with making modifications to the head shaft driven sprockets ("bull sprockets") in the primary and secondary clarifiers at DITP. 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. In February and March, six days of depositions were taken. On March 3, a Rule 16 conference was held in which the Superior Court indicated that Plaintiff's intentions to file a partial summary judgment motion appeared unwarranted. Discovery is continuing.

Dow v. MWRA: This is an action by a general contractor for alleged breach of contract and quantum meruit damages against MWRA under MWRA Contract No. 6394, which provided for cleaning, lining and repairs to water lines in Somerville and Medford. Plaintiff alleged that it furnished additional work ordered by MWRA totaling $488,723.49. On December 18, 2014, the Superior Court issued a decision on the parties' summary judgment motions. The Court granted the plaintiff summary judgment on its first claim, and granted MWRA summary judgment denying the plaintiff's second and third claims. Dow's first claim was for reimbursement of police detail costs. The Court awarded Dow $374,102.94 in reimbursement of its police detail expenses incurred in the course of the project, rejecting MWRA's argument that Dow improperly failed to include the costs in its winning bid. On February 5, 2014, MWRA filed a Notice of Appeal of the Superior Court's decision. In March, the parties entered into negotiations concerning possible settlement of the case.

Significant Matters Concluded

Steven v. Walker v. MWRA and P. Gioioso & Sons v. NSTAR State Trooper: Steven Walker alleged that on May 24, 2010, he was working as a detail officer on the North Dorchester Bay Combined Sewer Overflow Project in South Boston. Gioioso was the general contractor for MWRA on this project pursuant to MWRA Contract 7259. A Gioioso employee allegedly struck a power line while excavating in the street. Plaintiff alleged that as a result of defendants' negligence he was "electrocuted" and sustained serious personal injuries. Plaintiff claimed damages, including medical expenses, lost wages and pain and suffering of $267,500. All defending parties contested liability and damages. There was conflicting evidence regarding the proximity of the plaintiff to the damaged power line at the time of the incident, and the operator of the excavator was not injured. P. Gioioso & Sons provided MWRA with a legal defense and full indemnification in accordance with the applicable Contract. The case settled for a total payment of $20,000. Gioioso contributed $10,000, on behalf of Gioioso and MWRA, and NSTAR contributed the remaining $10,000.

Estate of Marie Stewart, et al. v. MWRA, et al.: This is an action seeking damages for personal injuries and wrongful death arising out of an accident on May 23, 2012 in which an MWRA vehicle operated by an MWRA employee struck and killed Marie Stewart at the intersection of Ferry Street and Cherry Street in Everett, MA. Marie Stewart was working as a crossing guard at the time of the accident. With approval of the Board of Directors, MWRA staff participated in mediation which resulted in settlement of the case. On March 18, 2015 the Court approved the settlement and the case has been dismissed.

Subpoenas During the Third Quarter of FY 2015, no new subpoenas were received and no subpoenas were pending at the end of the Third Quarter FY 2015.

Public Records During the Third Quarter of FY 2015 three public records request were received and one public records request was closed.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of Mar 2015	As of Dec 2014	As of Sept 2014
Construction/Contract/Bid Protest (other than BHP)	4	4	4
Tort/Labor/Employment	3	5	5
Environmental/Regulatory/Other	1	1	1
Eminent Domain/Real Estate	0	0	0
total – all defensive cases	**8**	**10**	**10**
Affirmative cases not in suit:	0	0	0
Other Litigation matters (restraining orders, etc.) MWRA v. Thomas Mercer	1	1	1
total – all pending lawsuits	**9**	**11**	**11**
Significant claims not in suit: Deer Island Submarine Power Cable Braiani, Agostinho Rosa, Antonio Gonzalez, Dora	4	4	3
Bankruptcy	1	1	1
Wage Garnishment	15	15	15
TRAC/Adjudicatory Appeals	1	1	1
Subpoenas	0	0	0
TOTAL – ALL LITIGATION MATTERS	**30**	**32**	**31**

TRAC/MISC.

New Appeals There were no new TRAC appeals received in the 3rd Quarter FY 2015.

Settlement by Agreement of Parties No cases were **s**ettled by Agreement of Parties in the 3rd Quarter FY 2015.

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 2015.

Final Decisions No Final Decisions were issued during the 3rd Quarter FY 2015.

INTERNAL AUDIT AND CONTRACT AUDIT PROGRAM
3rd Quarter FY15

Highlights

Staff provided financial analysis and negotiation assistance for the NEFCo contract extension. Staff also assisted in the development and implementation of the new computerized Active Records Filing Scheme. Policy and Procedures were being reviewed and updated as well as signature authorities.
Final reports were issued in the following areas:

- One consultant preliminary review
- Two construction preliminary reviews
- Two incurred cost audits
- A review of the lease for MWRA's Records Center in Marlborough

Status of Open Audit Recommendations (7 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
DITP Data Center Access Controls (10/14/11)	2	20
Chelsea Facility Physical Security (12/31/12)	3	29
Hardware Equipment Management (5/22/13)	9	27
Follow-Up Report on Fleet Services Activities (12/31/13)	4	13
MBE/WBE Program Contracting Goals (3/14/14)	5	5
Bay State Fertilizer Follow-Up (9/30/14)	1	4
Expanded Affirmative Action Requirements (9/30/14)	1	15
8(m) Permit Fee (11/17/14)	2	4
Records Management (12/5/14)	8	8
Total Recommendations	**35**	**125**

Audit Savings

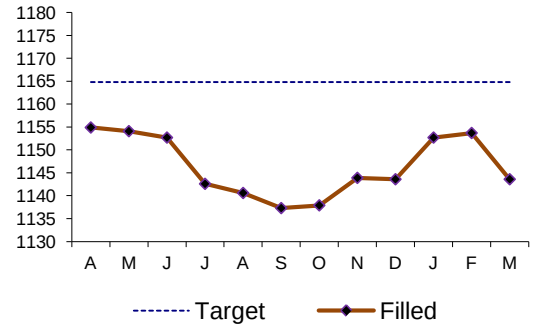
The Internal Audit Department's target is to achieve at least $1 million in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of work in prior years.

Savings	FY11	FY12	FY13	FY14	FY15 (3Q)	TOTAL
Consultants	$520,176	$259,245	$587,314	$294,225	$84,526	$1,745,486
Contractors & Vendors	$3,129,538	$435,760	$2,153,688	$415,931	$781,698	$6,916,615
Internal Audits	$152,478	$407,350	$391,083	$923,370	$122,849	$1,997,130
Total	**$3,802,192**	**$1,102,355**	**$3,132,085**	**$1,633,526**	**$989,073**	**$10,659,231**

OTHER MANAGEMENT

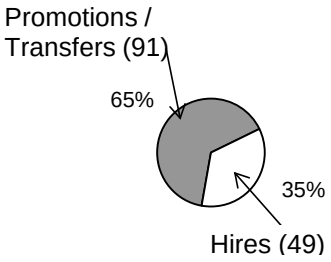
Workforce Management
3rd Quarter FY15

FTE Tracking



FY15 Target for FTE's = 1164.8
FTE's as of March 2015 = 1143.6

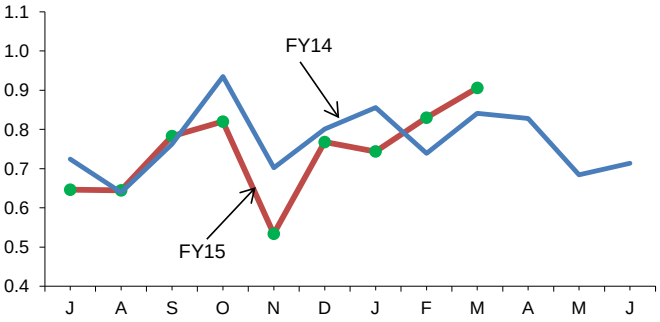
Positions Filled by Hires/Promotions
FY15-YTD



	Pr/Trns	Hires	Total
FY12	42 (61%)	27 (39%)	69
FY13	82 (64%)	47 (36%)	129
FY14	111 (69%)	51 (31%)	162
FY15	91 (65%)	49 (35%)	140

(To Date)

Average Monthly Sick Leave Usage
Per Employee



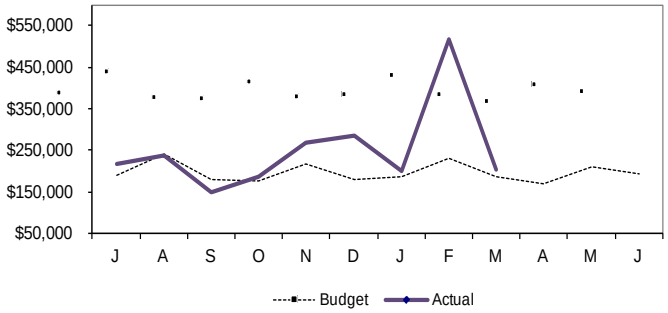
Average monthly sick leave for the 3rd Quarter of FY15 increased as compared to the 2nd Quarter of FY15 (8.49 to 9.92 days), the increase is attributable to several recent long term illnesses. Although sick leave increased for the 3rd Quarter, the annualized total for FY15 remains below FY14.

In Q3 of FY15, the average quarterly sick leave usage has increased 6.3% from the same quarter last year.

	Number of Employees	YTD	Annualized Total	Annual FMLA %	FY14
A&F	178	7.12	9.49	28.7%	10.18
Aff. Action	6	12.81	17.08	37.7%	11.78
Executive	5	2.05	2.73	0.0%	4.37
Int. Audit	7	4.63	6.17	0.0%	7.46
Law	17	9.16	12.21	14.0%	10.35
OEP	6	10.15	13.53	46.8%	16.14
Operations	935	6.53	8.71	20.6%	8.98
Pub. Affs.	14	6.09	8.12	13.5%	12.21
MWRA Avg	**1168**	**4.45**	**8.90**	**21.9%**	**9.23**

Percent of sick leave usage attributable to Family and Medical Leave Act (FMLA) leave is 21.9% for FY15.

Field Operations
Current Quarter Overtime $



Total Overtime for **Field Operations** for the third quarter of FY15 was $922,875 which is $317k over budget. Emergency overtime was $562k, which was $234k over budget mainly due to snow removal, which totaled $262k for the quarter. Coverage overtime was $163k, which was $42k over budget. Planned overtime was $198k or $42k over budget, mainly for maintenance off hours work - $88k, half-plant operations at Carroll - $36k, and maintenance work completion - 24k. YTD, Field Operations has spent $2,261,216 on overtime which is $470k over budget.

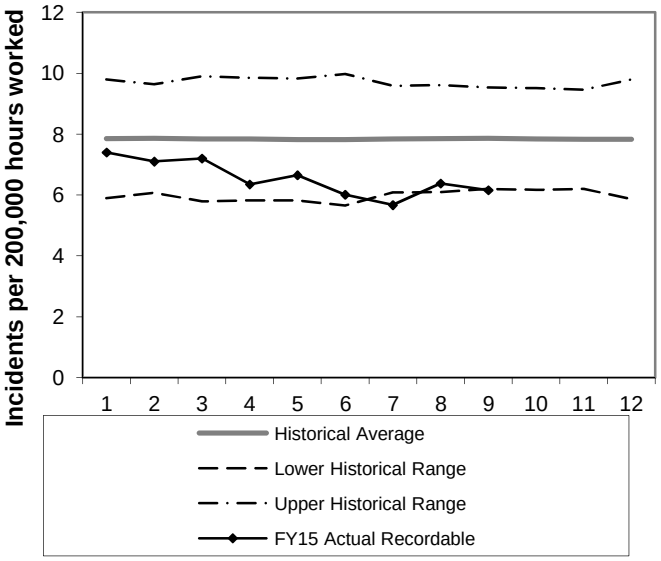
Deer Island Treatment Plant
Current Quarter Overtime $

Total overtime for **Deer Island** for the third quarter of FY15 was $360,587, which is $95,185 or 35.9% over budget. The variance is primarily due to higher than budgeted storm coverage overtime resulting from concurrent snow storms, $110K offset in part by less than required shift coverage overtime. YTD, Deer Island has spent $904,284 on overtime, which was $131K over budget.

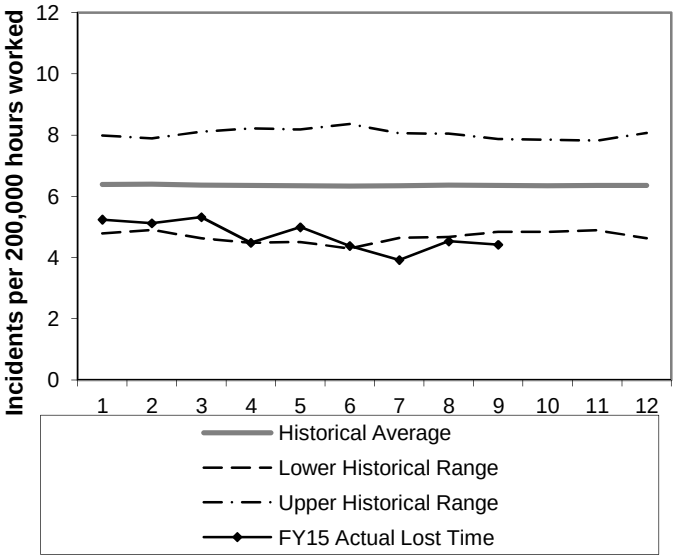
Note: For All Operations:
total YTD over budget overtime is $628k,

Workplace Safety
3rd Quarter - FY15

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 FY14. The “Upper” and “Lower Historical Ranges” are computed using these same data – adding and subtracting two standard deviations respectively. FY15 actual incident rates can be expected to fall within this historical range.

Workers Compensation Claims Highlights - Third Quarter FY15

	New	Closed	Open Claims
Lost Time	11	16	64
Medical Only	22	16	25
Report Only	23	23	
	New		**YTD Light Duty Returns**
Light Duty Returns	1		6

Highlights/Comments:

Light Duty Returns

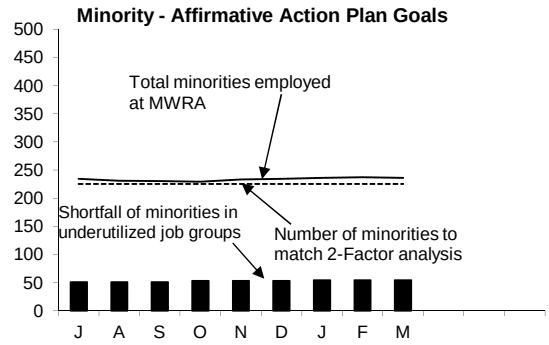
Jan none
Feb none
Mar 1 employee returned to light duty from workers' compensation

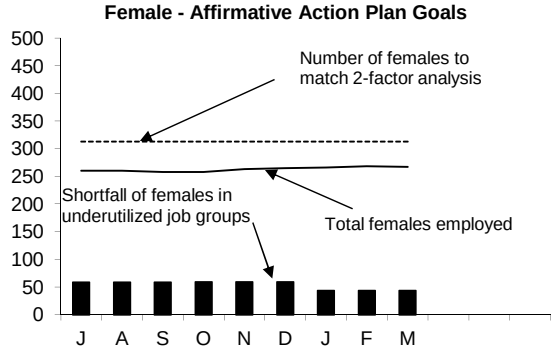
Regular Duty Returns

Jan 3 employees returned to work full duty from workers compensation
Feb 3 employees returned to work full duty from workers compensation
Mar 3 employees returned to work full duty from workers compensation

MWRA Job Group Representation

3rd Quarter, FY15





Highlights:

At the end of Q3 FY15, 11 job groups or a total of 54 positions are underutilized by minorities as compared to 10 job groups or a total of 59 positions at the end of Q3 FY14; for females 10 job groups or a total of 43 positions are underutilized by females as compared to 13 job groups or a total of 61 positions at the end of Q3 FY14. During Q3, 5

Underutilized Job Groups - Workforce Representation

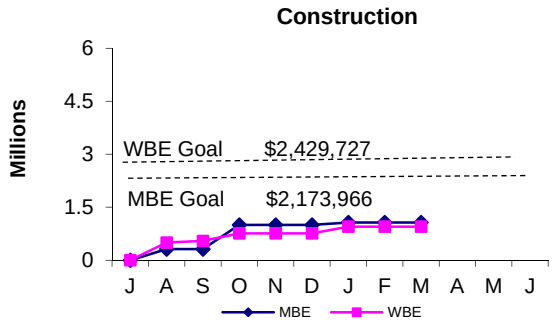
Job Group	Employees as of 3/31/2015	Minorities as of 3/31/2015	Achievement Level	Minority Over or Under Underutilized	Females As of 3/31/2015	Achievement Level	Female Over or Under Underutilized
Administrator A	21	2	3	-1	6	7	-1
Administrator B	19	0	5	-5	1	3	-2
Clerical A	39	17	5	12	33	35	-2
Clerical B	35	8	9	-1	12	15	-3
Engineer A	85	19	22	-3	16	35	-19
Engineer B	52	14	11	3	7	11	-4
Craft A	114	14	21	-7	0	5	-5
Craft B	149	29	36	-7	3	6	-3
Laborer	63	22	15	7	3	3	0
Management A	103	15	23	-8	36	20	16
Management B	42	6	11	-5	11	6	5
Operator A	65	5	8	-3	1	4	-3
Operator B	64	7	18	-11	3	2	1
Para Professional	58	14	8	6	27	20	7
Professional A	35	4	7	-3	23	15	8
Professional B	164	43	36	7	79	70	9
Technical A	53	16	10	6	5	6	-1
Technical B	6	1	1	0	1	0	1
Total	**1167**	**236**	**249**	**41/-54**	**267**	**263**	**47/-43**

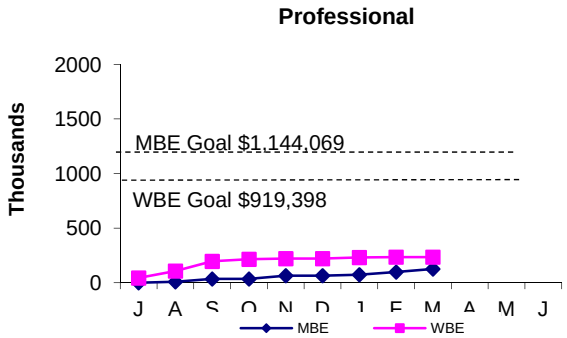
AACU Candidate Referrals for Underutilized Positions

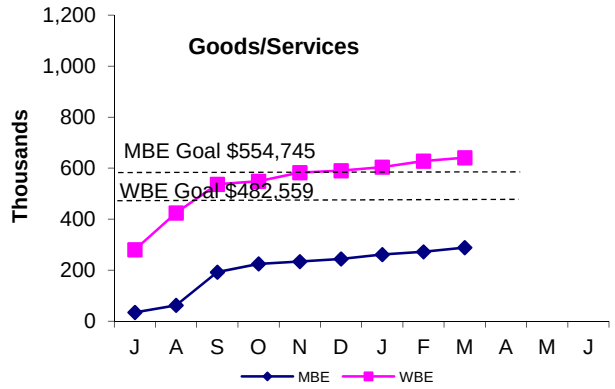
Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/ Transfers	AACU Ref. External	Position Status
Administrative A	Director, Internal Audit	1	Int	1	0	P = WM
Craft A	M & O Specialist	2	Int	2	0	(2)P = WM
Craft A	WDS General Foreman, Valves	1	Int	0	0	In Progress
Craft B	Facilities Specialist	1	Int/Ext	1	0	P = BM
Craft B	Heavy Equipment Operator I	1	Int/Ext	0	0	In Progress
Craft B	Specialty Valve Installer	1	Int	0	0	In Progress
Craft B	Heavy Equipment Operator I	1	Int/Ext	0	0	In Progress
Clerical B	Head Clerk	1	Int/Ext	0	0	NH = WF
Engineer A	Sr. Program Manager, Valves	1	Int	1	0	P = WM
Engineer A	Project Engineer, Process Monitoring	1	Int/Ext	1	0	P = WM
Engineer B	Technical Assistant	1	Int	0	0	In Progress
Laborers	OMC Laborer	2	Int/Ext	1	0	T=WF; NH=HM
Management A	Payroll Manager	1	Int	0	0	In Progress
Management A	Manager, Benefits & HRIS	1	Int	1	0	P = WM
Management A	Manager, Maintenance	1	Int	1	0	P = WM
Management A	WCC Manager	1	Int	1	0	T = WM
Management B	Project Manager, Meter Data	1	Int	1	0	P = WM
Management B	Project Manager	3	Int/Ext	2	0	(2)P = WM; (1)In
Management B	Area Manager, Electrical	1	Int	0	0	In Progress
Management B	Operations Supervisor	1	Int	1	0	P = WM
Operator A	T & T Operator	2	Int	0	0	In Progress
Professional B	O&M Systems Specialist	1	Int/Ext	0	0	Rehire = WM
Professional B	Senior Financial Analyst	1	Int	0	1	In Progress
ParaProfessional	TIC Clerk	1	Int/Ext	0	0	NH = BM

MBE/WBE Expenditures
3rd Quarter - FY15

Background: MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. MBE/WBE percentage goals are the results from a 2002 Availability Analysis, and MassDEP's 2010 Availability Analysis. As a result of the Availability Analyses, the category of Non-Professional Services is included in Goods/Services. Consistent with contractor reporting requirements, MBE/WBE expenditure data is available through March.







