



MASSACHUSETTS WATER RESOURCES AUTHORITY

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Executive Director

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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

Chair: (vacant)
Vice-Chair: H. Vitale
Committee Members:
J. Carroll
K. Cotter
J. Foti
A. Pappastergion
J. Walsh

to be held on

Wednesday, November 18, 2015

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

Time: 10:00 a.m.

AGENDA

A. Information

1. Delegated Authority Report – October 2015
2. FY16 First Quarter Orange Notebook
3. FY16 Financial Update and Summary - October
4. OPEB Trust Investment

B. Approvals

1. Approval of the Seventy-First Supplemental Bond Resolution

C. Contract Awards

1. Workers' Compensation Third Party Administrator Services: PMA Management Corp. of New England, Contract A601

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

October 14, 2015

A meeting of the Administration, Finance and Audit Committee was held on October 14, 2015 at the Authority headquarters in Charlestown. Vice-Chairman Vitale presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Cotter, Flanagan, Foti, Pappastergion, Pena, and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Michele Gillen, Tom Durkin, Kathy Soni, Dave Whelan, Matt Horan, Karen Gay-Valente, and Bonnie Hale. The meeting was called to order at 10:15 a.m.

Information

Delegated Authority Report – September 2015

There was brief question and answer on the report.

FY16 Year-to-Date Financial Update and Summary

Staff summarized the first quarter financials.

Approvals

*Approval of Letter of Credit and Direct Floating Rate Revolving Loan Agreements

Staff explained the recommendation and there was general discussion and question and answer. The Committee recommended approval of the Letter of Credit and the issuance of the Sixty-Ninth and Seventieth Issuance Resolutions (ref. agenda item B.1).

*Proposed Changes to Pension Benefits

Staff summarized the relevant legislation and reviewed the MWRA Retirement Board's vote to increase three retirement benefits. There was general discussion and question and answer. The Committee recommended approval of the Retirement Board's votes to increase the three referenced benefits (ref. agenda item B.2).

* Approved as recommended at October 14, 2015 Board of Directors meeting.

Contract Amendment/Change Order

***Dental Insurance: Delta Dental of Massachusetts, Contract A591, Amendment 2**

Staff presented the recommendation to approve the third year of the contract. Mr. Walsh stated that he would like to see a higher annual dental benefit than \$1,250 for MWRA employees. There was general discussion and question and answer. The Committee recommended approval of Amendment 2 (ref. agenda item C.1).

The meeting adjourned at 10:35 a.m.

* Approved as recommended at October 14, 2015 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: Delegated Authority Report –October 2015



COMMITTEE: Administration, Finance & Audit

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 October 1 – 31, 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 OCTOBER 1 - 31, 2015

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	10/05/15	FUEL STORAGE TANK MAINTENANCE SERVICE INCREASE ESTIMATED BID ITEM QUANTITIES FOR NON-EMERGENCY ON-CALL SERVICES BY 750 HOURS.	OP-233	1	COMM TANK, INC.	\$67,500.00
C-2.	10/13/15	INSTALLATION OF ELECTRIC HEAT CONTROLS AND ENERGY-EFFICIENT INTERIOR LIGHTING AT THE CHESTNUT HILL UNDERGROUND PUMP STATION AWARD OF ENERGY EFFICIENT CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE INSTALLATION OF ELECTRIC HEAT CONTROLS AND ENERGY-EFFICIENT INTERIOR LIGHTING AT THE CHESTNUT HILL UNDERGROUND PUMP STATION FOR A TERM OF 150 CALENDAR DAYS. REBATE TOTALING \$16,374 WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION FOR A PAYBACK OF 2.2 YEARS.	OP-299	AWARD	HORIZON SOLUTIONS LLC	\$30,550.00
C-3.	10/13/15	INSTALLATION OF ELECTRIC HEAT CONTROLS AT THE LORING VAULT CHAMBERS AWARD OF ENERGY EFFICIENT CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE INSTALLATION OF ELECTRIC HEAT CONTROLS AT LORING ROAD FOR A TERM OF 150 CALENDAR DAYS. REBATE TOTALING \$13,443 WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION FOR A PAYBACK OF 3.9 YEARS.	OP-303	AWARD	HORIZON SOLUTIONS LLC	\$45,024.00
C-4.	10/13/15	CHELSEA ADMINISTRATION BUILDING LIGHTNING PROTECTION SYSTEM AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER TO FURNISH AND INSTALL A LIGHTNING PROTECTION SYSTEM ON THE ROOF OF THE ADMINISTRATION BUILDING IN CHELSEA FOR A TERM OF 120 CALENDAR DAYS.	OP-271	AWARD	SYSTEMS CONTRACTING, INC.	\$53,700.00
C-5.	10/13/15	MISCELLANEOUS FENCING INSTALLATIONS AND REPAIR INCREASE ESTIMATED BID ITEM QUANTITIES FOR CREW FOREMAN WITH TRUCK AND TOOLS BY 450 HOURS; EXTEND CONTRACT TERM BY 60 CALENDAR DAYS FROM OCTOBER 10, 2015 TO DECEMBER 9, 2015.	6760V	1	PREMIER FENCE LLC	\$52,887.00
C-6.	10/13/15	REHABILITATION OF ANAEROBIC DIGESTERS, PRIMARY CLARIFIERS AND NEW INFLUENT GATES, CLINTON WASTEWATER TREATMENT PLANT REMOVE EXCESSIVE SLUDGE AND GRIT WITHIN THE FIXED COVER DIGESTER; FURNISH AND INSTALL TWO NEW GAS REGULATOR VALVES IN LIEU OF REFURBISHING TWO EXISTING GAS REGULATOR VALVES; REMOVE 16 EXISTING DIGESTER SAMPLE LINE VALVES AND FURNISH AND INSTALL 16 NEW DIGESTER SAMPLE LINE VALVES; MODIFY EXISTING SAFETY RAILS BY EXTENDING RAILS ON THE CLARIFIER PLATFORMS; RELOCATE EXISTING WEAR TRACKS IN CLARIFIER 1A AND INSTALL A SPARE SET OF FLIGHTS.	7277A	8	R.H. WHITE CONSTRUCTION CO., INC.	\$90,762.95
C-7.	10/13/15	INSTALLATION OF ENERGY EFFICIENT EXPLOSION PROOF LED INTERIOR LIGHTING AT THE PRISON POINT PUMP STATION AWARD OF ENERGY EFFICIENT CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE INSTALLATION OF ENERGY-EFFICIENT EXPLOSION PROOF LED INTERIOR LIGHTING AT THE PRISON POINT PUMP STATION FOR A TERM OF 150 CALENDAR DAYS. REBATE TOTALING \$36,862.96 WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION FOR A PAYBACK OF 4.7 YEARS.	OP-308	AWARD	HORIZON SOLUTIONS LLC	\$99,687.03
C-8.	10/15/15	DEER ISLAND TREATMENT PLANT - LIGHTING IMPROVEMENTS PLAN, PHASE 7 AWARD OF ENERGY EFFICIENT CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR DEER ISLAND TREATMENT PLANT - LIGHTING IMPROVEMENTS PHASE 7 FOR A TERM OF 120 CALENDAR DAYS. REBATE TOTALING \$53,111 WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION FOR A PAYBACK OF LESS THAN THREE YEARS.	5547	AWARD	RISE ENGINEERING	\$98,895.00
C-9.	10/19/15	INSTALLATION OF ENERGY EFFICIENT EXPLOSION PROOF LED INTERIOR LIGHTING AT THE LORING ROAD VAULT CHAMBERS AWARD OF ENERGY EFFICIENT CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE INSTALLATION OF ENERGY-EFFICIENT EXPLOSION PROOF LED INTERIOR LIGHTING AT THE LORING ROAD VAULT CHAMBERS FOR A TERM OF 150 CALENDAR DAYS. REBATE TOTALING \$16,850 WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION FOR A PAYBACK OF 7.1 YEARS.	OP-302	AWARD	HORIZON SOLUTIONS LLC	\$88,947.00
C-10.	10/19/15	13.8kV ELECTRICAL SYSTEMS MAINTENANCE AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER TO PROVIDE PREVENTIVE MAINTENANCE AND REPAIR OF 13.8kV ELECTRICAL SYSTEMS AT THE JOHN J. CARROLL WATER TREATMENT PLANT AND AS-NEEDED REPAIRS AT 13 OTHER LOCATIONS IN WESTERN OPERATIONS FOR A TERM OF 730 CALENDAR DAYS.	OP-294	AWARD	INFRA-RED BUILDING & POWER SERVICE, INC.	\$205,134.00
C-11.	10/28/15	WIND TURBINE MAINTENANCE AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER FOR SCHEDULED PREVENTIVE MAINTENANCE, UNSPECIFIED (AS-NEEDED) MAINTENANCE AND REPAIR, REPLACEMENT PARTS, FACTORY AUTHORIZED REPRESENTATIVE SERVICES AND FIRE DEPARTMENT SERVICES FOR WIND TURBINES AT DEER ISLAND TREATMENT PLANT AND DELAURI PUMP STATION FOR A TERM OF 730 CALENDAR DAYS.	5544	AWARD	AERONAUTICA WINDPOWER LLC	\$322,653.00
C-12.	10/29/15	CONSTRUCTION OF WATER MAINS - SECTIONS 36, W11C & S9-A REMOVE EXISTING 12-INCH REINFORCED CONCRETE PIPE AND FURNISH AND INSTALL TWO NEW DRAIN MANHOLES AND 12-INCH DUCTILE IRON DRAIN PIPE.	7448	2	RJV CONSTRUCTION CORP.	\$36,681.79
C-13.	10/29/15	DEER ISLAND TREATMENT PLANT PUMP REFURBISHMENT AWARD OF ENERGY EFFICIENT CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE DEER ISLAND TREATMENT PLANT PUMP REFURBISHMENT, AS RECOMMENDED BY AN EFFICIENCY AUDIT, FOR A TERM OF 180 CALENDAR DAYS. REBATE TOTALING \$99,210 (100%) WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION.	OP-295	AWARD	A.W. CHESTERTON COMPANY	\$99,210.00
C-14.	10/29/15	SOUTHBOROUGH WATER QUALITY LABORATORY UPGRADES PREPARE AND IMPLEMENT DEP ASBESTOS ABATEMENT PLAN FOR REMOVAL, HANDLING AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS; EXTEND CONTRACT TERM BY 90 CALENDAR DAYS FROM AUGUST 3, 2016 TO NOVEMBER 1, 2016.	6650A	1	PAUL J. ROGAN CO., INC.	\$200,000.00

PURCHASING DELEGATED AUTHORITY ITEMS - October 1 - 31, 2015

NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1. 10/6/15	SOFTWARE LICENSES UPGRADE AND SUPPORT OF PROCESS INFORMATION SYSTEM APPROVAL OF A SOLE SOURCE PURCHASE ORDER FOR SOFTWARE LICENSES UPGRADE AND SUPPORT FOR THE PROCESS INFORMATION SYSTEM. PROCESS INFORMATION (PI) SOFTWARE WAS SELECTED THROUGH A COMPETITIVE BID PROCESS IN 1992 AS PART OF THE DEER ISLAND PROCESS CONTROL SYSTEM. THE PI SOFTWARE PRODUCT CONTAINS TWO APPLICATIONS. THE FIRST APPLICATION, CALLED PI, IS THE MWRA STANDARD FOR SCADA AND PROCESS CONTROL DATA MANAGEMENT, THE SECOND APPLICATION, CALLED PROCESS BOOK, IS THE TOOL USED FOR GRAPHIC DISPLAY OF TREND AND REAL TIME DATA. OVER THE PAST YEAR, THE MIS DEPARTMENT HAS BEEN WORKING WITH OPERATIONS TO IMPROVE SECURITY BETWEEN THE SCADA AND BUSINESS NETWORKS IN THE TRANSFER OF PROCESS DATA TO PI. THIS PROCUREMENT INCLUDES PI INTERFACE FOR OPC DA, WHICH PROVIDES REAL TIME DATA TRANSFER FROM SCADA TO THE PI SYSTEM USING THE OPC (OBJECT LINKING AND EMBEDDING FOR PROCESS CONTROL) PROTOCOL. IT ALSO INCLUDES PI INTERFACE FOR OPC HDA, WHICH PROVIDES RECOVERY OF HISTORICAL DATA FROM THE SCADA SYSTEM TO PI USING THE SAME PROTOCOL.			OSI SOFT, LLC	\$32,063.01
P-2. 10/6/15	PRETREATMENT INFORMATION MANAGEMENT SYSTEM AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ANNUAL MAINTENANCE AND SUPPORT OF MWRA'S PRETREATMENT INFORMATION MANAGEMENT SYSTEM. MWRA'S TOXIC REDUCTION AND CONTROL UNIT (TRAC) OPERATES AN EPA APPROVED PRETREATMENT PROGRAM PURSUANT TO MWRA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND EPA REGULATIONS. UNDER THIS PROGRAM, TRAC REGULATES APPROXIMATELY 200 SIGNIFICANT INDUSTRIAL USERS, MORE THAN 1,200 PERMITTED USERS, AND APPROXIMATELY 3,500 GAS AND OIL SEPARATOR FACILITIES (AS WELL AS PERMITTING OF MWRA'S 45 WASTEWATER SERVICE AREA COMMUNITIES AND THEIR 11 SEEPAGE RECEIVING SITES). MAINTENANCE SERVICES INCLUDE UPGRADES, TRANSFER RIGHTS, A STAFFED HELPLINE, CUSTOM PRODUCT WARRANTY AND ONGOING ISSUE RESOLUTION.			INFLECTION POINT SOLUTIONS, LLC	\$115,000.00
P-3. 10/20/15	SIX FLUOROMETERS AWARD OF A SOLE SOURCE PURCHASE ORDER FOR SIX FLUOROMETERS, FOR WATER QUALITY MONITORING IN MWRA'S RESERVOIRS. WITH THE RECENT ACQUISITION OF MWRA'S NEW MONITORING BUOYS FOR DEPLOYMENT IN THE WACHUSETT RESERVOIR, STAFF RECOMMENDED PURCHASING ADDITIONAL EQUIPMENT THAT IS COMPATIBLE WITH THESE BUOYS. THIS EQUIPMENT WILL ALLOW FOR MONITORING OF PETROLEUM PRODUCTS AT ANY LOCATION IN THE RESERVOIR. TURNER C3 FLUOROMETERS COME IN SEVERAL CONFIGURATIONS, FOUR IN THE FORM OF MOBILE, HAND-HELD PROBES, WHICH WILL ALLOW STAFF TO CONDUCT WATER QUALITY MONITORING AT ANY LOCATION IN MWRA'S RESERVOIRS. ANOTHER WILL BE IN THE FORM OF A TOWABLE PROBE FOR RAPID MONITORING/MAPPING. THE LAST WILL BE A PANEL-MOUNTED UNIT AS PART OF THE SUITE OF INSTRUMENTATION LOCATED AT THE NEW ROUTE 12 MONITORING SHED. THESE UNITS WILL PROVIDE FOR THE IDENTIFICATION OF POTENTIAL CRUDE AND REFINED PETROLEUM CONTAMINANTS. THE FRAMEWORK FOR MWRA'S UPDATED, STATE-OF-THE-ART WATER QUALITY MONITORING PROGRAM, IN ADDITION TO THE NEW BUOYS, WILL PROVIDE A WIDER RANGE OF CONTAMINANT MONITORING CAPABILITIES, AND TAKE ADVANTAGE OF RECENT ADVANCES IN TECHNOLOGY.			TURNER DESIGNS	\$88,986.60
P-4. 10/21/15	ONE CAGE DRIVE UNIT AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE CAGE DRIVE UNIT FOR THE DEER ISLAND TREATMENT PLANT. THE GRAVITY THICKENER COMPLEX IS LOCATED BETWEEN THE GRIT FACILITY AND DIGESTER MODULE 1 ON THE SOUTHEAST SIDE OF DEER ISLAND. EACH GRAVITY THICKENER HAS A CENTER COLUMN FEED SLUDGE PIPE AND A SLUDGE COLLECTOR EQUIPPED WITH A RAKE ARM, THICKENING PICKETS AND FULL SURFACE SKIMMING EQUIPMENT. AT THE TOP OF EACH TANK IS A "CAGE DRIVE" UNIT, WHICH IS BASICALLY A LARGE GEAR DRIVE THAT TURNS THE RAKE ARMS INSIDE THE TANK. THE CAGE DRIVE UNIT IN GRAVITY THICKENER 2 WAS REPLACED IN 2014, USING A SPARE UNIT FROM INVENTORY. RECENTLY, THE BULL GEAR & PINION IN THE CAGE DRIVE UNIT FOR GRAVITY THICKENER 3 FAILED AND THE SPARE UNIT IN STOCK IS BEING INSTALLED TO PUT THIS THICKENER BACK IN SERVICE. BID WRA-4095 IS FOR THE PURCHASE OF ANOTHER SPARE REPLACEMENT CAGE DRIVE UNIT.	WRA-4095		WESTECH ENGINEERING	\$66,714.00
P-5. 10/22/15	PICS HMI SYSTEM HARDWARE SUPPORT AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR A THREE YEAR HARDWARE SUPPORT AGREEMENT FOR THE PICS HMI SYSTEM AT THE DEER ISLAND TREATMENT PLANT. MWRA'S PROCESS INFORMATION AND CONTROL SYSTEM (PICS) ON DEER ISLAND IS ONE OF THE LARGEST INSTALLATIONS OF ITS KIND IN THE UNITED STATES. THOUSANDS OF FIELD INSTRUMENTATION DEVICES ARE USED TO GATHER PROCESS INFORMATION SUCH AS: TEMPERATURES, PRESSURES, FLOWS, AND ON/OFF STATES OF REMOTE EQUIPMENT. THESE DEVICES ARE WIRED BACK TO A DISTRIBUTED CONTROL SYSTEM (DCS), WHICH CONSISTS OF 64 CONTROL CABINETS LOCATED AT VARIOUS LOCATIONS AROUND THE 150-ACRE SITE. THE PICS SYSTEM CONSISTS OF TWO NETWORKS THAT ARE NOT DIRECTLY CONNECTED TO THE INTERNET. THE FIRST NETWORK IS THE ABB CABINETS AND ENGINEERING STATIONS THAT ARE USED TO CONFIGURE THE LOGIC. THE SECOND NETWORK IS THE OVATION HMI SYSTEM. THE OVATION HMI SYSTEM PROVIDED BY EMERSON CONSISTS OF DELL COMPUTERS, AND RUNS EMERSON'S PROPRIETARY HMI SOFTWARE. THE HMI GATHERS PROCESS INFORMATION FROM THE DCS SYSTEM AND PRESENTS THAT INFORMATION TO STAFF THROUGH CONTROL GRAPHICS. THE PICS SYSTEM CANNOT BE OPERATED WITHOUT THE HMI SYSTEM, SO IT IS CRITICAL THAT THE 50 DELL COMPUTERS WHICH MAKE UP THE SYSTEM BE KEPT RUNNING AT ALL TIMES. TO ENSURE THE RAPID REPAIR OF THESE COMPUTERS, A MAINTENANCE AGREEMENT IS NECESSARY SO THAT FACTORY PARTS CAN BE ORDERED FROM DELL AND SENT VIA OVERNIGHT SHIPPING IN THE EVENT OF A FAILURE.	WRA-4081Q ITC47		EN POINTE TECHNOLOGIES SALES LLC	\$64,085.58
P-6. 10/30/15	PORTIA ANNUAL MAINTENANCE AND SUPPORT AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE ANNUAL MAINTENANCE AND SUPPORT OF THE PORTIA INVESTMENT & CASH MANAGEMENT SOFTWARE. IN 1991, UNDER DELEGATED AUTHORITY, THE FINANCE DIVISION PURCHASED PORTIA SOFTWARE, A STANDALONE PC PACKAGE, USED BY THE FINANCE DIVISION TO MANAGE MWRA'S INVESTMENT PORTFOLIO. PORTIA PROVIDES FLEXIBLE REPORTING, SUPPORT FOR ALL SECURITY TYPES, MULTI-CURRENCY CAPABILITIES, PORTFOLIO MODELING, REAL TIME PROCESSING AND REAL TIME ORDER MANAGEMENT. THE MWRA HAS RECENTLY PROCURED AND IS CURRENTLY IMPLEMENTING A MAJOR PORTIA UPGRADE FROM VERSION 8 TO VERSION 12, WHICH INCLUDES THE ADDITION OF A NEW CASH MANAGEMENT MODULE. THE NEW MODULE ELIMINATES THE XRT-CERT APPLICATION AND THE ANNUAL MAINTENANCE COST OF \$20,700.00. FOR THE SERVICE PERIOD OF NOVEMBER 1, 2015 TO OCTOBER 31, 2016.			SS&C TECHNOLOGIES, INC.	\$46,542.77


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: FY16 First Quarter Orange Notebook

COMMITTEE: Administration, Finance & Audit

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

Continued Dry Conditions

Massachusetts continues to experience drier than normal conditions, with rainfall in Boston about 8 inches (24 percent) less than normal so far this calendar year. While the Quabbin Reservoir storage remains within its normal operating range for this time of year, flows into the reservoirs ("system yield") are lower than normal. Storage at Quabbin was at 90.8 percent at the end of the quarter – well within the expected normal range. (Page 26) Water demand so far this year is up around 6.4 million gallons per day (mgd) over the same period last year, attributable to increased summer demand, leaks in community systems from the hard winter, and additional use by Lynn during this quarter. At 203.7 mgd year to date, demand is still significantly down for the recent past, and almost 100 mgd below the safe yield of 300 mgd. (Pages 26 and 29).

On the wastewater side, flows at the Deer Island wastewater treatment plant this quarter are about 16.1 percent lower than the 10-year average (and 13.6 percent lower than the 3-year average), resulting in lower power requirements for pumping. (Page 1) Sodium hypochlorite use is about 8 percent higher than the budget target due to the higher strength effluent resulting from the lower flows. (Page 2). Overtime for storm coverage and use of the combustion turbine generators during storms is also down. (Pages 5 and 1)

Leak Detection

With the beginning of the new fiscal year, changes in the metrics and reporting for leak detection have been put into place. The targets for miles of MWRA main surveyed have been changed to

acknowledge seasonality, with lower targets during winter months. (A similar change has been made to a number of other Orange Notebook targets after last winter's experience.) The annual target for leak detection has been re-evaluated as discussed over the past several quarters. Newer ductile iron, lined cast iron mains, and concrete mains will have a target of being inspected once every two years; while more leak prone unlined cast iron and steel mains will have a target of being inspected annually. This page also now includes a clearer tabular accounting of leaks found, repaired or still backlogged, with the reason for backlogged leaks identified. Any community assistance in finding or repairing leaks will also be noted on this page. During the quarter, MWRA staff provided leak detection assistance to Lynn, Somerville, Newton, Lexington, Malden, Arlington, and Revere. (Page 6)

Water Valve Program

The water valve exercising and replacement programs got off to a slow start during this quarter, primarily due to competing demand for valve crews supporting capital projects, working with the Lynn Water and Sewer Commission on the process of smoothly connecting them to the MWRA system while they replace a storage tank cover (see Page 13), and providing assistance during MWRA or community leak repairs. (Page 7 and 13)

Green Energy Production

Overall green energy production was slightly ahead of targets this quarter; production from hydro and solar was essentially on target, wind was about 14 percent below target, but electricity production from methane and the steam turbine generators was 13 percent above target. (Page 10) However, due to the fact that electricity prices were lower than budgeted for the quarter, revenue and savings from green power production was about 16 percent below budget (first two months data only). (Pages 11 and 1) Of course, lower energy prices also mean that the costs for power purchased are lower. The total cost of electricity purchased at Deer Island for the first two months of the quarter was about 24.1 percent lower than budgeted, due in substantial part to the unit price of electricity being 19.6 percent lower than budgeted. Green electricity production revenue and savings were about \$139,470 below budgeted, but the savings on the cost of electricity at Deer Island was about three times higher at \$357, 718 for the first two months of the quarter.

Biosolids Pellet Quality

During the second two months of this quarter (August and September), molybdenum levels in the fertilizer pellets produced from biosolids exceeded the Massachusetts DEP Type 1 (unrestricted use) limits, but continued to be well below the New York State and EPA limits for unrestricted use. The increase is seasonal, due to the use of molybdenum in cooling tower corrosion inhibitors, and the increased blow down of those systems later in the summer. MWRA and its contractor (New England Fertilizer – NEFCO) do not distribute pellets in Massachusetts between July and January. As part of the Governor's Executive Order 562 review of all state regulations, DEP has identified its molybdenum limits as an item being evaluated, and has indicated that they are considering raising the Type 1 limit to 40 mg/kg, the same as the New York State limit.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report
On
Key Indicators of MWRA Performance
For
First Quarter FY2016

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
November 18, 2015

Board of Directors Report on Key Indicators of MWRA Performance

First Quarter FY16

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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.