FY15 spending and percentage of goals achieved, as well as FY14 performance are as follows:

	MBE				WBE			
	FY15 Year-to-Date		FY14		FY15 Year-to-Date		FY14	
	Amount	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
Construction	1,068,048	49.1%	1,053,966	25.5%	950,655	39.1%	3,407,380	165.9%
Professional Svc.	126,779	11.1%	584,242	44.5%	235,293	25.6%	457,558	43.4%
Goods & Svcs.	288,465	52.0%	359,270	45.8%	640,931	132.8%	966,425	141.6%
Total	**1,483,292**	**38.3%**	**1,997,478**	**32.1%**	**1,826,879**	**47.7%**	**3,890,658**	**102.6%**

FY15 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

CEB Expenses
3rd Quarter - FY15

	March 2015 Year-to-Date					
	Period 9 YTD Budget	Period 9 YTD Actual	Period 9 YTD Variance	%	FY15 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	$ 70,251,743	$ 68,400,866	$ (1,850,877)	-2.6%	$ 96,554,749	70.8%
OVERTIME	2,741,775	3,434,007	692,232	25.2%	3,620,600	94.8%
FRINGE BENEFITS	13,796,952	13,627,766	(169,186)	-1.2%	18,299,405	74.5%
WORKERS' COMPENSATION	1,650,000	1,685,978	35,978	2.2%	2,200,000	76.6%
CHEMICALS	7,436,335	7,215,716	(220,619)	-3.0%	10,219,580	70.6%
ENERGY AND UTILITIES	17,700,634	15,372,784	(2,327,850)	-13.2%	23,472,354	65.5%
MAINTENANCE	18,585,520	19,051,983	466,463	2.5%	27,972,607	68.1%
TRAINING AND MEETINGS	246,049	243,546	(2,503)	-1.0%	361,019	67.5%
PROFESSIONAL SERVICES	4,047,814	3,457,850	(589,964)	-14.6%	5,957,201	58.0%
OTHER MATERIALS	2,824,500	3,447,052	622,552	22.0%	5,952,729	57.9%
OTHER SERVICES	16,602,329	16,686,920	84,591	0.5%	22,538,498	74.0%
TOTAL DIRECT EXPENSES	**$ 155,883,651**	**$ 152,624,468**	**$ (3,259,183)**	**-2.1%**	**$ 217,148,742**	**70.3%**
INSURANCE	$ 1,596,116	$ 1,661,768	$ 65,652	4.1%	$ 2,128,155	78.1%
WATERSHED/PILOT	20,600,092	20,449,570	(150,522)	-0.7%	27,466,790	74.5%
BECo PAYMENT	2,233,932	2,130,214	(103,718)	-4.6%	3,198,174	66.6%
MITIGATION	1,204,475	1,094,927	(109,548)	-9.1%	1,605,967	68.2%
ADDITIONS TO RESERVES	362,215	362,215	-	0.0%	482,953	75.0%
RETIREMENT FUND	12,629,475	12,645,475	16,000	0.1%	12,629,475	100.1%
TOTAL INDIRECT EXPENSES	**$ 38,626,305**	**$ 38,344,169**	**$ (282,136)**	**-0.7%**	**$ 47,511,514**	**80.7%**
STATE REVOLVING FUND	$ 58,502,309	$ 58,113,673	$ (388,636)	-0.7%	$ 78,460,635	74.1%
SENIOR DEBT	163,642,175	161,295,031	(2,347,144)	-1.4%	220,835,626	73.0%
CORD FUND	657,380	657,380	-	0.0%	876,506	75.0%
DEBT SERVICE ASSISTANCE	(853,660)	(853,660)	-	0.0%	(853,660)	100.0%
CURRENT REVENUE/CAPITAL	7,650,000	7,650,000	-	0.0%	10,200,000	75.0%
SUBORDINATE MWRA DEBT	74,524,056	74,524,056	-	0.0%	99,686,106	74.8%
LOCAL WATER PIPELINE CP	3,111,340	3,111,340	-	0.0%	4,148,453	75.0%
CAPITAL LEASE	2,412,795	2,412,795	-	0.0%	3,217,060	75.0%
VARIABLE DEBT	-	(9,609,121)	(9,609,121)	---	-	0.0%
BOND REDEMPTION SAVINGS	(5,059,198)	(5,059,198)	-	0.0%	(6,745,598)	75.0%
DEFEASANCE ACCOUNT	-	12,344,902	12,344,902	---	-	0.0%
TOTAL DEBT SERVICE	**$ 304,587,197**	**$ 304,587,197**	**$ -**	**0.0%**	**$ 409,825,128**	**74.3%**
TOTAL EXPENSES	**$ 499,097,153**	**$ 495,555,834**	**$ (3,541,322)**	**-0.7%**	**$ 674,485,384**	**73.5%**
REVENUE & INCOME						
RATE REVENUE	$ 487,736,838	$ 487,736,838	$ -	0.0%	$ 650,315,784	75.0%
OTHER USER CHARGES	6,000,210	6,032,236	32,026	0.5%	8,259,693	73.0%
OTHER REVENUE	4,975,363	6,777,116	1,801,753	36.2%	6,180,450	109.7%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	7,215,194	7,186,918	(28,276)	-0.4%	9,729,457	73.9%
TOTAL REVENUE & INCOME	**$ 505,927,605**	**$ 507,733,108**	**$ 1,805,503**	**0.4%**	**$ 674,485,384**	**75.3%**

As of March 2015, total expenses were $495.6 million, $3.5 million or 0.7% lower than budget and total revenue was $507.7 million, $1.8 million or 0.4% higher than budget, for a net positive variance of $5.3 million.

Expenses –

Direct Expenses are $152.6 million, $3.3 million or 2.1% lower than budget.

- **Utilities** are underspent by $2.3 million or 13.2% due to lower Electricity of $1.4 million mainly due to lower unit costs and flows at Deer Island, Diesel of $796k mainly at Deer Island and Field Operations due to favorable pricing, and Water use of $119k.
- **Wages & Salaries** are underspent by $1.9 million or 2.6% due to lower headcount and the salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates.
- **Overtime** is overspent by $692k or 25.2% due to higher wet weather events, especially snow removal, and coverage.
- **Other Materials** are over budget by $623k or 22.0% mainly due to timing of vehicle, computer hardware, work clothes, and Clinton gravel purchases. The overspending is offset by lower vehicle expenses mostly related to lower gasoline pricing.
- **Professional Services** are lower than budget by $590k or 14.6% mainly due to the timing of initiatives such as the Mystic River Modeling project, dam safety work, and as-needed engineering for maintenance projects.
- **Maintenance** is $466k or 2.5% higher than budget. Materials are overspent by $1.3 million and services are underspent by $872k mainly due to timing.
- **Chemicals** are underspent by $221k or 3.0% mainly for lower than budgeted Sodium Hypochlorite of $168k due to timing of deliveries and pricing, Liquid Oxygen of $143k due to better water quality, and Nitrazyme of $79k due to Town of Framingham system modifications. Underspending is offset by overspending for Ferric Chloride of $156k due to struvite control and Hydrogen Peroxide of $95k due to increased need for pretreatment of hydrogen sulfide gas due to lower plant flows.
- **Fringe Benefits** are lower than budget by $169k or 1.2% mainly due to lower than budgeted health and unemployment expenses.
- **Other Services** are higher than budget by $85k or 0.5% mainly due to higher telecommunication expenses of $158k for security data lines and Space Lease/Rentals of $81k partially offset by lower Grit Screen spending of $43k.

Indirect Expenses of $38.3 million are $282k or 0.7% lower than budget mainly due to Watershed Reimbursement expenses of $151k mainly due to an FY14 overaccrual, Mitigation payments of $110,000, and HEEC of $104,000 mainly for lower capacity charges. Underspending is partially offset by higher insurance costs of $66,000.

Debt Service Expenses totaled $304.6 million, which is at budgeted levels after the transfer of $12.3 million to the Defeasance Account.

Revenue and Income –

Total Revenue / Income for March is $507.7 million, $1.8 million or 0.4% higher than budget due to Non-Rate Revenue of $1.8 million. Higher non-rate Revenue is due to $995k for a prior period adjustment for Watershed expenses, $425k for the sale of emergency water for the Town of Hudson, $372k payment received for the sale of the Fox Point CSO Facility, $142k for higher permit, monitoring, and penalty fees, and $75k reimbursement for Briarwood Rehabilitation Easement project. The higher favorable variances were offset by lower Energy revenue of $448k mainly due to the timing of Renewable Portfolio Standard (RPS) sales.

Cost of Debt
3rd Quarter – FY15

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.

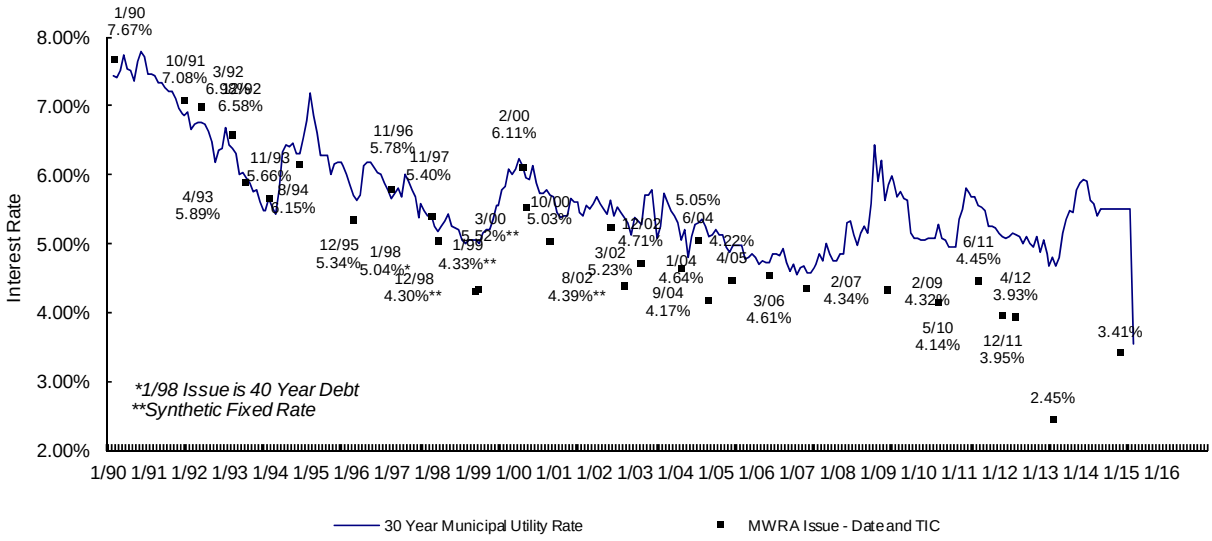
Average Cost of MWRA Debt

Fixed Debt ($3,980)	4.25%
Variable Debt ($484.2)	0.62%
SRF Debt ($1,037)	1.30%
Weighted Average Debt Cost ($5,,502)	3.37%

Most Recent Senior Fixed Debt Issue
November 2014

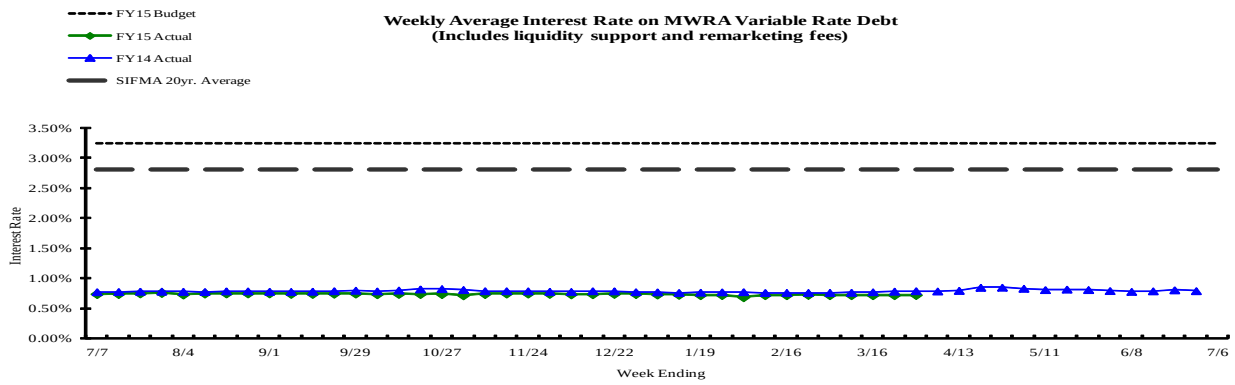
2014 Series D-F ($243.9)	3.41%

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



Weekly Average variable Interest Rates vs. Budget

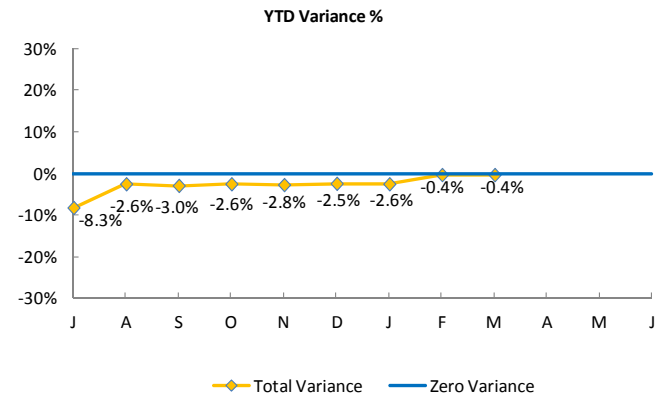
MWRA currently has ten variable rate debt issues with $1.0 billion outstanding, excluding commercial paper. Of the ten outstanding series, five have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In March, SIFMA rates reset every week at 0.02%. 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.



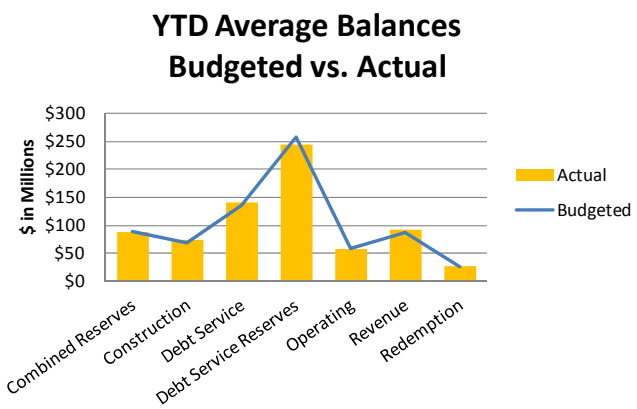
Investment Income

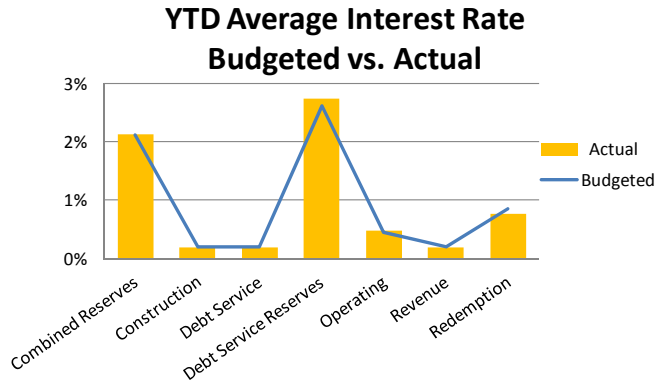
3rd Quarter - FY15

Year To Date

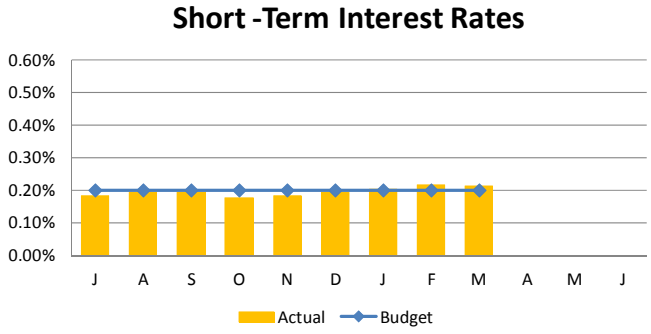


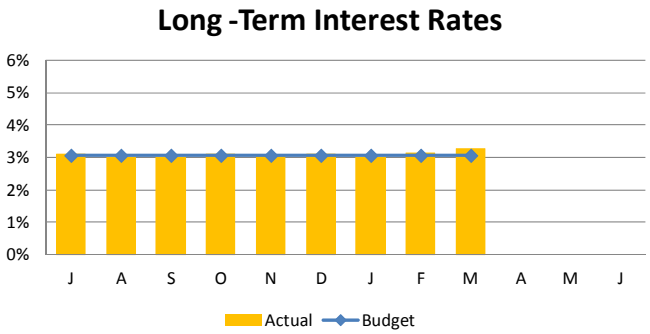
	YTD BUDGET VARIANCE ($000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	($1)	($0)	(2)	-0.1%
Construction	$7	($4)	2	2.1%
Debt Service	$6	($9)	(3)	-1.7%
Debt Service Reserves	($189)	$171	(18)	-0.4%
Operating	($2)	$10	8	4.2%
Revenue	$5	($5)	(1)	-0.4%
Redemption	($0)	($14)	(14)	-8.6%
Total Variance	($176)	$148	($28)	-0.4%

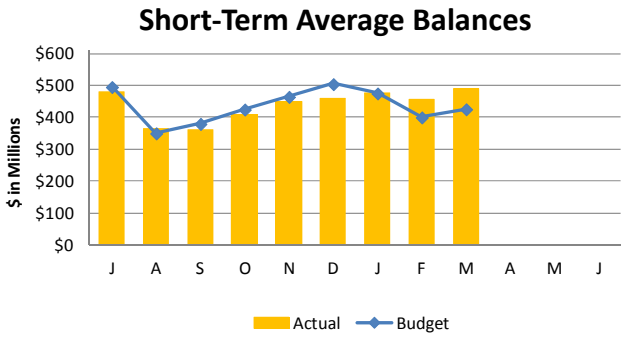


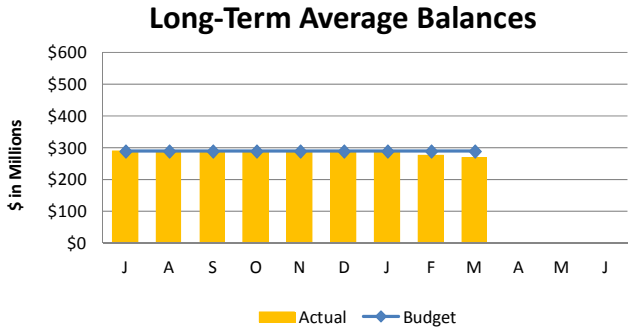


Monthly









STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: FY15 Financial Update and Summary

COMMITTEE: Administration, Finance & Audit

X INFORMATION
___ VOTE

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

Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial update and variance highlights through April 2015, comparing actual spending to the FY15 Budget, and a year-end projection for the Current Expense Budget.

DISCUSSION:

Total year-to-date expenses are lower than budget by $3.9 million or 0.7% due to lower direct expenses of $3.5 million, lower indirect expenses of $416,000, and higher total revenues of $2.3 million or 0.4% for a net variance of $6.2 million.

In line with the Authority's long standing multi-year rate strategy, in April $1.8 million was transferred to the Defeasance Account mostly as a result of the continued low variable rate environment which brought the year-to-date defeasance account balance to $14.1 million. In addition to the $10.6 million variable rate related favorable variance, the defeasance account also includes $3.5 million as a result of the November 2014 debt financing and lower than budgeted State Revolving Fund (SRF) borrowings. Staff projects the balance of the Defeasance Account by year-end at $25.0 million.

Without the transfer of the $14.1 million in debt service savings to the Defeasance Account, the total year-to-date favorable budgetary variance through April would have been $20.4 million.

Beyond debt service savings, staff projects a surplus of approximately $5.8 million at year-end of which $3.5 million would be for lower direct expenses mainly as result of conservative budgeting for wages and utilities, both of which are lower than anticipated, $663,000 for lower indirect expenses, and $1.6 million for greater than budgeted revenues. The final projection for the year will be part of the budget briefings to the Board scheduled for June 3rd.

Please refer to Attachment 4 for a more detailed comparison by line item.

Total Expenses were lower than budget by $3.9 million or 0.7% and total Revenues were higher than budgeted by $2.3 million or 0.4%.

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

	FY15 Budget (April)	FY15 Actual (April)	$ Variance	% Variance
Direct Expenses	$173.3	$169.8	-$3.5	-2.0%
Indirect Expenses	$41.3	$40.8	-$0.4	-1.0%
Debt Service	$336.7	$336.7	$0.0	0.0%
Total	**$551.2**	**$547.3**	**-$3.9**	**-0.7%**

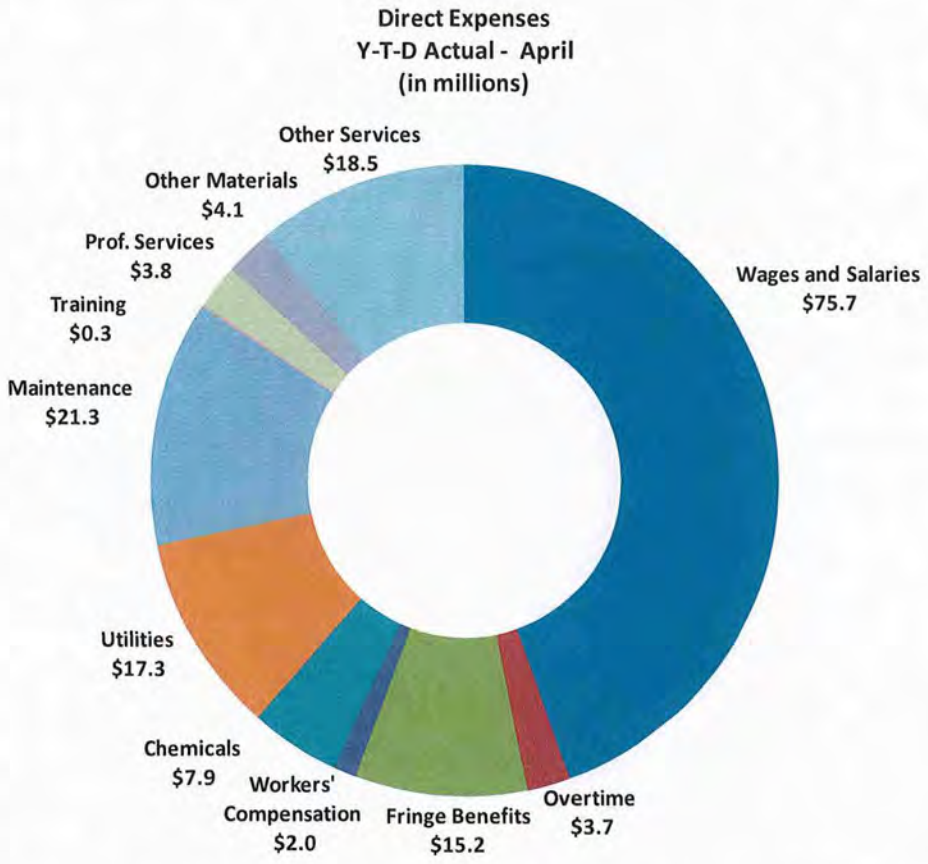
Besides debt service, the largest variances year-to-date are driven by:

- Direct Expenses are lower than budget by $3.5 million for utilities, wages and salaries, professional services, chemicals, and fringe benefits;
- Indirect Expenses are lower than budget by $416,000 for lower Watershed expenses due to FY14 overaccrual, lower Mitigation payments, and lower Harbor Electric Energy Company (HEEC) payments; and
- Revenues exceeding budget by $2.3 million due to $995,000 for a prior period adjustment for Watershed related expenses, $425,000 for the sale of unbudgeted emergency water for the Town of Hudson, $372,000 payment received for the sale of the Fox Point CSO Facility, $152,000 for higher permit, monitoring, and penalty fees, $75,000 reimbursement for Briarwood Rehabilitation Easement project, $60,000 for the timing of Fore River Railroad Corporation payments, $52,000 for the timing of antenna license revenue, $33,000 for the timing of Rutland/Holden payments, and a variety of smaller items totaling approximately $144,000.

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

Direct Expenses

Direct expenses total $169.8 million, $3.5 million or 2.0% lower than budgeted.



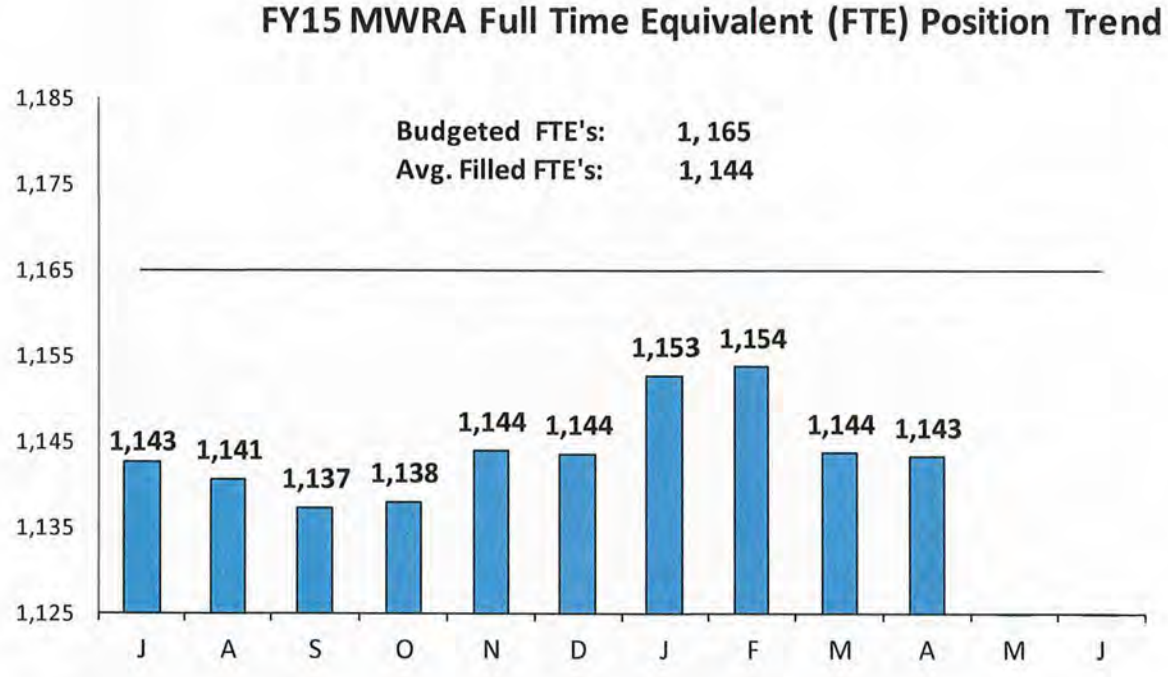
The underspending on direct expenses is related to Utilities, Wages and Salaries, Professional Services, Chemicals, and Fringe Benefits offset by overspending for Other Materials, Overtime, Workers' Compensation, Maintenance, and Other Services.

Utilities

Utilities are underspent $2.2 million or 11.2% year-to-date primarily for lower Electricity of $1.2 million mainly due to lower commodity and transmission and distribution costs and lower flows which resulted in less pumping demand at Deer Island, lower Diesel Fuel of $823,000 mainly in Field Operations and Deer Island due to favorable pricing, and Water use of $150,000.

Wages and Salaries

Wages and Salaries were underspent by $2.1 million or 2.7% mainly as a result of lower than budgeted positions and the salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates. As indicated at the March Board meeting, starting in April staff will report the Full Time Equivalent (FTE) positions, besides the filled positions. The average year-to-date FTE's were 1,144 which is 21 positions lower than the 1,165 FTE's budgeted. Additionally, MWRA had 4 temporary employees.



Year-to-date April average filled positions were 1,152 vs. the 1,175 budgeted positions.

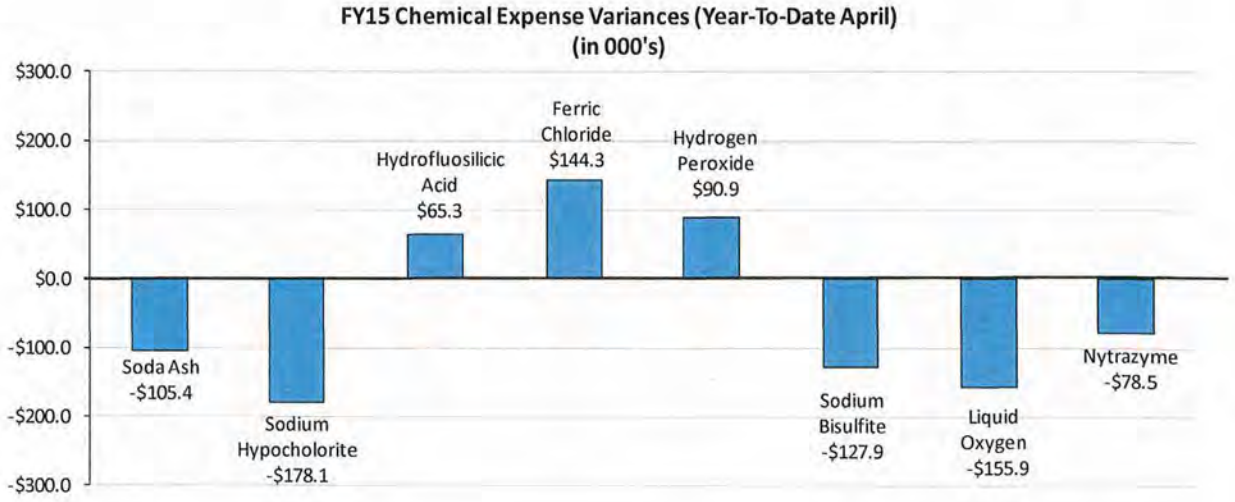
Professional Services

Professional Services are lower than budget by $697,000 or 15.5% mainly due to the timing of initiatives such as the Mystic River Modeling project, dam safety work, and as-needed engineering for maintenance projects.

Chemicals

Chemicals are underspent by $429,000 or 5.2% year-to-date mainly due to lower than budgeted Sodium Hypochlorite of $178,000 due to lower pricing and timing of deliveries and Liquid Oxygen of $156,000 and Sodium Bisulfite of $128,000 due to better water quality. Underspending is offset by overspending for Ferric Chloride of $144,000 due to struvite control

and Hydrogen Peroxide of $91,000 due to increased need for pretreatment of hydrogen sulfide gas due to lower than budgeted plant flows.



Fringe Benefits

Fringe Benefits are lower than budget by $210,000 or 1.4% mainly due to lower than budgeted health, dental, and unemployment insurance due to the fewer than budgeted positions.

Other Materials

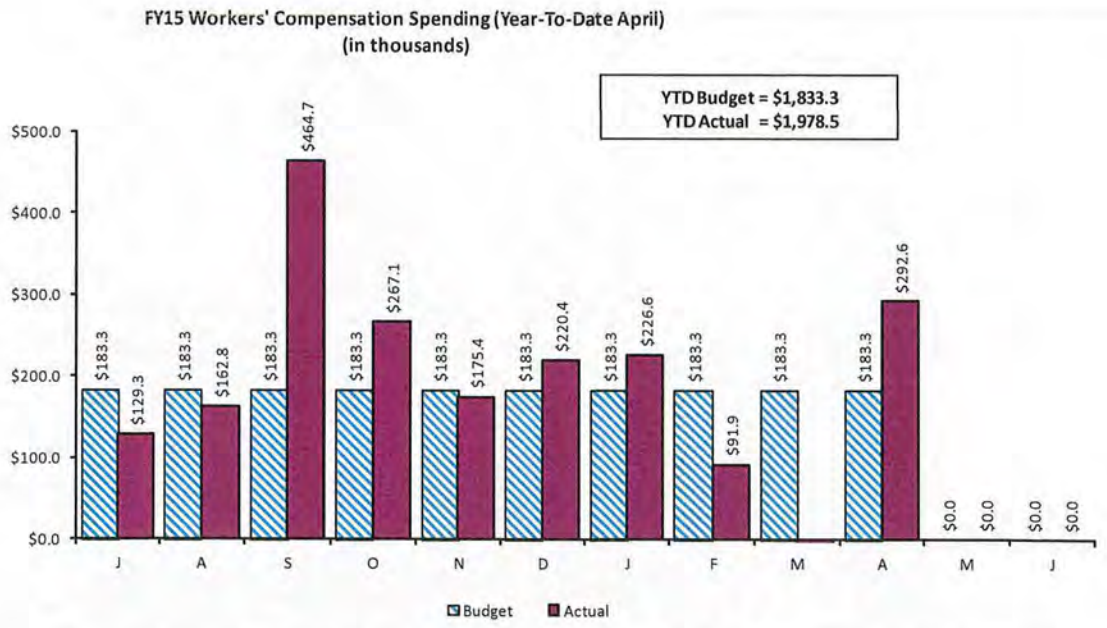
Other Materials are higher than budget by $971,000 or 30.6% mainly due to timing of vehicle, computer hardware, work clothes, and Clinton gravel purchases. The overspending is offset by lower vehicle expenses mostly related to lower gasoline pricing.

Overtime

Overtime expenses are higher than budgeted by $730,000 or 24.4% for higher than projected wet weather events, specifically for winter snow removal, and coverage requirements.

Workers' Compensation

Workers' Compensation expenses are higher than budget by $145,000 or 7.9% based on higher compensation payments of $176,000 and administrative costs of $51,000 offset by lower medical expenses of $81,000.



# of Open Claims-Lost Time	69	72	70	66	66	62	64	66	64	61	0	0
# of Open Claims-Medical On	16	24	24	21	14	15	16	24	25	20	0	0

Maintenance

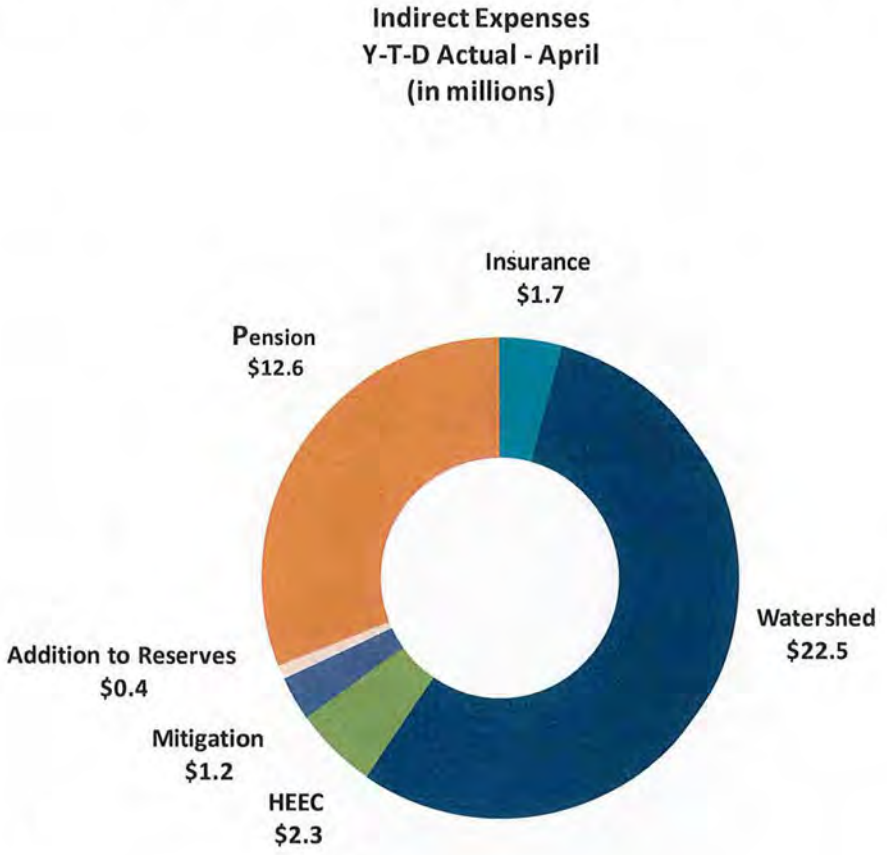
Maintenance is overspent by $143,000 or 0.7% year-to-date. Materials are overspent by $1.6 million and services are underspent by $1.5 million.

Other Services

Other Services are higher than budget by $103,000 or 0.6% mainly due to higher than budgeted telecommunications expenses of $160,000 due to security data line upgrades in support of the enhanced security system and Charlestown Navy Yard headquarters carpet and painting upgrades of $82,000. Overspending is offset by lower spending on Permits of $71,000 mainly due to timing.

Indirect Expenses

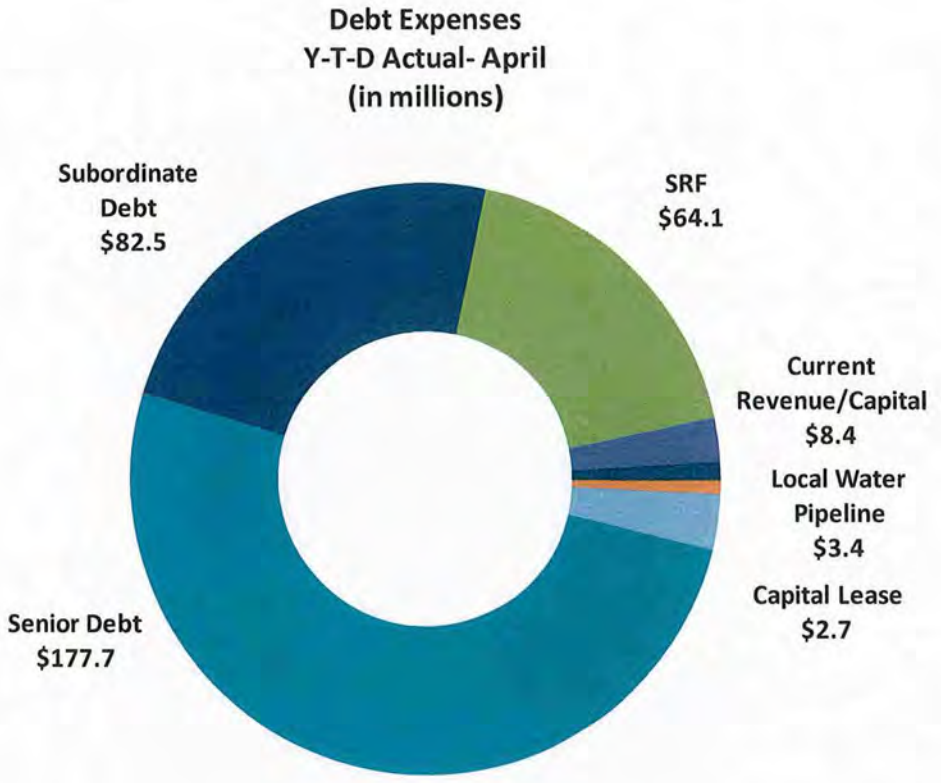
Indirect expenses total $40.8 million, $416,000 or 1.0% lower than budget.



The majority of the year-to-date underspending on Indirect Expenses is for lower Watershed Reimbursement of $182,000 mainly due to FY14 overaccrual and lower Payment in Lieu of Taxes (PILOT) payments, lower Mitigation payments, and lower Harbor Electric Energy Company (HEEC) of $105,000 due to lower reimbursement.

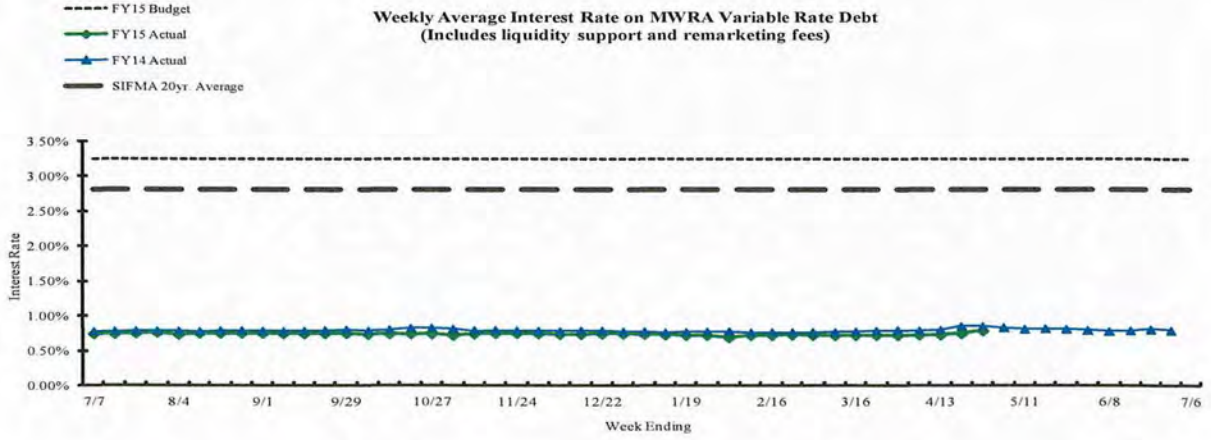
Debt Service Expenses

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 $336.7 million which is at budgeted level after the transfer of $14.1 million of a favorable year-to-date debt variance to the Defeasance Account. $10.6 million of the $14.1 million favorable year-to-date debt variance is pertaining to the low short-term variable rate. The balance is attributable to the November 2014 debt financing, and State Revolving Fund (SRF) borrowings.

The graph below reflects the variable rate trend by month over the past year in comparison with FY14 Actuals and the FY15 Budget for the same period.



Revenue

Year-to-date revenue for FY15 totals $560.6 million which is $2.3 million or 0.4% higher than budget.

The higher non-rate Revenue is due to $995,000 for a prior period adjustment for Watershed related expenses, $425,000 for the sale of unbudgeted emergency water for the Town of Hudson, $372,000 payment received for the sale of the Fox Point CSO Facility, $152,000 for higher permit, monitoring, and penalty fees, $75,000 reimbursement for Briarwood Rehabilitation Easement project, $60,000 for the timing of Fore River Railroad Corporation payments, $52,000 for the timing of antenna license revenue, $33,000 for the timing of Rutland/Holden payments and a variety of smaller items totaling approximately $144,000.

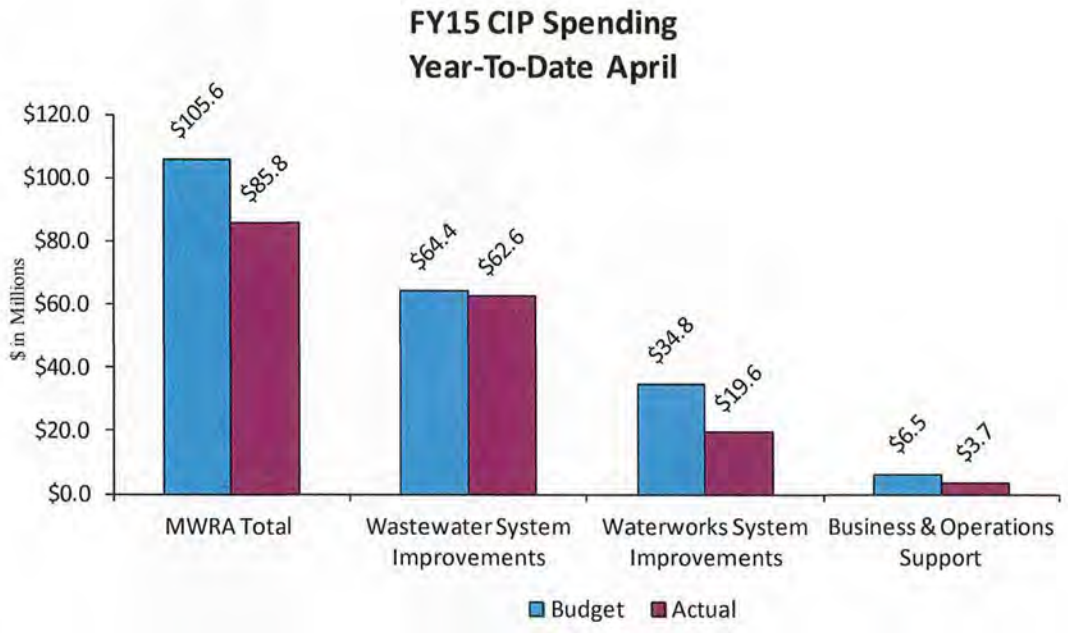
Please refer to Attachment 2 for a more detailed comparison by line item.

FY15 Capital Improvement Program

Spending year-to-date in FY15 totals $85.8 million, $19.8 million or 18.7% 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 $30.0 million or 37.7%.

Underspending was reported in Waterworks of $15.2 million, Business and Operations Support of $2.8 million, and Wastewater of $1.8 million.

Spending By Program:



$ in Millions	Budget	Actuals	$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	9.4	7.8	-1.6	-17.5%
Treatment	27.5	16.7	-10.8	-39.2%
Residuals	0.0	0.0	0.0	N/A
CSO	18.2	23.1	4.9	26.7%
Other	9.3	15.1	5.8	62.7%
Total Wastewater System Improvements	**$64.4**	**$62.6**	**-$1.8**	**-2.7%**
Waterworks System Improvements				
Drinking Water Quality Improvements	19.9	11.5	-8.4	-42.3%
Transmission	6.7	1.8	-4.9	-73.3%
Distribution & Pumping	7.6	5.6	-2.0	-26.2%
Other	0.6	0.7	0.1	19.4%
Total Waterworks System Improvements	**$34.8**	**$19.6**	**-$15.2**	**-43.8%**
Business & Operations Support	**$6.5**	**$3.7**	**-$2.8**	**-43.4%**
Total MWRA	**$105.6**	**$85.8**	**-$19.8**	**-18.7%**

The main reasons for the underspending were:

1. **Wastewater Treatment** of $12.9 million – mainly for Electrical Equipment Upgrade Construction of $3.3 million, Butterfly Valve Replacement Construction of $2.8 million, North Main Pump Station VFD Replacement of $1.1 million, Miscellaneous VFD Replacements of $600,000, Centrifuge Backdrive Replacement of $555,000, HVAC Equipment Replacement Design/Engineering Services During Construction of $488,000, mainly due to timing, Gravity Thickener Rehabilitation of $482,000 due to schedule change, and other smaller projects totaling approximately $3.6 million.

2. **Drinking Water Quality Improvements** of $9.1 million – mainly for Spot Pond Covered Storage of $6.2 million due to timing of work and weather delays and Carroll Water Treatment Plant of $2.9 million for updated schedule of CP7 Existing Facilities work, schedule changes for Storage Tank Roof Drainage System, and less than anticipated UV Disinfection Engineering Services During Construction.

3. **Water Transmission** of $5.4 million – mainly for Wachusett Aqueduct Pump Station Construction of $2.7 million due to schedule changes, Sudbury Aqueduct – MEPA Review alternatives analysis of $900,000, timing of Watershed Land purchases of $850,000, Hultman Interconnections Final Design/Construction Administration/and Resident Inspection of $372,000, and Dam Safety Modifications and Repairs of $250,000.

4. **Business and Operations Support** of $3.2 million – mainly for lower than budgeted spending for MIS initiatives of $1.9 million, As-Needed Design Services of $847,000 due to timing, and Alternative Energy Initiatives of $470,000 mainly due to the elimination of the Shaft E Hydro In-Conduit initiative.

5. **Water Distribution and Pumping** of $2.6 million – mainly for Weston Aqueduct Supply Mains Design/Construction Administration/Resident Inspection for WASM3 of $719,000, Section 36 of $244,000, and Section 36/W11 C/S 9 All Valves of $164,000; Southern Extra High Redundancy of $813,000 mainly for Final Design and Construction Administration; and Valve Replacement of $542,000 due to timing.

6. **Wastewater Interception and Pumping** of $1.9 million – for lower spending mainly on Chelsea Creek Headworks Design of $839,000, Nut Island Electric Grit & Screening Conveyance Construction of $601,000, Alewife Brook Pump Station Rehabilitation of $360,000,and Chelsea Screenhouse Upgrades of $254,000 mainly due to timing.

The underspending was offset by overspending on the following programs:

1. **Wastewater Other** of $5.8 million – primarily due to Inflow and Infiltration (I/I) Financial Assistance Program community requests for higher loans and grants.

2. **Combined Sewer Overflow (CSO)** of $4.9 million – due to the higher than anticipated estimates due to increased scope from the City of Boston for work on the Reserved

Channel Sewer Separation project of $2.9 million, Cambridge Sewer Separation of $984,000 due to higher than anticipated cost estimates, and MWRA003 Gates and Siphon of $860,000 due to actual award being greater than budgeted.

3. **Wastewater Treatment** of $2.1 million – for Scum Skimmer Replacement project due to greater than budgeted contractor progress.

4. **Wastewater Interception and Pumping** of $796,000 – for Prison Point/Cottage Farm Engine Pump and Gearbox Rebuilds of $654,000 due to contractor progress and Nut Island Headworks Electric, Grit & Screenings Conveyance Design of $142,000 due to timing.

5. **Drinking Water Quality Improvements** of $668,000 – mainly for Quabbin Water Treatment Plant due to contractor progress.

6. **Water Distribution and Pumping** of $615,000 – mainly for Northern Intermediate High West Street Pipe Reading Construction.

7. **Water Transmission** of $477,000 – mainly for Wachusett Aqueduct pump Station Design/Engineering Services During Construction of $477,000 due to progress.

8. **Business and Operations Support** of $382,000 – FY14-18 Vehicle Purchases of $382,000 mainly due to timing.

Construction Fund Balance

The construction fund balance was at $69 million as of April. Commercial Paper availability was at $220 million to fund construction projects.