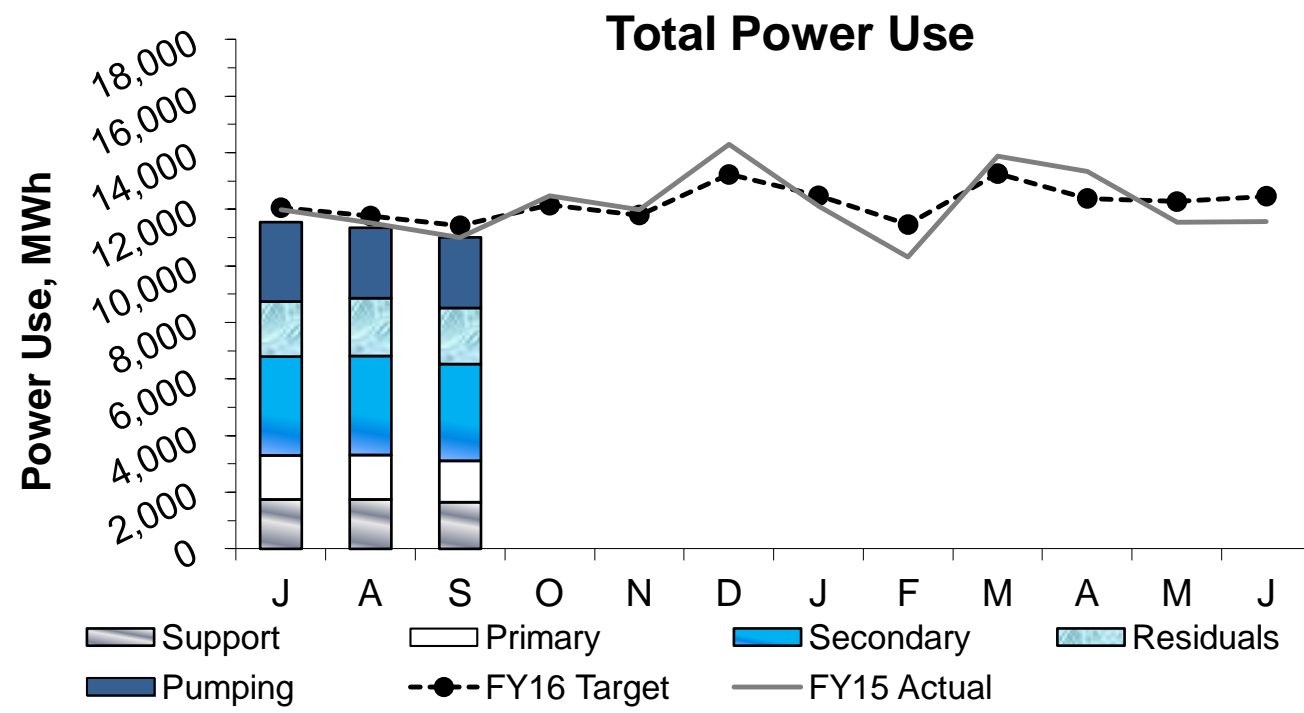
Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
November 18, 2015

OPERATIONS AND MAINTENANCE

Deer Island Operations

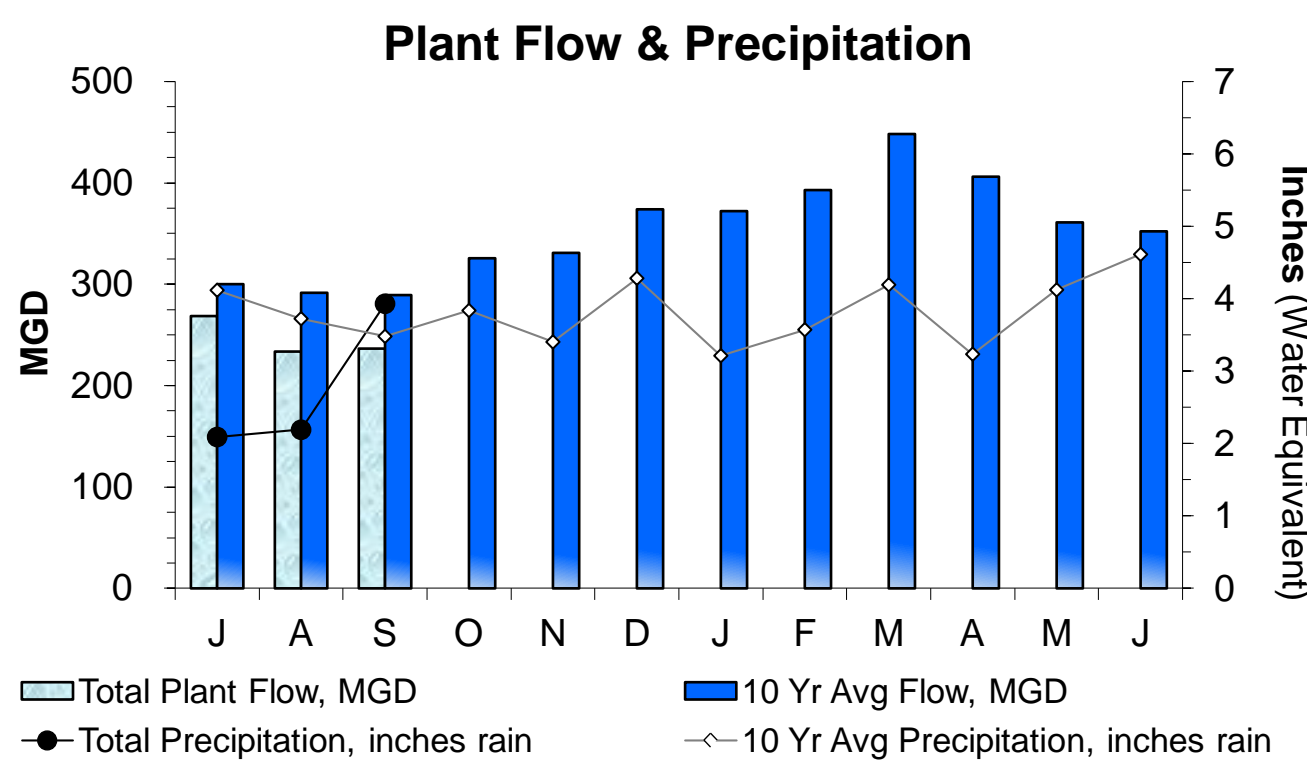
1st Quarter - FY16

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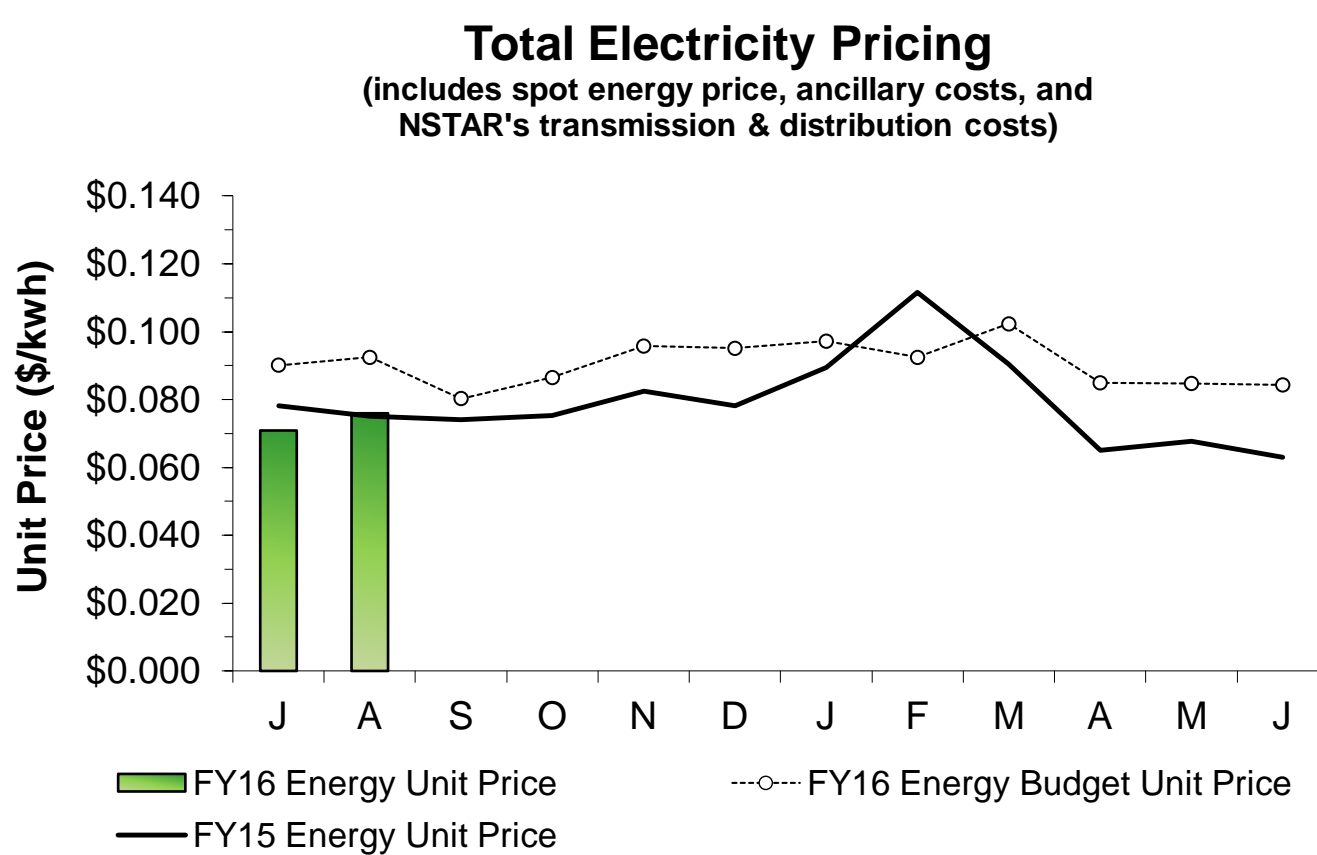


Total Power Use in the 1st Quarter was 3.8% below target as Total Plant Flow for the quarter was 13.6% below the 3 year average plant flow for the same period. Total Power Use for wastewater pumping operations was 8.6% below target due to the lower plant flow.

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

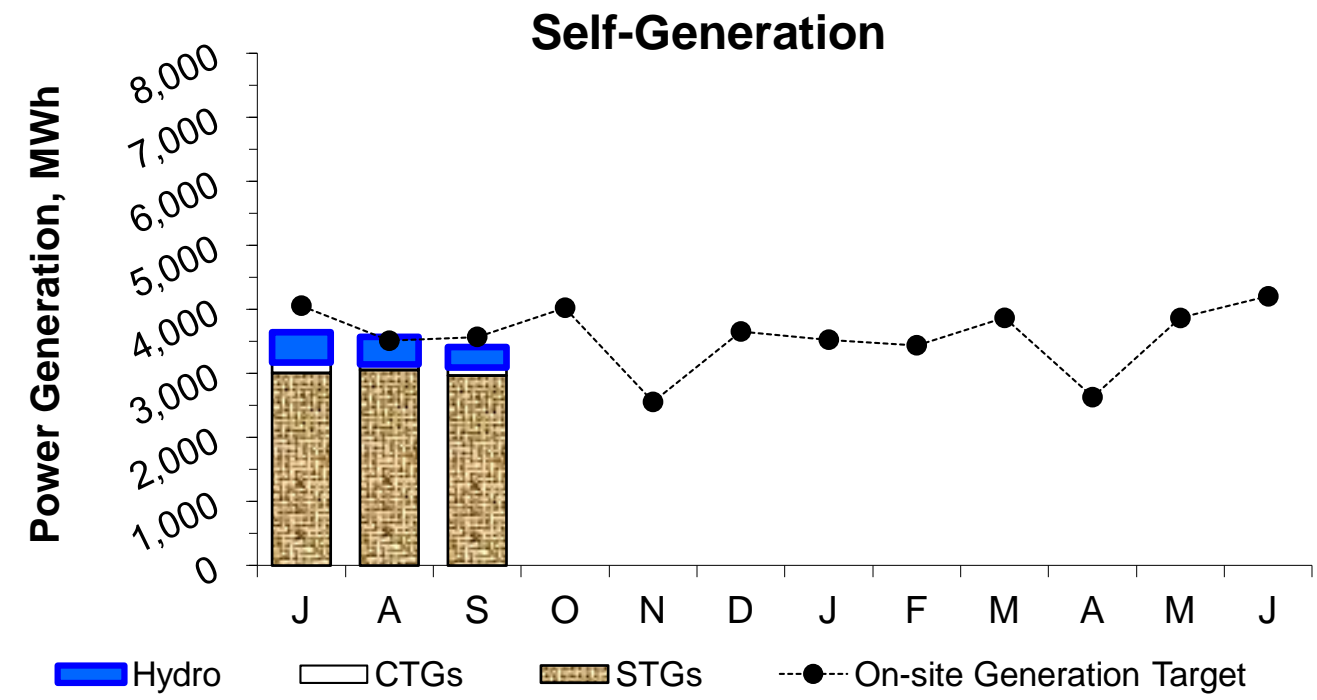


Total Plant Flow for the 1st Quarter was 16.1% below target with the 10 year average plant flow (246.2 MGD actual vs. 293.6 MGD expected) as precipitation for the was 27% lower than target (8.21 inches actual vs. 11.32 inches expected).



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 1st Quarter (actuals for July and August only) was 19.6% lower than the FY16 budget estimate for the same period. The Total Energy Unit Price for September 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.

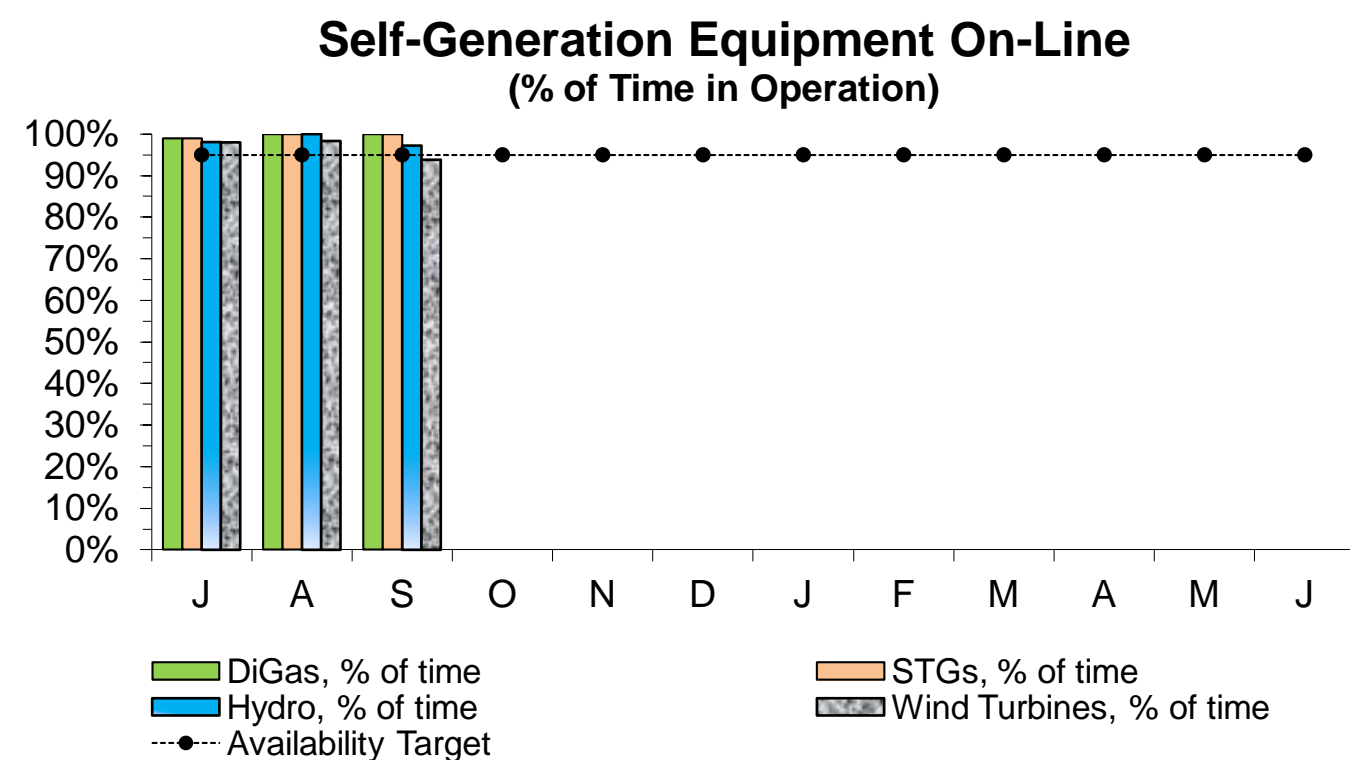
Note: Only the actual energy prices are being reported. Therefore, the data lags by one (1) month due to the timing of invoice receipt.



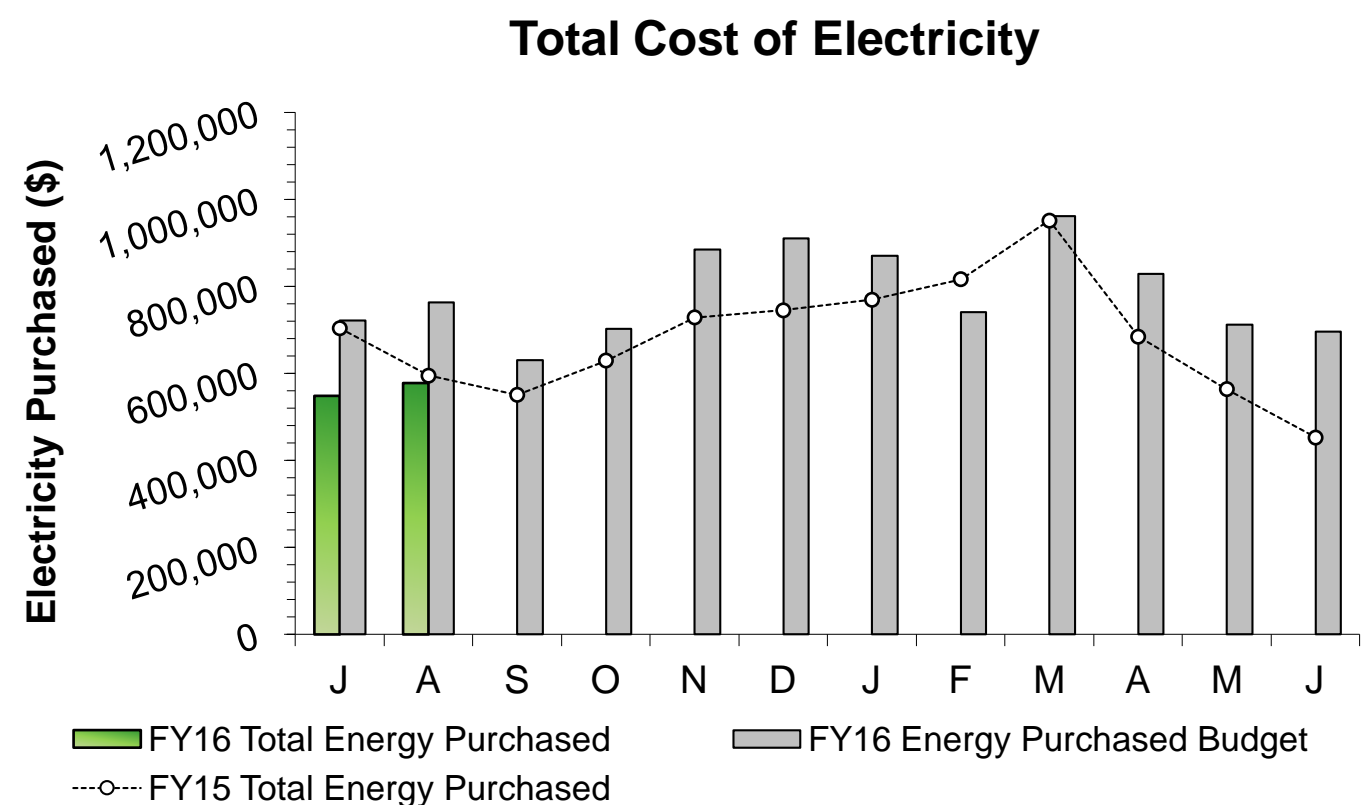
Power generated on-site during the 1st Quarter met target. While generation by the Hydro Turbines, STGs, and Solar Panels met or exceeded their targets, generation by the CTGs and Wind Turbines were below target. The CTGs generated 72.3% less power than expected during the quarter as the target assumed the CTGs would be operated for several wet weather events, but CTG operation during storms was not needed. The CTGs were however operated for nearly a total of 30 hours this quarter for peak shaving. Steam turbine generators operated in Back Pressure summer mode, produced 12.8% more than budget.

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 294.6 MWh was generated by the Solar Panels and 206.7 MWh was generated by the Wind Turbines in the 1st Quarter. Wind turbine production was down due to less wind.



The DiGas, STGs, Wind Turbines, and Hydro Turbines, all exceeded the 95% availability target for the 1st Quarter.



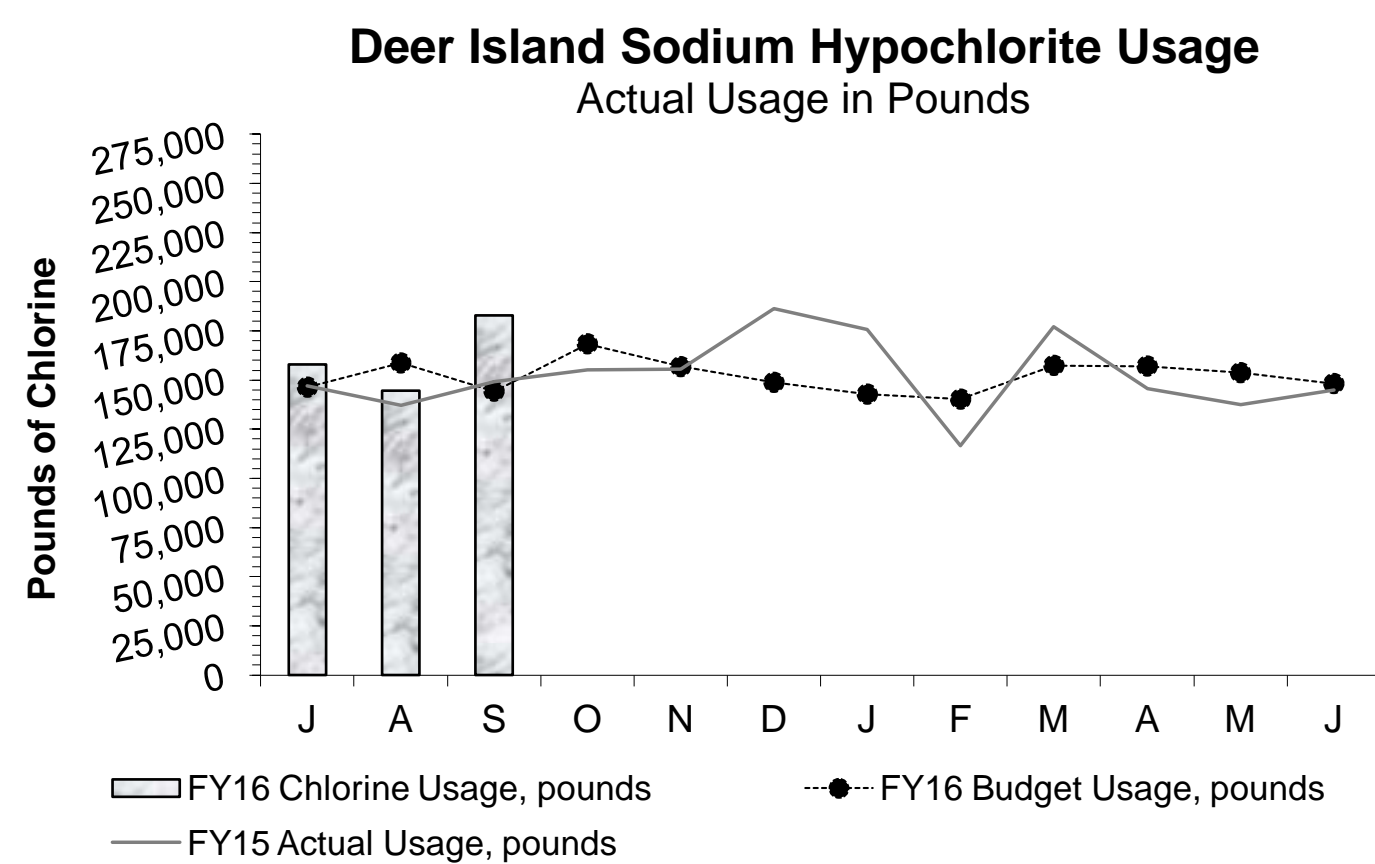
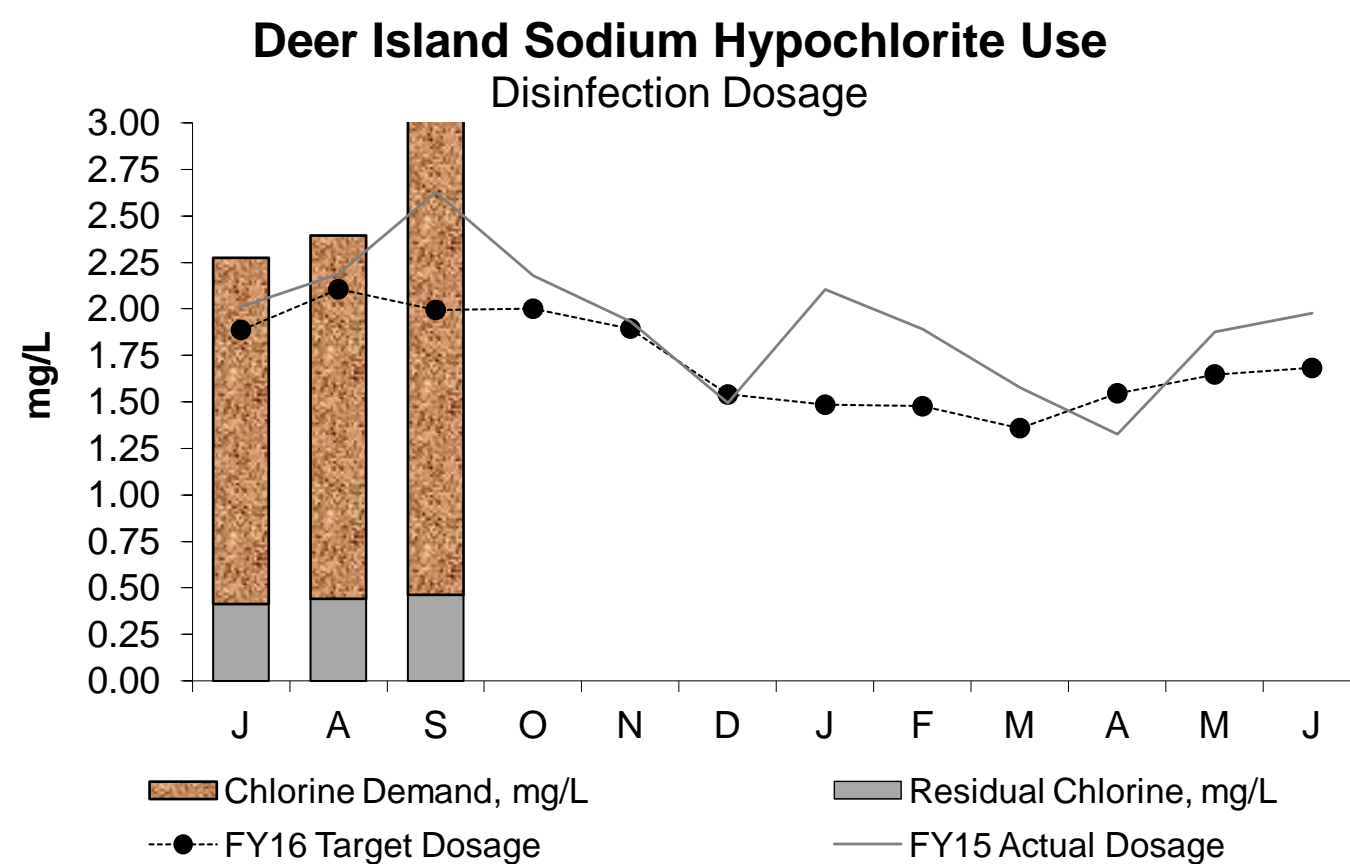
The total cost of electricity Purchased during the 1st Quarter (actuals for July and August only) was 24.1% lower than budgeted due to both lower than expected power usage and to lower than expected energy prices in the quarter. Year-to-date costs are \$357,718 lower than budgeted through August (actuals only) as the year-to-date Total Energy Unit Price and the Total Power Purchased are both lower than budgeted by 19.6% and 5.6% through August.