Attachment 1 – Variance Summary April 2015
Attachment 2 – Current Expense Variance Explanations
Attachment 3 – Capital Improvement Program Variance Explanations
Attachment 4 – FY15 Budget vs. FY15 Projection

ATTACHMENT 1

	April 2015 Year-to-Date					
	Period 10 YTD Budget	Period 10 YTD Actual	Period 10 YTD Variance	%	FY15 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	$ 77,790,810	$ 75,679,479	$ (2,111,331)	-2.7%	$ 96,554,749	78.4%
OVERTIME	2,993,647	3,723,259	729,612	24.4%	3,620,600	102.8%
FRINGE BENEFITS	15,364,377	15,154,037	(210,340)	-1.4%	18,299,405	82.8%
WORKERS' COMPENSATION	1,833,333	1,978,541	145,208	7.9%	2,200,000	89.9%
CHEMICALS	8,288,665	7,859,579	(429,086)	-5.2%	10,219,580	76.9%
ENERGY AND UTILITIES	19,489,340	17,303,405	(2,185,935)	-11.2%	23,472,354	73.7%
MAINTENANCE	21,207,262	21,349,883	142,621	0.7%	27,972,607	76.3%
TRAINING AND MEETINGS	260,459	286,611	26,152	10.0%	361,019	79.4%
PROFESSIONAL SERVICES	4,505,248	3,808,198	(697,050)	-15.5%	5,957,201	63.9%
OTHER MATERIALS	3,172,874	4,143,895	971,021	30.6%	5,952,729	69.6%
OTHER SERVICES	18,367,032	18,470,361	103,329	0.6%	22,538,498	82.0%
TOTAL DIRECT EXPENSES	**$ 173,273,047**	**$ 169,757,248**	**$ (3,515,800)**	**-2.0%**	**$ 217,148,742**	**78.2%**
INSURANCE	$ 1,759,821	$ 1,735,371	$ (24,450)	-1.4%	$ 2,128,155	81.5%
WATERSHED/PILOT	22,712,923	22,530,921	(182,002)	-0.8%	27,466,790	82.0%
BECo PAYMENT	2,422,012	2,316,818	(105,194)	-4.3%	3,198,174	72.4%
MITIGATION	1,328,011	1,207,227	(120,784)	-9.1%	1,605,967	75.2%
ADDITIONS TO RESERVES	399,365	399,365	-	0.0%	482,953	82.7%
RETIREMENT FUND	12,629,475	12,645,475	16,000	0.1%	12,629,475	100.1%
TOTAL INDIRECT EXPENSES	**$ 41,251,607**	**$ 40,835,177**	**$ (416,430)**	**-1.0%**	**$ 47,511,514**	**85.9%**
STATE REVOLVING FUND	$ 64,643,332	$ 64,135,116	$ (508,216)	-0.8%	$ 78,460,635	81.7%
SENIOR DEBT	180,686,314	177,678,456	(3,007,858)	-1.7%	220,835,626	80.5%
CORD FUND	730,422	730,422	-	0.0%	876,506	83.3%
DEBT SERVICE ASSISTANCE	(853,660)	(853,660)	-	0.0%	(853,660)	100.0%
CURRENT REVENUE/CAPITAL	8,434,616	8,434,616	-	0.0%	10,200,000	82.7%
SUBORDINATE MWRA DEBT	82,526,272	82,526,272	-	0.0%	99,686,106	82.8%
LOCAL WATER PIPELINE CP	3,430,452	3,430,452	-	0.0%	4,148,453	82.7%
CAPITAL LEASE	2,660,261	2,660,261	-	0.0%	3,217,060	82.7%
VARIABLE DEBT	-	(10,613,207)	(10,613,207)	---	-	0.0%
BOND REDEMPTION SAVINGS	(5,578,091)	(5,578,091)	-	0.0%	(6,745,598)	82.7%
DEFEASANCE ACCOUNT	-	14,129,282	14,129,282	---	-	0.0%
TOTAL DEBT SERVICE	**$ 336,679,918**	**$ 336,679,918**	**$ -**	**0.0%**	**$ 409,825,128**	**82.2%**
TOTAL EXPENSES	**$ 551,204,572**	**$ 547,272,344**	**$ (3,932,231)**	**-0.7%**	**$ 674,485,384**	**81.1%**
REVENUE & INCOME						
RATE REVENUE	$ 537,761,129	$ 537,761,129	$ -	0.0%	$ 650,315,784	82.7%
OTHER USER CHARGES	7,428,304	7,447,728	19,424	0.3%	8,259,693	90.2%
OTHER REVENUE	5,136,850	7,481,603	2,344,753	45.6%	6,180,450	121.1%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	7,973,139	7,917,734	(55,405)	-0.7%	9,729,457	81.4%
TOTAL REVENUE & INCOME	**$ 558,299,422**	**$ 560,608,194**	**$ 2,308,773**	**0.4%**	**$ 674,485,384**	**83.1%**

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY15 Budget YTD April	FY15 Actuals YTD April	FY15 YTD Actual vs. FY15 Budget		Explanations
			$	%	
Direct Expenses					
Wages & Salaries	77,790,810	75,679,479	(2,111,331)	-2.7%	Underspending is due to lower filled positions and salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates. At the end of April the average Full Time Equivalent (FTE) positions were 1,144, 21 positions less than the 1,165 budgeted FTE's.
Overtime	2,993,647	3,723,259	729,612	24.4%	Overspending due to higher than projected wet weather events, especially winter snow removal, and coverage requirements.
Fringe Benefits	15,364,377	15,154,037	(210,340)	-1.4%	Lower than budget mainly due to Health of $193k, Dental of $22k, and Unemployment Insurance of $21k due to lower filled positions.
Worker's Compensation	1,833,333	1,978,541	145,208	7.9%	Overspending due to higher Compensation Payments of $176k and Administrative costs of $51k, partially offset by lower medical payments of $81k.
Chemicals	8,288,665	7,859,579	(429,086)	-5.2%	Underspending mainly due to lower than budgeted Sodium Hypochlorite of $178,000 due to lower pricing and timing of deliveries, Liquid Oxygen of $156,000 and Sodium Bisulfite of $128,000 due to better water quality. Underspending is offset by overspending for Ferric Chloride of $144,000 due to struvite control and Hydrogen Peroxide of $91,000 due to increased need for pretreatment of hydrogen sulfide gas due to lower than budgeted plant flows.
Utilities	19,489,340	17,303,405	(2,185,935)	-11.2%	Underspending due to lower Electricity of $1.2 million mainly due to lower commodity and transmission and distribution costs and lower flows which resulted in less pumping demand at Deer Island, Diesel Fuel of $823k due to lower pricing at Deer Island and Field Operations, and Water use of $150k.
Maintenance	21,207,262	21,349,883	142,621	0.7%	Materials are overspent by $1.6 million and services are underspent by $1.5 million.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY15 Budget YTD April	FY15 Actuals YTD April	FY15 YTD Actual vs. FY15 Budget		Explanations
			$	%	
Training & Meetings	260,459	286,611	26,152	10.0%	
Professional Services	4,505,248	3,808,198	(697,050)	-15.5%	Lower than budget mainly due to the timing of initiatives such as the Mystic River Modeling project, dam safety work, and as-needed engineering for maintenance projects.
Other Materials	3,172,874	4,143,895	971,021	30.6%	Higher than budget mainly due to timing of Vehicle of $745k, Computer Hardware of $190k, Work Clothes of $82k, and Other Materials of $55k offset by lower Vehicle Expenses of $171k mostly due to lower gasoline prices.
Other Services	18,367,032	18,470,361	103,329	0.6%	Higher than budget mainly due to Telecommunications expenses of $160k due to increased security data lines, Space Lease/Rentals of $82k for Charlestown Navy Yard headquarters carpet and painting upgrades, and Sludge Pelletization $50k offset by lower Permit Fees $71k due to timing.
Total Direct Expenses	**173,273,047**	**169,757,248**	**(3,515,800)**	**-2.0%**	
Indirect Expenses					
Insurance	1,759,821	1,735,371	(24,450)	-1.4%	Lower Premiums of $124k offset by Higher Payments/Claims of $100k.
Watershed/PILOT	22,712,923	22,530,921	(182,002)	-0.8%	Lower Reimbursement expenses of $119k due to FY14 overaccrual and lower Payment in Lieu of Taxes of $63k.
HEEC Payment	2,422,012	2,316,818	(105,194)	-4.3%	Lower Capacity Charges of $96k.
Mitigation	1,328,011	1,207,227	(120,784)	-9.1%	
Addition to Reserves	399,365	399,365	-	0.0%	
Pension Expense	12,629,475	12,645,475	16,000	0.1%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	**41,251,607**	**40,835,177**	**(416,431)**	**-1.0%**	
Debt Service					
Debt Service	337,533,578	337,533,578	-	0.0%	Debt Service expenses through April are at budgeted level after the transfer of $14.1 million of a favorable year-to-date variance to the Defeasance Account.
Debt Service Assistance	(853,660)	(853,660)	-	0.0%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY15 Budget YTD April	FY15 Actuals YTD April	FY15 YTD Actual vs. FY15 Budget		Explanations
			$	%	
Total Debt Service Expenses	**336,679,918**	**336,679,918**	-	**0.0%**	
Total Expenses	**551,204,572**	**547,272,343**	**(3,932,234)**	**-0.7%**	
Revenue & Income					
Rate Revenue	537,761,129	537,761,129	-	0.0%	
Other User Charges	7,428,304	7,447,728	19,424	0.3%	
Other Revenue	5,136,850	7,481,603	2,344,753	45.6%	The higher non-rate Revenue is due to $995,000 for a prior period adjustment for Watershed related expenses, $425,000 for the sale of unbudgeted emergency water for the Town of Hudson, $372,000 payment received for the sale of the Fox Point CSO Facility, $152,000 for higher permit, monitoring, and penalty fees, $75,000 reimbursement for Briarwood Rehabilitation Easement project, $60,000 for the timing of Fore River Railroad Corporation payments, $52,000 for the timing of antenna license revenue, $33,000 for the timing of Rutland/Holden payments and a variety of smaller items totaling approximately $144,000.
Rate Stabilization	-	-	-		
Investment Income	7,973,139	7,917,734	(55,405)	-0.7%	Lower Investment Income due to lower than budgeted short-term rates.
Total Revenue	**558,299,422**	**560,608,194**	**2,308,773**	**0.4%**	
Net Revenue in Excess of Expenses	**7,094,850**	**13,335,851**	**6,241,004**		

ATTACHMENT 3
Capital Improvement Program Variance Explanations
(000's)

	FY15 Budget YTD April	FY15 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			$	%	
Interception & Pumping (I&P)	$9,400	$7,753	($1,647)	-17.5%	Underspending mainly due to Chelsea Creek Upgrades Design/Construction Administration of $839,000 due to design delays, Nut Island Electrical and Grit and Screenings Conveyance of $601,000 and Alewife Brook Pump Station Rehabilitation of $360,000 due to timing and Chelsea Screenhouse Upgrades of $254,000 due to schedule change. Offset by Prison Point/Cottage Farm Engine Pump & Gearbox Rebuilds of $654,000 due to contractor progress and Nut Island Headworks Electric, Grit & Screenings Conveyance Design of $142,000 due to timing.
Treatment	$27,464	$16,687	($10,777)	-39.2%	Underspending on Electrical Equipment Upgrade Construction 4 of $3.3M, Butterfly Valve Replacement of $2.8M, North Main Pump Station VFD Replacement of $1.1M, Miscellaneous VFD Replacements of $600,000, Centrifuge Backdrive Replacement of $555,000, HVAC Equipment Replacement Design/Engineering Services During Construction of $488,000, Barge Berth and Facility Replacement of $430,000, Thermal Power Plant Boiler Control Replacement of $357,000, Power System Improvements - Construction of $350,000 due to timing, Gravity Thickener Rehabilitation of $482,000 due to schedule change, and other smaller projects of $2.3 million. Offset by overspending on Scum Skimmer Replacement of $2.1M due to contractor progress.
Residuals	$0	$0	$0	-	
CSO	$18,245	$23,108	$4,864	26.7%	Overspending on Reserved Channel Sewer Separation of $2.9M due to updated cost estimate as a result of increased scope of work, Cambridge Sewer Separation of $984,000 due to higher than anticipated cost estimates, and MWR003 Gate & Siphon of $860,000 due to greater than budgeted contract award.
Other Wastewater	$9,263	$15,066	$5,804	62.7%	Overspending on Infiltration and Inflow (I/I) due to community requests for grants and loans being more than budgeted.
Total Wastewater	**$64,372**	**$62,615**	**($1,756)**	**-2.7%**	

ATTACHMENT 3
Capital Improvement Program Variance Explanations
(000's)

	FY15 Budget YTD April	FY15 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			$	%	
Drinking Water Quality Improvements	$19,907	$11,482	($8,425)	-42.3%	Underspending for Spot Pond Storage Facility of $6.2M mainly for timing of work and weather delays and Carroll Water Treatment Plant of $2.9M mainly for Existing Facilities CP-7 and Storage Tank Roof Drainage System due to schedule changes and Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection due to timing. Offset by overspending on Quabbin Water Treatment Plant of $668,000 primarily due to contractor progress.
Transmission	$6,682	$1,784	($4,898)	-73.3%	Underspending for Wachusett Aqueduct Pump Station Construction of $2.7M due to schedule change, Sudbury Aqueduct - MEPA of $900,000 due to alternatives analysis, Watershed Land of $850,000 due to the timing of land acquisitions, Hultman Interconnect - Final Design/CA/RI of $372,000 due to less than anticipated construction administration resident inspection services, and Dam Projects of $250,000 due to less than anticipated design and engineering services.
Distribution & Pumping	$7,635	$5,632	($2,003)	-26.2%	Underspending on Weston Aqueduct Supply Mains of $1.2M mainly due to timing for Section 36/W11 C/S 9 - All Valve, WASM 3 and Section 36 Design/Construction Administration/Resident Inspection, Southern Extra High (SEH) Redundancy & Storage of $813,000 due to Redundancy/Storage Phase 1 - Final Design/Construction Administration/Resident Inspection delays pending additional time to meet with local communities, and Valve Replacement of $542,000 due to timing of equipment purchases. Offset by overspending on Northern Intermediate High of $615,000 mainly for greater than budgeted progress on West Street Pipe Construction in Reading.
Other Waterworks	$559	$667	$109	19.4%	Overspending on Local Water System Assistance Program of $303,000 due to more than budgeted community requests for loans. Offset by underspending on Central Monitoring System of $140,000 due to schedule shift for SCADA implementation.

ATTACHMENT 3
Capital Improvement Program Variance Explanations
(000's)

	FY15 Budget YTD April	FY15 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			$	%	
Total Waterworks	**$34,783**	**$19,566**	**($15,218)**	**-43.8%**	
Business & Operations Support	$6,456	$3,655	($2,800)	-43.4%	Underspending on MIS-related projects of $1.9 million due to timing of IT Strategic Plan implementation, Capital Maintenance Planning & Development of $847,000 due to lower than projected use of as-needed technical assistance, and Alternative Energy of $470,000 mainly due to Shaft E Hydro project being removed from CIP. Offset by timing of FY14-18 Vehicle Purchases of $382,000.
Total MWRA	**$105,610**	**$85,836**	**($19,774)**	**-18.7%**	

ATTACHMENT 4

FY15 Budget vs FY15 Projection

TOTAL MWRA	FY15 Budget	FY15 Projection	Change FY15 Budget vs FY15 Budget vs Projection	
			$	%
EXPENSES				
WAGES AND SALARIES	$ 96,554,749	$ 94,094,681	$ (2,460,068)	-2.5%
OVERTIME	3,620,600	4,296,570	675,970	18.7%
FRINGE BENEFITS	18,299,405	17,993,119	(306,286)	-1.7%
WORKERS' COMPENSATION	2,200,000	2,400,000	200,000	9.1%
CHEMICALS	10,219,580	9,902,400	(317,180)	-3.1%
ENERGY AND UTILITIES	23,472,354	21,152,929	(2,319,425)	-9.9%
MAINTENANCE	27,972,607	28,776,376	803,769	2.9%
TRAINING AND MEETINGS	361,019	379,552	18,533	5.1%
PROFESSIONAL SERVICES	5,957,201	5,531,108	(426,093)	-7.2%
OTHER MATERIALS	5,952,729	6,314,420	361,691	6.1%
OTHER SERVICES	22,538,498	22,804,030	265,532	1.2%
TOTAL DIRECT EXPENSES	**$ 217,148,742**	**$ 213,645,185**	**$ (3,503,556)**	**-1.6%**
INSURANCE	$ 2,128,155	$ 2,193,807	$ 65,652	3.1%
WATERSHED/PILOT	27,466,790	27,197,961	(268,829)	-1.0%
HEEC PAYMENT	3,198,174	2,831,518	(366,656)	-11.5%
MITIGATION	1,605,967	1,496,419	(109,548)	-6.8%
ADDITIONS TO RESERVES	482,953	482,953	-	0.0%
RETIREMENT FUND	7,808,155	7,824,155	16,000	0.2%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	4,821,320	4,821,320	-	0.0%
TOTAL INDIRECT EXPENSES	**$ 47,511,514**	**$ 46,848,134**	**$ (663,380)**	**-1.4%**
STATE REVOLVING FUND	$ 78,460,635	$ 75,619,341	$ (2,841,294)	-3.6%
SENIOR DEBT	220,835,626	214,861,284	(5,974,342)	-2.7%
DEBT SERVICE ASSISTANCE	(853,660)	(853,660)	-	
CURRENT REVENUE/CAPITAL	10,200,000	10,200,000	-	0.0%
SUBORDINATE MWRA DEBT	99,686,105	99,686,105	-	0.0%
LOCAL WATER PIPELINE CP	4,148,453	341,921	(3,806,532)	-91.8%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
VARIABLE DEBT	-	(12,416,923)	(12,416,923)	
CORE FUND DEPOSIT	876,507	876,507	-	0.0%
DEFEASANCE ACCOUNT	-	25,039,091	25,039,091	
BOND REDEMPTION	(6,745,598)	(6,745,598)	-	
TOTAL DEBT SERVICE	**$ 409,825,128**	**$ 409,825,128**	**$ -**	**0.0%**
TOTAL EXPENSES	**$ 674,485,386**	**$ 670,318,447**	**$ (4,166,936)**	**-0.6%**
REVENUE & INCOME				
RATE REVENUE	$ 650,315,782	$ 650,315,782	$ -	0.0%
OTHER USER CHARGES	8,259,693	8,259,693	-	0.0%
OTHER REVENUE	6,180,451	7,978,838	1,798,387	29.1%
RATE STABILIZATION	-	-	-	#DIV/0!
INVESTMENT INCOME	9,729,458	9,579,458	(150,000)	-1.5%
TOTAL REVENUE & INCOME	**$ 674,485,384**	**$ 676,133,769**	**$ 1,648,387**	**0.2%**
VARIANCE		$ (5,815,322)	$ 5,815,322	

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Bond Defeasance of Future Debt Service

COMMITTEE: Administration, Finance & Audit

X VOTE
INFORMATION

Matthew R. Horan, Treasurer MRH
Sean R. Cordy, Financial Planner SRC
Preparer/Title

Thomas J. Durkin
Director of Finance

Consistent with MWRA's multi-year rates management strategy, MWRA staff are recommending the execution of an approximately $30.5 million defeasance in June 2015 to reduce future year rate increases. The $30.5 million in available funds is derived from the use of $3.3 million surplus funds from FY14 and $27.2 of the FY15 surplus to prepay debt coming due in FY16 through FY19 ($27.5 million in principal and $3 million in interest). The defeasance of debt, coupled with diligent management of our operational expenses, have been the keys to our ability to keep assessment increases sustainable and predictable.

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 $27,525,000 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 $31,003,163 in the FY16 through FY19 timeframe.

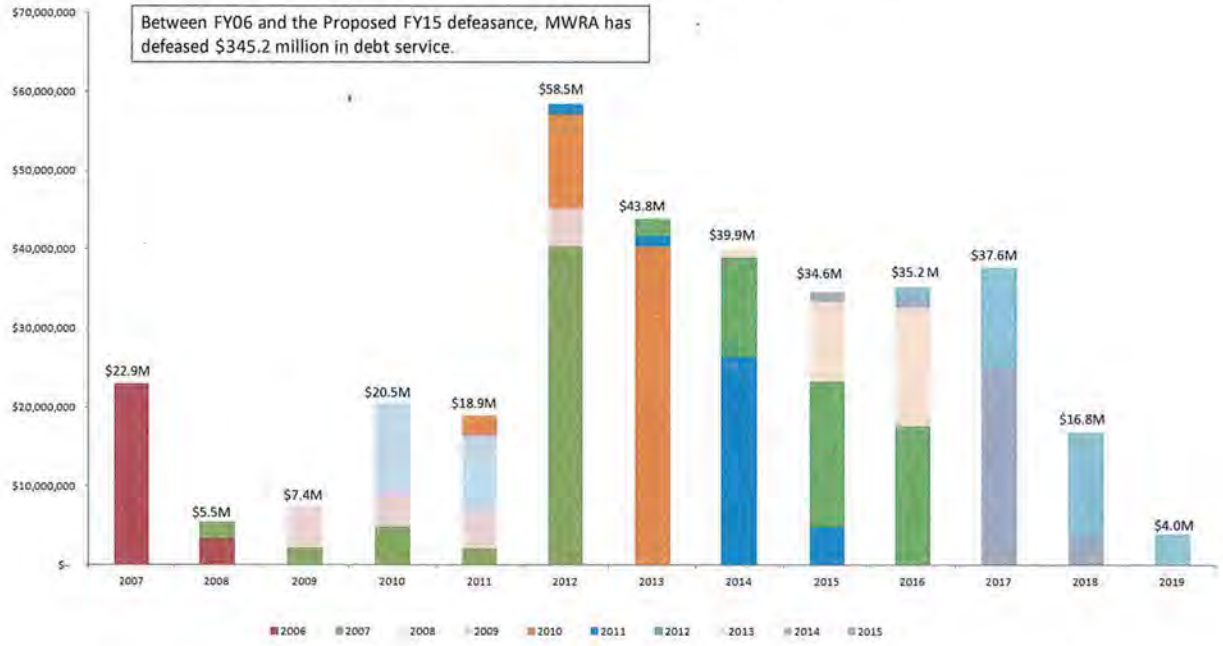
DISCUSSION:

During FY12, the MWRA established a budgetary defeasance account into which all surplus funds associated with the capital finance budget were transferred. 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 FY14 budget, there was $3,349,938 in surplus funds remaining (beyond the $26.2 million used for defeasance), which were allocated to the defeasance account to be utilized as part of the FY15 defeasance. In order to mitigate rate increases, staff reflected the use of $20 million from the FY14 and FY15 surpluses to defease bonds for future rate relief in the Proposed FY16 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 $30.5 million, comprised of $3.3 million from FY14 and $27.2 million from FY15, for even greater debt service reductions in future years.

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 annual impact of the defeasances since 2006, inclusive of the $30.5 million proposed FY15 defeasance.

Annual Debt Service Reductions from Defeasance - FY06 to Proposed FY15



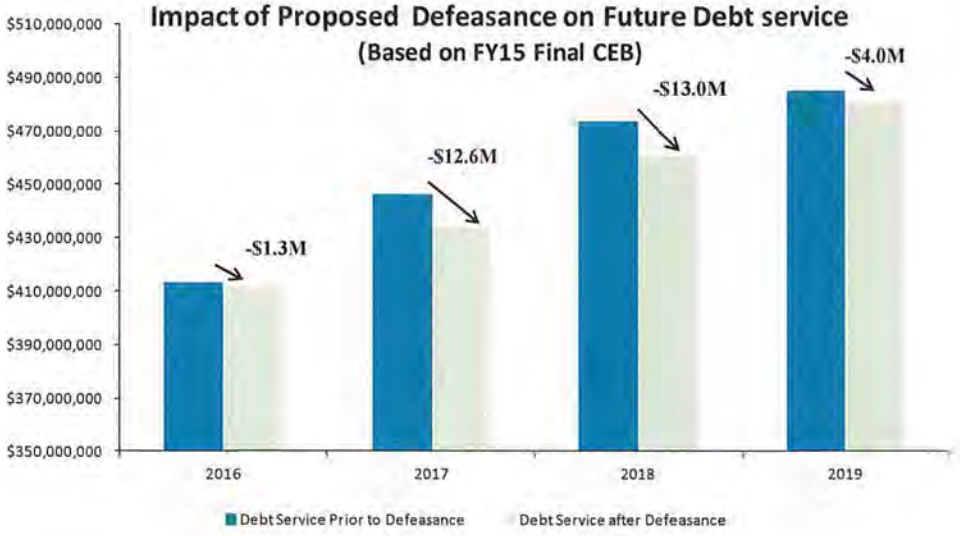
Staff reviewed all available defeasance candidates, and have identified the maturities of the series listed in the following table as the most advantageous defeasance candidates.

Series	Maturity	Principal	Defeasance Cost [1]
2005A	8/1/2017	$ 5,250,000	$ 5,801,250
2005A	8/1/2018	$ 6,315,000	$ 6,978,075
2005A	8/1/2019	$ 685,000	$ 756,925
2006B	8/1/2017	$ 1,110,000	$ 1,221,000
2006B	8/1/2019	$ 1,780,000	$ 2,047,000
2009B	8/1/2017	$ 2,915,000	$ 3,206,500
2010A	8/1/2018	$ 1,265,000	$ 1,378,850
2010A	8/1/2019	$ 1,330,000	$ 1,489,600
2011B	8/1/2017	$ 875,000	$ 927,500
2011B	8/1/2018	$ 1,000,000	$ 1,075,000
2011B	8/1/2018	$ 520,000	$ 566,800
2012A	8/1/2018	$ 1,000,000	$ 1,120,000
2013A	8/1/2018	$ 10,000	$ 11,200
2014D	8/1/2017	$ 1,190,000	$ 1,309,000
2014D	8/1/2018	$ 1,250,000	$ 1,437,500
2014F	8/1/2018	$ 1,030,000	$ 1,184,500
	Total	**$27,525,000**	**$ 30,510,700**

(1) Defeasance cost is only anticipated funds from surplus and does not include 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 FY16 through FY19:

	Budget Reduction by Fiscal Year				Total CEB
	2016	2017	2018	2019	Savings
Defeasance CEB Savings	$ 1,291,975	$ 12,631,975	$ 13,119,350	$ 3,959,863	$ 31,003,163



The total debt service reduction attributable to the defeasance is $492,463 higher than the defeasance cost because the 2005 Series A and 2006 Series B bonds are currently callable in August 2017 and August 2018 respectively. The payment of these bonds 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 FY14 and projected FY15 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 FY16, the defeasance must be completed prior to June 30, 2015.

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 FY15 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 FY15 surplus is greater than the $27.5 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 FY16 through FY19 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.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Lead Market Participant Services for the Deer Island Treatment Plant
Direct Energy Business Marketing, LLC

COMMITTEE: Administration, Finance & Audit

____ INFORMATION
__X__ VOTE

Michele S. Gillen
Director of Administration

David F. Duest, Director, Deer Island WWTP
Kristen Patneaude, Program Manager, Energy
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

MWRA staff are recommending that MWRA enter into a purchase order with Direct Energy Business Marketing, LLC to provide Lead Market Participant services for MWRA's Deer Island Treatment Plant Demand Response asset (the Combustion Turbine Generators), for participation in ISO New England's Forward Capacity Market (ISO New England requires a firm designated as a Lead Market Participant – MWRA is not designated as such), Over the four-year term of this purchase order, the total expected revenue stream from participation in the Forward Capacity Market is approximately $6,440,000, where ninety-five percent, or approximately $6,120,000, of this amount will be paid directly to MWRA on a monthly basis as capacity payments, and five percent, or approximately $320,000, will be retained by Direct Energy Business Marketing, LLC as its fee.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a four-year purchase order with Direct Energy Business Marketing, LLC to provide Lead Market Participant services for MWRA's Deer Island Treatment Plant Demand Response asset, for the period of June 1, 2015 through May 31, 2019, where MWRA is authorized to provide Direct Energy five percent of the revenue received from ISO New England.

DISCUSSION:

Forward Capacity Market

The Forward Capacity Market is a long-term wholesale market that assures resource adequacy, both locally and system wide. The market is designed to promote economic investment in supply and demand resources where they are needed most. Capacity resources may be either new or existing, and may include supply from power plants, import capacity, or the decreased use of

electricity through demand resources. To purchase sufficient qualified resources to satisfy the region's future needs, and to allow sufficient time to construct new capacity resources, Forward Capacity Auctions are held each year approximately three years in advance of when the capacity resources must provide service. Capacity resources compete in the annual Forward Capacity Auctions to obtain a commitment to supply capacity in exchange for a market-priced capacity payment.

The Forward Capacity Market is designed to: (a) procure sufficient capacity to meet New England's forecasted demand and reserve requirements three years in advance; (b) use a competitive Forward Capacity Auction process to select a portfolio of supply and demand resources to meet New England's capacity needs; (c) pay the selected supply and demand resources the market-clearing price of capacity (i.e., capacity payments); and (d) provide a long-term commitment to supply and demand resources to encourage new investment. Demand Response is a consumer's ability to reduce electricity consumption at its location to ensure the reliability of the electric grid when demand and/or wholesale prices are high. MWRA has been participating in Demand Response programs for more than 15 years, originally only at Deer Island, and then expanding the enrollment of MWRA's back-up generators to also include the John J. Carroll Water Treatment Plant, Ward Street Headworks, Columbus Park Headworks, Chelsea Creek Headworks, and Nut Island Headworks, as Demand Resources.[1]

Lead Market Participant

The Forward Capacity Auctions are conducted approximately three years in advance to procure sufficient capacity to meet New England's forecasted demand. Participation in the auctions requires both a designation of a Lead Market Participant, and the ability to provide the capacity required by ISO New England (ISO-NE). A Lead Market Participant is the entity responsible for managing the customer's (MWRA) asset registrations, and also assumes the market obligation with ISO-NE, posts the required credit, and receives the revenues and penalties from ISO-NE. Since MWRA is not a Lead Market Participant it must procure these services.[2]

Direct Energy is one of the various designated Lead Market Participants in the ISO-NE Forward Capacity Market. The acceptance of Direct Energy's bid by ISO-NE in the auction is a binding agreement in which Direct Energy is obligated to supply the megawatt capacity it cleared to ISO-NE, or face potential loss of financial assurance if it fails to meet its obligation. Direct Energy meets the required obligation through the Demand Response Program for Capacity Commitment Periods through 2018-19. Direct Energy (and formerly Direct Energy's predecessor Hess Corporation) has been providing Lead Market Participant services for MWRA's Deer Island Treatment Plant Demand Resource (Combustion Turbine Generators or CTGs) for the past 10 years, either through the Deer Island electricity supply contract, or, most recently in 2014 under a

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[1] MWRA's other Demand Resources (Carroll Water Treatment Plant, Ward Street Headworks, Columbus Park Headworks, Chelsea Creek Headworks, and Nut Island Headworks) are enrolled in the Forward Capacity Market through the Division of Capital Asset Management and Maintenance (DCAMM) Contract FAC83designatedDCAMM.

[2] MWRA has historically competitively procured these services as part of its electric energy supply contract for Deer Island. In 2013, the requirement to provide Lead Market Participant services were removed from the electric supply contract in order to increase competition among electricity suppliers, as several suppliers cannot meet the capacity obligation for DITP. If they are unable to provide the requested Lead Market Participant services, they would not be qualified to bid on the electricity supply contract.

one-year sole source purchase order approved by the Executive Director under his delegated authority.

ISO-NE has currently classified MWRA's CTGs as Real-Time Demand Response assets. If MWRA were to contract with a different Lead Market Participant, it would require re-evaluation for registration and MWRA's CTGs would not qualify under the current ISO-NE tariff as a Distributed Generation Real-Time Demand Response asset,[3] primarily because MWRA is capable of generating more than its peak load. Therefore, MWRA must continue to retain Direct Energy as its Lead Market Participant in order to participate in the Demand Response Program.

Even if MWRA could change its Lead Market Participant, it is not likely that MWRA would find a Lead Market Participant whose market share is as low as five percent. Other Lead Market Participants' shares are commonly closer to twenty-five percent, with some as high as fifty percent. All other MWRA assets participating in the Forward Capacity Market using the state-wide DCAMM contract pay a revenue share of more than twenty percent.

Alternatively, the only way MWRA would be able to participate in the Forward Capacity Market would be as a generator. The earliest MWRA would be allowed to participate into a Forward Capacity Auction as a generator would be for the 2020-21 power year.[4]

All factors considered, staff recommend that MWRA contract with Direct Energy to enroll Deer Island's CTGs in the Forward Capacity Auction because of Direct Energy's unique market capacity commitment, its existing registration with ISO-NE as a Lead Market Participant for the CTGs, and its modest revenue split of five percent, resulting in a revenue stream of approximately six million dollars to MWRA over the next four years.

BUDGET/FISCAL IMPACT:

The projected revenue stream to MWRA over the term of the purchase order is approximately $6,120,000 or $1,530,000 per year. Total payments to Direct Energy Business Marketing, LLC are expected to be approximately $320,000, paid out of the total revenue stream.

MBE/WBE PARTICIPATION:

There will be no MBE or WBE participation requirements established for this procurement due to the lack of subcontracting opportunities.

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[3] Distributed Generation - means generation resources directly connected to end-use customer load and located behind the end-use customer's meter, which reduce the amount of energy that would otherwise have been produced by other capacity resources on the electricity network in the New England Control Area during Demand Resource On-Peak Hours, Demand Resource Seasonal Peak Hours, Real-Time Demand Response Event Hours, or Real-Time Emergency Generation Event Hours, provided that the aggregate nameplate capacity of the generation resource does not exceed 5 megawatts, or does not exceed the most recent annual non-coincident peak demand of the end-use metered customer at the location where the generation resource is directly connected, whichever is greater. Generation resources cannot participate in the Forward Capacity Market or the Energy Markets as Demand Resources or Demand Response Resources, unless they meet the definition of Distributed Generation.

[4] MWRA is currently in discussions with Eversource Energy related to its ability to export power over the HEEC (cross-harbor) cable and enroll in the Forward Capacity Market as a generator.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Maximo Upgrade Project
SHI International Corporation, and
Total Resources Management, Inc.
Contract 7287

COMMITTEE: Administration, Finance & Audit

___ INFORMATION
_X_ VOTE

Michael Farmer, Project Manager
Russell J. Murray, Jr., Director, MIS
Preparer/Title

John Sabino
Director of Procurement

Michele S. Gillen
Director of Administration

Michael J. Hornbrook
Chief Operating Officer

Contract 7287 will provide for an upgrade to MWRA's existing Computerized Maintenance Management System, Maximo, which is no longer supported by its developer, IBM. The recommended upgrade will provide updated technology and increased functionality, allow MWRA to combine and centralize two currently separate Maximo applications, and also add assets that have been tracked independently in the past.

Staff are presenting a separate but related staff summary at this meeting that will provide the Board with a detailed discussion on MWRA's overall maintenance program, an important component of which is MWRA's reliance on Maximo to plan, schedule and track maintenance activities.

RECOMMENDATION:

To approve the recommendation of the Selection Committee to award Contract 7287, Maximo Upgrade Project, to the Consultant team of SHI International Corporation, and Total Resources Management, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said three-party contract in an amount not to exceed $2,625,904, and for a contract term of 26 months from the Notice To Proceed.

BACKGROUND:

MWRA acquired Maximo through a competitive bid process in 1994 in support of the Deer Island Treatment Plant's maintenance management program, which was being developed in parallel with the construction of the plant. Upon successful implementation, MWRA expanded the use of Maximo to Field Operations and Vehicle Maintenance Management in 1998, and standardized on Maximo as the maintenance management software application for the Authority. Subsequently, Maximo was upgraded from Version 4.1.1 to 5.2 during 2006-2009 (Field Operations in 2006, Deer Island Treatment Plant in 2007 and Vehicle Maintenance in 2009).

DISCUSSION:

Maximo is a Computerized Maintenance Management System (CMMS) currently used for managing asset lifecycle and maintenance activities for MWRA's water, wastewater, and fleet assets. It also tracks costs, including original cost of the asset, spare parts, consumables used in maintenance, and staff support hours to realize the total cost of ownership of an asset. MWRA is presently managing more than 120,000 pieces of equipment that generate approximately 5,585 work orders a month.

As part of MWRA's comprehensive Facilities Asset Management Program (FAMP), staff recommend upgrading Maximo. MWRA's current version of Maximo, Version 5.2, is no longer supported by IBM. Furthermore, staff recommended that MWRA purchase additional modules. The recommended upgrade project will provide additional functionality for staff and also will combine two currently separate Maximo applications, one for Deer Island and the other for the rest of MWRA's water and sewer systems, as well as adding the Clinton Advanced Wastewater Treatment Plant into a single, multi-site system. MIS assets will also be added.

This request includes four IBM software products, and implementation of two additional IBM products: the Calibration Module; SmartCloud Control Desk; Maximo Anywhere; Maximo Spatial; Maximo Asset Management Scheduler; and Maximo Linear. Finally, there will be the new implementation, data conversion, and consolidation of nine small asset tracking systems including MAGIC, which is the MIS Department's current Service Desk application). Each of the new modules to be purchased or implemented is further described below.

Calibration

The IBM Maximo Calibration module will be used to calibrate tools and measurement equipment. It is a fully integrated part of the Maximo Asset Management and will help to optimize the quality of products produced. This asset management add-on will allow instrument calibration data to be entered directly into Maximo in order to better schedule maintenance of MWRA's instruments, and also allows calibration data to be entered from mobile devices in the field. It will also provide all the needed requirements for traceability and reverse traceability, all calibration history data, calibration data sheets, and required reporting. The Calibration module will enable MWRA to automate processes throughout the agency to help increase effectiveness and minimize operating costs. The calibration module will replace the existing "EX1" custom

application to capture equipment specifications and calibration information for 38,000 pieces of equipment.

SmartCloud Control Desk

The IBM SmartCloud Control Desk module will replace the current MIS Help Desk solution and integrate all Information Technology (IT) assets onto one platform. It also will provide an optimized and automated end-to-end IT service management solution, based on industry-best practices. This implementation will help to accelerate the implementation of MWRA's IT Service Management Program as outlined in the MIS 5-Year Strategic Plan.

Maximo Anywhere

The IBM Maximo Anywhere module will provide authorized field staff remote access from mobile devices to directly access and update Maximo work order information, eliminating the need for paper work orders.

Spatial Asset Management

The IBM Maximo Spatial Asset Management module will allow MWRA users to view complex GIS information. It provides a geospatial context of work, assets, and relevant land-based features. MWRA's Planners and Schedulers will be able to create routes based on the work order locations so that staff time can be used more efficiently.

Linear Asset Manager

The IBM Maximo Linear Asset Manager will extend the capabilities of MWRA's current Maximo system to include the management of linear assets, such as pipes. It will enable staff to change characteristics, such as pipe material, manhole location, pipe size, etc., over the span of a linear asset using dynamic segmentation.

Maximo Scheduler

The Maximo Asset Management Scheduler is an end-to-end work management tool for Maximo Asset Management. It will allow MWRA's Planners and Schedulers to view all work orders and preventive maintenance schedules graphically on a Gantt chart, and will enable staff to plan, schedule, dispatch, and track all work from MWRA's asset management system. Optimization models will help gain significant efficiencies by automating work management tasks.

In summary, there are three distinct objectives of the Maximo Upgrade Project. They are:

1. Upgrade to Maximo 7.6 and Implement Maximo Asset Management for Deer Island and Field Operations into a single, multi-site system;
2. Implement six additional Maximo modules, of which four will be procured under this contract: (1) Calibration Module; (2) Smart Cloud Control Desk; (3) Anywhere; (4) Spatial; (5) Linear; and (6); Maximo Asset Management Scheduler; and

3. Implementation, data conversion and consolidation of nine Small Asset Tracking systems and the MAGIC Helpdesk system.

The effort associated with accomplishing these three objectives can be broken down as follows:

1. Upgrading Maximo represents 67% of the effort/costs;
2. The effort to implement six additional modules and consolidate the Small Asset Tracking systems represents 25% of the effort/costs; and
3. New Module Licenses represent 8% of the costs.

Procurement Process

In order to obtain the best software pricing, staff developed a Request for Qualifications/Proposals (RFQ/P) requiring that Proposer Teams be comprised of software "Resellers" already shortlisted pursuant to the Commonwealth of Massachusetts' ITS42 procurement and contract (commonly referred to as the "State Blanket Contract" process). These three qualified Resellers offer significantly discounted rates for sale of IBM products. For this procurement, these Resellers would team with certified "IBM Gold Partners" who would provide the evaluation and restructuring of business processes, development of an implementation plan for the upgrades, data migration, and implementation of an integrated system.

On January 22, 2015, MWRA issued a one-step RFQ/P pursuant to which all Proposer Teams which met the identified Threshold Criteria, including a qualified ITS42 Reseller and an IBM Gold Partner, would have their proposals evaluated utilizing three Evaluation Criteria, Cost (40 points), Technical Approach (40 points) and Schedule (20 Points) totaling 100 points. The Proposer Team receiving the highest ranking of the Selection Committee would be the recommended First-Ranked Team.

On March 16, 2015, MWRA received proposals from five Proposer Teams, listed with prices as follows. (The MWRA Engineer's Estimate, prepared before proposals were submitted is also included):

Proposer Teams	**Cost**	**Total Hours**
SHI/Total Resource Management Inc. ("TRM")	$2,625,904	14,118
MWRA Engineer's Estimate	*$2,823,000*	*18,820*
SHI/EDI, Inc.	$3,297,753	19,396
EN POINTE ("EN P")/Starboard Consulting LLC	$3,879,705	23,547
SHI/Cohesive Solutions Inc	$5,257,530*	31,547
SHI/EMA, Inc.	$7,431,326	36,769

*Reflects corrections made due to mathematical errors

The Selection Committee met on March 23, 2015, with Preliminary Scoring completed, to hear presentations from Procurement's review confirming that each of the Proposer Teams had met the Threshold Criteria; to review a spreadsheet review comparing the Proposer Teams' costs per

task; and to hear reports on the external references and the financial stability of each team. The Selection Committee then discussed each member's evaluation of Proposers on Cost, Technical Proposal (strengths and weaknesses) and the Proposed Schedule and sequencing of the work.

After discussion, based on questions raised, a decision was made to submit written questions to each Proposer requiring written responses to clarify various aspects of their Proposals. The Selection Committee also decided at that time to interview three firms: EDI, TRM and Starboard.

On March 30, 2015, following the last interview, the Selection Committee met again to review the Proposers' written responses and the outcome of the interviews, and to complete the scoring and final ranking. The results are presented on the following page.

Proposer	Total Points	Order of Preference*	Final Ranking
SHI/TRM	399.8	5	1
SHI/EDI	359.6	12	2
EN P/Starboard	336.7	14	3
SHI/Cohesive	300.2	22	4
SHI/EMA	299.7	22	5

*Order of Preference represents the sum of the individual Selection Committee members' rankings where the firm (team) receiving the highest number of points is assigned a "1," the firm receiving the next highest number of points is assigned a "2," and so on.

The Selection Committee voted to recommend award of the contract to SHI/TRM, subject to satisfactory confirmation through negotiations to confirm that the firm could and would deliver the project substantially in the manner provided in its proposal, and for the price stated.

SHI/TRM, which presented the lowest cost proposal, also provided a highly detailed proposal and plans to accomplish installation on a 26-month schedule. The team proposes to rely on the RulesManager extension, which adds functionality to the core Maximo product, reducing configuration time and enabling TRM to provide a complete project for far fewer hours and a lower cost than others. TRM also had excellent references and highly experienced and qualified key personnel.

Second-ranked SHI/EDI, also proposed a thoughtful and competitive proposal for a 23-month duration, with a well-developed project approach but its price was higher and its references were not as strong as the first-rank team.

Third-ranked En Pointe/Starboard also presented a moderately priced proposal. However, the price did not include all of the essential scope tasks. Starboard offered these scoped items as optional at an additional cost of more than $400,000. Also, unlike the other Proposer Teams,

rather than directly importing MWRA's data from 5.2 to 7.6, the firm proposed a more costly step-to-step upgrade (5.2 to 6 to 7.1 to 7.5 to 7.6).

Fourth-ranked SHI/Cohesive, proposed a very aggressive schedule at 10 months. While this shorter time frame was viewed very favorably, the proposal lacked adequate details on the execution of this plan to make it credible. Together with the high relative cost, the team was ranked accordingly.

Fifth-ranked SHI/EMA, proposed a well detailed and thought-out plan covering a 22-month duration. However, the team's proposed hours and costs were highest at more than double that of the lowest proposer.

BUDGET/FISCAL IMPACT:

Sufficient funds for this procurement are included in the FY15 Capital Improvement Program under Application Improvement Project 7287.

MBE/WBE PARTICIPATION:

Although this procurement did not contain MBE/WBE participation requirements, SHI International Corporation, the Reseller, is a certified Minority-Owned Business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Occupational Medical Services and Consulting
AllOne Health
Contract A598

COMMITTEE: Administration, Finance and Audit

_____INFORMATION
__X__VOTE

John Sabino
Director of Procurement

Karen Gay-Valente, Director of Human Resources
Susan Marx, Program Manager
Preparer/Title

Michele S. Gillen
Director of Administration

RECOMMENDATION:

That the Board of Directors approve the recommendation of the Consultant Selection Committee to select AllOne Health for the provision of medical services and consultation for occupational health and regulatory programs and to authorize the Executive Director, on behalf of the Authority, to execute said contract with AllOne Health in the amount of $93,077.50 for a contract term of 36 months from the Notice to Proceed.

DISCUSSION:

Medical services such as medical evaluations and pre-employment physicals are important components in MWRA's compliance with occupational safety and health standards and Department of Transportation testing regulations for commercial drivers. Medical services are also used to ensure that MWRA employees are fully capable of performing the essential functions of their jobs and to assess health or safety risks to MWRA employees, such as the ability to safely wear personal protective equipment.

The medical services contract includes but is not limited to tests, examinations, and evaluations such as respirator medical evaluations, pre-employment physicals, assessments regarding ability to perform essential job functions and other special services as required. The previous contract included drug and alcohol testing services, which is now provided through a separate vendor resulting in a lower cost for this contract.

Procurement Process

MWRA utilized a one-step Request for Qualifications/Proposals (RFQ/P) for Contract A598. The RFQ/P was advertised and issued on March 2, 2015, with proposals due on April 3, 2015. The MWRA directly notified five firms that this service had been advertised. MWRA received one proposal from AllOne Health. MWRA contacted the firms that did not submit proposals, requesting feedback on the reasons they chose not to submit a proposal. Two firms provided feedback; one indicated that they were unable to provide all of the services described in the scope document, and the other indicated that they do not have the capacity to provide the services due to geographical locations of MWRA facilities, and the necessity to have services available on nights and weekends.

Evaluation criteria were weighted as follows: Cost – 50 points; Capacity – 20 points; Experience and Past Performance – 17 points; Qualifications and Key Personnel – 8 points; and, Technical, Organization and Management Approach – 5 points.

The three voting member selection committee met on April 16, 2015 and evaluated AllOne Health's proposal; the committee's evaluation resulted in a score of 251 out of a possible 300 points.