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

1st Quarter - FY16

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The disinfection dosing rate in the 1st Quarter was 30% higher than the target and the usage in pounds of chlorine was 8.0% higher than the target. DITP maintained an average disinfection chlorine residual of 0.44 mg/L this quarter with an average dosing rate of 2.59 mg/L (as chlorine demand was 2.15 mg/L). Chlorine dosing and usage in pounds was higher than expected due to much lower than expected plant flow resulting in a stronger wastewater with a higher chlorine demand.

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

Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
J	1	1	0	99.8%	3.97
A	0	0	0	100.0%	0.00
S	1	1	0	98.5%	10.63
O					
N					
D					
J					
F					
M					
A					
M					
J					
Total	2	2	0	99.4%	14.60

99.4% of all flows were treated at full secondary in the 1st Quarter. There were a total of two (2) separate secondary blending events in the quarter; both due to high plant flows resulting from heavy rain. The two (2) secondary blending events combined produced a total of 14.6 hours of blending and 123.96 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 1st Quarter of FY16.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

The plant achieved a maximum average hourly flow rate of 1,050.6 MGD during the afternoon of September 30 as a result of a rain event that dropped a total of 2.5 inches of rain over a two (2) period. The Total Plant Flow in the 1st Quarter was 16.1% below the 10 year average precipitation for the quarter.

Additionally, several low flow records were broken this quarter:

- Monthly Average Plant Flow for August – 233.57 MGD set August 2015 (previous August record was 241.97 MGD in 2007),
- Monthly Average North System Flow for August – 159.98 MGD set August 2015 (previous August record was 168.45 MGD in 2007),
- Daily Average Plant Flow - 199.06 MGD set on September 6, 2015 (previous record of 200.70 MGD set back on August 21, 2010),
- Daily Average North System Flow - 121.9 MGD set on July 22, 2015. The daily North System Flow of 136.47 MGD on September 6, 2015 ranks #2 and 138.92 MGD on September 5, 2015 ranks #4 in the top 10 list of lowest flow.

While no South System low flow records were broken in the 1st Quarter, the daily South System Flow of 62.61 MGD on September 6, 2015 ranks #4 in the top 10 list of lowest flow. The current daily South System low flow record set on November 25, 2001 currently stands at 58.67 MGD.

MWRA will be performing essential maintenance and rehabilitation activities at DITP. A large number of isolation valves in the North Main Pump Station (NMPS) and Winthrop Terminal Headworks (HW) Facility are included in this work, and as a result it will be necessary to stop all flow to the North System on DITP (and dewater much of the piping) for the contractors to

Deer Island Operations & Maintenance Report (continued)

Environmental/Pumping (continued):

The replacement of these critical valves will occur at various times over the next two years. MWRA projects upwards of 54 shutdowns.

The fourth and last trial shutdown, to compare the behavior of the sewer system to hydraulic modeling results prior to construction activities, took place this quarter starting on the evening of July 22. This shutdown involved stopping all flow from the North Influent System at all the upstream headworks facilities. Wastewater flow was stopped at approximately 10:50 p.m. and wastewater pumping to DITP was restarted approximately eight (8) hours later between 7:00 and 7:22 a.m. South System influent wastewater flows to DITP remained under normal operation. No major issues were encountered at DITP during the shutdown or during the activities to restart the North System wastewater pumping to DITP.

The first shutdown of the NMPS for construction activities took place starting on the evening of September 1 to allow contractors to install a temporary dewatering system outside the lower grit chamber to dewater the tunnels between the North Main Pump Station and the Grit Facility. This shutdown involved stopping all flow from the North Influent System for approximately 5 hours. South System influent wastewater flows to DITP remained under normal operation. No major issues were encountered at DITP during the shutdown or during the activities to restart the North System wastewater pumping to DITP.

Primary and Secondary Treatment:

Progress on the major Primary and Secondary Scum Tip Tube Replacement Project continues. 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 related to the physical replacement of the tip tubes was approximately 88.8% complete by the end of September. Progress on the electrical, instrumentation, and miscellaneous metals framing work associated with this replacement project continues.

Residuals Treatment:

Scheduled maintenance to replace the viewing port and the expansion joints in the digester gas line in each of the four (4) digesters in Module #2 was completed during the 1st Quarter. One (1) digester was taken out of operation at a time in order to complete this work with minimal interruption to the sludge digestion process.

All three (3) digester gas flares were taken out of service in August, one flare at a time, in order to perform scheduled maintenance including replacement of critical gas valves. Each flare was offline for a week and the maintenance was completed as scheduled. No digester gas venting occurred as a result of a flare being out of service during this maintenance work. DEP was provided with prior notification of the impending work.

Odor Control:

Activated carbon media was changed out on carbon adsorber (CAD) units #1, #2, and #4 in the East Odor Control (EOC) and #4 in the North Pumping Odor Control (NPOC) Facilities during the 1st Quarter as part of routine practice to replace spent activated carbon before the carbon becomes ineffective.

Energy and Thermal Power Plant:

Solar power generation accounted for 2.65% (294.6 MWh) and Wind Turbine generation accounted for 1.86% (206.7 MWh) of the total power generated on-site in the 1st Quarter. Overall, total power generated on-site accounted for 32.8% of Deer Island's total power use for the quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 31.7% of Deer Island's total electrical power use for the quarter.

Regulatory:

Emissions compliance testing on the North Pumping Odor Control (NPOC) treatment system on DITP was conducted by consultants during the week of August 24. The NPOC treatment system treats combined process air from the Winthrop Terminal Headworks Facility and the North Main Pump Station. The DITP Air Quality Operating Permit issued by the MA DEP requires that DITP conduct emissions compliance testing for the various emission units once every five (5) years to demonstrate compliance with applicable total reduced sulfur (TRS) and non-methane hydrocarbons (NMHC) emissions limits. This testing requires the continuous emissions monitoring of the inlet and outlet of the odor control system over a 24-hour period for TRS at the outlet (stack) of the odor control system and for NMHC at the inlet. Even though it is not required by the operating permit, NMHC were also tested at the stack, and the inlet was sampled for target Volatile Organic Compounds (VOCs). All the test results show that DITP was in compliance. The draft report summarizing the test results has been reviewed by DITP staff. The final report from the consultants is pending completion at this time.

The annual RATA (Relative Accuracy Test Audit) of the boiler Continuous Emissions Monitoring System (CEMS) and the quarterly emissions Opacity audit for each boiler were successfully completed by a certified consultant on September 16 and 17. The RATA validates the CEMS data generated by the individual boilers against the data generated by the consultant's CEMS which was located in a test trailer at the base of the emissions stack for the purpose of conducting this audit test. These tests are requirements of DITP's Air Quality Operating Permit issued by the DEP.

Representatives from the MA DEP were on site at DITP on September 17 for an unannounced (annual) site visit of the treatment plant to review and inspect the plant's wastewater treatment operations and practices. They were given a comprehensive plant tour covering the entire wastewater and residuals treatment facilities and process areas. Initial communications indicate the inspection had gone well.

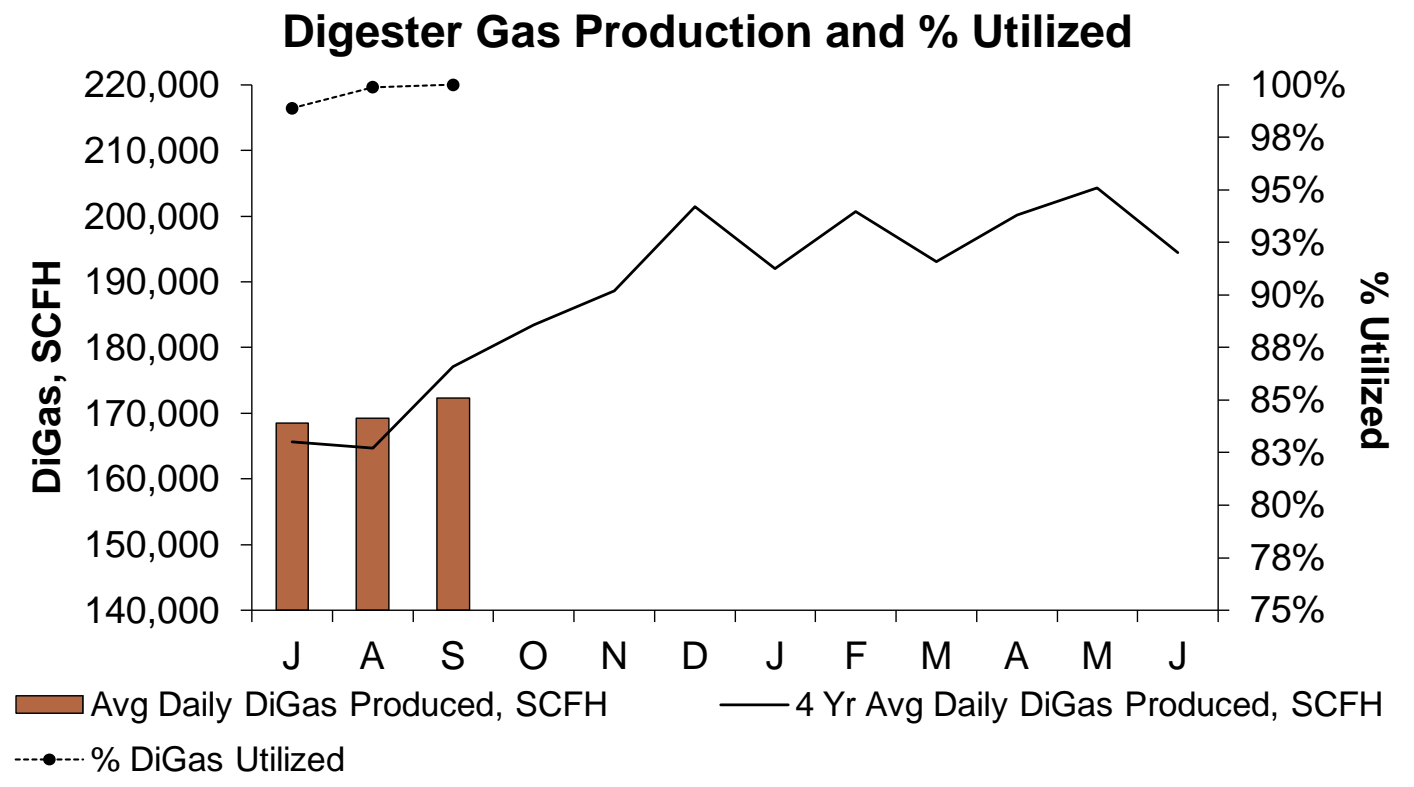
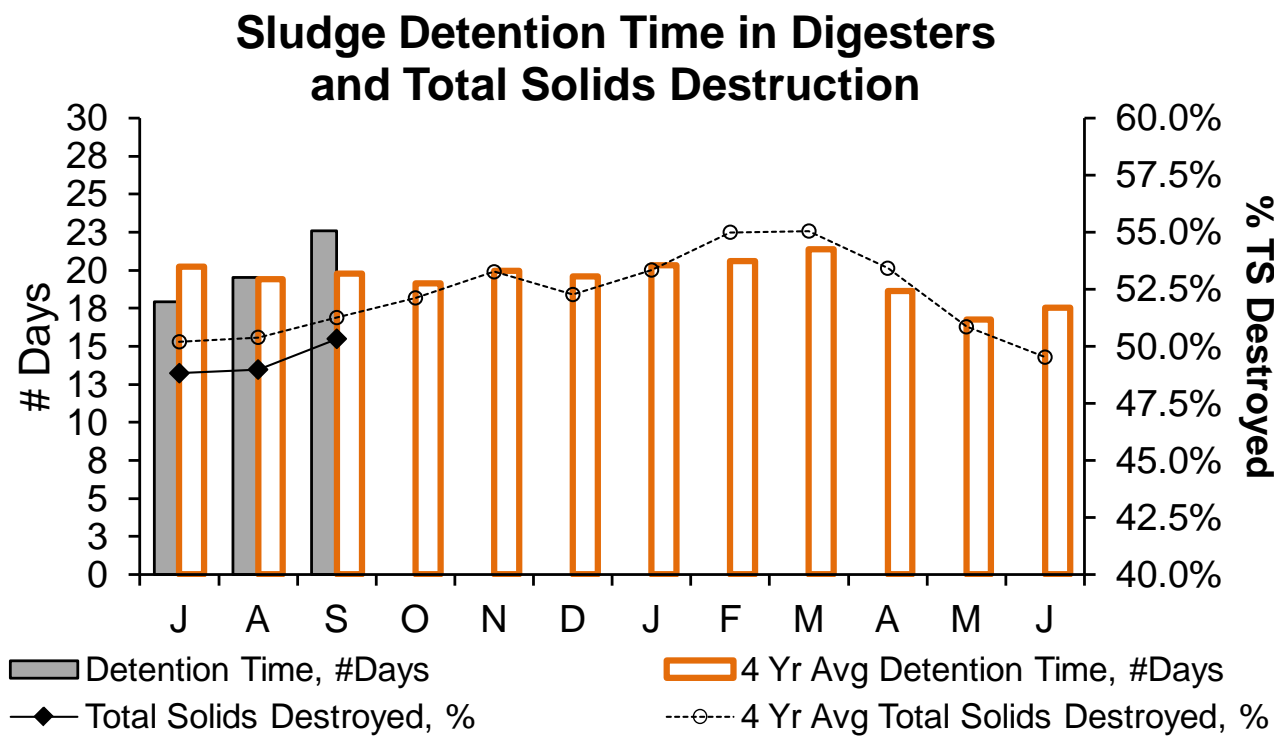
Clinton AWWTP:

Startup of the secondary digester by introducing sludge and bringing up to temperature. Monitored performance before taking primary digester off line. Degassed primary digester for 30 days. Purged gas lines with nitrogen before isolating. "We Care Organics" set up a portable press to start cleaning of the primary digester. Removed railings and all mechanical components from the primary clarifiers. Cut the top 2 feet off primary tanks 1 & 2. Formed and poured new concrete. Cleaned and sandblasted the inside of primary clarifiers in preparation for Tnemec coatings. Plant wide painting of all interior and exterior doors and trim. Painted Soda Ash silo and all influent and intermediate lift pumps.

Deer Island Operations and Residuals

1st Quarter - FY16

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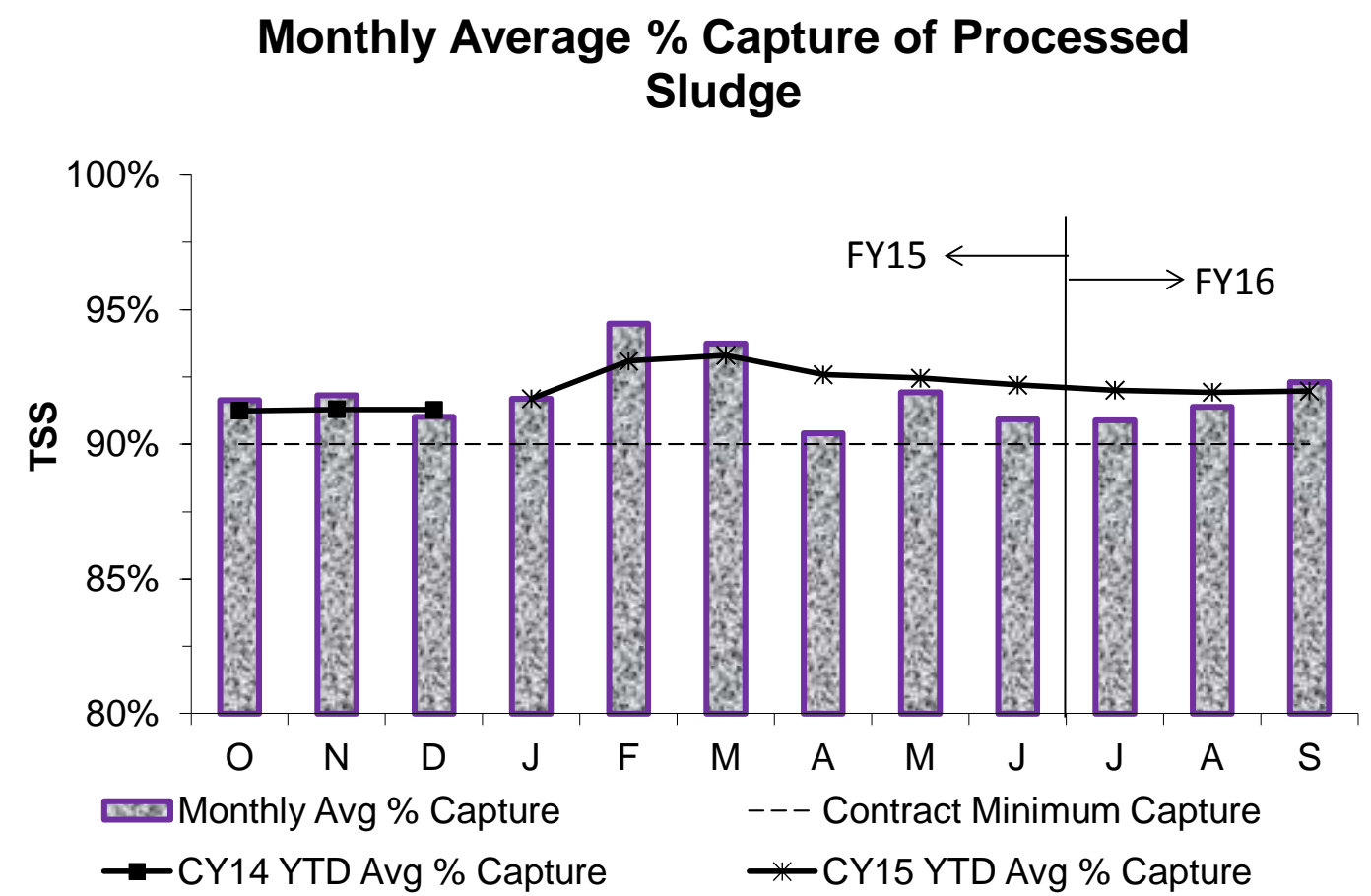
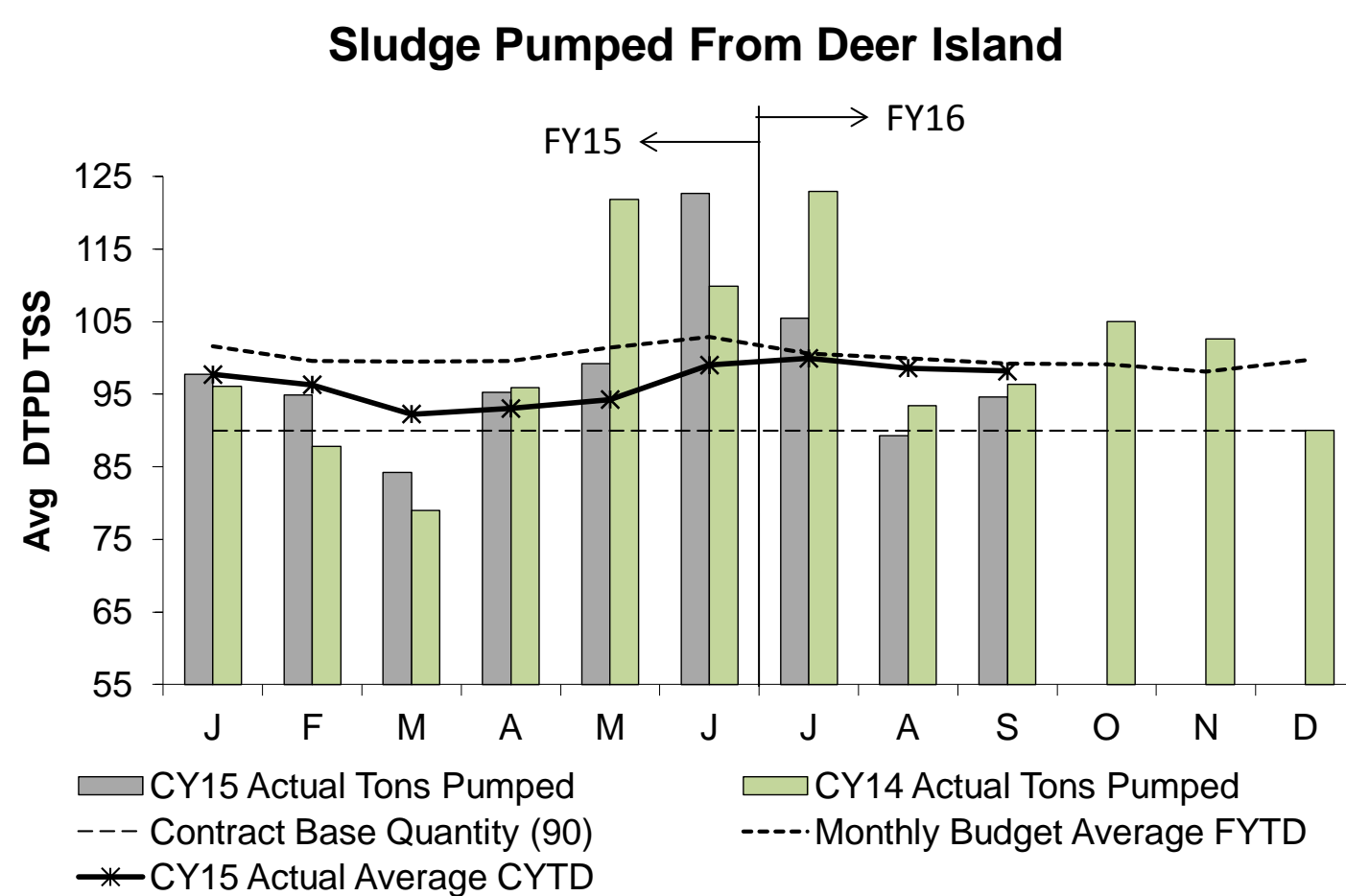
Total solids (TS) destruction following anaerobic sludge digestion averaged 49.4% during the 1st Quarter, similar to the 4 year average of 50.6% for the same period. The sludge detention time in the digesters of 20.0 days was similar to the 4 year average of 19.8 days as DI operated with an average of 7.4 digesters during the 1st Quarter compared to the 4 year average of 7.0 digesters. Scheduled maintenance on the Module #2 digesters resulted in less than 8 digesters in operation for much of the 1st Quarter.

The Avg Daily DiGas Production in the 1st Quarter was on target with the 4 Year Avg Daily DiGas Production for the same period. On average, 99.6% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant.

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

Residuals Pellet 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 and FY16's budget is 100.2 DTPD/TSS)).



The average total quantity of sludge pumped in the 1st Quarter of FY16 was 96.5 DTPD - lower than FY16's average budget of 100.2 DTPD. The lower amount is due to lower sludge production in August and September as a result of much lower than expected plant flow.

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 92.36%.

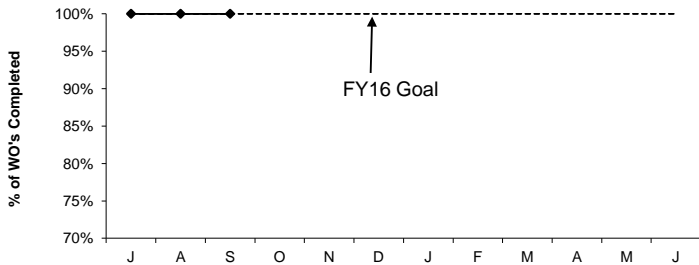
Deer Island Maintenance

1st Quarter FY16

Productivity Initiatives

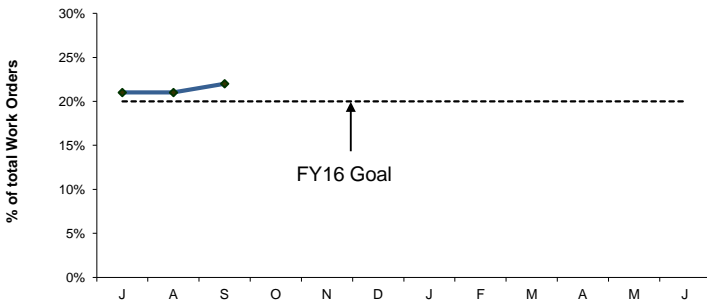
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

Predictive Maintenance Compliance



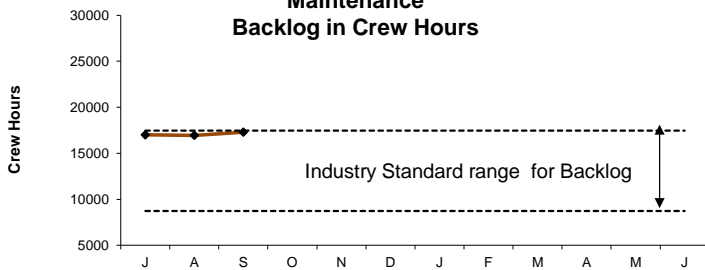
Deer Island's FY16 predictive maintenance goal is 100%. DITP completed 100% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program.

Predictive Maintenance



Deer Island's FY16 predictive maintenance goal is 20% of all work orders to be predictive. 21% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.

Maintenance Backlog in Crew Hours



DITP's maintenance backlog at Deer Island is 17,083 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 five vacancies, an HVAC Technician, a Welder/Fabricator, a Facilities Specialist and two Operations and Maintenance Specialists. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

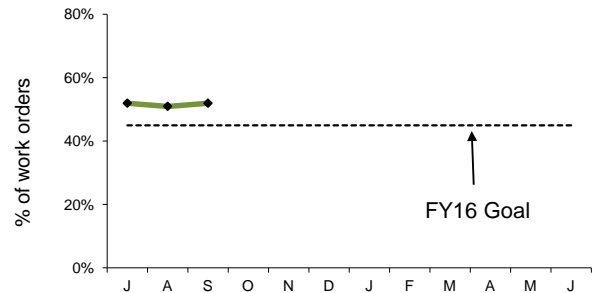
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

Preventive Maintenance Compliance



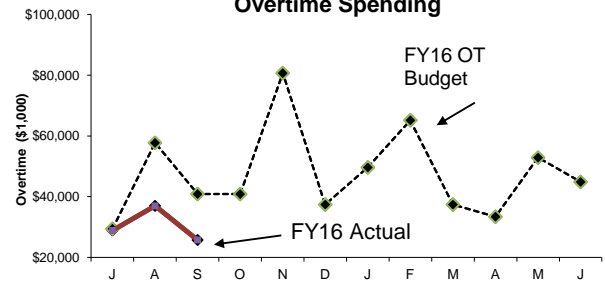
Deer Island's FY16 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 100% of all PM work orders this quarter.

Maintenance Kitting



Deer Island's FY16 maintenance kitting goal is 45% of all work orders to be kitted. 52% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

Overtime Spending

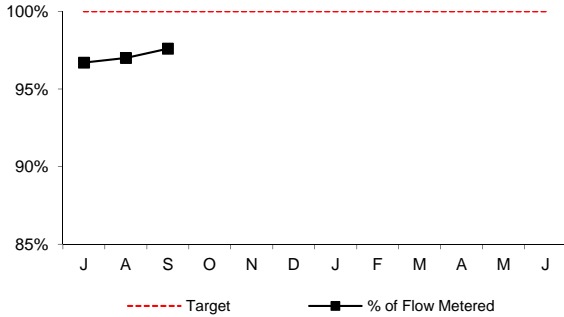


Maintenance overtime was under budget by \$37K this quarter and \$37k under for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarters overtime overtime was predominately used for Storm Coverage, North Main Pump Station Valve Replacement Project, Liquid Train RSL Actuator Replacement Project, Facilities supporting Clinton Treatment Plant, and the installation of Thickener Condenser Unit #9.

Operations Division Metering 1st Quarter - FY16

WATER METERS

Percent of Total Revenue Water Deliveries Calculated Using Meters

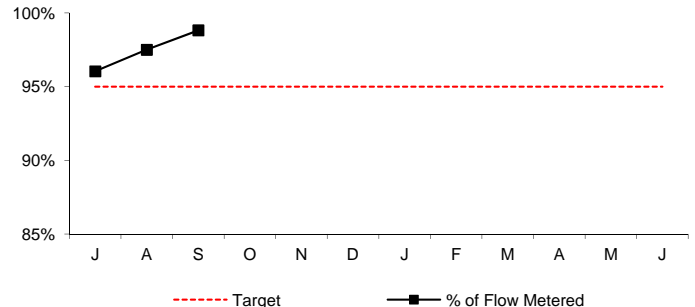


The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During the 1st Quarter of FY16, meter actuals accounted for 97.10% of flow; only 2.9% of total revenue water deliveries were estimated. The following is the breakdown of reasons for estimations:

- In-house and Capital Construction Projects - 2.43%
- Instrumentation Failure - 0.47%

WASTEWATER METERS

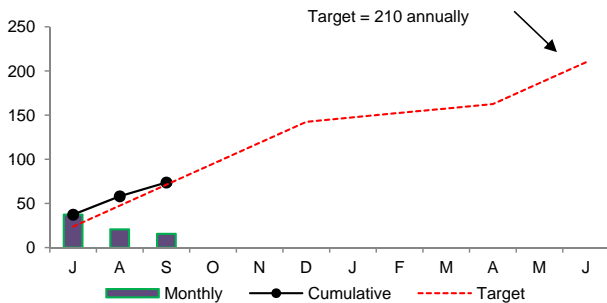
Percent of Total Wastewater Transport Calculated Using Meters



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 1st Quarter of FY16, meter actuals accounted for 97.45% of flow, 2.55% of wastewater transport was estimated.

WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



During the month of September, 15.59 miles of water mains were inspected. The total inspected for the fiscal year to date is 73.76 miles.

Leak Backlog Summary

Month	J	A	S	O	N	D	J	F	M	A	M	J
Leaks Detected	3	3	1	0	0	0	0	0	0	0	0	0
Leaks Repaired	1	4	1	0	0	0	0	0	0	0	0	0
Backlog	10	9	9	0	0	0	0	0	0	0	0	0
Avg. Lag Time	25.7	44.1	59.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

During the 1st Quarter of FY16, 7 leaks were detected, and 6 repaired. Nine leaks remain unrepaired, of which, six are carried over from FY15. Refer to FY16 Leak Report below.

During the quarter, MWRA staff provided leak detection assistance to Lynn, Somerville, Newton, Lexington, Malden, Arlington, and Revere.

FY16 Leak Report - 1st Quarter

Date Detected	Location of Leaks	Repaired
5/9/2014	General Edward Bridge, Revere/Lynn	8/31/2015
5/7/2015	West Street, Hyde Park Boston Proper	7/8/2015
7/1/2015	Fellsway East Ext @ Pond Street, Stoneham	9/2/2015
7/21/2015	Broad Street @ Union Street, Lynn	8/20/2015
8/7/2015	DCR Foss Park Broadway, Somerville	8/7/2015
8/11/2015	Broadway @ Mt Pleasant, Somerville	8/18/2015

Date Detected	Location of Leaks/Unrepaired
1/6/2015	Washington St. @ Arborway, West Roxbury - Delayed due ot MDOT bridge demo work.
1/11/2015	Arborway @ St Joseph St., West Roxbury - Delayed due ot MDOT bridge demo work.
5/12/2015	West Street, Hyde Park - Scheduled for Nov 2,2015
6/8/2015	Allandale Rd. @ Grove St., Brookline - Requires a shutdown
6/17/2015	Washington St @ Lower E. Street, Dedham -Requires Night Shutdown
6/22/2015	University Ave., Norwood - Repaired October 5,2015
7/16/2015	#56 Captain Robert Cook Drive, Needham - Can't isolate until Winter
8/3/2015	Squire Rd., Revere - Can not isolate this section due to Lynn taking Water
9/28/2015	Winthrop Ave. @ Summer St., Revere - Scheduled for Nov 9,2015

Water Distribution System Valves

1st Quarter - FY 16

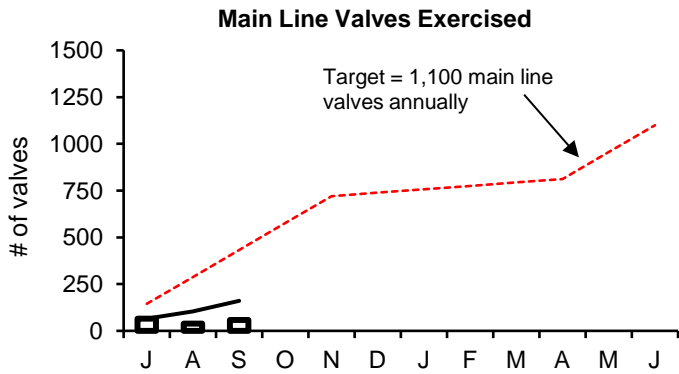
Background

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	
		FY16 to Date	FY16 Targets
Main Line Valves	2,159	96.0%	95%
Blow-Off Valves	1,317	92.3%	95%
Air Release Valves	1,380	91.8%	95%
Control Valves	49	100.0%	95%

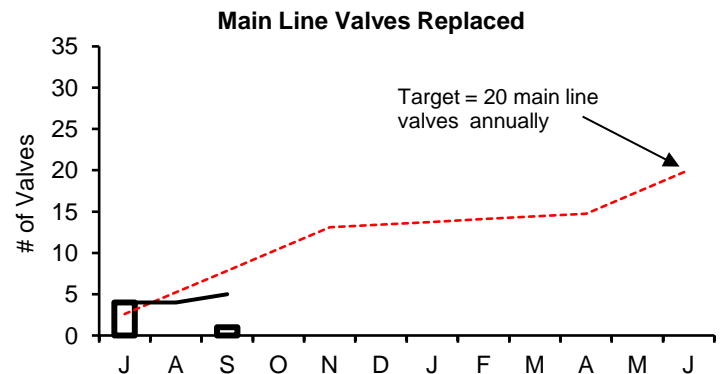
Key to Symbols:

- FY16 Monthly Total
- FY16 Cumulative Total
- FY16 Target



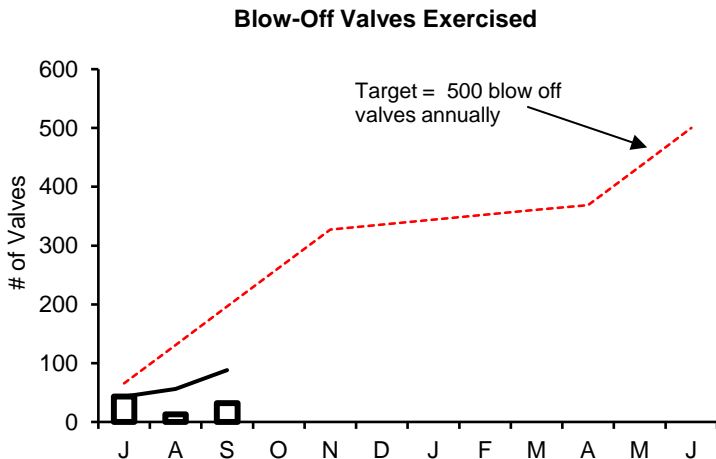
During the 1st Q of FY16, staff exercised 161 main line valves.

Valve Crews provided substantial support to capital projects, Lynn Water and Sewer Commission transfer and MWRA and community leak repairs.

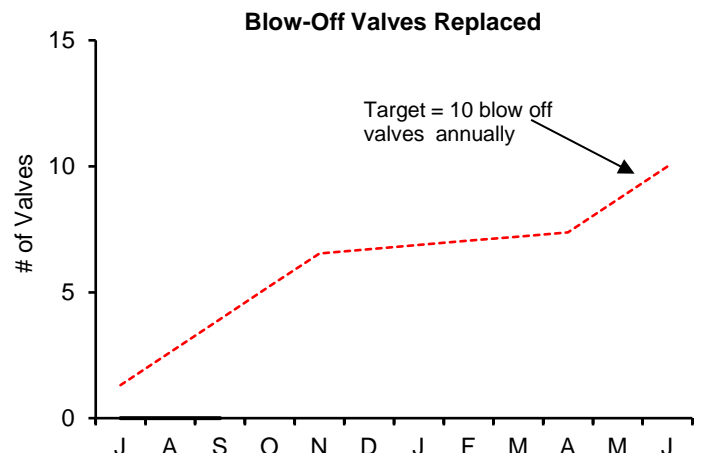


During the 1st Q of FY16, staff replaced five main line valves.

Water pipeline crews were involved in a number of pipeline construction and repair projects this quarter, limiting resources devoted to valve replacement (see p13).



During the 1st Q of FY16 staff exercised 88 blow off valves. Valve Crews provided substantial support to capital projects, Lynn Water and Sewer Commission transfer and MWRA and community leak repairs.

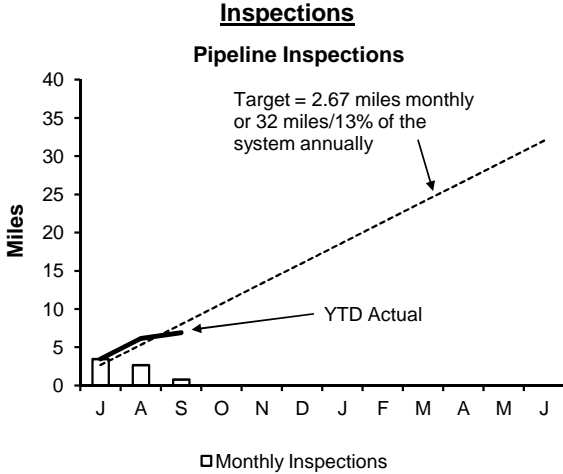


During the 1st Q of FY16, staff did not replace any blow off valves.

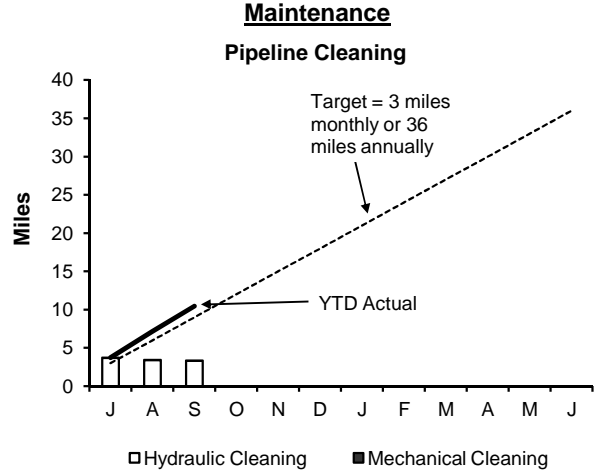
Water pipeline crews were involved in a number of pipeline construction and repair projects this quarter, limiting resources devoted to valve replacement (see p13).

Wastewater Pipeline and Structure Inspections and Maintenance

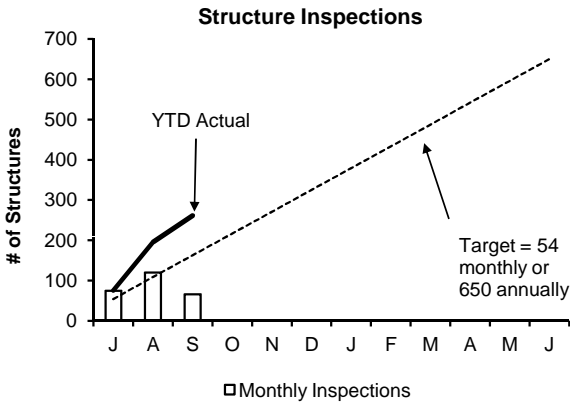
1st Quarter - FY 16



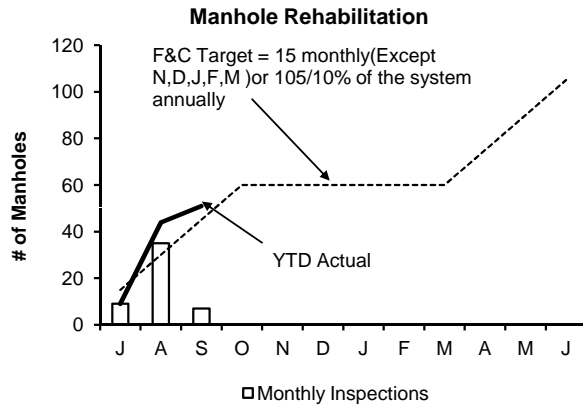
Staff internally inspected 6.92 miles of MWRA sewer pipeline during this quarter. The year to date total is 6.92 miles. No Community Assistance was provided this quarter.



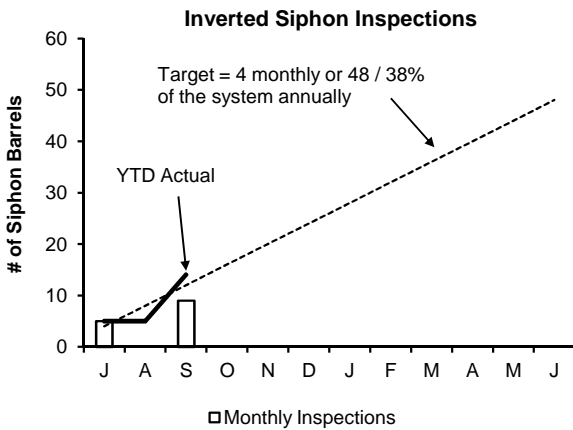
Staff cleaned 10.46 miles of MWRA's sewer system and removed 107 yards of grit and debris during this quarter. The year to date total is 10.46 miles. Community Assistance was provided to the city of Somerville. Staff cleaned 3,000 linear feet of 8" sewer to clear a grease blockage.



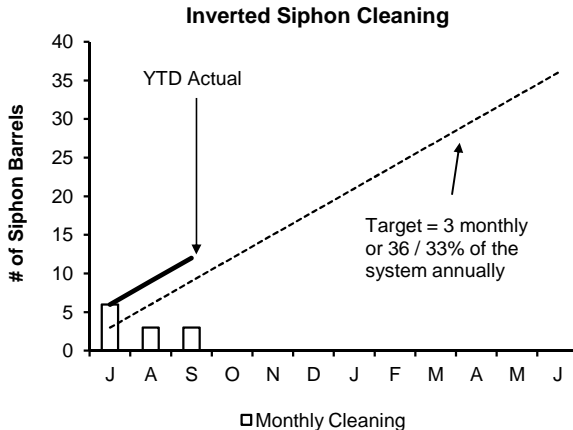
Staff inspected the 36 CSO structures and performed 225 additional manhole/structure inspections during this quarter. The year to date total is 261 inspections.



Staff replaced 51 frames & covers during this quarter. The year to date total is 51.



Staff inspected 14 siphon barrels during this quarter. Year to date total is 14 inspections.



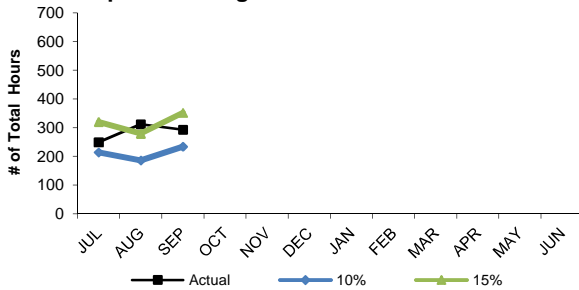
Staff cleaned 12 siphon barrels during this quarter. The year to date total is 12 barrels.

Field Operations' Metropolitan Equipment & Facility Maintenance

1st Quarter, FY16

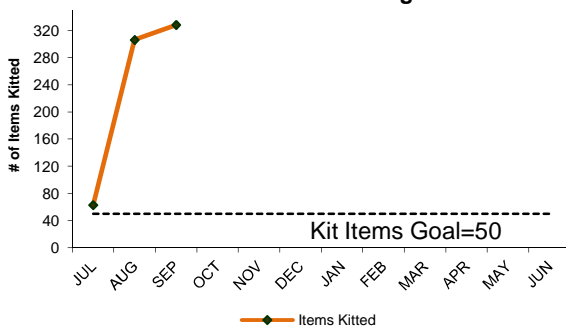
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus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

Operations Light Maintenance PM Hours



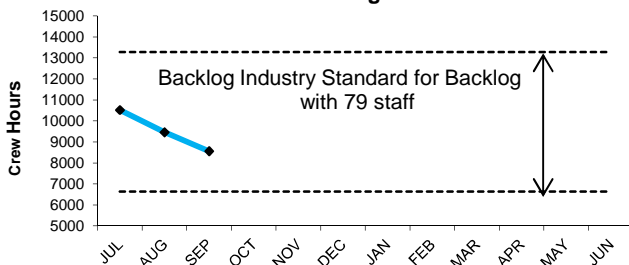
Operations staff averaged 285 hours of preventive maintenance during the 1st Quarter, an average of 13% of the total PM hours for the 1st Quarter, which is within the industry benchmark of 10% to 15%.

Items Kitted Utilizing Maximo



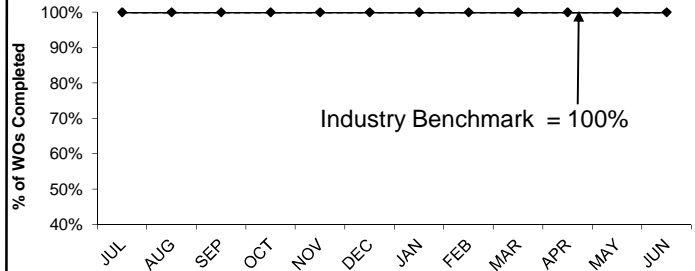
In an effort to more efficiently complete work, maintenance staff and work coordination staff have utilized the Lawson/Maximo interface to better kit stock and non stock material. The goal for FY16 is to "kit" 50 stock and non stock items total per month. An average of 232 items were kitted during the 1st Quarter

Maintenance Backlog in Crew Hours



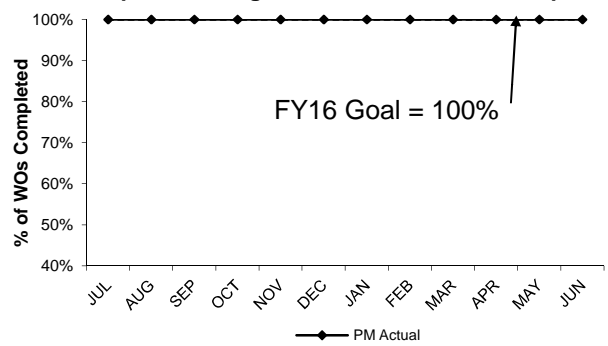
The 1st Quarter backlog average is 9515 hours. Management's goal is to continue to control overtime and still stay within the industry benchmark of 6450 to 12,940 hours.

Overall Preventive Maintenance



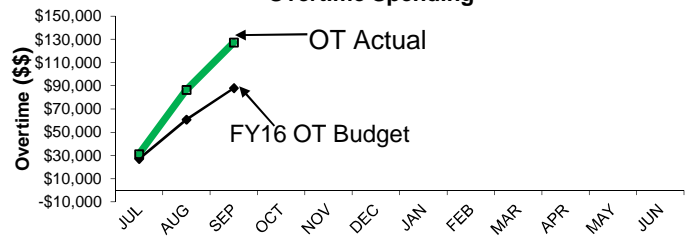
The Field Operations Department (FOD) preventive maintenance goal for FY16 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 1st Quarter.

Operations Light Maintenance % PM Completion



Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY16 PM goal is completion of 100% of all PM work orders assigned. Operations completed an average of 100% of PM work orders in the 1st Quarter.

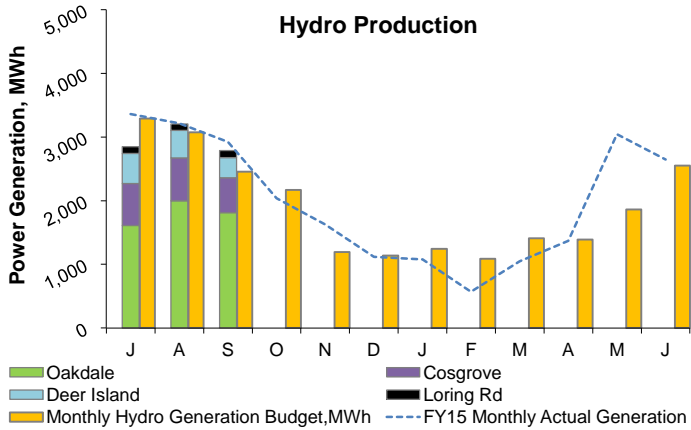
Overtime Spending



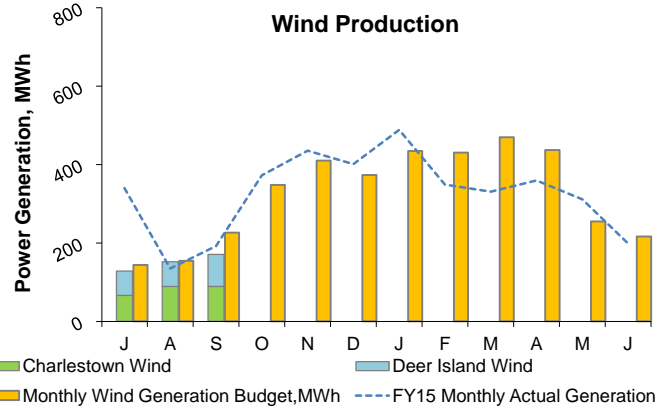
Maintenance overtime was \$39k over budget for the 1st Quarter. Overtime was used for staging for weather events, critical maintenance repairs, and shutdown support for the Deer Island Treatment Plant North System valve replacement project.

Renewable Electricity Generation: Savings and Revenue

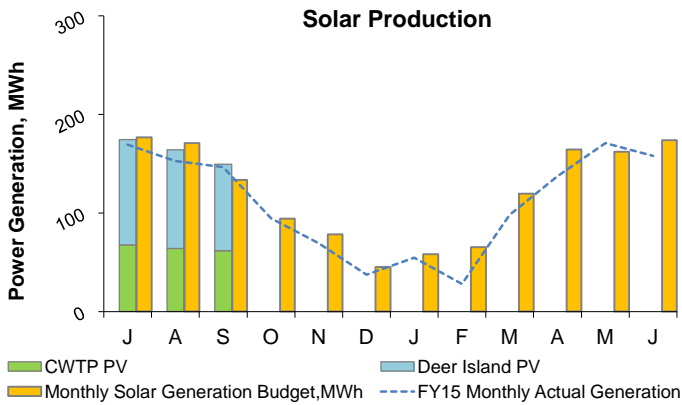
1st Quarter - FY16



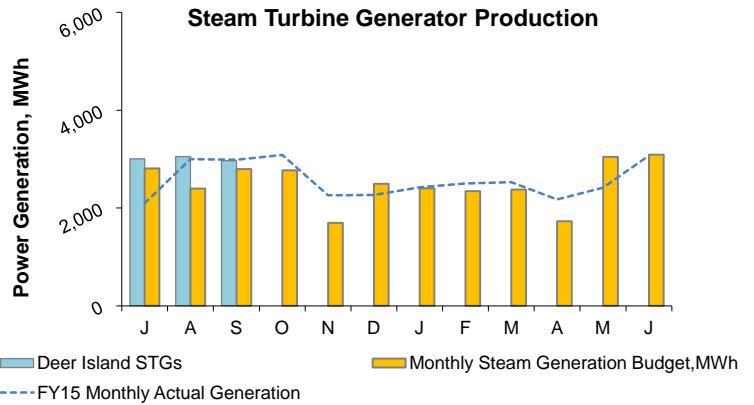
In the 1st Quarter, the renewable energy produced from all hydroelectric facilities totaled 8,846 MWh; equal to budget³. The total savings and revenue² to date in FY16 (actuals through August¹) is \$227,278; 33% below budget, partly due to the fact that the actual electricity unit price for Deer Island has been 20% below the budgeted³ estimate for the same period, and due to Oakdale receiving a 55% lower than budget price/kWh for the month of July. Oakdale budget is based on a 3-year revenue average (FY12-FY14). The savings and revenue value does not include RPS REC revenue (see next page).