The selection committee determined that AllOne Health is qualified and has the capacity to deliver all the services required by MWRA. AllOne is also the current provider of these services. AllOne has consistently provided high quality, cost effective services during its previous contracts with MWRA. AllOne also has a large qualified staff with exceptional qualifications. Additionally, AllOne has experience providing similar services to other public sector clients including the Boston Water and Sewer Commission, the Massachusetts Port Authority and the Massachusetts Department of Transportation. An analysis of the cost information provided by AllOne demonstrated that its cost is reasonable. Hourly rates for professional staff were not increased from the last year of the current contract, and will remain flat over the three year term. Unit costs were in line with the last year of the current contract having a moderate increase of 2.5%, with additional 2.5% increases for each contract year.

BUDGET/FISCAL IMPACT:

Adequate funds for this contract have been included in the FY16 CEB. Funds for the remainder of the contract will be included in future year CEB requests.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Purchase of Firewall, Intrusion Prevention System, and Related Maintenance and Monitoring Services Contract
NTT Com Security US, Inc.
Bid WRA-3224, Amendment 3

COMMITTEE: Administration, Finance & Audit

__ INFORMATION
X VOTE

Michele S. Gillen
Director, Administration

Russell J. Murray, Jr., Director, MIS
David Stokes/Sr. Program Mgr., IS Security
Paula Weadick/Mgr., IT Security, Arch. and Eng
Janice B. Watts/Buyer
Preparer/Title

John Sabino
Director, Procurement

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract WRA 3224, Firewall, Intrusion Prevention System and Related Maintenance and Monitoring Services with NTT Com Security US, Inc., extending the contract term by 12 months from July 1, 2015 through June 30, 2016, and increasing the contract by $261,874.75 from $1,115,715.63 to a new amount not to exceed $1,377,590.38.

DISCUSSION:

MWRA's Cyber Security Program employs a multi-layered strategy, called *Defense-in-Depth*, which is a practice recommended by the U.S. Department of Homeland Security. A key component in the cyber security strategy is this managed security services contract, under which an external entity continuously monitors MWRA's primary firewalls and intrusion prevention system (IPS) devices for cyber-attacks and breaches.

On June 8, 2011, the Board approved the award of Contract WRA 3224, Purchase of Firewall, Intrusion Prevention System and Related Maintenance and Monitoring Services in an amount of $1,081,965.63 for a period of 48 months, with an initial notice to proceed of 36 months, and with an option to extend for an additional 12 months upon approval by the Executive Director.

Amendment 1 to this contract was approved on March 22, 2013, under delegated authority, for the purchase of Blue Coat software and services, which adds a layer of protection to prevent MWRA's external webpage from being defaced or altered, increasing the contract by $33,750, to $1,115,715.63.

In addition, Amendment 2 was approved on March 17, 2014, under delegated authority, extending the contract for a period of 12 at no additional cost. At that time, staff had planned on first procuring a design consultant to both assess MWRA's current cyber security architecture and prepare a recommended design for MWRA's future (five-year) cyber security posture, including the technical specifications for any new technologies that would enhance MWRA's future security environment and goals based on the MIS Five-Year Strategic Plan, and then competitively bid for a new Managed Security Services Provider based on the accepted design and specifications.

However, given the ever-changing cyber security vulnerability, threat and defense landscape, staff have recognized the disadvantage of the long-term approach, that is, procuring all software and services at once upfront rather than iteratively. Staff now propose that the new contract allow for the immediate implementation of services and software that are needed and known today and for the ongoing review of security needs to propose technology improvements over the life of the contract.

Staff recommend extending this contract for an additional 12 months, at the cost of $261,874.75 (a slight decrease from the average annual rate in the current contract), in order to complete research already underway to assess the current cyber security threat landscape and identify the range of new technology improvements and mitigation techniques MWRA might choose to employ over the next five years. Following that, a Scope of Work would be developed for procuring a Managed Security Services Provider. The Scope will provide placeholders for categories of future cyber security technology improvements and will allow MWRA to implement the Scope on an iterative basis. In other words, as each suggested technology improvement category demonstrates a justified need for inclusion in MWRA's cyber security architecture and monitoring by the external Service Provider, then – and only then – will the solution be identified, approved, purchased, and installed. Each cyber security technology improvement made in this manner will be maintained and monitored by the external Service Provider from the date of installation for the duration of the contract.

This iterative approach to making decisions about MWRA's cyber security architecture improvements provides MWRA with three primary benefits:

Cohesion – build better integration among all of MWRA's cyber security technology solutions by implementing them one at a time, in order to measure each technology's role in the decrease in cyber risks.

Prudence – purchase only the most appropriate solutions available at the time MWRA needs them, especially given the constant change of cyber security threats and the volatility within the IT technology market.

Adaptability – comply with the ever-evolving standards and guidance from the International Standards Organization, the National Institute of Standards and Technology, and the U.S. Department of Homeland Security, since smaller steps forward require less correction to stay on the course.

WRA-3224 Contract Summary:

	Price	*%*	*Duration*	*End Date*
Original Purchase Order	$1,081,965.63		36 months	06/30/2014
Amendments:				
Amendment 1	$ 33,750.00	3.1%	0 months	06/30/2014
Amendment 2	$ 0.00	0%	12 months	06/30/2015
Amendment 3 (proposed)	$ 261,874.75	24.2%	12 months	06/30/2016
Revised Purchase Order Total	$1,377,590.38	27.3%	60 months	06/30/2016

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY15 Current Expense Budget for this contract. The original contract award for all hardware, software, support, monitoring, and installation charges for four years was $1,081,965.63. The total cost of Amendment 3 is $261,874.75, or 24.2%, above the original contracted price.

MBE/WBE PARTICIPATION:

Due to the specialized nature of the work, the original procurement did not contain MBE/WBE participation requirements. NTT Com Security US, Inc. (formerly Integralis, Inc.), is not a certified Minority- or Women-owned business.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee

April 15, 2015

A meeting of the Wastewater Policy and Oversight Committee was held on April 15, 2015 at the Authority headquarters in Charlestown. Chairman Walsh presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Foti, and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Carl Leone, Dave Duest, John Vetere, Lise Marx, Nava Navanandan, Dave Pottle, and Bonnie Hale. The meeting was called to order at 11:35 a.m.

Information

Infiltration/Inflow Local Financial Assistance Program Annual Update

Staff summarized the annual I/I program update.

Approvals

*Approval of Memorandum of Understanding with the Massachusetts Department of Fish and Game for a Public Access Fishing Pier at Deer Island

Mr. Walsh questioned if consideration of this item should be postponed since Winthrop's appointee to the Board – Paul Flanagan – was not present. Mr. Laskey stated that Mr. Flanagan had indicated that he was completely in favor of a public access fishing pier at Deer Island. Staff gave a presentation on various aspects of the project and the MOU, and there was general discussion. Mr. Blackmon suggested that solar lighting for the new parking area be considered; Mr. Walsh wondered if a ladder should be kept near the pier in case anyone fell in the water. Mr. Vetere indicated that both of those good points would be looked at during the design phase. (Mr. Carroll left the meeting.) The Committee recommended approval of the MOU (ref. agenda item B.1).

Contract Awards

*Mystic River Streamgages - Joint Funding Agreement: U.S. Geologic Survey, Contract OP-281

Staff gave a presentation on the project and discussed how it was expected to be useful to the Authority. (Mr. Carroll returned to the meeting.) The Committee recommended approval of the contract award/joint funding agreement (ref. agenda item C.1).

* Approved as recommended at April 15, 2015 Board of Directors meeting.

Contract Amendments/Change Orders

*Nut Island Headworks Electrical and Conveyors Improvements: Malcolm Pirnie, Inc., Contract 7312, Amendment 4

There was question and answer on the reasons for the amendment. The Committee recommended approval of Amendment No. 4 (ref. agenda item D.1).

The meeting adjourned at 11:55 a.m.

* Approved as recommended at April 15, 2015 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Centrifuge Services, Deer Island Treatment Plant
Alfa Laval, Inc.
Contract S537

COMMITTEE: Wastewater Policy & Oversight

____ INFORMATION
__X__ VOTE

Michele S. Gillen
Director of Administration

John Sabino, Director of Procurement
Paul Pisano, Program Manager, DITP
David F. Duest, Director, Deer Island WWTP
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract S537, Centrifuge Services, Deer Island Treatment Plant, to the lowest responsive bidder, Alfa Laval, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $600,400, for a contract term of 1,095 calendar days from the Notice to Proceed.

DISCUSSION:

There are 12 Alfa Laval PM95000 waste sludge centrifuges in the Centrifuge Facility at the Deer Island Treatment Plant (shown on the right). Waste sludge and scum are pumped from the Secondary Treatment Facility into the waste sludge wetwells in the Centrifuge Facility within the Residuals Complex where the sludge and scum are mixed together and sent to these centrifuges.

The centrifuges, installed under the Boston Harbor

Project in 1998, extract water from the sludge/scum mixture and staff add polymer to thicken the mixture and it is then distributed to the anaerobic digesters for further processing. This equipment is critical in ensuring that the sludge is sufficiently dewatered so that anaerobic digestion is maintained. Digested sludge is then pumped to the Pelletizing Plant in Quincy.

Each centrifuge consists of a rotating assembly, a 60-horsepower, direct-current backdrive, a main 300-horsepower, alternating-current motor, and a programmable logic controller (PLC). The centrifuges were installed in 1998 under the Boston Harbor Project.

Contract S537 will provide for maintenance and technical support services as required for six Alfa Laval PM95000 centrifuge units.

To ensure operational reliability and optimum performance, MWRA staff perform routine monthly preventive maintenance. However, after approximately 25,000 runtime hours, the rotating assemblies of the centrifuges require a more extensive overhaul utilizing highly specialized equipment. The overhauls are complex, invasive, and, in addition to specialized equipment, require the specialized skills of experts in the field of centrifuge repair. Staff determine when the units are to be sent off site for these overhauls based on run hours, reduced performance, and preventive maintenance monitoring or unexpected failure. MWRA staff perform all tasks related to removal of the rotating assemblies, preparation for shipment, and reassembly when the units are returned to Deer Island.

Contract S537 is a three-year contract that will provide complete overhauls to a total of six rotating assemblies. The contract includes allowances for repair and technical support services to assist Deer Island maintenance staff on an as-needed basis to address unique or unforeseen circumstances. The contract also includes an allowance for replacement parts.

Under this contract, MWRA staff will remove each of the six centrifuge rotating assemblies from its frame and place it onto a flatbed trailer truck for shipment to the repair facility where the work will be completed. Upon completion of the work, the units will be shipped back to Deer Island and MWRA staff will then reinstall the equipment.

Rotating Assembly Inside an Uncovered Centrifuge

Two Rotating Assemblies Prepared for Shipment

Procurement Process

Contract S537 was advertised and bid as a non-professional services contract. Bids were opened on April 16, 2015 with the following results:

Bidder	Bid Amount
Alfa Laval, Inc.	$600,400
Staff's Estimate	**$510,000**

Staff's estimate was developed by utilizing cost criteria from three previously awarded centrifuge contracts. Although previous competitively bid maintenance services contracts have generated competition, all previous contracts were awarded to Alfa Laval, the original equipment manufacturer (OEM) as the lowest responsive bidder. A major factor that allows Alfa Laval to remain so competitive, is the fact that, as the OEM, it can offer MWRA a discounted bid percentage on replacement parts, whereas competing bidders, who must buy the parts from Alfa Laval, must bid a mark-up percentage on the allowance bid item. Alfa Laval's bid price includes a 25% discount for parts.

Staff attribute the variance between Alfa Laval's bid price and their estimate mainly due to an underestimation of the number of hours required to perform each overhaul. Each rotating assembly now has been sent out and refurbished at least three times since being placed into service. All of the overhauls to date have been fairly similar in cost up to 60,000 to 70,000 hours of total runtime. Staff have learned that when runtime starts to exceed 70,000 hours, the recommended overhauls require a significant, more invasive inspection of items, such as the gearbox, conveyor tiles, wear rings, spiral flights, and several others. The units to be covered under this contract were last sent out five to six years ago, and now have well in excess of 70,000 total hours of runtime, as recorded in Deer Island's Process Information and Control System (PICS). Staff's estimate did not account for the increases resulting from the more significant inspections that will be needed for each rotating assembly.

Staff have reviewed Alfa Laval's bid and have determined it is reasonable and complete.

References were checked and found to be favorable. Staff have been completely satisfied with Alfa Laval's past performance on all previous MWRA contracts. Staff are of the opinion that Alfa Laval 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 Alfa Laval, Inc. as the lowest responsive bidder.

BUDGET/FISCAL IMPACT:

The FY16 Current Expense Budget contains $150,000 for the first year of this contract. Appropriate funding for the remaining years of the contract will be included in subsequent CEB requests.

MBE/WBE PARTICIPATION:

Alfa Laval is not a certified Minority- or Women-owned business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Grit and Screenings Hauling and Disposal
W. L. French Excavating Corporation
Contract S536

COMMITTEE: Wastewater Policy & Oversight

___ INFORMATION
_X_ VOTE

Michele S. Gillen
Director of Administration

John Sabino, Director of Procurement
David Duest, Director, Deer Island WWTP
Charles Tyler, Program Manager
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract S536, Grit and Screenings Hauling and Disposal, to W. L. French Excavating Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $2,549,544.00, for a contract term of 730 calendar days from the Notice to Proceed.

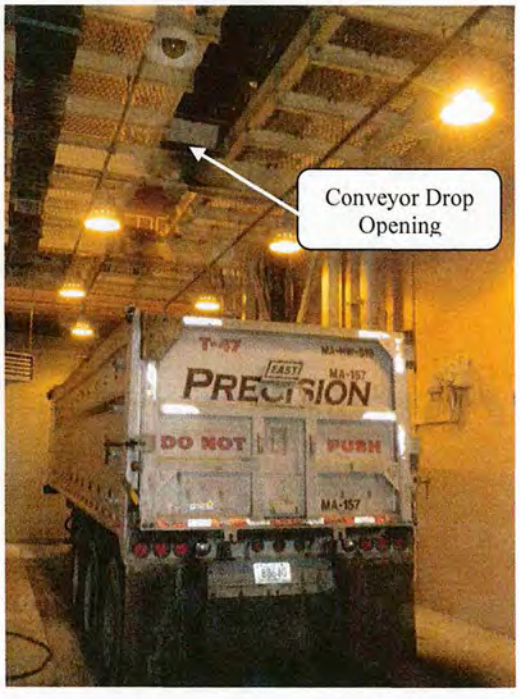
BACKGROUND:

Contract S536 is a replacement two-year contract to haul and dispose "minor residuals" from various MWRA wastewater facilities. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes, and include grit, screenings, floatable scum and scum screenings. Grit and screenings are essentially all the solids that are captured when the largest items, such as rags, wood, plastics and other larger floating material are removed from the wastewater. These solids are removed by bar screens that filter the material. Heavier material, such as sand and gravel, is removed by settling in the grit chambers. Scum typically refers to material that floats and congeals on the surface of tanks, such as fats, oils, and greases, as well as some plastic and rubber products.

In a typical year, approximately 7,000 tons of material are collected and disposed of, a third of which originates from Deer Island, and the balance from various other wastewater facilities, including: Caruso Pump Station, Chelsea Creek Headworks, Chelsea Creek Screenhouse, Braintree-Weymouth Intermediate Pump Station, Columbus Park Headworks, North Dorchester Bay CSO Facility, DeLauri Pump Station, Union Park CSO Facility, Nut Island Headworks, Somerville Marginal CSO Facility, and Ward Street Headworks.

The following pictures depict some of the equipment utilized at Deer Island to capture and store the grit and screenings:

Partially Filled Roll-Off Containers Receiving Washed Screenings from the Removal System Conveyor (Not Shown) Discharge Piping at the Winthrop Terminal Facility



Contractor-Owned Grit Trailer Underneath Conveyor Drop Opening in the DITP West Grit Facility

View of Grit Trailer from above Conveyor Drop Opening. Trailer Contains Approximately One Week's Accumulation

DISCUSSION:

Contract S536 will replace the current two-year contract (Contract OP-209), which will expire on June 7, 2015. The terms, conditions, and scope of work for the new contract have changed to a significant extent in that numerous containers and related equipment that were previously furnished and maintained by MWRA will now be fully owned and maintained by the contractor (as discussed more fully below).

Procurement Process

Contract S536 was advertised and bid as a non-professional services contract. On April 2, 2015, only one bid was received as follows:

W.L. French Excavating Corp.	$2,549,544
Revised Staff Estimate	*$2,407,400*

During the previous 20 years of grit and screenings hauling and disposal contracts, for most MWRA facilities, MWRA required the contractors to supply the necessary vehicles, water-tight trailers and containers, and other support equipment necessary to collect and haul away material for disposal at landfills. The largest exception was at the Nut Island Headworks where MWRA has owned three trailers provided as part of the original Nut Island construction contact. MWRA has subsequently repaired or replaced these Nut Island containers over the years as the need arose.

All of the grit and screenings containers must be structurally sound, and most importantly, water tight. In order to ensure that a single party be responsible for the condition and "road worthiness" of the Nut Island trailers, staff revised this contract to require the contractor to provide the Nut Island trailers consistent with the practice of contractor-owned trailers for Deer Island and most other MWRA facilities. The contractor will be required to own, operate, maintain, and repair the Nut Island containers, and to ensure their continued water-tightness and road worthiness. There are a few other MWRA facilities with intermittent or limited use where MWRA owns smaller internal "tip containers" and associated moving equipment (forklifts). At these few facilities, the tip containers and equipment also will be provided and owned by the contractor. This new contract also contains several other changes, including the size and number of containers required at certain facilities, increased quantity estimates at two locations, and the frequency of trips made based upon actual operational experience.

W.L. French's bid is approximately 6% higher than staff's estimate. Staff contacted W.L. French and determined that there are several reasons for the variance. Staff's estimate for the added containers and equipment was based upon costs recently paid by MWRA for similar equipment, and internet searches. In reviewing the bid with the Contractor, the bid price reflects manufacturers' actual quotes, which were as much as 20% higher. In addition, the Contractor included increased overtime labor and road time costs based on its most recent experience under the current contract; staff did not anticipate those increases in developing the estimate. Staff developed the estimate only on the capital costs for the containers and equipment and did not factor in maintenance and repair costs, which were carried in the Contractor's total bid price.

After reviewing the bid, and after follow-up discussions with the Contractor, staff have determined that the bid price is reasonable.

Only one bid was received for this contract. Staff contacted the three other contractors that received copies of the bid documents to determine why no other bids were received. Charter Contracting Company has been awarded this contract four times previously. Charter informed staff that it could not shoulder the risk of the added capital costs required for purchasing containers and equipment for a limited two-year payback. D&R Equipment, LLC (formerly R. Zoppo Company), who also has been awarded this contract in previous years, stated that after several previous unsuccessful attempts, only to be significantly underbid, it considered bidding to be "a futile effort." A third firm, AMH Enterprises, Inc. informed staff that it took out the bid documents for informational purposes only and did not bid because it is not in the material hauling business.

The bid price is based on estimated quantities (in tons) of grit and screenings to be hauled and disposed of during the two-year contract duration. Also included are monthly laboratory analyses, a standard requirement of landfill operators. W. L. French Excavating Corporation intends to dispose of MWRA's grit and screenings in the same landfill that it currently utilizes, which has been the landfill of choice for the past several contracts. The unit bid prices will be fixed for the two-year contract term with no escalation.

References were checked and found to be favorable. This award will be W. L. French Excavating Corporation's third MWRA contract for grit and screenings hauling and staff have been satisfied with the company's past performance. After reviewing the bid and after follow-up discussions with the Contractor, staff are of the opinion that the bid price is reasonable and that W. L. French Excavating Corporation understands the full nature and scope of the work under this contract, can perform the work for the bid price, and is qualified to do so. Therefore, staff recommend the award of this contract to W. L. French Excavating Corporation as the lowest responsive bidder. It should be noted that staff plan to consider bidding future contracts for longer periods of time to attempt to increase competition.

BUDGET/FISCAL IMPACT:

There are sufficient funds available for the first portion of this contract in the FY16 Current Expense Budget. Appropriate funding also will be included in subsequent Proposed CEB requests for the remaining term of the contract.

MBE/WBE PARTICIPATION:

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

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

April 15, 2015

A meeting of the Water Policy and Oversight Committee was held on April 15, 2015 at the Authority headquarters in Charlestown. Member Foti presided. Present from the Board were Messrs. Blackmon, Carroll, Vitale and Walsh; Ms. Wolowicz joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Carl Leone, John Vetere, Nava Navanandan, Mike Rivard, Dave Coppes, Cori Barrett, Jerry Sheehan, and Bonnie Hale. The meeting was called to order at 11:55 a.m.

Information

Local Pipeline and Water System Assistance Program Annual Update

Staff summarized the annual update.

Approvals

*Memorandum of Agreement between Massachusetts Water Resources Authority and the City of Somerville - Contract 7335, Section 4 Webster Avenue Pipe and Utility Bridge Replacement

Staff gave a presentation on the MOA and the project (as also related to the contract award below). The Committee recommended approval of the MOA with Somerville (ref. agenda item B.1).

Contract Awards

*Section 4 Webster Avenue Pipe and Utility Bridge Replacement: NEL Corporation, Contract 7335

The Committee recommended approval of the contract award (ref. agenda item C.1).

* Approved as recommended at April 15, 2015 Board of Directors meeting.

*Diver Assisted Suction Harvesting (DASH) of Invasive Plants at Stillwater Basin, Wachusett Reservoir: AE Commercial Diving Services, WRA-1559

Staff gave a presentation summarizing efforts to date on invasive plant removal at this location, noting that this would be the third year using the DASH method. (Ms. Wolowicz joined the meeting.) There was general discussion and question and answer on the bid specifications and bids received. The Committee recommended approval of the contract award (ref. agenda item C.2).

Contract Amendments/Change Orders

*Spot Pond Water Storage Facility Design/Build Project: Walsh Construction Co., Contract 6457, Change Order 14

Staff explained the reasons for the time extension. The Committee recommended approval of Change Order No. 14 (ref. agenda item D.1).

*Preliminary Design and Owner's Representative Services for Spot Pond Storage Facility: Camp Dresser & McKee, Inc., Contract 7233, Amendment 2

The Committee recommended approval of Amendment No. 2 (ref. agenda item D.2).

*Northern Intermediate High, West Street Transmission Main – Reading: P. Caliacco Corp., Contract 7066, Change Order 4

Staff described the reasons for the change order. The Committee recommended approval of Change Order No. 4 (ref. agenda item D.3).

The meeting adjourned at 12:20 p.m.

* Approved as recommended at April 15, 2015 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Change in Recommended Water Fluoridation Dosing

COMMITTEE: Water Policy & Oversight

X INFORMATION
___ VOTE

Carolyn Fiore, Deputy Chief Operating Officer
Joshua Das, Project Manager, Public Health
Stephen Estes-Smargiassi, Director, Planning
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

On April 27, 2015, the Centers for Disease Control and Prevention issued a final report and recommendation that the dosing of water fluoridation be reduced from the current 1.0 milligrams per liter (mg/L) to 0.7 mg/L. Accordingly, MWRA lowered the fluoridation dosing at the John J. Carroll Water Treatment Plant on April 29th to 0.7 mg/L. This staff summary provides the Board with some additional background and more detail on this subject.

RECOMMENDATION:

For information only.

DISCUSSION:

Based upon research conducted in the 1950s and 1960s, fluoridation of water was discovered to reduce tooth decay and improve community public health. Fluoridation in greater Boston's water supply began in the 1970s after affirmative votes of the majority of local health boards. Since that time, MWRA has maintained a target fluoride level of 1.0 mg/L in its drinking water, as recommended by the federal government.