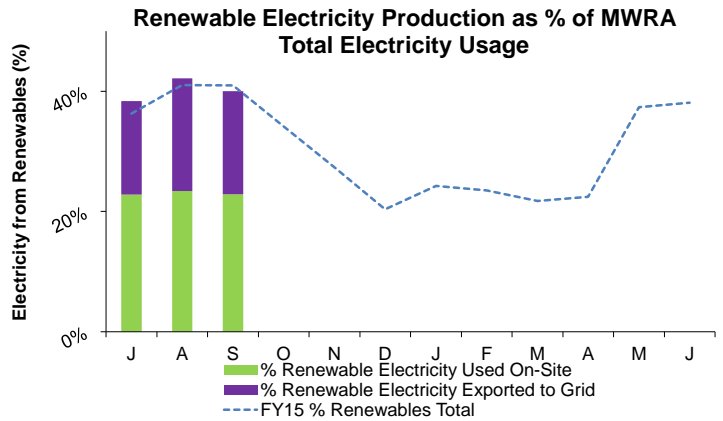
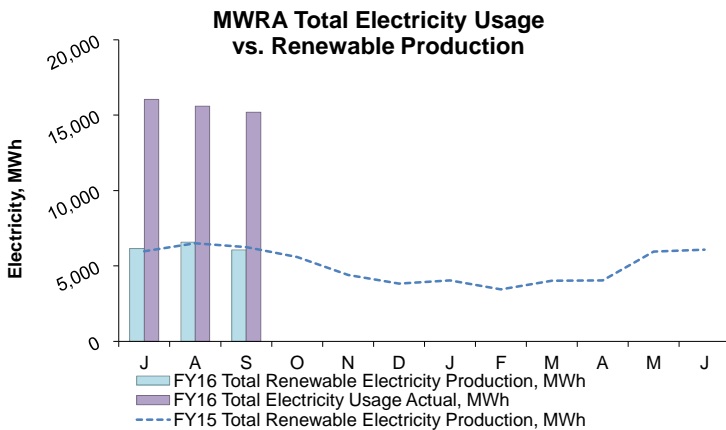
In the 1st Quarter, the renewable energy produced from all wind turbines totaled 451 MWh; 14% below budget³, partly due to Deer Island Wind Turbines being off-line intermittently for scheduled preventive maintenance work. The total savings and revenue² to date in FY16 (actuals through August¹) is \$42,070; 18% above budget. The savings and revenue value does not include RPS REC revenue (see next page).



In the 1st Quarter, the renewable energy produced from all solar PV systems totaled 488 MWh; 1% above budget³. The total savings and revenue² to date in FY16 (actuals through August¹) is \$37,043; 6% below budget. The savings and revenue value does not include RPS REC revenue (see next page).



In the 1st Quarter, the renewable energy produced from all steam turbine generators totaled 9,029 MWh; 13% above budget³. The total savings and revenue² to date in FY16 (actuals through August¹) is \$445,157; 6% below budget. The savings and revenue value does not include RPS REC revenue (see next page).



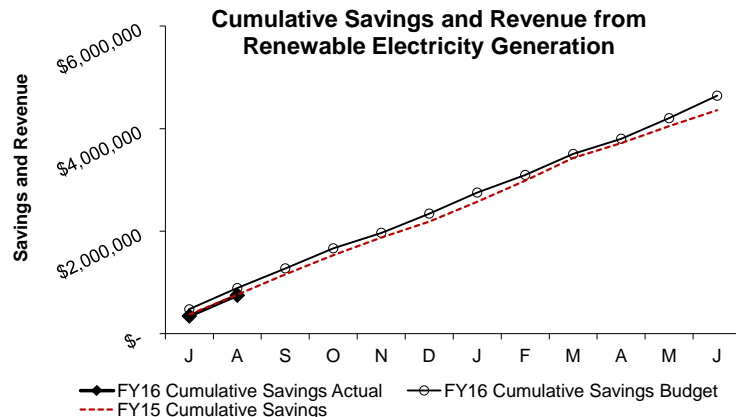
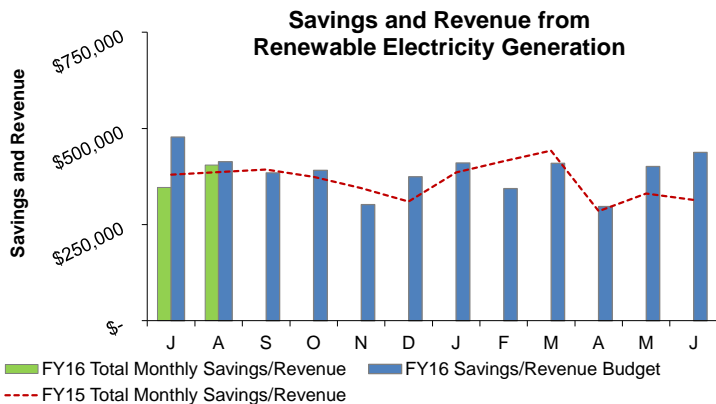
In the 1st Quarter of FY16, MWRA's electricity generation by renewable resources totaled 18,815 MWh. MWRA's total electricity usage was approximately 46,854 MWh. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site 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 1st Quarter of FY16, green power generation represented approximately 40% 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.

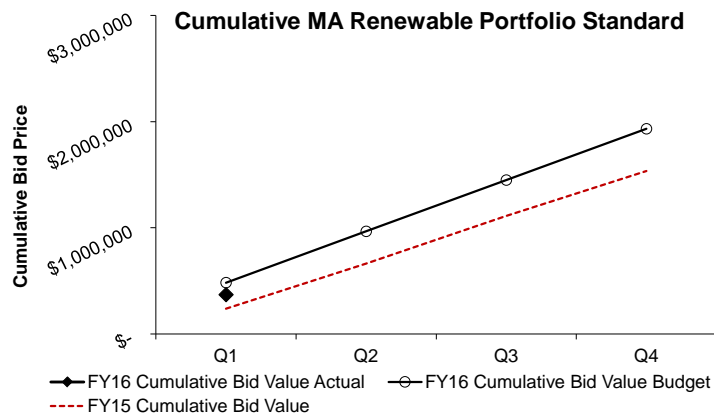
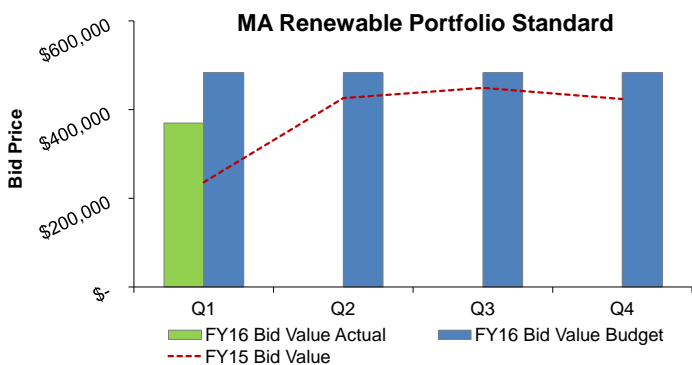
- Notes:
1. Only the actual energy prices are being reported. Therefore, some of the data lags up to (2) months due to timing of invoice receipt.
 2. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, 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

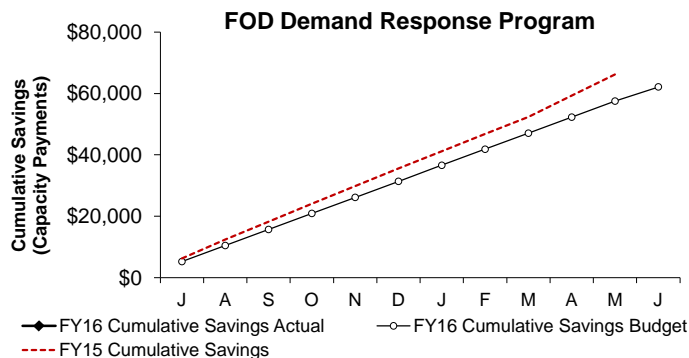
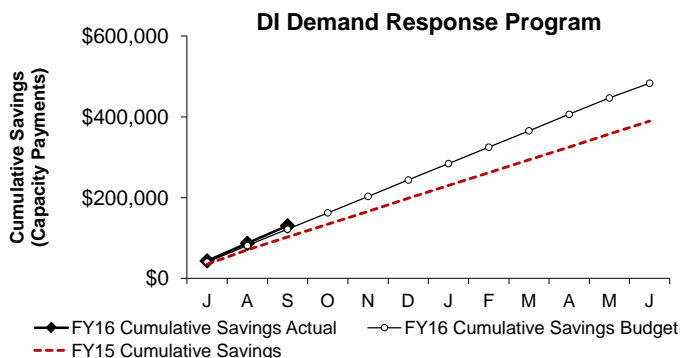
1st Quarter - FY16



Savings and revenue from MWRA renewable electricity generation in the first 2 months of FY16 (actuals only through August¹) is \$751,548; which is 16% below the budget³, partly due to the fact that the actual electricity unit price for Deer Island has been 20% below the budgeted³ estimate for the same period. Savings and revenue² from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs). The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).



Bids were awarded during the 1st Quarter¹ from MWRA's renewable energy assets; 6,715 Q1 CY2015 Class I Renewable Energy Certificates (RECs), 1,297 Q1 CY2015 Class II RECs and 53 Q1 CY2015 Solar RECs were sold for a total value of \$369,753 RPS revenue; which is 23% below the budget³. REC values reflect the bid value on the date that bids are accepted, even though the RECs were produced during Q1 of CY2015. Cumulative bid values reflects the total value of bids received to date.

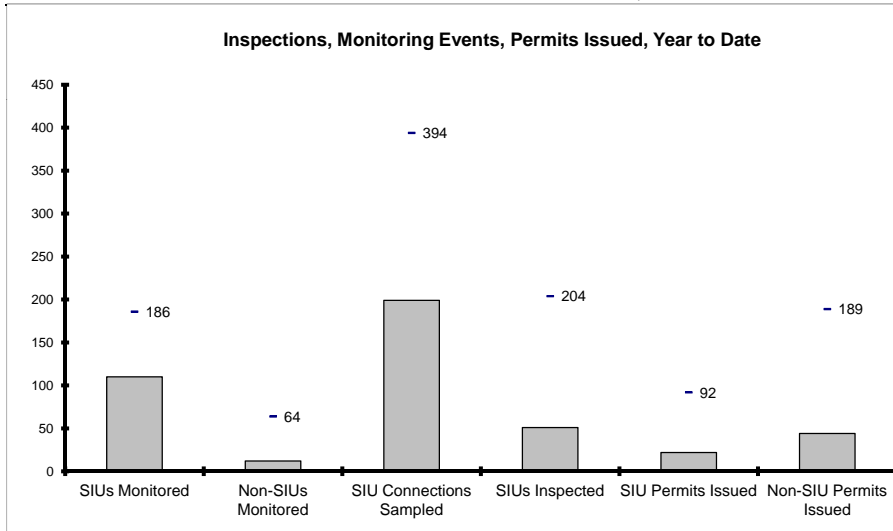


Deer Island, 2 Water, and 4 Wastewater facilities⁴ participate in the ISO-New England Demand Response Programs. By agreeing to have its generators available to run and thus relieve the New England energy grid of some of MWRA's load during times of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates back-up generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. FY16 Cumulative savings (Capacity Payments only) through September¹ total \$130,357 for DI. Capacity Payments for FOD in FY16 have not yet been received for this reporting period.

- 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 Facilities include: CWTP, Loring Road, Chelsea Creek, Columbus Park, Ward St., and Nut Island.

Toxic Reduction and Control

1st Quarter - FY16



EPA Required SIU Monitoring Events for FY15: 186
YTD: **110**

Required Non-SIU Monitoring Events for FY15: 64
YTD: **12**

SIU Connections to be Sampled For FY15: 394
YTD: **199**

EPA Required SIU Inspections for FY15: 204
YTD: **51**

SIU Permits due to Expire In FY15: 92
YTD: **22**

Non-SIU Permits due to Expire for FY15: 189
YTD: **44**

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.

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.

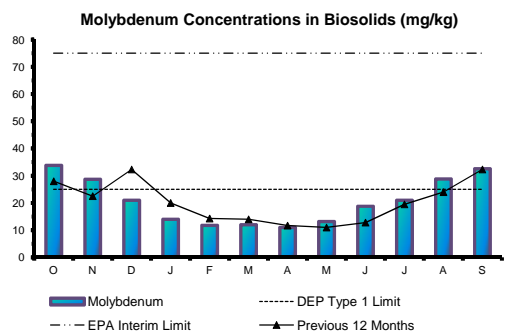
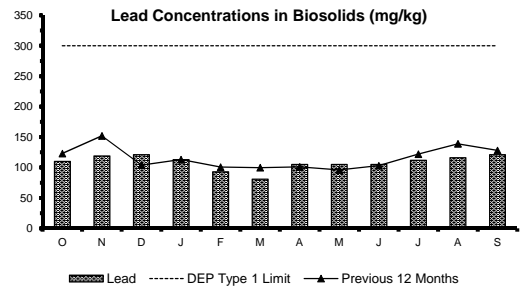
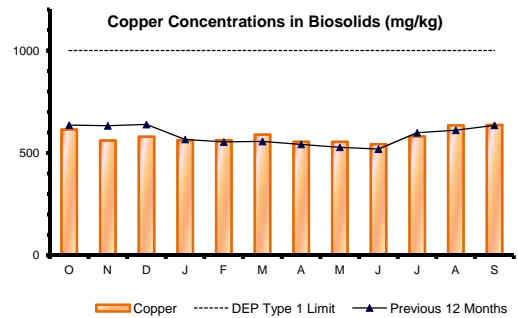
The "SIU Monitored" data above, reflects the number of industries monitored in the month. However, many of these industries have more than one sampling point and the "SIU Connections Sampled" data reflect

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						Total Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	4	20	1	3	0	0	5	23
Aug	10	11	0	1	0	0	10	12
Sep	7	9	0	0	0	0	7	9
Oct							0	0
Nov							0	0
Dec							0	0
Jan							0	0
Feb							0	0
Mar							0	0
Apr							0	0
May							0	0
Jun							0	0
% YTD	95%	91%	5%	9%	0%	0%	22	44

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 1st Quarter of FY16, sixty-six permits were issued, twenty-two of which were SIUs. Twenty-one SIU and forty non-SIU permits were issued in the 120-day timeframe while one SIU and four non-SIU permits were issued in the 120-day to 180-day timeframe. Late issuing of permits continue due to late payment of permit fees or having to wait for additional information from the industry in order to determine the appropriate category for the permit.



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.

During this first quarter of FY16, the level of molybdenum has been above the DEP type 1 Limit the last two summer months. MWRA and its contractor (NEFCO) generally do not distribute product in Massachusetts between July and January under its approval of suitability.

Field Operations Highlights – 1st Quarter – FY16

Western Water Operations and Maintenance

- Clinton Wastewater Treatment Facility: Maintenance Staff completed exterior repairs to the Historic Pump Station, including stabilizing the front entryway, exterior paint, replacing the gutters, and repairing portions of the slate roof.
- ICCF Marlboro: Staff from multiple work groups and multiple locations completed the modifications of the old Interim Corrosion Control Facility to accommodate the Laboratory and Quality Assurance Staff during the upcoming CP-7 Facility Work.
- Oakdale Power Station: The power station was taken offline to troubleshoot a connection on the high voltage side of the turbine. Staff located a short in a control power wire, replaced the wire, and the power station was restored to normal operation. During this shutdown, Engineering Staff coordinated electrical testing of the hydropower generator for the potential future efficiency upgrade.
- Portable Pump Training was held for staff that would be potentially involved with deploying mobile pumping capacity in a future emergency. Similar training was held for Metro staff.

Metro Water Operations and Maintenance

- Water Pipeline Program Highlights: Work was completed on Fisher Avenue in Brookline on the Meter 98 Project. Staff assisted Deer Island with the replacement of hydrants, repair of a leak on a service main, work on the roadway and curbing at the public access parking, and other site work. Staff accessed the substructure of the General Edwards Bridge over the Saugus River, between Revere and Lynn, in attempt to repair leaks on Section 56. The main is beyond repair. A study is about to begin to determine the best option to replace the river crossing.
- Cambridge Leak: On September 3, Cambridge experienced a major water main break, just outside of Harvard Square. While excavating to repair the main, the Cambridge Water Department exposed the side of MWRA Water Section 11, supplying the Northern Low Service (NLS) System and the Spot Pond Storage Tank. The decision was made to reconfigure the NLS System to isolate Section 11 while Cambridge had it exposed. MWRA Staff remained at the site around the clock. Cambridge completed the repair September 5th, and the NLS was reconfigured to its normal supply. MWRA service remained normal throughout the event.
- Activation of Water Supply to Lynn: On September 9, the MWRA connections to the Lynn Water System were opened. No water quality issues were reported. MWRA and LWSC Staff performed many water quality tests to track the path of the MWRA water as it moved into the LWSC System. The transition to the LWSC Low Service System went well. Due to local issues in the Lynn High Service system, LWSC decided to supply their high service area and a portion of their low service area with their own treatment plant. Work on the cover for their low service reservoir is expected to continue into early November.

Operations Engineering

- Spot Pond Storage: Assisted in completing the disinfection and activation of Cell One of the Spot Pond Tank. Coordination continues for pump testing, pipe leakage testing and disinfection, instrumentation and other issues. Prior to activating Cell One, operational changes were made to the Low Service System in three steps; 1.) Increasing grade line at Shaft 9A 10 feet to fill and test the tank overflow; 2.) The Nonantum Road Pressure Reducing Valves (PRV) and Shaft 9 PRV Systems were brought together and the grade line at Nonantum Road was increased 5 feet; and 3.) The Northern Low Service System was unified and the primary source of water is now through the Nonantum Road PRV with Shaft 9 and Shaft 9a in a lag mode and ready to automatically activate, only if needed.
- GPS Collection Project: This summer interns collected GPS coordinates for 3,652 points, including about 2,020 valves with photos of each site. Data collection is 100% complete in the west with 649 points collected; Metropolitan Boston is about 45% complete.
- Community Support: Assisted Milton with the isolation and bypassing of Meter 55 on Summit Ave at Metropolitan Ave. to allow installation of a PRV which will help cycle their storage tanks and improve water quality; and assisted Revere with a main break on the Revere Beach Park Way on a 14-inch cast iron main. The main was contaminated by sewage and MWRA disinfect the main.

Wastewater Operations & Maintenance

- North Main Pump Station Shutdowns: Operations Staff continues to assist with the North Main Pump Station upgrade project. Operations Staff was onsite to ensure the proper operation of all wastewater facilities during trial shutdowns. Staff provided wastewater system operating conditions, developed operational control strategies for the shutdowns, and assisted in developing contingency plans. The fourth shutdown was conducted on July 22th. This 8-hour trial included the shutdown of Chelsea Creek, Columbus Park, Ward Street Headworks and the Winthrop Terminal. The fifth trial shutdown was conducted on September 2nd.

- **Wastewater Operator Licenses:** Operations Management worked with 22 Wastewater Operations Staff to upgrade their Wastewater Licenses from “Operator in Training” to “full” status. All applications were approved by NEWIPCC.
- **Chemical Receiving Training:** Staff attended Chemical Receiving Training focused on the proper procedures for receiving chemicals and fuel oil, including ensuring adequate capacity in receiving tanks, testing chemicals and reviewing paperwork.
- **ISO New England Peak Demand:** Wastewater Operations went on generator power at the four (4) headworks facilities during electrical peak demand days on September 8th and September 9th to ensure uninterrupted wastewater operations at these facilities. All four headworks facilities (Nut Island, Chelsea Creek, Ward Street and Columbus Park) were placed on and off facility generator power with no operational impact. These facilities also successfully took part in the ISO NE Demand Response Audit on July 14th and August 19th.
- **Carbon Replacement:** Operations Staff assisted Process Control Staff with the replacement of the carbon in the Odor Control System at the Nut Island Headworks Facility, Hough’s Neck Pump Station, and Braintree/Weymouth Pump Station.
- **Wastewater Operator Training Program:** In September, the next phase of the Operator Training Program began, where in-house staff is trained to become Wastewater Operators. Trainees shadow Wastewater Operations Staff one day a week at field facilities (pumping stations, headworks and CSOs) and/or at Deer Island, and attend wastewater exam training once per week. The program will culminate with the Grade 2 Wastewater Operator’s License Exam. The goal is an adequate pool of internal Operator candidates.
- **Planned Utility Power Outages:** Eversource had to perform maintenance on their Distribution System, so the Ward Street Headworks (on July 14th) and Prison Point CSO Facility (on August 15th and 16th) were placed on generator power. A portable generator was brought on site for back-up as a precaution. Staff were onsite for the duration of the outages. There was no operational impact.

Metering

- **Meter Systems:** Staff continues to work with Telog and MIS to improve functionality of the new web module. Notified Arlington, Chelsea, Milton, Somerville, and Waltham of higher demands. Notified the Everett that a boundary valve between their high and low service systems was open allowing 900,000 gpd to flow from their high to their low service system. Staff converted 94 water meters to wireless communication and installed the new real time web module in both Water and Wastewater Operations Control Centers.

Environmental Quality—Water

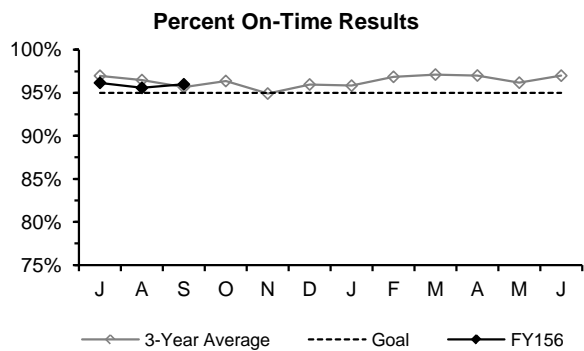
- Algae monitoring activity continued for nuisance taste and odor algae by both MWRA and DCR. New algae trigger levels for five nuisance algae have been adopted which reflect CWTP’s odor reduction capability and our ability to perform other actions before copper sulfate treatment. Nuisance algae levels continued to be at low densities throughout the quarter. Algae sampling ended on 9/21 and will resume in the spring of 2016.
- Research sampling of taste and odor and algal toxin compounds was performed In July, August and September at Cosgrove Intake. All samples, but two, showed no presence of either. One sample had low levels of Geosmin, a typical taste and odor compound, and another had low but detectable levels of two algal toxins. Ozone treatment is effective at destroying both types of compounds, and follow-up sampling at Cosgrove Intake and at CWTP’s finished water tap did not detect them.
- In September, staff performed reservoir sampling and testing at various locations on Wachusett Reservoir. Staff purchased additional equipment and made further preparations for the multi-agency contamination drill that will be held on 10/15.
- During the quarter, staff conducted several training sessions for Wastewater Operator Staff assigned to receive bulk chemical and fuel deliveries. Training included a review of the program, delivery and security requirements, standard operating procedures, and testing.

Environmental Quality—Wastewater

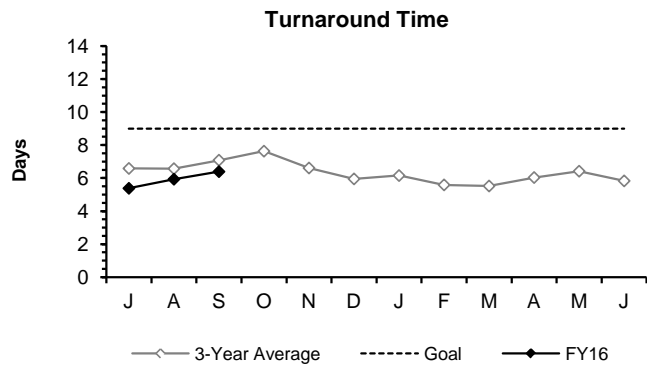
- **Ambient Monitoring:** Conducted three water column surveys. Blue mussels from clean waters in eastern Maine were deployed in the outfall mixing zone and in reference locations and were recovered after two months, for a study of the bioaccumulation of contaminants. The collection of lobsters near the outfall site and in reference areas began in July and will be completed in October. Mussel and lobster tissues will be analyzed by DLS for contaminant concentrations. Sediment surveys were conducted in both Boston Harbor and in the vicinity of the outfall to determine outfall impacts and harbor recovery. Began planning a workshop to review the current monitoring plan with DEP and EPA and their outfall Monitoring Science Advisory Panel.
- **Harbor/Beach Monitoring:** Throughout the summer swimming season, posted beach monitoring results on the web site daily, along with "fact sheets" for each location providing context for interpreting water quality data. Summer monitoring of the tributary rivers and harbor embayments is ongoing, three days per week into October. Initiated project to study microbial source tracking at Tenean Beach. Completed and published reports on 2014 harbor water quality monitoring for nutrients and algae, and a report on CSO receiving water monitoring required by the Charles River and Mystic River water quality standards variances.

Laboratory Services

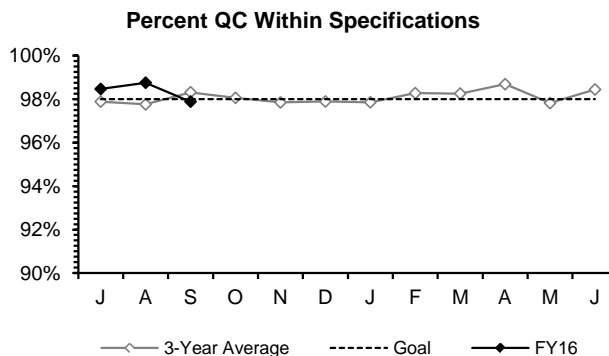
1st Quarter - FY16



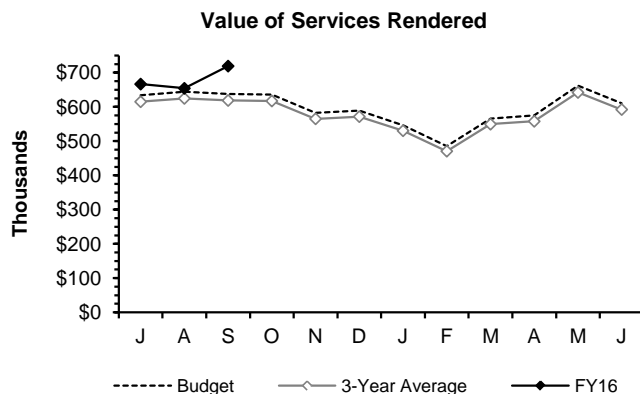
The Percent On-Time measurement was above the 95% goal each month of the quarter.