Fluoridation has been and continues to be controversial in some quarters. For that reason, MWRA has relied on the well-established reputation of the Centers for Disease Control and Prevention (CDC), a department of the United States Department of Health and Human Services and followed its position. Several years ago, the CDC published a report that listed water fluoridation as one of the 10 Great Public Health Achievements in the United States from 1900-1999. On April 24, 2015, the *Boston Globe* published an editorial strongly supporting water fluoridation stating that "at a miniscule cost, fluoridation has improved the lives of millions of Americans, and should remain a key part of the public health toolkit." (See attachment) MWRA staff track and review scientific articles on both sides of the fluoridation issue, and regularly respond to consumer questions. Poor oral health, which includes symptoms other than just tooth

decay, has been linked to cardiovascular disease, diabetic and pregnancy complications, and several other health concerns.

On January 7, 2011, the CDC and the Environmental Protection Agency released a draft revised health assessment and a draft recommendation that the fluoride dose be lowered from a recommended range of 0.7-1.2 mg/L to 0.7 mg/L. The recommended dose originally had been set based on the regional average temperature – the original rationale was that in hotter regions people consumed more water and needed less fluoride in each glass. The original recommended dose for this region was 1.0 mg/L. It was anticipated at the time that after public review, CDC would issue a final recommendation in spring 2011.

On April 27, 2015, CDC issued its report and final recommendation lowering the fluoride dose to 0.7 mg/L for the entire country. This reduction is based on studies that show that much of the country now receives fluoride from multiple sources, including toothpaste and mouth rinses, prescription fluoride supplements, and fluoride applied by dental professionals. Thus, less fluoride is needed in water. According to CDC's report, the changed dose "is the concentration that provides the best balance of protection from dental caries (tooth decay) while limiting the risk of dental fluorosis." The results of national surveys indicated that "the prevalence of dental fluorosis has increased since the 1980s, but mostly in very mild or mild forms," which include "barely visible lacy white markings or spots on the enamel. The severe form of dental fluorosis, with staining and pitting of the tooth surface, is rare in the United States." The report concludes: "Community water fluoridation remains an effective public health strategy for delivering fluoride to prevent tooth decay and is the most feasible and cost-effective strategy for reaching entire communities."

Based on the release of the recommendation, MWRA lowered the fluoride dose to 0.7 mg/L on April 29, 2015. MWRA issued an update to water and health departments in all metro Boston drinking water communities, sent out a press release, and posted relevant materials on its website, www.mwra.com[1].

BUDGET/FISCAL IMPACT:

MWRA has been anticipating this change since early 2011. The FY15 Current Expense Budget assumed that the dose change would be in effect all year, so expenditures to date have actually exceeded the budget. Staff estimate that the savings resulting from the dose change for a full year will be approximately $214,000 at current chemical costs. The Final Proposed FY16 CEB chemical budget will include this reduction for fluoride.

ATTACHMENT:

Copy of *The Boston Globe* Editorial Dated April 24, 2015

[1] MWRA fluoridates at the John J. Carroll Water Treatment Plant serving 45 communities in the MetroWest and metro Boston regions. The Brutsch Water Treatment Facility serving the three CVA communities does not provide fluoridation.

FRIDAY, APRIL 24, 2015

The Boston Globe

Stop worrying and learn to love fluoridated water

OPPONENTS OF water fluoridation on the North Shore may not believe, as a character in the classic 1964 satire "Dr. Strangelove" did, that adding fluoride to water is a communist plot. But their half-baked reasons for asking Rockport and Gloucester voters to end water fluoridation, in votes scheduled for this May and November, aren't much more convincing than the Cold War-era conspiracy theories. Water fluoridation has been one of the greatest public-health successes of the last seven decades, leading to a dramatic decline in dental problems, and voters in the two municipalities should defend science and their own health by voting to keep fluoridation.

Nationwide, the gains have been impressive: Americans have saved billions on dental care and witnessed a remarkable culture shift. It's no longer simply accepted that adults will lose their teeth as they age. The benefits are particularly strong for lower-income residents, who may not have as much access to adequate dental care. The practice ended a kind of geographic lottery, in which residents of areas with optimal natural fluoride levels had healthier teeth than people who lived in parts of the country with little natural fluoride.

Americans have saved billions on dental care and witnessed a remarkable culture shift. It's no longer simply accepted that adults will lose their teeth as they age.

Opponents point out, correctly, that fluoride can be dangerous in large quantities, and argue that adding it to water amounts to medicating residents without their permission. The safety concerns are disingenuous. It would require chugging gallon after gallon of fluoridated water to reach even a potentially dangerous level. Water itself can be fatal in large enough quantities, but nobody would seriously consider ending public water supplies because of the remote risk of water intoxication.

Nor is the idea that it's forced medication particularly convincing. Fluoridation doesn't introduce a new substance to drinking water; it instead brings the amount of the naturally occuring mineral to an optimal level. And nobody is forced to drink it: For North Shore skeptics who truly can't stomach treated water, distilled water is cheap, and reverse osmosis water-treatment equipment can reduce levels of fluoride.

Like their soulmates in the vaccine-skeptic movement, opponents of fluoride are capitalizing on fading memories of what life was like before the introduction of scientific improvements that we now take for granted, and they're putting broader public health at risk for the sake of fringe superstition. At a minuscule cost, fluoridation has improved the lives of millions of Americans, and should remain a key part of the public-health toolkit.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

April 15, 2015

A meeting of the Personnel and Compensation Committee was held on April 15, 2015 at the Authority headquarters in Charlestown. Vice-Chair Wolowicz presided. Present from the Board were Messrs. Blackmon, Carroll, Foti, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Karen Gay-Valente, and Bonnie Hale. The meeting was called to order at 12:20 p.m.

Approvals

*Appointment of Project Manager, Quality Assurance

The Committee recommended approval of the appointment of Don Martel (ref. agenda item A.1).

*Appointment of Project Manager, Engineering & Construction Department

The Committee recommended approval of the appointment of Carmine DiMaria (ref. agenda item A.2).

*PCR Amendment – April 2015

The Committee recommended approval of an amendment to the Position Control Register (ref. agenda item A.3).

Mr. Vitale requested some statistics on the numbers of minority and female employees; staff indicated that it would be provided at the afternoon Board meeting (see Board meeting minutes and accompanying hand-out under Other Business).

The meeting adjourned at 12:25 p.m.

* Approved as recommended at April 15, 2015 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: May PCR Amendments

COMMITTEE: Personnel and Compensation

___ INFORMATION
_X_ VOTE

Karen Gay-Valente, Director of Human Resources
Joan C. Carroll, Manager Compensation
Preparer/Title

Michele S. Gillen, Director, Administration
Division Director Approval

RECOMMENDATION:

To approve an amendment to the Position Control Register (PCR) listed on the attached chart.

DISCUSSION:

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR must be approved by the Personnel Committee of the Board of Directors. All amendments resulting in an upgrade of a position by more than one grade level, and/or an amendment which creates a position increasing annual cost by $10,000 or more, must be approved by the Board of Directors after review by the Personnel Committee.

April PCR Amendment

There is one PCR amendment for a position within the Public Affairs Department necessary to reflect a change in position responsibilities.

The amendment is:

1. Title and grade change to a position in the Public Affairs Department, Supervisor, Administrative Support grade 22 to Administrative Coordinator grade 18, to become effective on June 27, 2015.

This amendment requires approval by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

The annualized budget impact of this PCR amendment is a savings of $13,865 to $28,809.

ATTACHMENTS:

New/Old Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2015

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - May 13, 2015

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual $ Impact	Reason For Amendment
P21	Public Affairs Public Affairs 8250023	F	T,G	Supervisor, Administrative Support	C1	22	Administrative Coordinator	C1	18	$77,182	$48,373 - $63,317	-$28,809 - -$13,865	To align title and grade with new position responsibilities
PERSONNEL & COMP COMMITTEE TOTAL=					1						**TOTAL:**	-$28,809 - -$13,865	

PCR AMENDMENTS REQUIRING BOARD APPROVAL- April 2015

BOARD TOTAL =	0	**SUBTOTAL:**	$0 - $0
GRAND TOTAL =	1	**TOTAL ESTIMATED COSTS:**	-$28,809 - -$13,865

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Extension of Employment Contract
IT Project Support Contractor

COMMITTEE: Personnel & Compensation

___ INFORMATION
_X_ VOTE

Karen Gay-Valente, Director, Human Resources
Russell J. Murray, Director, MIS
Joe Barrett, IS Custom Support Manager
Preparer/Title

Michele S. Gillen
Division Director Approval

RECOMMENDATION:

To approve the extension of an employment contract for Mr. Neville Neil, IT Project Support Contractor for a period of one year, from May 23, 2015 to May 22, 2016, at the current hourly rate of $24.67, for an annual compensation amount not to exceed $51,313.60.

DISCUSSION:

MIS has a continuing need for a contract employee to assist the MIS Department with short term project support. A key project requiring assistance is related to implementing recommendations from Internal Audit Asset Management to re-inventory and improve the database management and policy security of software assets. In order to assist with this project, a working knowledge of the current IT Help Desk application and existing MWRA PC systems and assets is needed to help support the configuration and migration of assets into the new Maximo Smart Cloud Control Desk.

Mr. Neil has been a contract employee at MWRA since May 12, 2014 and has successfully demonstrated the skills for this position. Over the past year he has worked supporting a very wide range of IT Assets using the current IT Help Desk application to track and manage his work. Mr. Neil has configured, tested and installed microcomputer hardware, software and peripheral products for the Authority's users, troubleshooted and diagnosed user hardware, software and peripheral problems and supported mobile device implementation/rollout.

Mr. Neil is an excellent candidate and will work to help support the Asset Management initiatives recommended by the Internal Audit Department.

BUDGET/FISCAL IMPACT:

There are sufficient funds available for this position in the MIS FY16 Current Expense Budget.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Appointment of Manager, IT Asset & Configuration Manager
Management Information Systems, Administration

COMMITTEE: Personnel & Compensation

___ INFORMATION
_X_ VOTE

Karen Gay-Valente, Director, Human Resources
Russell J. Murray, Jr., Director, MIS
Paula Weadick, Manager, IT Sec.,Arch.& Infr.
Preparer/Title

Michele S. Gillen
Director Administration

RECOMMENDATION:

To approve the appointment of Ms. Ana Soto-Martinez to the position of IT Asset & Configuration Manager in the MIS Department (Union 6, Grade 12), at an annual salary of $93,879.25, to be effective May 16, 2015.

DISCUSSION:

The 5 Year MIS Strategic Plan, recommended organizational changes based on functional groups including the establishment of an Information Technology Design and Security group. At the April 16, 2014 Board meeting the Board, consistent with this recommendation, approved the establishment of a Manager of Information Technology (IT) Security, Architecture & Engineering to oversee this group. This management position is responsible for the development and maintenance of the IT Asset & Configuration Management Program.

The Asset & Configuration Manager will report to the Manager, IT Security, Architecture & Engineering and will be responsible for the management of IT assets throughout their lifecycle from needs assessment and procurement to decommission and disposal. The IT Asset & Configuration Manager will also maintain the integrity of MWRA's IT Asset Repository and Configuration Management System and will assist with the development and maintenance of the IT Asset and Configuration Management Program.

Selection Process

The position was posted internally and six applicants applied; five were referred by the Human Resources Department as having met the minimum qualification for this position. A three-person interview panel was formed to interview the referred candidates. The Manager, IT Security, Architecture & Engineering, the Director of MIS and a representative from the Affirmative Action and Compliance Unit interviewed all five candidates. Upon completion of

the interviews, Ms. Soto-Martinez was selected as the most qualified and best candidate for this position.

Ms. Soto-Martinez has been with the MWRA for over twenty five years. For the past 15 years, Ms. Soto-Martinez has been serving as Sr. Business Analyst for the MIS department, where she is responsible for managing the overall MIS Capital Investment and Expense Budget. In addition, Ms. Soto-Martinez is also involved in the procurement and initial receipt of all IT hardware, software and licensing where she often works with vendors to understand licensing models to pursue the most cost effective approach of acquiring those licenses.

Ms. Soto-Martinez possesses a Certification in Information Technology Infrastructure Library ("ITIL") Foundations and has earned International Association of IT Asset Manager ("IAITAM") Certifications in Mobile Asset Manager, Software Asset Manager and most recently IT Asset Manager as required in the job description. She also possesses a Bachelor of Administration in Secretarial Sciences.

Ms. Soto-Martinez has proven organizational skills, an in-depth knowledge of the Authority's budgeting, purchasing, and material management processes as well as excellent writing abilities that will be invaluable in developing detailed procedures required to implement the IT Asset & Configuration management program. Furthermore, during her tenure at MWRA, Ms. Soto-Martinez's has earned the respect of her supervisors and will make an excellent IT Asset & Configuration Manager.

BUDGET/FISCAL IMPACT:

Sufficient funds are included in the FY15 CEB for this position.

ATTACHMENTS:

Resume of Ana Soto-Martinez
Position Description

Ana Soto-Martinez

Objective

Dedicated, driven, task and detail oriented individual looking for a challenging position in which I can expand the use of my organizational, management, problem solving and functional skills.

Professional Highlights

- Manage review, track and report on $22 million capital budget and $10 million in expense budget.
- Responsible for management, administration, distribution, variances, projections and tracking of all MIS Department expenditures.
- Supervision of Budget support assistant and budget/purchasing related support tasks from administrative staff to ensure service coverage and administrative needs are met.
- Responsible for writing and updating budget narratives and presentation to the MWRA Advisory Board, including applicable assets and project status.
- Responsible for the purchase and initial receipt of all IT managed licenses, software, hardware and peripheral devices for MWRA users.
- Developed and maintain a tracking system for licenses, maintenance and support agreements of HW, SW and mobile devices.
- Knowledge of LANDesk and Support Magic applications that track MIS IT inventory.
- Familiarity with Maximo work orders.
- Manage all IT Department Verizon Enterprise accounting issues through resolution.
- Manage the MWRA wireless accounts with Verizon and Sprint, track usage and expenditures.
- Manage inventory accounting controls for MWRA assets such as cellular phones, iPhones, iPads, MI-FI and air cards.
- Draft and write staff summaries and secure consensus with MIS Managers, Procurement Staff, Budget, Law and Affirmative Action to secure approvals.
- Track IT assets through their life cycle from the initial request until the item is no longer needed, in use or has reached the end of life cycle.
- Proven record of savings to the MWRA through many negotiations throughout the years.
- Research, communicate and work with multiple agencies such as the Information Technology Division, Operations Services Division, Commonwealth Strategic Sourcing Leads for multiple State Blanket Contracts, and Government Services Administration Contract Managers to leverage the Authority' needs and secure cost savings.
- Researched, reviewed and restructured licenses, maintenance and/or support agreements to multi-year commitments that provide savings and other incentives to the MWRA.
- Communicate regularly with vendors, exchange of information and procure discounts, whenever viable.
- Consolidated multiple agreements and licenses to generate savings to the MWRA.
- Consistently review and track maintenance, license and support agreements for accuracy and cost effectiveness.
- Understand and utilize the Commonwealth of Massachusetts state blanket contracts, GSA contracts and Cooperative Purchasing Programs and Consortium of Northeast State Contracts; research every opportunity available to the MWRA for additional savings.

Ana Soto-Martinez

- Resourceful, fast learning multitasker willing to take on new duties and responsibilities.
- As Executive Secretary primarily provided administrative and executive assistant services to the Department Director. Assisted as a Helpline Analyst, solve users' issues, coordinated requests and assisted the Repair Depot fixing PCs and peripheral devices. Also served as a payroll back-up for the department.

Skills

- Information Technology Infrastructure Library (ITIL) Foundations Certification
- IAITAM Certified Mobile Asset Manager
- IAITAM Certified Software Asset Manager
- Proficient with Lawson Financial System
- Proficient with Strategic Sourcing Supplier Portal
- Various courses in Supervisory, Management, Program Management, and support skills throughout the years
- Team Player
- Communication Skills
- Proficient with State Blanket and GSA Contracts
- Proficient with Multiple Applications such as Word, Excel, Power Point, Publisher, etc.
- Fully Bilingual

Employment History

Sr. Business Analyst	MWRA	12/1999 to Present
MIS CEB Analyst	MWRA	1995 - 1999
Executive Secretary	MWRA	1990 - 1994
Secretary I	MWRA	1989 - 1990

Education

Master's Public Administration (MPA) Degree	Suffolk University	1992 (2 of 3 years)
BA Degree	Inter-American University of P.R.	1982

MWRA
POSITION DESCRIPTION

POSITION: IT Asset & Configuration Manager

DIVISION: Administration

DEPARTMENT: Management Information Systems (MIS)

BASIC PURPOSE:

Functions as the Service Asset & Configuration Manager for the MIS organization and interfaces with the respective MIS functional areas. Maintains the integrity of MWRA's IT Asset Repository and Configuration Management System. Responsible for the management of IT assets throughout their lifecycle from needs assessment and procurement to decommission and disposal. Responsible for translating business case analysis into functional requirements. Identifies potential opportunities to enhance business processes, improve efficiencies and reduce costs. Require a broad knowledge of the organization, business functions, IT Asset Management Lifecycle, Configuration Management and ITIL.

SUPERVISION RECEIVED:

Works under the general supervision of the group supervisor. On specific IT projects may be supervised by a team lead or project manager.

SUPERVISION EXERCISED:

None

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Asset Management

- Maintain integrity of MWRA's IT Asset Repository for all HW/SW assets.
- Responsible for the operational management of the IT Asset Management Lifecycle throughout MIS.
- Manage IT Asset Repository data accuracy.
- Ensures gaps in asset repository data are remediated.
- Resolves discrepancies between IT Asset repository and all discovery tools.
- Develop, implement, and enhance policies and procedures for tracking company assets throughout their lifecycle.
- Work with IT Financial Management to ensure that all assets are under contract for support.
- Understanding our 3rd party/non-warranty support to make sure it covers any security

risks.

- Aggregate software purchasing and license data.
- Supervise data normalization and audit/verification activities.
- Identify candidate licenses for harvesting from retired or repurposed assets.
- Identify non-compliant software.
- Implement and manage production of IT Asset Lifecycle Management status reporting and metrics.

Configuration Management

- Responsible for the operational management of the Configuration Management process.
- Plan and coordinate all activities required to execute, monitor, and report on the Configuration Management process.
- Manage day-to-day activities of the process.
- Gather and report on process metrics.
- Tracking compliance to the process.
- Maintain the Configuration Management System.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A Bachelor degree in Management Information Systems, Information Technology, Business Management, Finance or a related field.

(B) Seven (7) to nine (9) years in IT procurement/asset management experience including managing contracts, software licenses and maintenance agreements.

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Possesses a working knowledge of ITIL.

(B) Proven ability to communicate effectively with staff and management at all levels of the organization in writing and verbally.

(C) Possesses an understanding of license models, software delivery and metrics and hardware lifecycle management.

(D) High level understanding of technologies and enterprise architecture.

(E) Strong organization skills and the ability to manage multiple priorities with competing demands for resources.

(F) Strong analytical, data processing and problem solving skills.

(G) Understands the basic principles of financial management.

SPECIAL REQUIREMENTS:

- Information Technology Infrastructure Library (ITIL) Foundation Certification is required or the ability to obtain within 6 months.

- ITAM certification in at least two of the following areas or the ability to obtain within 12 months.
    - Software
    - Hardware
    - Mobility

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer including word processing and other spreadsheet database 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, tools or controls and reach with hands and arms. The employee is frequently required to sit, talk or hear. The employee is occasionally required to stand and walk.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and color vision, 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.

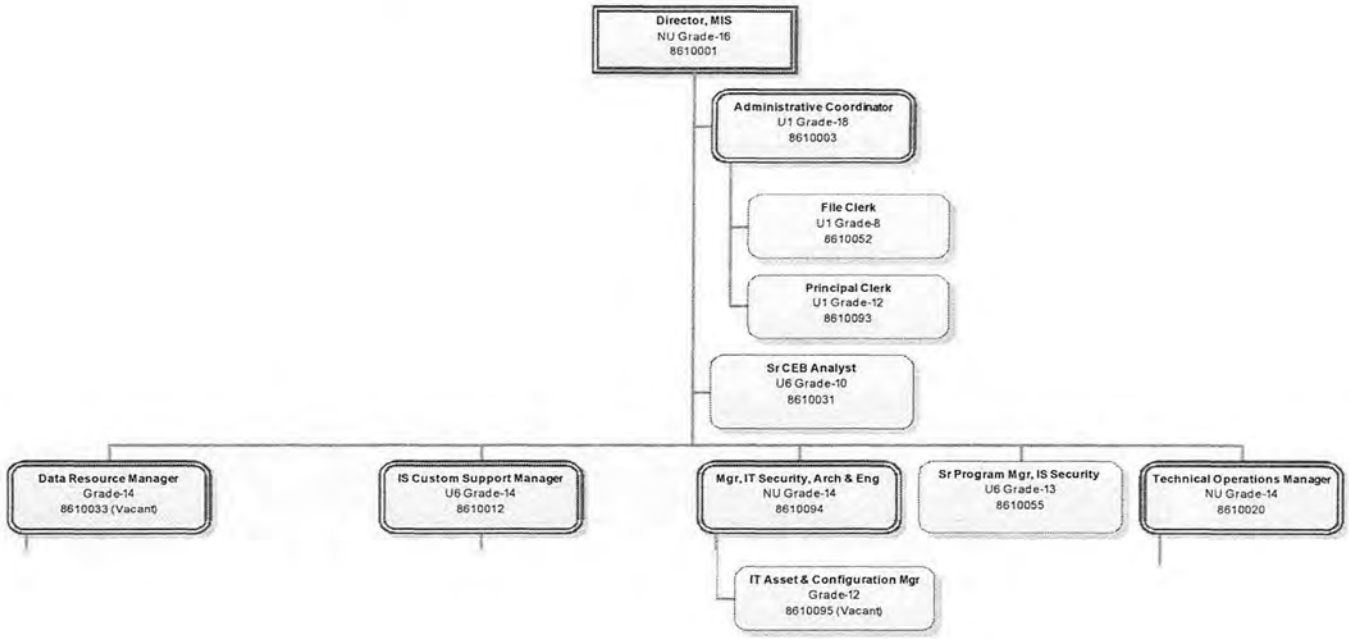
While performing the duties of this job, the employee occasionally works in various field settings and in an office environment. The employee regularly works near moving mechanical

parts and is occasionally exposed to risk of vibration.

The noise level in the work environment is very loud in field settings, moderately loud at other work locations and moderately quiet in office settings.

March 2015

MIS Department



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 13, 2015
SUBJECT: Appointment of Work Coordination Center Manager
Operations Division

COMMITEE: Personnel & Compensation

____ INFORMATION
_X_ VOTE

Karen Gay-Valente, Director, Human Resources
Stephen D. Cullen, Director, Wastewater O & M
John P. Vetere, Deputy Chief Operating Officer
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Scott A. Winn (Unit 2, Grade 20) to the position of Work Coordination Center Manager (Unit 6, Grade 12), at the recommended salary of $88,916.58, to be effective on May 16, 2015.

DISCUSSION:

The position of Work Coordination Manager became vacant upon the recent promotion of the previous incumbent.

The Work Coordination Center Manager position, which reports to the Manager of Maintenance, supervises 11 staff. This unit is responsible for planning and scheduling all preventive, predictive, and corrective maintenance work for the water and wastewater facilities and pipelines in metropolitan Boston and in Western Operations, including the John J. Carroll Water Treatment Plant, water and wastewater pumping stations, wastewater headworks, CSO facilities, water valves, and other miscellaneous structures. Due to its size and complexity, there is also a separate and dedicated Work Coordination Center for the Deer Island Treatment Plant.

The Work Coordination Center Manager is responsible for ensuring that the Planning and Scheduling Coordinators are consistent, accurate, and efficient in using MWRA's computerized maintenance management software, Maximo. In addition to generating maintenance work orders, Maximo is used to document all parts and labor for all maintenance and repair work completed so that any asset's maintenance cost can be determined and tracked. This information is collected and analyzed to guide in asset replacement planning, and this information is also reported in management tools, such as the Orange Notebook. This key position ensures that more than 250

field, trade, and facility staff work is planned, scheduled, and completed efficiently by making sure that all parts, tools, and equipment are available prior to the start of the work.