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



Percent of QC tests meeting specifications was slightly below the 98% in-house goal for one month of the quarter.



Value of Services Rendered was above the seasonally adjusted budget projection each month of the quarter.

Highlights:

Lab Services has met or exceeded its on-time results and turnaround time goals each month for the past 21 months.

Quality Assurance:

The every other year DEP certification audit of the Chelsea Laboratory found only one minor deficiency.

Delaney presented a paper entitled, "Reliable Determination of Cyanide in Water--a Modest Proposal" at the National Environmental Monitoring Conference in Chicago and participated in the EPA Environmental Laboratory Advisory Board meeting.

Rhode started a two year rotation on the Association of Public Health Laboratories (APHL) Environmental Laboratory Sciences Committee (ELSC). The ELSC advises APHL about ways to shape government policy, provides technical assistance for, and enhance awareness of environmental laboratories.

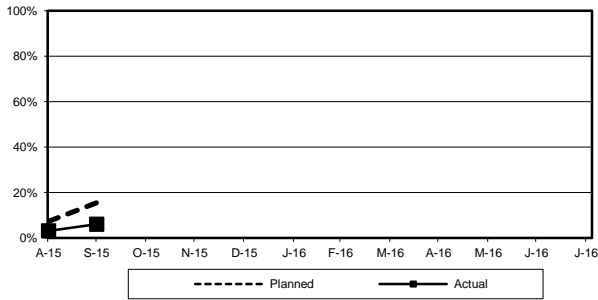
CONSTRUCTION PROGRAMS

Projects In Construction

1st Quarter FY16

(Progress Percentages based on Construction Expenditures)

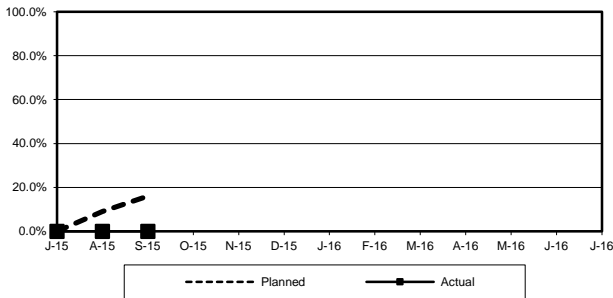
Southborough Water Quality Lab Progress – September 2015



Project Summary: This project involves the rehabilitation of the Southborough Water Quality Laboratory. The work includes replacement of the roof, windows, doors and flooring, as well as modifications to the electrical, HVAC and fire protection systems.

Status and Issues: Through September, the Contractor completed the installation of the construction site field trailers; they began the investigation of the building electrical system and submitted the job hazard analysis. Asbestos containing material (ACM) was identified in the vinyl floor tile mastic, window glazing compound and panels behind the lab fume hood.

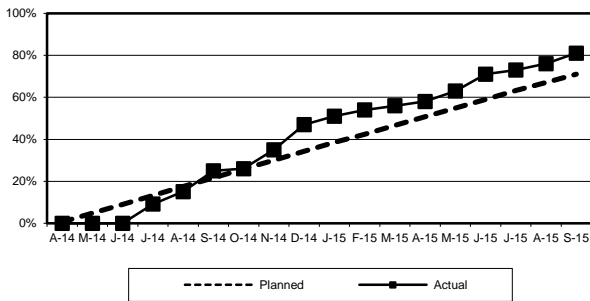
Upgrades to Chelsea Screen House Progress – September 2015



Project Summary: This project involves the replacement of two dry side screens, seven gates and the rehabilitation of two wet side screens. Also, a SCADA system will be added to the wet side to allow for remote wet weather operation.

Status and Issues: As of September, the Contractor will resubmit the Schedule of Values and has provided an initial submittal schedule. The issue of lead paint on equipment was identified by MWRA and will be investigated internally by the MWRA's Environmental Department.

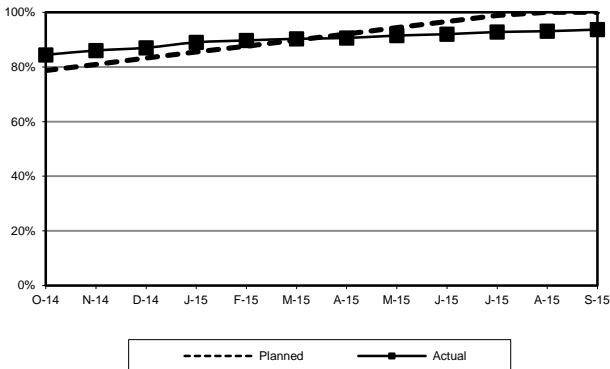
Clinton Digester and Primary Clarifier Rehab Progress – September 2015



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 September, the forms for Clarifier's 1 & 2 were removed and the application of the base coat of the liner began on the walls. The majority of the backfilling around Clarifier's 1 & 2 was completed and the paving of the center walkway was started.

Spot Pond Water Storage Facility Progress – September 2015



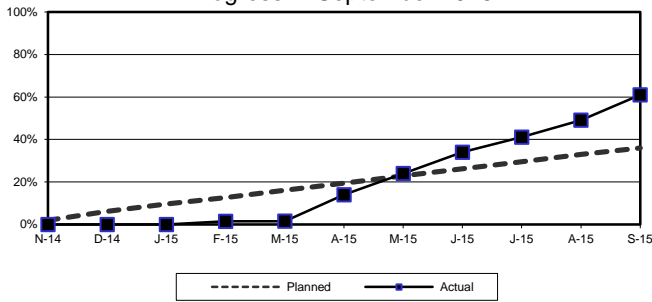
Project Summary: This is a design/build project for the construction of two, 10 million-gallon covered concrete storage tanks and a buried pump station, which will provide back-up redundancy for the Northern High and Northern Intermediate High distribution service areas.

Status and Issues: As of September, all tank work and LS, HS and NIH piping was 100% complete. Work continued on the plumbing, electrical and HVAC installations in the pump station. The contractor continued final grading in front of the pump station and installed the binder course of pavement.

Projects In Construction

(Progress Percentages based on Construction Expenditures)

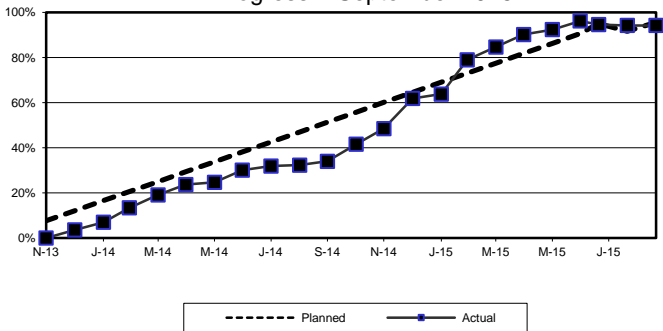
Water Mains: Section 36, W11C and S9-A
Progress – September 2015



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: As of September, the Section 36 24" water main to the tank property on Park Ave was completed. Work continued on the Meter 86 vault and the Section's 36, 81 & 82 interconnections at Park Circle.

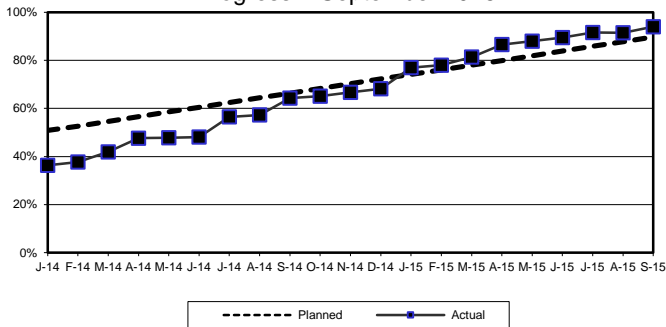
Pump, Gear Box and Diesel Engine Upgrade Prison Point and Cottage Farm CSO Facilities
Progress - September 2015



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 September, the performance test of PP.RWW.P-3 was completed, as well as the vibration and noise monitoring of RAD #1 and #2. RAD #2 failed the vibration limits test and will require retesting. The retest of PP.RWW.P-4 was also completed during the month.

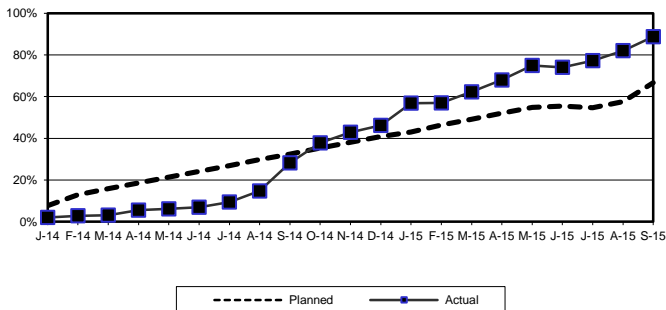
North Main Pump Station VFDs & Motors
Progress - September 2015



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 September, the existing Motor/VFD #9 was removed and the new motor/VFD was installed. By the end of the month, the new motor/VFD was ready for the inspection by the factory service technician. Startup/testing of this unit is anticipated to start at the beginning of October.

Primary and Secondary Clarifier Scum Tip Tubes
Progress - September 2015



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 September, approximately 174 of 188 scum skimmers or 92.6% have been completed.

CSO CONTROL PROGRAM

1st Quarter - FY16

As of September 30, 2015, MWRA and the CSO communities had 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 by MWRA, the last of which is scheduled for substantial completion by October 28, 2015. 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 September 30, 2015																																				
		Commence Design	Commence Construction	Complete Construction																																					
Reserved Channel Sewer Separation		Jul 06	May 09	Dec 15	<p>BWSC continues to make progress with the nine planned contracts for the Reserved Channel Sewer Separation project.</p> <table border="0"> <tr> <td>Contract 1</td> <td>CSO outfall rehab</td> <td>\$ 3.9 M</td> <td>Complete</td> </tr> <tr> <td>Contract 2</td> <td>Sewer separation</td> <td>\$ 5.9 M</td> <td>Complete</td> </tr> <tr> <td>Contract 3A</td> <td>Sewer separation</td> <td>\$11.8 M</td> <td>Complete</td> </tr> <tr> <td>Contract 3B</td> <td>Sewer separation</td> <td>\$13.6 M</td> <td>Complete</td> </tr> <tr> <td>Contract 4</td> <td>Sewer separation</td> <td>\$13.8 M</td> <td>Subst. complete</td> </tr> <tr> <td>Contract 5</td> <td>Cleaning & Lining</td> <td>Ineligible</td> <td>Underway</td> </tr> <tr> <td>Contract 6</td> <td>Downspout Disconnect</td> <td>\$ 0.2 M</td> <td>75% complete</td> </tr> <tr> <td>Contract 7</td> <td>Pavement restoration</td> <td>\$ 1.3 M</td> <td>Complete</td> </tr> <tr> <td>Contract 8</td> <td>Pavement restoration</td> <td>\$ 4.8 M</td> <td>Underway</td> </tr> </table> <p>BWSC expects to complete all eligible work for the Reserved Channel sewer separation project by December 2015, in compliance with Schedule Seven.</p>	Contract 1	CSO outfall rehab	\$ 3.9 M	Complete	Contract 2	Sewer separation	\$ 5.9 M	Complete	Contract 3A	Sewer separation	\$11.8 M	Complete	Contract 3B	Sewer separation	\$13.6 M	Complete	Contract 4	Sewer separation	\$13.8 M	Subst. complete	Contract 5	Cleaning & Lining	Ineligible	Underway	Contract 6	Downspout Disconnect	\$ 0.2 M	75% complete	Contract 7	Pavement restoration	\$ 1.3 M	Complete	Contract 8	Pavement restoration	\$ 4.8 M	Underway
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Cambridge/ Alewife Brook Sewer Separation	CAM004 Sewer Separation	Jan 97	Jul 98	Dec 15	<p>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. Progress noted below is for the court-ordered CSO related work of each contract.</p> <table border="0"> <tr> <td>Contract 8A</td> <td>Sewer separation</td> <td>\$17.8 M</td> <td>Subst. complete</td> </tr> <tr> <td>Contract 8B</td> <td>Sewer separation</td> <td>\$18.2 M</td> <td>95% complete</td> </tr> <tr> <td>Contract 9</td> <td>Sewer separation</td> <td>\$ 6.7 M</td> <td>95% complete</td> </tr> <tr> <td>Concord Lane</td> <td>Sewer separation</td> <td>\$1.8 M</td> <td>40% complete</td> </tr> </table> <p>On September 16, 2015, the Board of Directors authorized Amendment 12 to the Cambridge CSO MOU/FAA increasing the total award amount by \$5.3 M, from \$93.4 M to \$98.7 M. Cambridge expects to complete all work for the CAM004 sewer separation project by December 2015, in compliance with Schedule Seven.</p>	Contract 8A	Sewer separation	\$17.8 M	Subst. complete	Contract 8B	Sewer separation	\$18.2 M	95% complete	Contract 9	Sewer separation	\$ 6.7 M	95% complete	Concord Lane	Sewer separation	\$1.8 M	40% complete																				
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Contract 9	Sewer separation	\$ 6.7 M	95% complete																																						
Concord Lane	Sewer separation	\$1.8 M	40% complete																																						
	MWR003 Gate and Rindge Ave. Siphon Relief	Apr 12	Aug 14	Oct 15	<p>The contract was 95% complete as of September 30, 2015, and staff expect the contractor to attain substantial completion by October 28, 2015, in compliance with Schedule Seven. All major elements of work are complete, tested and in operating condition.</p>																																				
South Dorchester Bay Sewer Separation Post-Construction Inflow Removal		N/A	N/A	N/A	<p>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 CIP includes \$5.4 million for the inflow removal effort, of which approximately \$2.7 million is allocated to awarded design and construction contracts.</p>																																				

CIP Expenditures

1st Quarter FY16

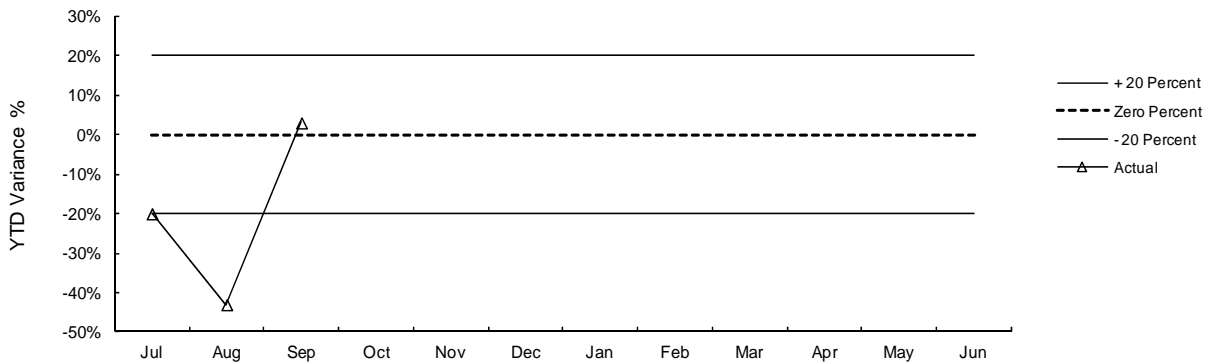
The Year-To-Date variances are highlighted below:

FY16 Capital Improvement Program Expenditure Variances through September by Program (\$000)				
Program	FY16 Budget Through September	FY16 Actual Through September	Variance Amount	Variance Percent
Wastewater	17,799	20,627	2,828	16%
Waterworks	8,644	7,988	(656)	-8%
Business and Operations Support	2,317	889	(1,428)	-62%
Total	\$28,760	\$29,504	744	3%

Overspending within Wastewater is primarily due to water use charges and updated cost estimates due to unforeseen conditions for Cambridge Sewer Separation, and contractor progress on the Scum Skimmer Replacement project. This was partially offset by less than anticipated community requests for grants and loans, timing of work for Butterfly Valve Replacements, Electrical Equipment Upgrade Construction 4, Clinton Digester Rehabilitation, MWR003 Gate & Siphon, and Chelsea Screenhouse Upgrades contracts. Underspending in Waterworks is primarily due timing of work for the Spot Pond Storage Facility Design/Build contract and Watershed Land purchases. This was partially offset by contractor progress on the Section 4 Webster Ave Pipe Rehabilitation, Section 36 W11/S9-A11 Valve, and amended community repayment schedule for the Local Water System Assistance Program.

CIP Expenditure Variance

Total FY16 CIP Budget of \$140,498,000.



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 9/26/2015	\$52 million
Unused capacity under the debt cap:	\$1.088 billion
Estimated date for exhausting construction fund without new borrowing:	Nov-15
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper outstanding:	\$130 million
Commercial paper capacity:	\$350 million
Budgeted FY16 capital spending*:	\$155 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

1st Quarter – FY16

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.

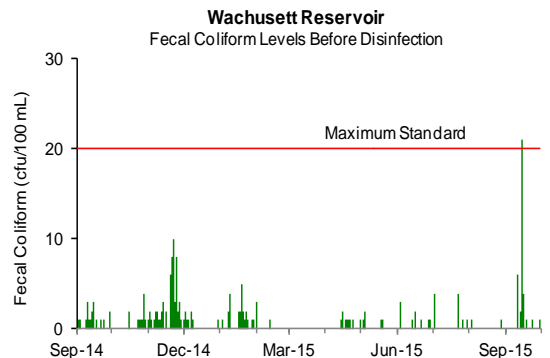
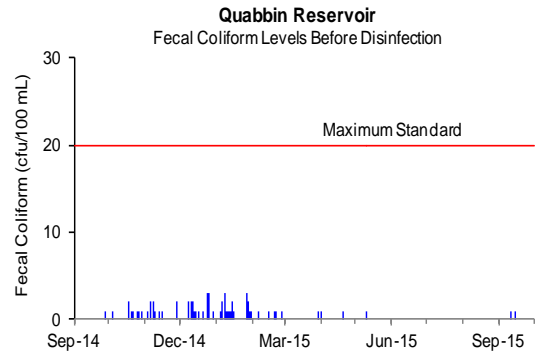
All samples collected during the 1st Quarter were below 20 cfu/100ml. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL.**

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.

On September 14, one of the samples exceeded a count of 20 cfu/100mL. **For the current six-month period, 0.6% of the samples exceeded a count of 20 cfu/100mL, compared to allowable 10%.**

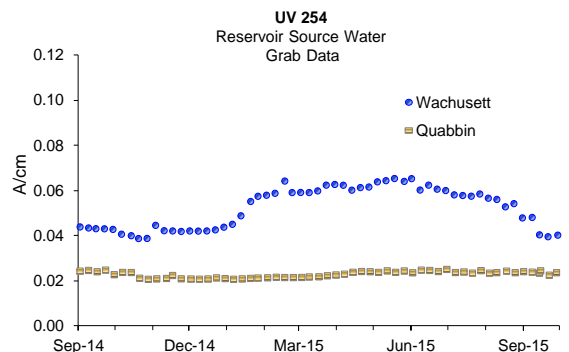


Source Water – UV Absorbance

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

Quabbin Reservoir UV-254 levels are currently around 0.024 A/cm.

Wachusett Reservoir UV-254 levels are currently around 0.040 A/cm.



Source Water – Turbidity

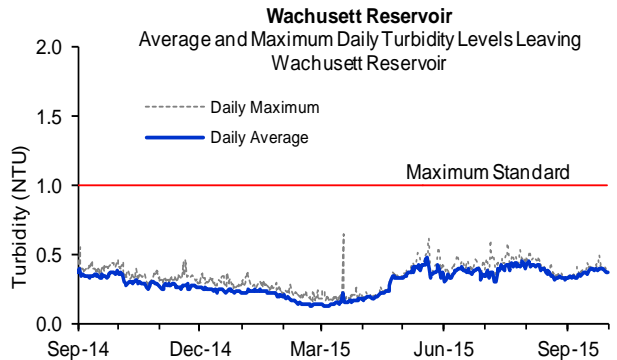
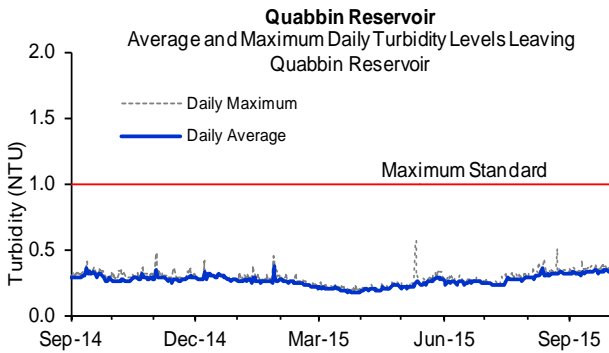
1st Quarter – FY16

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

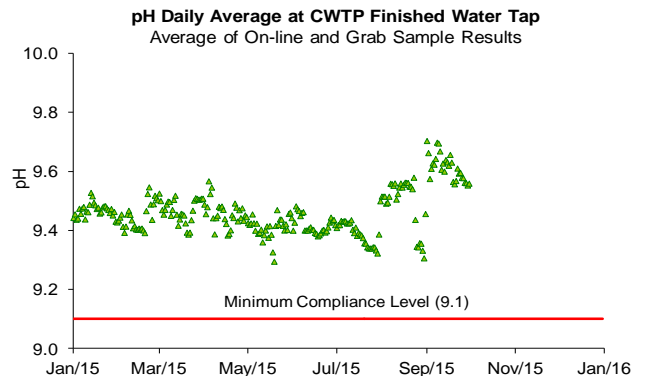
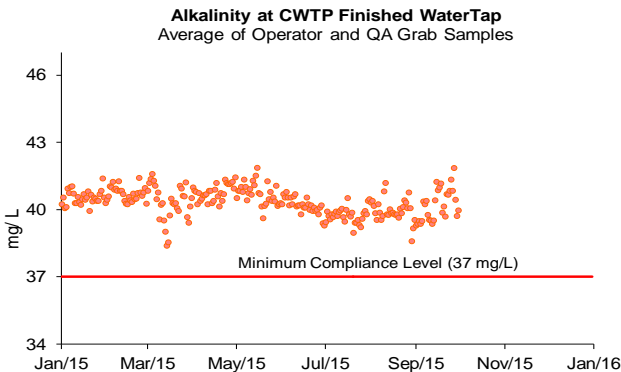


Treated Water – pH and Alkalinity Compliance

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.

Each CVA community provides its own corrosion control treatment. See the CVA report: www.mwra.com/water/html/awqr.htm.

Distribution system samples were collected on September 9 and 10, 2015. Distribution system sample pH ranged from 9.2 to 9.6 and alkalinity ranged from 38 to 40 mg/L. No sample results were below DEP limits for this quarter.



Treated Water – Disinfection Effectiveness

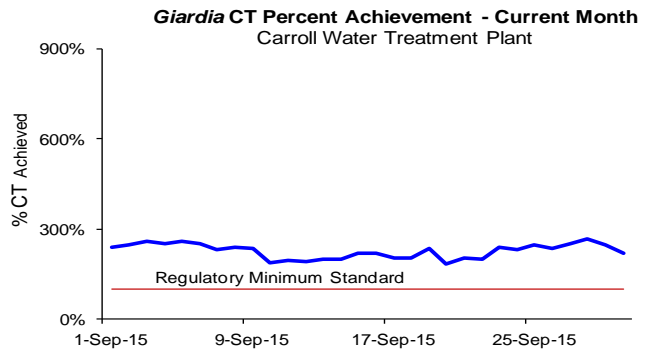
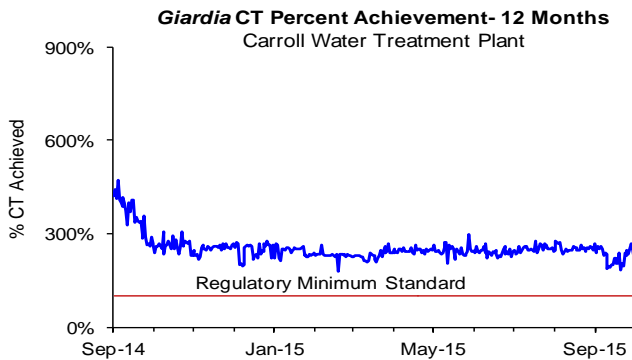
1st Quarter – FY16

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.

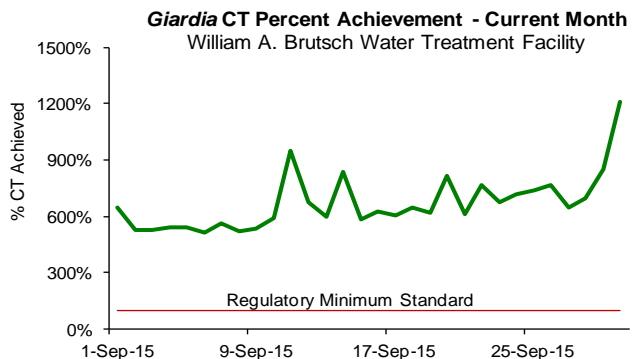
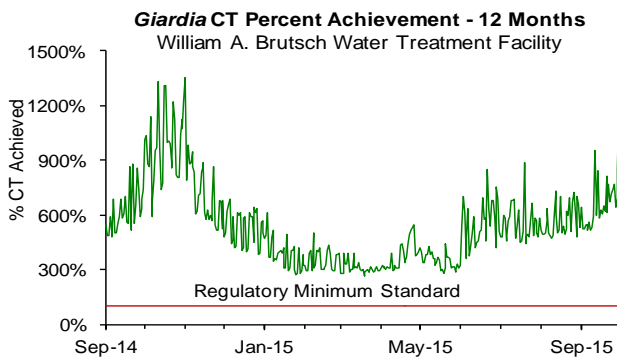
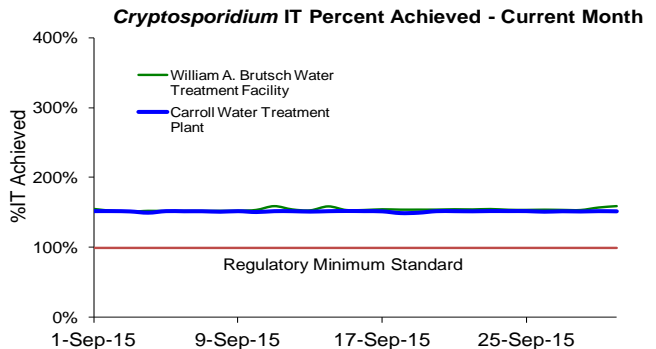
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- Ozone dose at the CWTP varied between 1.2 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 1.7 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%.