Selection Process

The position of Work Coordination Center Manager was posted internally. A total of five candidates applied, four of which were determined to have met the minimum qualifications and were recommended for interview. All four were interviewed by a committee comprised of the Director of Wastewater Operations and Maintenance, the Manager of Operations Support, the Manager of Maintenance, and a Senior Program Manager from Western Operations. Upon completion of the interview process, Mr. Scott A. Winn was selected as the most qualified candidate for the position based upon his education, knowledge, and experience.

Mr. Winn has been employed at MWRA since 1988. His demonstrated knowledge of planning and scheduling principles, practical experience with the MAXIMO system, knowledge of plant and facility processes, experience with condition monitoring, and his organization skills, set him apart from the other candidates. Since he began his employment at MWRA, Mr. Winn has held several positions of increasing responsibility. As a Planning and Scheduling Coordinator from 2002 to 2015, he has been instrumental in the QA/QC of the MAXIMO Equipment Module for Field Operations. Mr. Winn has a good understanding of the maintenance work flow (work orders) utilizing MAXIMO to electronically monitor maintenance activities. His understanding of the importance of monitoring and tracking maintenance metrics, such as backlog, kitting, and compliance, is an important component of ensuring a productive and efficient maintenance department.

From 1993 to 2002, Mr. Winn held the position of Field Supervisor, Metering and Monitoring, responsible for the start-up and oversight of the Wastewater Meter Maintenance Program. He also has demonstrated a proven ability to effectively interact and communicate with staff at all levels of the agency, and has earned the respect of his managers and peers.

Mr. Winn is a Reliability-Centered Maintenance Facilitator and he also holds a Grade 4 Waste Water Collections License.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Operations Division's FY15 Current Expense Budget for this position. The recommended salary is in accordance with Unit 6's current collective bargaining agreement.

ATTACHMENTS:

Resume of Scott A. Winn
Position Description
Work Coordination Center Organizational Chart

SCOTT A. WINN

PROFILE:

- Experienced Operations & Maintenance professional with over 30 years experience in both the public and private domain
- Strong leader, with strong verbal and written skills
- Experienced in maintenance from planning through execution, including scheduling and overseeing complex projects.
- Certified Reliability Centered Maintenance Facilitator at the Massachusetts Water Resources Authority
- Supervised, coordinated and directed staff consisting of three Senior Instrument Technicians, three Instrument Technicians and three Junior Instrument Technicians
- Extensive supervisory experience at Massachusetts Water Resources Authority (MWRA), Field Operations Division, MWRA
- Highly developed cross-functional ability as demonstrated through both operations and maintenance assignments at the Deer Island Treatment Plant MWRA, and the Field Operations Division MWRA
- Computer experience in MAXIMO (CMMS), Microsoft Word, Excel, Reliability Centered Maintenance software

PROFESSIONAL EXPERIENCE:

Massachusetts Water Resources Authority, Field Operations Division

Planning/Scheduling Coordinator ***October 2002 – Present***

- Manage/Facilitate planning meetings to plan critical work with Unit Supervisors and Area Manager to support plant operational needs
- Coordinate and implement Reliability Centered Maintenance recommendations in the field and in MAXIMO (CMMS)
- Coordinate the availability of necessary staff, equipment, materials and facility operational availability to complete the necessary Preventive/Corrective maintenance
- Follow established Safety, Operating and Emergency Response procedures and policies
- Initiates, purchase requests for tools, parts, and service utilizing MAXIMO (CMMS) Lawson interface
- Monitor work order backlog, staffing requirements, staffing capabilities and prepare work schedules based upon priorities and available staff and materials
- Implement special instructions and considerations, review work completion status, and review future job plans for future job planning
- Proven ability in writing staff summaries, sole source and metrics
- Record, document, track, trend and report results for MAXIMO (CMMS) to Senior Management
- Assist Engineering, Maintenance, Operational and Central Support staff with preparation of Preventive Maintenance and Predictive Maintenance work orders
- Design, write, review and implement policies and procedures with maintenance, operations at the Massachusetts Water Resources Authority
- Coordinate design/operational recommendations for ongoing system improvements

Field Supervisor, Metering and Monitoring ***August 1993 – October 2002***

- Supervises and participates in the maintenance of the MWRA's wastewater flow meters
- Oversaw the development and production of various maintenance related reports
- Responsible for scheduling and dispatching all field crews each day.
- Tracked the activities of all field personnel to ensure that all field activities are properly coordinated.
- Coordinated daily activities with the Project Manager, Meter Data and Data Analysts
- Gathered all pertinent data for the production of the APPO and Yellow Notebook.
- Coordinated training of all new Metering and Monitoring personnel
- Reported all conditions to Program Manager of Metering and Monitoring on a daily basis

Sr. Instrument Technician, Metering and Monitoring ***September 1990 – August 1993***

- Supervised Metering and Monitoring field crews on a daily basis.
- Performed troubleshooting and maintenance on MWRA wastewater flow meters
- Supervised and participated in the installation of wastewater flowmeters in the MWRA System
- Supervised and participated in the operation and maintenance of the temporary wastewater flow meters in MWRA and municipal Sewerage Systems to quantify flows.

- Supervised and participated in the preparation of monitor information files, downloading of data from temporary wastewater flowmeters
- Maintained accurate logs of all community assistance activities including installation forms and inspection forms.
- Supervised and participated in the operation and maintenance of atmospheric hydrogen sulfide monitoring stations
- Supervised and participated in the calibration of hydrogen sulfide monitoring controllers and sensors as necessary.
- Supervised and participated in the calibration, operation and maintenance of portable PhD gas detectors to ensure their proper operation and calibration.

Instrument Technician, Water Metering ***July 1989 – September 1990***

- Responsible for the installation and maintenance of MWRA water flow monitoring equipment

Diesel Power Plant Operator ***August 1988 – July 1989***

- Responsible for the oversight of the major pumping station for the Metropolitan Boston Sewer System
- Started, stopped and operated 16 cylinder Delavall diesel engine generators for power distribution, 1800 H.P. electric motors for proper sewage flow maintenance, and 12 cylinder Nordberg diesel engines
- Inspected all assigned equipment, i.e. air compressors, air driers, Cleaver Brooks boilers, condensate tanks and pumps, deaerator tanks and pumps, feed water pumps, chemical feed
- Transferred fuel oil from fuel farm to underground fuel tank
- Thorough knowledge of all related systems with ability to take immediate corrective action during normal and emergency operations

TRAINING AND EDUCATION:

- Enrolled University of Massachusetts, Lowell, Liberal Arts Bachelor of Science Program, Anticipated graduation date: Sept. 2016, 93 credits completed
- Completed Certificate Program in Security Management and Homeland Security at University of Massachusetts, Lowell
- Completed 2 year program in Aviation Maintenance Technology at East Coast Aero Technical School
- Awarded Federal Airframe and Powerplant Mechanics License
- Completed 3 day 24 hour course on Reliability Centered Maintenance team course provided by Spearhead Associates
- Completed 10 day 100 hour course on Reliability Centered Maintenance Facilitator Course provided by Spearhead Associates
- Certified in MAXIMO Computerized Maintenance Management Software applications
- Completed 21 Hour Certified Control System Technician (CCST) Review Course provided by ISA Training Institute
- Awarded Grade 4 Collections Systems Operator certification by New England Water Pollution Control Association

PERSONAL AND PROFESSIONAL ACCOMPLISHMENTS:

- Major participant in the establishment of the MWRA Metering and Monitoring Department
- Participated in initial development of MWRA Metering and Monitoring PM Database
- Participated in initial development of MWRA Metering and Monitoring Equipment Database
- Former 2 Term President of Wilmington Massachusetts Baseball Little League
- Former President of Wilmington Massachusetts Pop Warner Football League

MWRA
POSITION DESCRIPTION

POSITION: Work Coordination Center Manager

PCR#: **5440013**

DIVISION: Operations

DEPARTMENT: Field Operations

BASIC PURPOSE:

Manages the Work Coordination group and oversees the various activities including planning, scheduling materials acquisition and dispatch for the maintenance programs within the Field Operations Department. Coordinates with other managers to ensure effective and economical use of materials and staff. Oversees all aspects of data quality of the Field Operation Department's maintenance database.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Metropolitan Maintenance.

SUPERVISION EXERCISED:

Direct supervision of data quality, materials acquisition and dispatch personnel. Matrix supervision of Planning/Scheduling Coordinators.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages staff involved in the planning, scheduling, inspection and work order system for all preventive, corrective, contract and emergency maintenance work.
- Oversees the development and distribution of maintenance management reports.
- Manages the receipt and analysis of all work request and work orders. Coordinates with other Field Operations Department managers to establish work order priorities.
- Collects, analyzes and reports on all benchmarking data related to the wastewater and water-maintenance industry. Utilizes benchmark data to streamline maintenance practices.
- Ensures that all work requests and work orders are received and processed efficiently.

- Performs quality assurance/quality control (QA/QC) functions including inspection reporting work order backlog monitoring, productivity and cost analysis and customer service surveying.

- Works with the MIS to update and maintain the application software and databases used by the Work Coordination group.

- Tracks work projects of large scope or long duration involving multiple trades, outside contractors and specialty materials delivery.

- Develops and implements, in coordination with warehouse personnel, a comprehensive "kitting" plan for all maintenance work orders.

- Represents Work Coordination group on maintenance related project teams such as the Facilities Asset Management Program.

- Develops, in conjunction with other Field Operations department manager, comprehensive work practices that ensure proper data integrity.

- Works with vendors and outside consultants in establishing maintenance plans for new and existing equipment. Participates in RCM II analyses and other planning to determine maintenance frequencies as required.

- Works with the Field Operations department managers to implement "team-building" and "cross-functional" training programs for maintenance staff.

- Reviews assigned employees performance per MWRA procedures.

- Resolves personnel and work rule issues through procedures outlined by MWRA union contracts and policy and procedure guidelines.

- Administers the application of collective bargaining provisions and personnel policies in the workplace. Serves as a Step-One grievance-hearing officer.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A four (4) year college degree in engineering, business administration, and planning or related field. Masters in science or an advanced degree in a related field preferred; and

(B) Eight (8) years experience in project management related to the operation and maintenance of a wastewater collection system, water distribution system or large industrial facility; and

(C) Two (2) to four (4) years of supervisory experience; or

(D) Any equivalent combination of experience or education.

Necessary Knowledge, Skills and Abilities:

(A) Organizational and systems management skills.

(B) A proven ability to organize effective training classes for maintenance field staff and managers.

(C) Knowledge of maintenance software packages, data management techniques and data QA/QC procedures.

(D) Knowledge of wastewater collection and water distribution operations. Knowledge of related process control theory, practices and principles.

(E) Strong communication and interpersonal skills necessary to interact at all levels of the organization are required.

(F) Detailed knowledge of Microsoft Access, Excel and Maximo or similar maintenance software packages.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Vehicle Operators License.

A valid Grade 3 Distribution Operator in Training License or Grade 4 Wastewater Treatment Plant Operator in Training License or the ability to obtain one of these licenses within one year.

A Certified Maintenance and Reliability Professional (CMRP) certification or the ability to obtain within one year.

TOOLS AND EQUIPMENT USED:

Office machines 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 sit, talk or hear. 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 stand and walk.

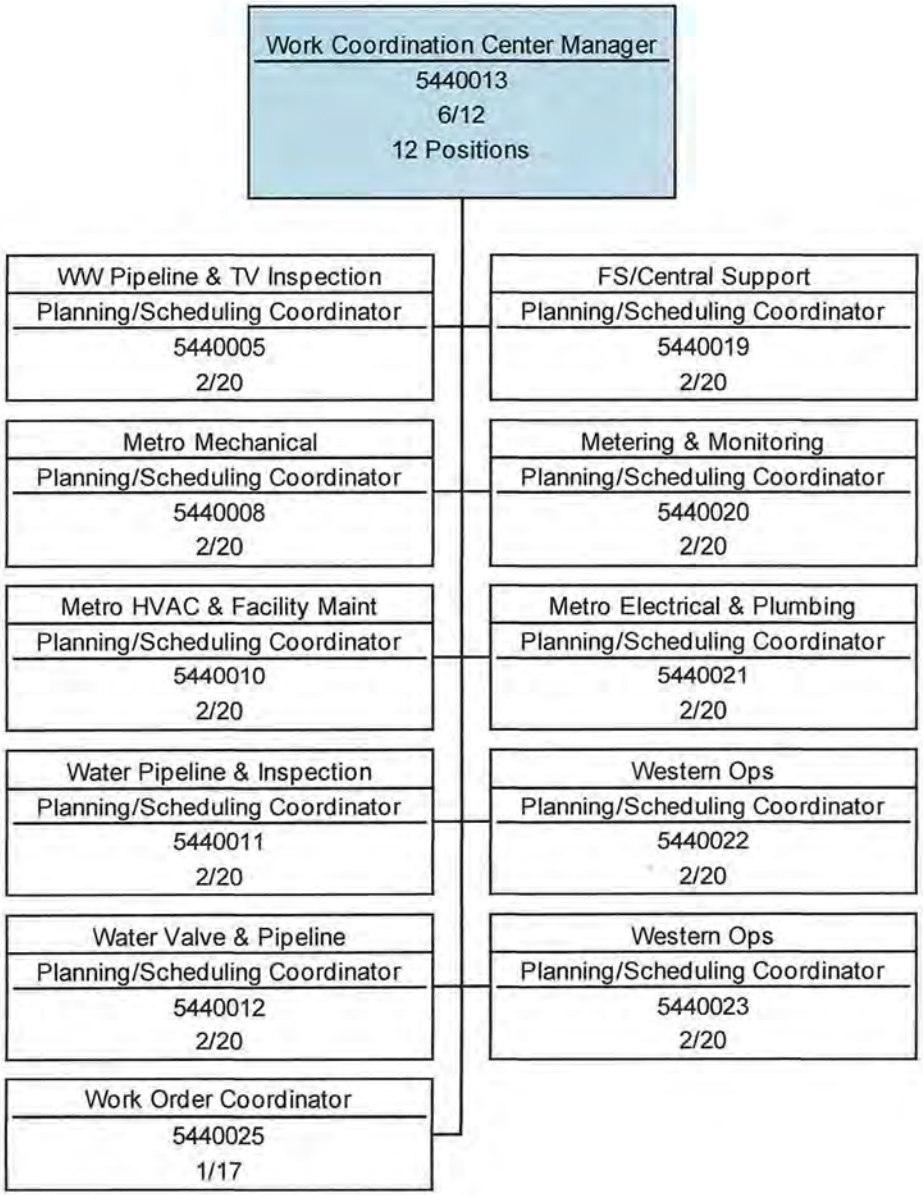
There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision and the ability to adjust focus.

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 but will also require site visits to a variety of field locations. The noise level may be loud in field settings, moderately loud in pumping stations and moderately quiet in office settings.

Operations-Wastewater O&M
Work Coordination Center
May 2015



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May13, 2015
SUBJECT: Authority Accountability and Transparency Act Compliance

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COMMITTEE: Personnel and Compensation

__X__ INFORMATION
_____ VOTE

Michele S. Gillen
Director, Administration

Karen Gay-Valente, Director, Human Resources
Preparer/Title

Steven A. Remsberg
General Counsel

As required by the 2011 Authority Accountability and Transparency Act, the Personnel and Compensation Committee must meet independently of management (with no MWRA staff present) 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 sector employers. Analyses of comparable salaries are attached to facilitate the Committee's review.

In prior years, this has been done at the end of the full Board meeting with the full Board in attendance. Staff recommend continuation of this practice.

RECOMMENDATION:

For information only.

DISCUSSION:

The Authority Accountability and 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: 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.

Since 2012, the Board has annually met independently of management to review and evaluate executive compensation as required and 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.

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 FY15 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 – 2014 Water Utility Survey

Attachment A
Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies
April 2015

MWRA Position:	Executive Director			
Organization	Sector	Title	Reporting Period	Annual Salary
Northeast Utilities	Private Utility	President and CEO	2014	$1,196,325
Citizens Energy, Inc.	Non-Profit	President and CEO	2013	$669,179
Boston Foundation, Inc.	Non-Profit	President and CEO	2014	$435,457
City Year, Inc.	Non-Profit	President and Co-Founder	2013	$349,321
Greater Boston Food Bank, Inc.	Non-Profit	President and CEO	2014	$307,947
Mass Convention Center Authority	Quasi Public	Executive Director	2015	$270,005
Mass Port Authority	Quasi Public	Chief Executive Officer	2015	$264,633
Mass Health Connector Authority	Quasi Public	Executive Director	2015	$223,000
Mass Housing Partnership	Quasi Public	Executive Director	2015	$221,730
MBTA	State	General Manager	2015	$220,000
MWRA	Quasi Public	Executive Director	2015	$173,997
Conservation Law Foundation	Non-Profit	President	2013	$154,651
Commonwealth of Massachusetts	State	Governor	2015	$151,800
Mass Department of Revenue	State	Commissioner of Revenue	2015	$151,318
Save the Harbor/Save the Bay	Non-Profit	President	2013	$149,448
Commonwealth of Massachusetts	State	State Auditor	2015	$134,952
Commonwealth of Massachusetts	State	Secretary of State	2015	$130,916
Commonwealth of Massachusetts	State	Attorney General	2015	$130,582
Commonwealth of Massachusetts	State	Treasurer	2015	$127,917
Boston Harbor Association	Non-Profit	President	2013	$123,769

Attachment A
Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies
April 2015

MWRA Position:	Chief Operating Officer			
Organization	Sector	Title	Reporting Period	Annual Salary
Citizens Energy, Inc.	Non-Profit	Chief Operating Officer	2013	$549,895
Northeast Utilities	Private Utility	Executive Vice President/COO	2014	$538,950
City Year, Inc.	Non-Profit	President (#2 Position)	2013	$279,632
Mass Port Authority	Quasi Public	Director, Capitol Programs & Environmental Affairs	2015	$234,675
MBTA	State	Chief Operating Officer	2015	$195,000
Mass Health Connector Authority	Quasi Public	Deputy Executive Director and COO	2015	$195,000
Greater Boston Food Bank, Inc.	Non-Profit	Chief Operating Officer	2014	$189,737
Mass Housing Partnership	Quasi Public	Managing Director	2015	$175,670
MWRA	Quasi Public	Chief Operating Officer	2015	$167,654
Mass Convention Center Authority	Quasi Public	General Manager	2015	$165,485

MWRA Position:	Director, Finance			
Organization	Sector	Title	Reporting Period	Annual Salary
Northeast Utilities	Private Utility	Executive Vice President & CFO	2014	$587,975
Citizens Energy, Inc.	Non-Profit	CFO	2013	$361,200
Mass Port Authority	Quasi Public	Director, Admin & Finance/Sec-Treasurer	2015	$219,450
Boston Foundation, Inc.	Non-Profit	Chief Financial Officer/Treasurer	2014	$218,608
City Year, Inc.	Non-Profit	Chief Financial and Admin Officer	2013	$209,454
MBTA	State	Deputy General Manager/CFO	2015	$195,000
Greater Boston Food Bank, Inc.	Non-Profit	Chief Financial Officer	2014	$176,877
Mass Housing Partnership	Quasi Public	Chief Finance & Admin Officer	2015	$164,330
Mass Convention Center Authority	Quasi Public	Chief Financial Officer	2015	$157,602
MWRA	Quasi Public	Director, Finance	2015	$150,000

Attachment A
Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies
April 2015

MWRA Position:	General Counsel			
Organization	**Sector**	**Title**	**Reporting Period**	**Annual Salary**
Mass Port Authority	Quasi Public	Chief Legal Counsel	2015	$206,000
Mass Housing Partnership	Quasi Public	Deputy Director & General Counsel	2015	$181,720
Mass Health Connector Authority	Quasi Public	General Counsel	2015	$180,890
Mass Convention Center Authority	Quasi Public	General Counsel	2015	$159,973
MBTA	State	General Counsel	2015	$153,750
MWRA	Quasi Public	General Counsel	2015	$148,313
Conservation Law Foundation	Non-Profit	Sr Counsel	2013	$92,846

Attachment B
MWRA Survey of Comparable National Water/Wastewater Utilities - March 2015

Executive Director

Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2014 Bonuses	Employment Contract
Fairfax Water	Fairfax, Virginia	$140 Million	436	1.7 million	General Manager	$262,000	$5,893	$15,000		No
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.893 billion	1,825	19 million	General Manager	$353,787	car provided	$11,700		Yes
Washington Suburban Sanitary Commission	Laurel, MD	$707 million	1,573	1.8 million	General Manager/CEO	$271,187	$8,000	$23,000	$1,250	Yes
Seattle Public Utilities	Seattle, WA	$1.044 Billion	1,341	1.3 million	Director	$201,256				No
					Average Salary	**$272,058**				
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	2014 Bonuses	Employment Contract
Fairfax Water	Fairfax, Virginia	$140 Million	436	1.7 million	Deputy General Manager	$228,000	$5,396	$11,500		Yes
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.893 billion	1,825	19 million	Assistant GM/ Chief Operating Officer	$277,493	car provided	$11,700		No
Washington Suburban Sanitary Commission	Laurel, MD	$707 million	1,573	1.8 million	Chief of Plant Operations	$155,000				Yes
Seattle Public Utilities	Seattle, WA	$1.044 Billion	1,341	1.3 million	Deputy Director, Field Ops & Maint.	$167,002				No
					Average Salary	**$206,874**				
MWRA					**Chief Operating Officer**	**$167,654**	**$8,400**			**Yes**

General Counsel

Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2014 Bonuses	Employment Contract
Fairfax Water	Fairfax, Virginia	$140 Million	436	1.7 million	No Match					
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.893 billion	1,825	19 million	General Counsel	$260,499	$7,200	$11,700		Yes
Washington Suburban Sanitary Commission	Laurel, MD	$707 million	1,573	1.8 million	General Counsel	$180,840	$8,000			Yes
Seattle Public Utilities	Seattle, WA	$1.044 Billion	1,341	1.3 million	No Match (use city legal services)					
					Average Salary	**$220,670**				
MWRA					**General Counsel**	**$148,313**				**No**

Director Finance

Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2014 Bonuses	Employment Contract
Fairfax Water	Fairfax, Virginia	$140 Million	436	1.7 million	Director, Finance	$194,310				No
Metropolitan Water District of Southern California	Los Angeles, Ca	$1.893 billion	1,825	19 million	Assistant GM/Chief Financial Officer	$277,493	$7,200	$11,700		No
Washington Suburban Sanitary Commission	Laurel, MD	$707 million	1,573	1.8 million	Chief Financial Officer	$180,000				Yes
Seattle Public Utilities	Seattle, WA	$1.044 Billion	1,341	1.3 million	Deputy Director, Finance &Admin	$165,885				No
					Average Salary	**$204,422**				
MWRA					**Director, Finance**	**$150,000**				**No**

Attachment C:
American Water Works Association
2014 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
20	20	$184,828	$227,285	$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
5	5	$260,000	$233,808	$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
15	15	$181,656	$225,111	$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
16	38	$151,368	$140,405	$167,654

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
3	3	*	*	$167,654

*** 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
13	35	$134,765	$133,699	$167,654

Attachment C:
American Water Works Association
2014 Water Utility Compensation Survey

Survey Position: **Top Finance Executive**
MWRA Position: **Director, 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
19	20	$149,104	$165,257	$150,000

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	$210,000	$203,701	$150,000

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
14	15	$125,000	$152,442	$150,000

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	9	$175,146	$185,441	$148,313

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	*	*	$148,313

***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	5	$143,962	$142,377	$148,313