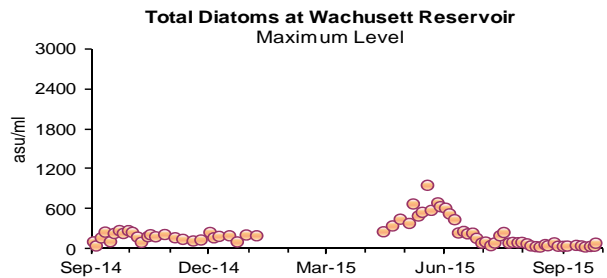
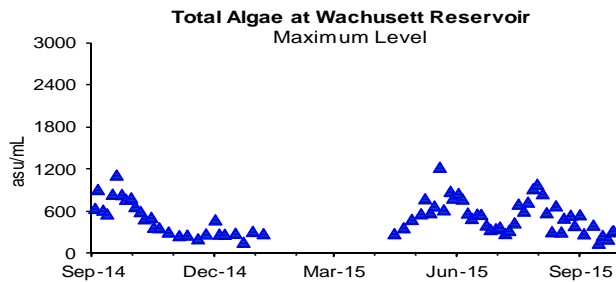
Source Water - Algae

1st Quarter – FY16

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 algacide. 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 1st Quarter, no complaints which may be related to algae were reported from local water departments.



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

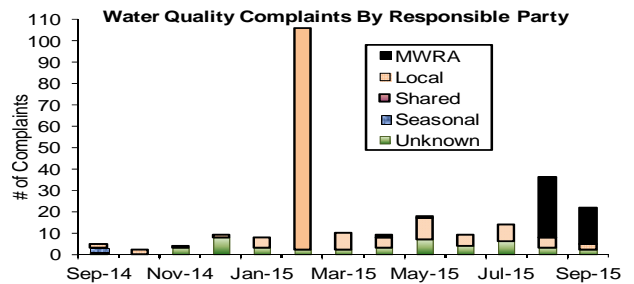
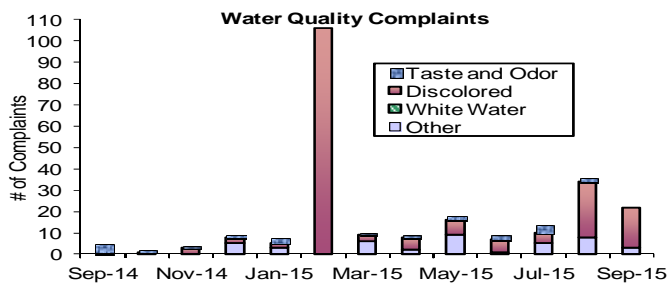
MWRA collects information on water quality complaints that typically fall into four categories: 1.) discoloration due to MWRA or local pipeline work; 2.) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3.) white water caused by changes in pressure or temperature that traps 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 72 complaints during the quarter compared to 15 complaints for 1st Quarter of FY15. Of these complaints, 50 were for “discolored water”, 6 were for “taste and odor”, and 16 were for “other”. Of these complaints, 16 were local community issues, 45 were MWRA related and 11 were unknown in origin.

- On August 20, 2015, Brookline reported twenty discolored water complaints. The discolored water was the result of the reactivation of the Fisher Hill Line. The local DPW provided support to MWRA staff during the flushing of the line to reduce the discolored water.

- Between September 9 and 10, 2015, Stoneham reported sixteen discolored water complaints. The discolored water was the result of MWRA staff performing pump testing at Spot Pond.



Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

1st Quarter – FY16

While all communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), data from the 44 systems that use MWRA's Laboratory are reported below.

The MWRA TCR program has 142 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 potential 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 1st Quarter, 20 of the 6,347 community samples (0.32% system-wide) submitted to MWRA labs for analysis tested positive for coliform (Canton, Milton, Needham, Quincy, Wakefield, Waltham, and Westboro Hospital - July; Bedford, Hanscom AFB, and Needham - August; Bedford, Needham, South Hadley and Waltham - September). Westboro Hospital violated the TCR in July. Bedford and Hanscom AFB violated the TCR In August. Eleven of the 1,998 MWRA samples (0.55%) tested positive for total coliform. Needham had a single for *E.coli* positive in August, but repeat samples did not confirm for total coliform or *E.coli*. Only 4.6% 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	376	8 (2.13%)	0	No	1.46	2.40	
		Shared Community/MWRA sites	1622	3 (0.18%)	0	No	0.04	1.92	
		Total: MWRA	1998	11 (0.55%)	0	No	0.04	2.01	
Fully Served		ARLINGTON	169	0 (0%)	0		0.16	1.61	
		BELMONT	104	0 (0%)	0		0.04	1.53	
		BOSTON	795	0 (0%)	0		0.58	2.02	
		BROOKLINE	221	0 (0%)	0		0.37	1.97	
		CHELSEA	169	0 (0%)	0		0.97	1.86	
		DEER ISLAND	53	0 (0%)	0		1.21	1.83	
		EVERETT	169	0 (0%)	0		0.86	1.19	
		FRAMINGHAM	230	0 (0%)	0		0.49	2.00	
		LEXINGTON	117	0 (0%)	0		0.21	2.17	
		LYNNFIELD	18	0 (0%)	0		0.26	1.05	
		MALDEN	235	0 (0%)	0		0.06	1.84	
		MARBLEHEAD	72	0 (0%)	0		0.27	1.73	
		MEDFORD	206	0 (0%)	0		0.19	1.85	
		MELROSE	118	0 (0%)	0		0.07	1.55	
		MILTON	105	1 (0.95%)	0	No	0.03	1.41	
		NAHANT	35	0 (0%)	0		0.87	1.70	
		NEWTON	277	0 (0%)	0		0.10	1.81	
		NORTHBOROUGH	48	0 (0%)	0		0.05	1.58	
		NORWOOD	99	0 (0%)	0		0.03	1.36	
		QUINCY	327	2 (0.61%)	0	No	0.07	1.56	
		READING	140	0 (0%)	0		0.04	1.19	
		REVERE	211	0 (0%)	0		1.07	1.97	
		SAUGUS	104	0 (0%)	0		1.31	1.83	
		SOMERVILLE	273	0 (0%)	0		0.82	1.78	
		SOUTHBOROUGH	30	0 (0%)	0		1.36	1.71	
		STONEHAM	91	0 (0%)	0		1.30	1.98	
		SWAMPSCOTT	54	0 (0%)	0		0.32	1.56	
		WALTHAM	222	2 (0.90%)	0	No	0.73	1.97	
		WATERTOWN	130	0 (0%)	0		0.50	1.81	
		WATERTOWN	130	0 (0%)	0		0.50	1.81	
		WESTBORO HOSPITAL	24	4 (16.67%)	0	Yes	0.06	0.39	
		WESTON	48	0 (0%)	0		1.28	2.28	
		WINTHROP	72	0 (0%)	0		0.11	1.38	
		Total: Fully Served	4966	9 (0.18%)	0				
	CVA & Partially Served		BEDFORD	62	3 (4.84%)	0	Yes	0.81	1.54
			CANTON	90	1 (1.11%)	0	No	0.03	0.83
			HANSCOM AFB	31	2 (6.45%)	0	Yes	0.18	1.47
			MARLBOROUGH	131	0 (0%)	0		0.56	2.17
			NEEDHAM	132	3 (2.27%)	1	No	0.07	1.06
			PEABODY	235	0 (0%)	0		0.04	1.03
			WAKEFIELD	154	1 (0.65%)	0	No	0.54	1.43
			WELLESLEY	106	0 (0%)	0		0.04	0.90
			WILMINGTON	88	0 (0%)	0		0.13	1.64
			WINCHESTER	91	0 (0%)	0		0.10	1.54
			WOBURN	210	0 (0%)	0		0.03	1.22
			SOUTH HADLEY FD1	51	1 (1.96%)	0	No		0.66
		Total: CVA & Partially Served	1381	11 (0.80%)	0		0.08	0.66	
		Total: Community Samples	6347	20 (0.32%)					

(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

1st Quarter – FY16

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.

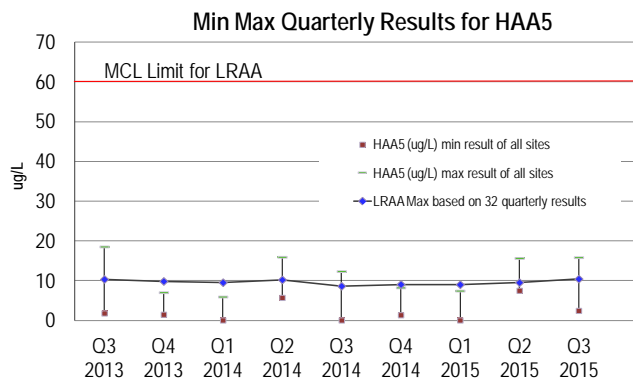
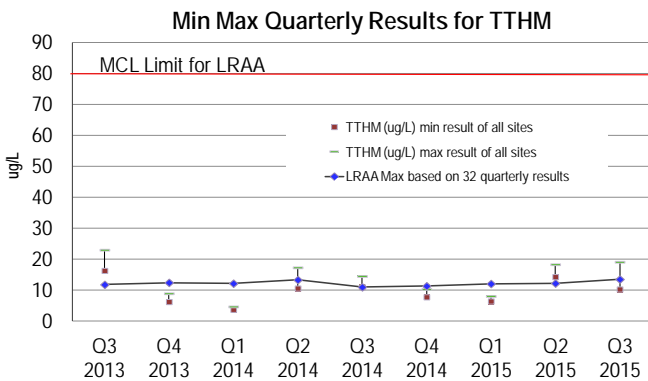
For the CVA communities, effective Q3 2013, under the Stage 2 DBP Rule, compliance is based on a LRAA for each community. Sampling locations have increased from 12 to 14 each quarter. The chart below combines all three CVA communities data.

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

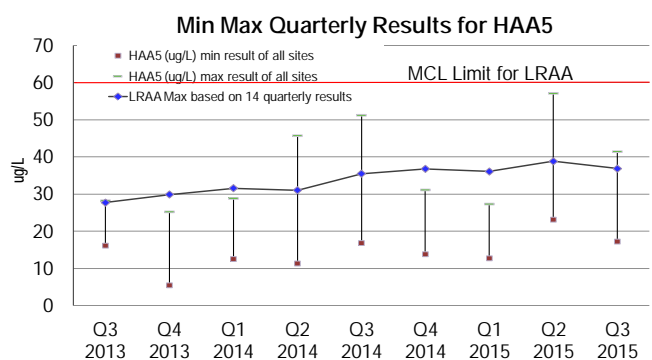
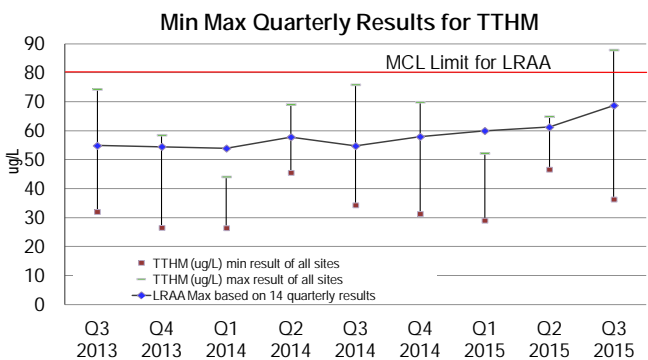
Bromate is tested monthly per DEP requirements for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA's RAA MCL standard for bromate is 10 ug/L.

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 = 13.5 ug/L; HAA5s = 10.4 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 (Combined Results)



Water Supply and Source Water Management

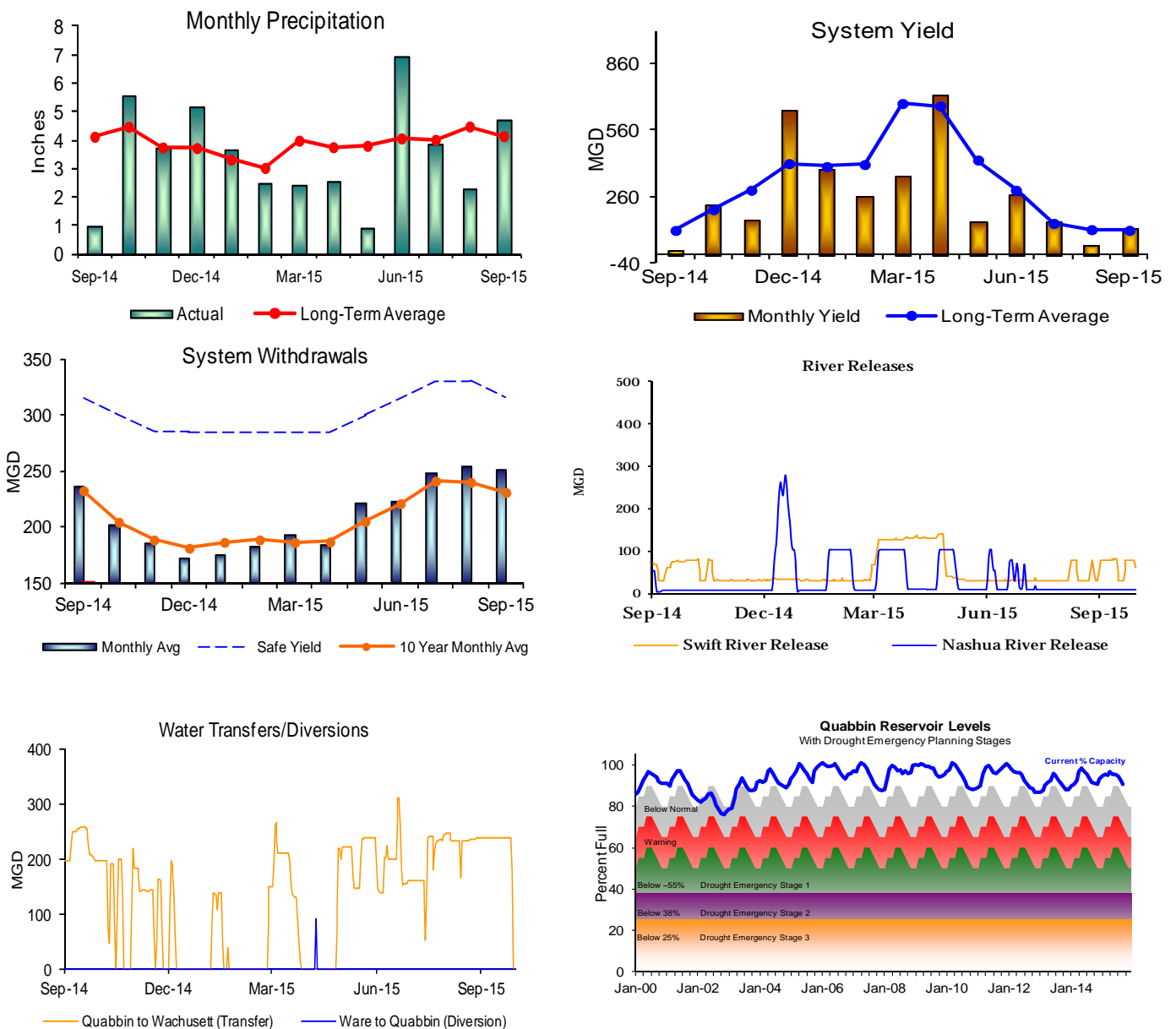
1st Quarter – FY16

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 90.8% as of September 30, 2015; a 4.70% decrease for the quarter, which represents a decrease of 19.5 billion gallons of storage. Yield and precipitation for the quarter were below their respective quarterly long term averages. System withdrawal continues to be below its long-term average.



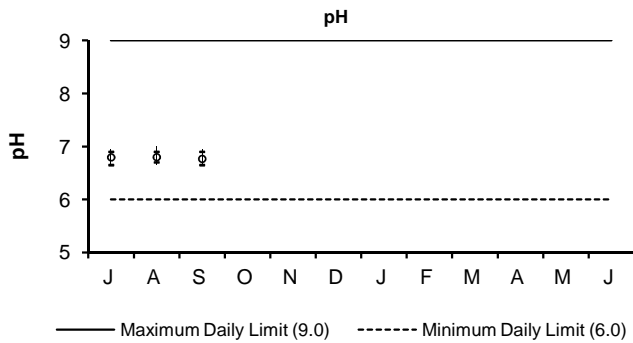
WASTEWATER QUALITY

NPDES Permit Compliance: Deer Island Treatment Plant
1st Quarter - FY16

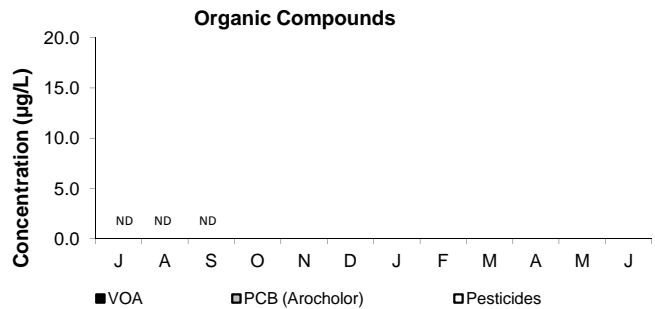
NPDES Permit Limits

Effluent Characteristics		Units	Limits	July	August	September	1st Quarter Violations	FY16 YTD Violations
Dry Day Flow:		mgd	436	254.4	272.8	272.4	0	0
cBOD:	Monthly Average	mg/L	25	4.5	4.9	5.6	0	0
	Weekly Average	mg/L	40	6.2	5.9	5.8	0	0
TSS:	Monthly Average	mg/L	30	6.5	7.5	7.1	0	0
	Weekly Average	mg/L	45	9.4	9.0	7.5	0	0
TCR:	Monthly Average	ug/L	456	<40	<40	<40	0	0
	Daily Maximum	ug/L	631	<40	<40	<40	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	16	10	106	0	0
	Weekly Geometric Mean	col/100mL	14000	8	6	8	0	0
	% of Samples >14000	%	10	0	0	1	0	0
	Consecutive Samples >14000	#	3	0	0	0	0	0
pH:		SU	6.0-9.0	6.7-7.0	6.7-7.0	6.7-7.0	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
	Inland Silverside	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Sea Urchin	%	≥1.5	100	100	100	0	0
	Inland Silverside	%	≥1.5	100	100	100	0	0

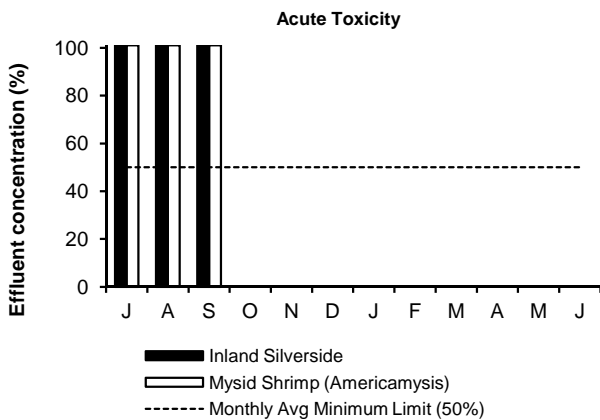
There have been no permit violations in FY16 to date at the Deer Island Treatment Plant.



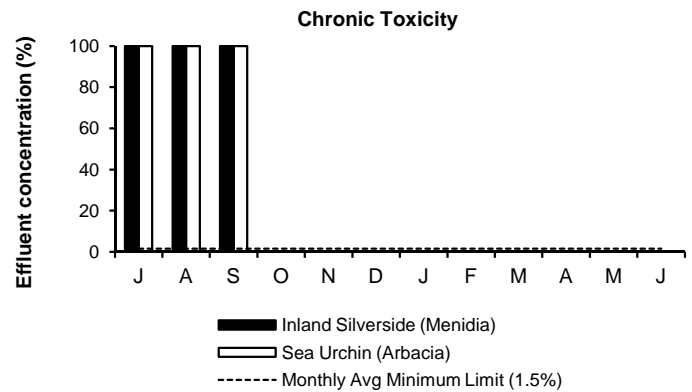
pH is a measure of alkalinity or acidity. Fluctuations in effluent pH are unlikely to impact on marine environments, which have significant buffering capacity. Because of the pure oxygen used in the activated sludge process, effluent pH tends to be at the lower end of the permit-required range. All pH measurements for the 1st 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 1st Quarter, no organic compounds were detected in the effluent.



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 1st Quarter for both the inland silverside and mysid shrimp.



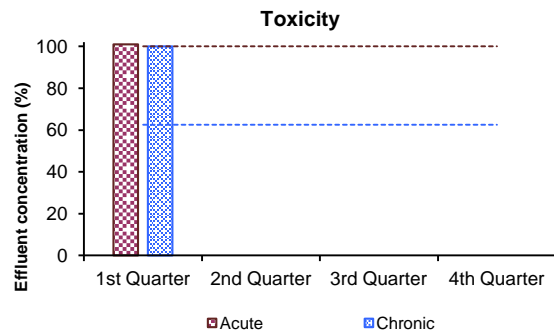
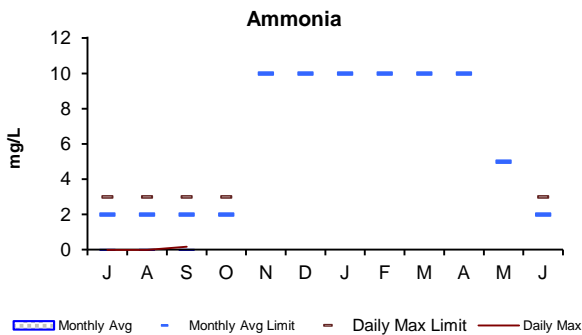
Typically, effects of chronic exposures differ from those of acute exposures. Because of this, chronic toxicity responses are not necessarily related to acute toxicity. The chronic toxicity test simulates the long-term toxic effects of chemicals in wastewater effluent on marine animals. To meet permit limits, a solution of 1.5% effluent and 98.5% dilution water must show no observed effect on the growth and reproduction of the test species. Chronic toxicity permit limits were met for the 1st Quarter for both the inland silverside and sea urchin.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant 1st Quarter - FY16

NPDES Permit Limits

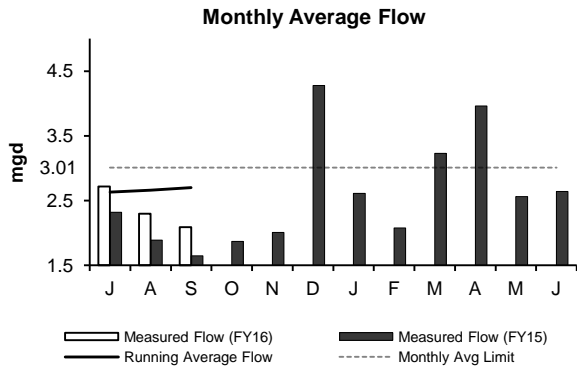
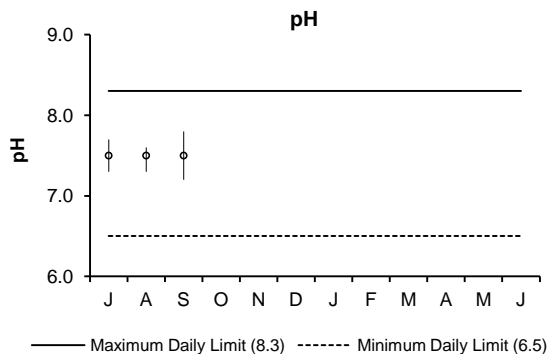
Effluent Characteristics	Units	Limits	July	August	September	1st Quarter Violations	FY16 YTD Violations
Flow:	mgd	3.01	2.63	2.66	2.70	0	0
BOD: Monthly Average:	mg/L	20	2.4	2.6	2.2	0	0
Weekly Average:	mg/L	20	4.5	3.5	2.4	0	0
TSS: Monthly Average:	mg/L	20	3.5	3.8	3.7	0	0
Weekly Average:	mg/L	20	3.9	6.1	4.2	0	0
pH:	SU	6.5-8.3	7.3-7.7	7.3-7.6	7.2-7.8	0	0
Dissolved Oxygen: Daily Minimum:	mg/L	6	6.5	6.7	7.4	0	0
Fecal Coliform: Daily Geometric Mean:	col/100mL	400	5	156	7	0	0
Monthly Geometric Mean:	col/100mL	200	3	6	4	0	0
TCR: Monthly Average:	ug/L	50	0	0.9	0.9	0	0
Daily Maximum:	ug/L	50	6.7	13.3	6.7	0	0
Total Ammonia Nitrogen: June 1 - October 31							
Monthly Average:	mg/L	2.0	0.00	0.00	0.02	0	0
Daily Maximum:	mg/L	3.0	0.00	0.00	0.18	0	0
Copper: Monthly Average:	ug/L	20	4.0	4.4	5.5	0	0
Phosphorus: May 1 - Oct 31							
Monthly Average:	mg/L	1.0	--	0.00	0.00	0	0
Acute Toxicity: Daily Minimum:	%	≥100	*N/A	*N/A	> 100	0	0
Chronic Toxicity: Daily Minimum:	%	≥62.5	*N/A	*N/A	100	0	0

There have been no permit violations in FY16 at the Clinton Treatment Plant.
1st Quarter: There have been no permit violations in the first quarter.
 *Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



The 1st Quarter's monthly average and daily maximum concentrations were below the permit limits. The monthly average and daily maximum limits for the 1st Quarter are 2 mg/L and 3 mg/L, respectively. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential eutrophication.

Acute and chronic toxicity testing simulates the short- and long-term toxic effects of chemicals in wastewater effluent on aquatic animals. For permit compliance, the effluent concentration that causes mortality to the daphnid in acute and chronic testing must be at least >100% and 62.5%, respectively. Toxicity limits were met during the 1st Quarter.



pH is a measure of the alkalinity or acidity of the effluent. All daily pH results for the 1st Quarter were within the range set by the permit.

The graph depicts the running annual average monthly flow, measured in million gallons per day, exiting the plant. The average monthly flows during the 1st Quarter were below the NPDES permit limit.

COMMUNITY FLOWS AND PROGRAMS

Total Water Use: MWRA Core Customers 1st Quarter FY16

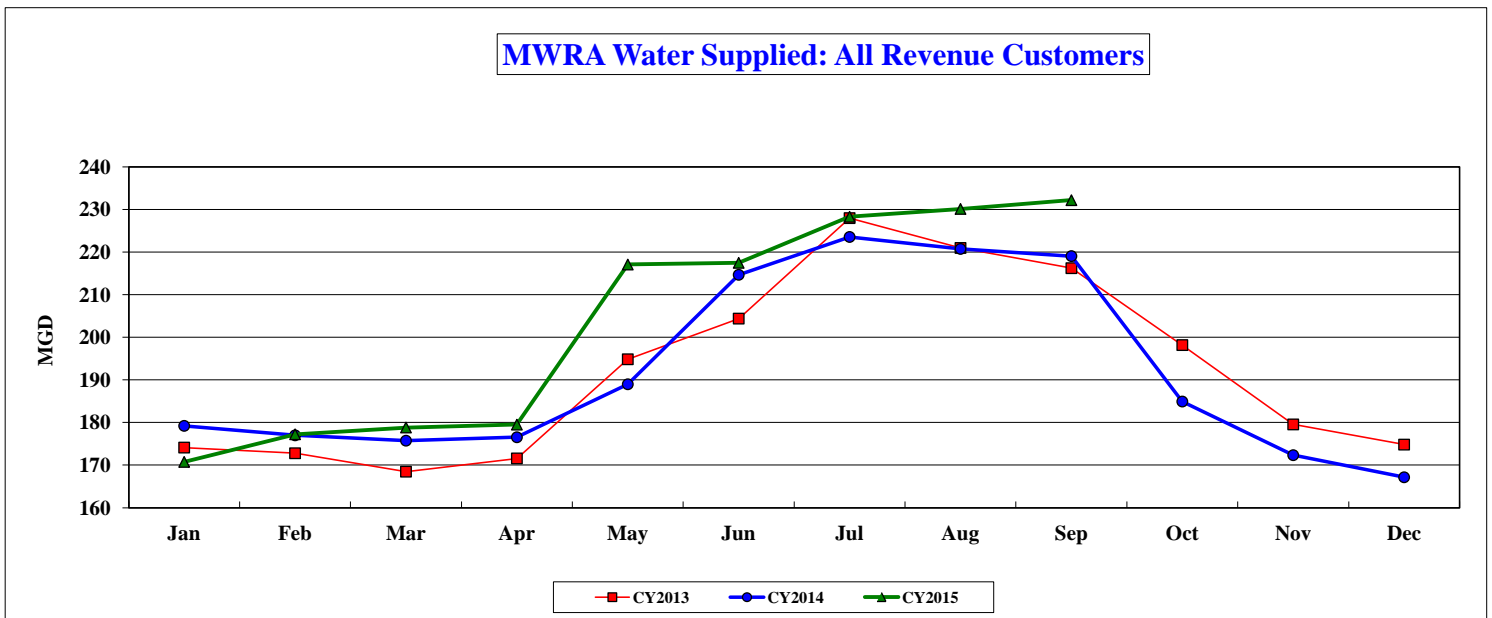
Massachusetts Water Resources Authority

Water Supplied: All Revenue Customers

YTD CHANGES (CY15 vs. CY14)
Water Supplied
3.2%

MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2013	174.117	172.782	168.462	171.569	194.838	204.384	227.963	220.962	216.216	198.168	179.548	174.814	194.797	192.133
CY2014	179.212	176.987	175.736	176.536	188.974	214.660	223.544	220.734	219.049	184.918	172.333	167.145	197.425	191.729
CY2015	170.753	177.236	178.825	179.503	217.071	217.469	228.283	230.121	232.172	0.000	0.000	0.000	203.713	203.713

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total	Annual Total
CY2013	5,397.612	4,837.906	5,222.328	5,147.061	6,039.966	6,131.507	7,066.855	6,849.826	6,486.467	6,143.217	5,386.450	5,419.236	53,179.527	70,128.430
CY2014	5,555.575	4,955.629	5,447.807	5,296.068	5,858.182	6,439.790	6,929.849	6,842.752	6,571.479	5,732.472	5,169.979	5,181.506	53,897.131	69,981.088
CY2015	5,293.339	4,962.601	5,543.566	5,385.096	6,729.192	6,524.059	7,076.766	7,133.739	6,965.160	0.000	0.000	0.000	55,613.518	55,613.518



The 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.

September 2015 water supplied of 232.2 mgd (for revenue generating users) is up 13.1 mgd or 6.0% compared to September 2014. System-wide year to date consumption for CY15 remains higher than CY14 with 203.7 mgd being supplied to MWRA customers **through September**.

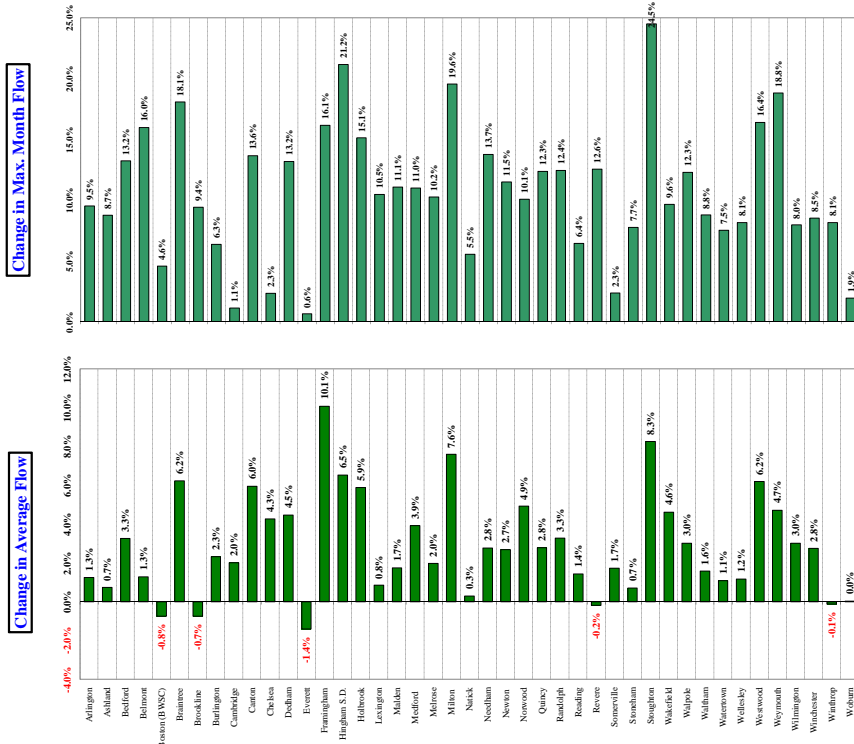
This is 6.3 mgd higher than CY14, and is an increase of 3.2%.

The above figures include water in excess of what is usually supplied to the cities of Lynn and Cambridge.

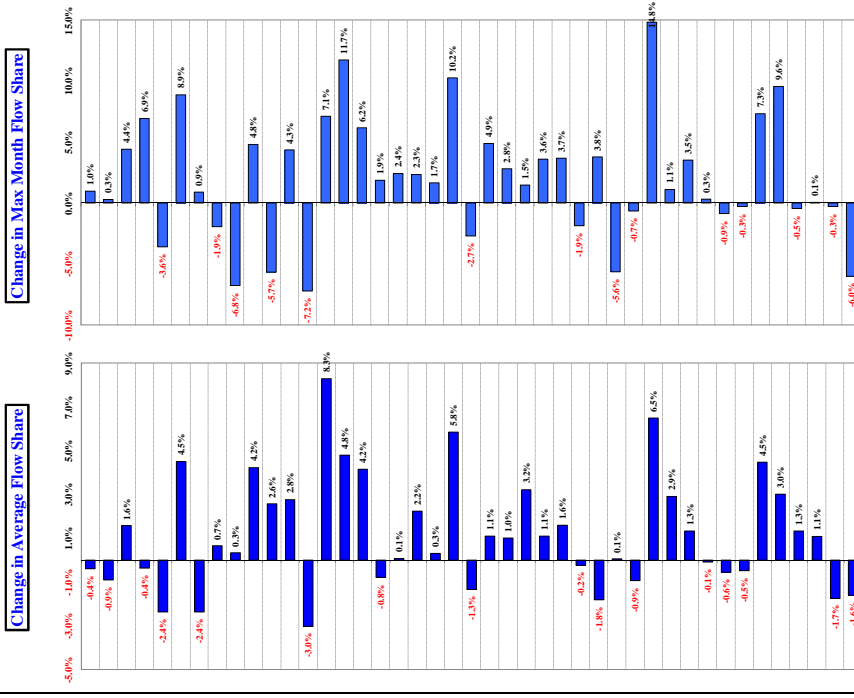
Community Wastewater Flows Q1 - FY16

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

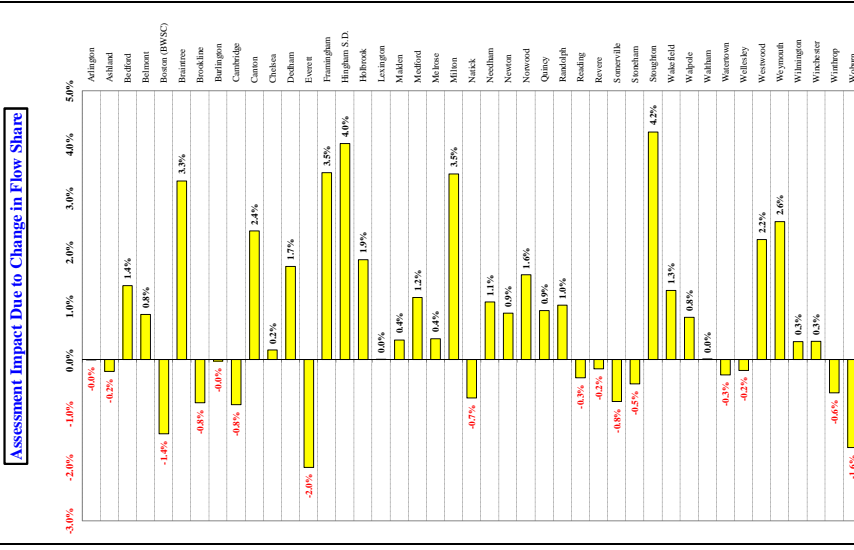
The flow components of FY2017 sewer assessments will be calculated using a 3-year average of CY2013 to CY2015 wastewater flows compared to FY2016 assessments that will use a 3-year average of CY2012 to CY2014 wastewater flows.



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



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



¹ MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smooths 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 09/30/15. 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 June and projected flows for July to December.

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

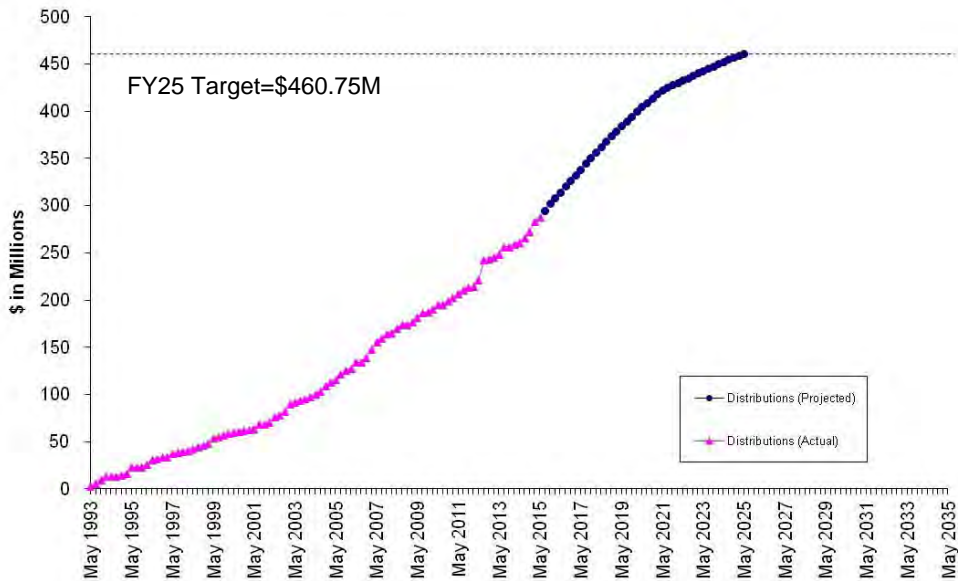
Community Support Programs

1st Quarter – FY16

Infiltration/Inflow Local Financial Assistance Program

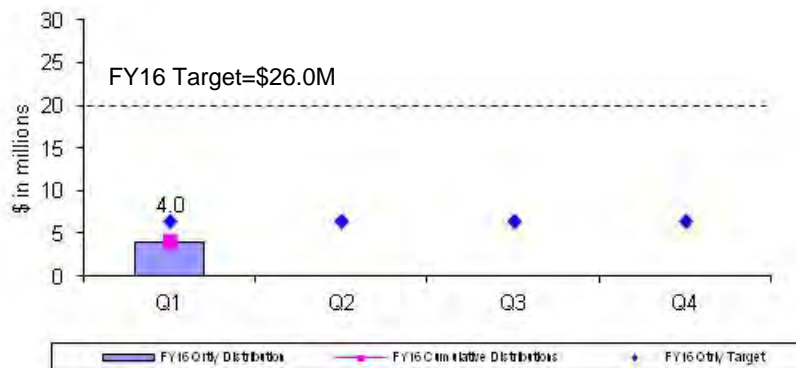
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$460.75 million in grants and interest-free loans (average of about \$14 million per year from FY93 through FY25) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned 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 1st Quarter of FY16, \$4.0 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Bedford, Lexington, Medford, Wakefield, and Winthrop. Total grant/loan distribution for FY16 is \$4.0 million. From FY93 through the 1st Quarter of FY16, all 43 member sewer communities have participated in the program and more than \$292 million has been distributed to fund 486 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.

FY16 Quarterly Distributions of Sewer Grant/Loans



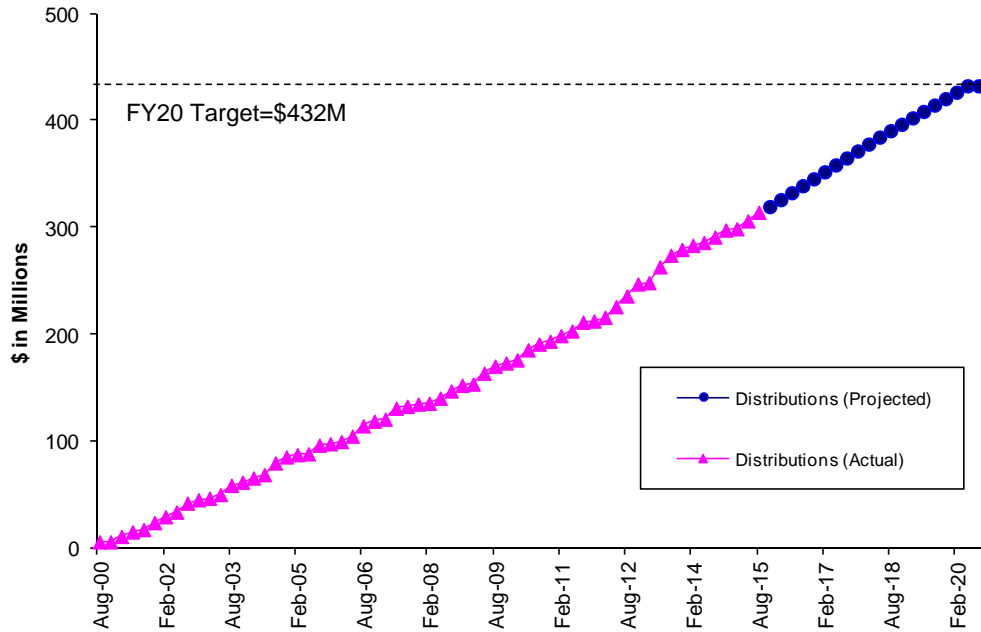
Community Support Programs

1st Quarter – FY16

Water Local Pipeline and Water System Assistance Programs

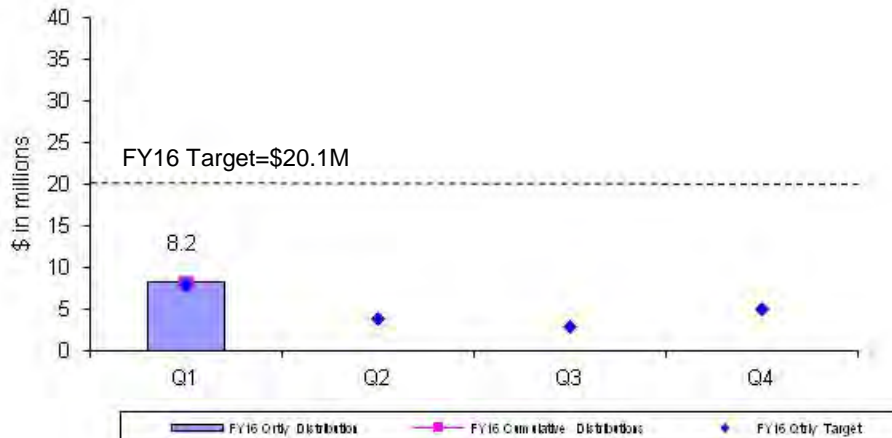
MWRA's Local Pipeline and Water System Assistance Programs (LPAP and LWSAP) provide \$432 million in interest-free loans (an average of about \$22 million per year from FY01 through FY20) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution 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 1st Quarter of FY16, \$8.2 million in interest-free loans was distributed to fund local water projects in Boston, Melrose, Norwood, Saugus, Stoughton, Watertown and Weston. Total loan distribution for FY16 is \$8.2 million. From FY01 through the 1st Quarter of FY16, more than \$314 million has been distributed to fund 356 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.

FY16 Quarterly Distributions of Water Loans

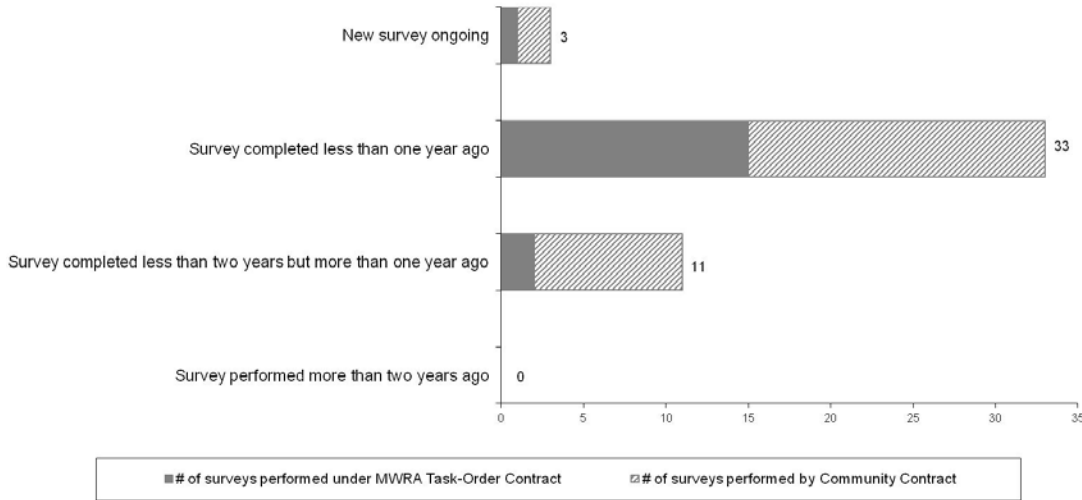


Community Support Programs

1st Quarter – FY16

Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews; or alternatively, using MWRA’s task order leak detection contract. MWRA’s task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 1st Quarter of FY16, 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	1,066				1,066
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	2,924				2,924
Toilet Leak Detection Dye Tablets	-----	1,688				1,688

BUSINESS SERVICES

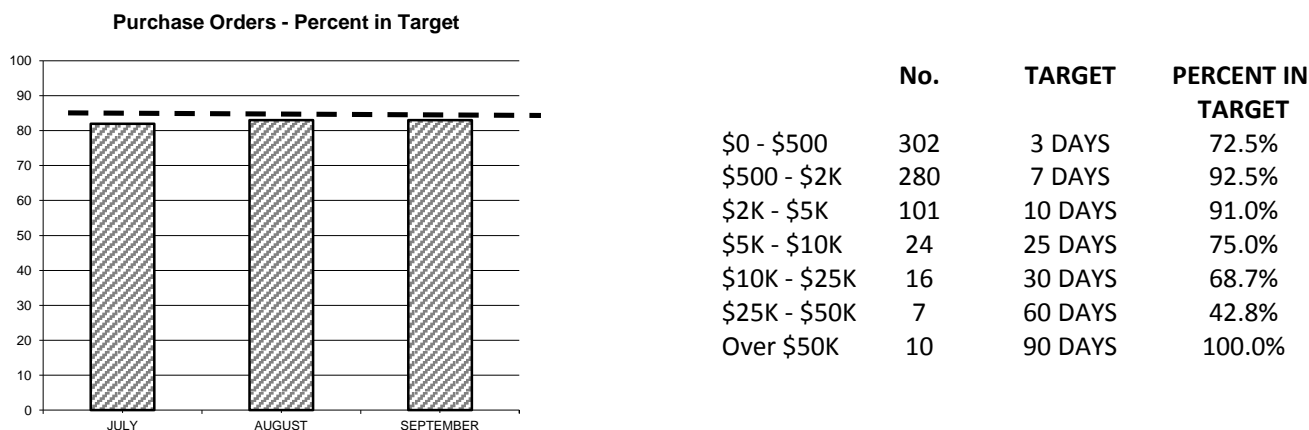
Procurement: Purchasing and Contracts

1st Quarter, FY16

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

Outcome: Processed 83% of purchase orders within target; Average Processing Time was 5.92 days vs. 6.71 days in Qtr 1 of FY15. Processed 92% (23 of 25) of contracts within target timeframes; Average Processing Time was 100 days vs. 118 days in Qtr 1 of FY15.

Purchasing



The Purchasing Unit processed 2225 purchase orders, 146 less than the 2371 processed in Qtr 1 of FY15 for a total value of \$9,316,838 versus a dollar value of \$8,165,078 in Qtr 1 of FY15.

The purchase order processing target was not met for the \$0 - \$500 due to vendor sourcing; the \$5k - \$10k due to vendor sourcing and insurance approval requirements; the \$10k - \$25k due to end user evaluations and staff summary requirements; and the \$25k - \$50k due to end user evaluations and sole source confirmations.

Contracts, Change Orders and Amendments

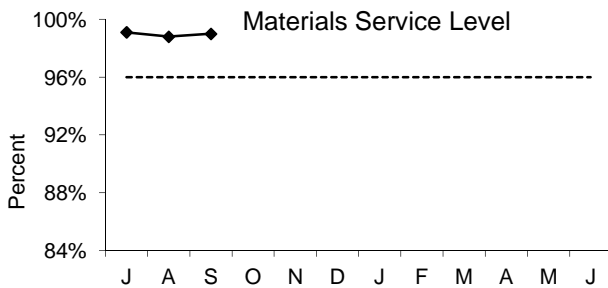
Two contracts were not processed within the target timeframes. One due to delays in receipt of required documents from the consultant. Another, under the 30 day Professional Services target, was revenue generating and required a selection committee process.

Procurement processed twenty five contracts with a value of \$28,033,744 and eight amendments with a value of \$2,237,944.

Fifteen change orders were executed during the period. The dollar value of all non-credit change orders during Q1 FY15 was \$63,264,583 and the value of credit change orders was (\$45,913).

Staff reviewed 25 proposed change orders and 18 draft change orders.

Materials Management 1st Quarter, FY16



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,696 (99.0%) of the 7,777 items requested in Q1 from the inventory locations for a total dollar value of \$1,137,350.

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 FY16 goal is to reduce consumable inventory from the July '15 base level (\$7.6 million) by 2.0% (approximately \$154,371), to \$7.5 million by June 30, 2016 (see chart below).

Items added to inventory this quarter include:

- Deer Island – wear rings, gaskets, deflectors, seals and isolator modules for Core; converters, LCD panel for soda control and assembly switch for I&C; heater coil units for HVAC; pinch valve sleeves and elbows for Residuals.
- Chelsea – fuel pump, wheel bearings, plow pivot pin, plow shoe kit, mini jump starter, fuel filter, transmission cooler, brake pad kit, brake rotors, toggle switch, tire gauges, power steering hoses, air filter and air flow sensor for Fleet Services; wire guard, LED fixture, motor, motor fan blade, cooling fan and switches for Work Order Coordination Group.
- Southboro – sanding belts, anti spatter spray, aerosol paint, saw blades, valve key and couplers for Maintenance; dehumidifier, flow cell, ribbon cable and transmitter for Carroll Water Treatment Plant; toners and badge holders for Administration.

Property Pass Program:

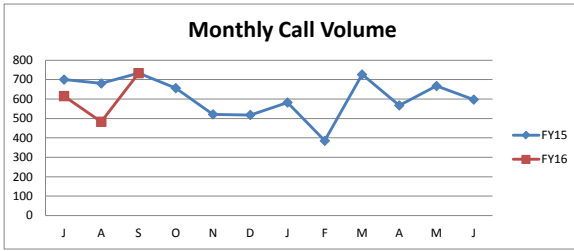
- No audits were conducted during Q1.
- Numerous obsolete battery jumpers, monitors, computers, printers, power supplies, fax machines, air cards and tape drives have been received into Property Pass as surplus. Disposition is being handled as part of our ongoing recycling efforts.
- Scrap revenue received for Q1 amounted to \$9,433. Year to date revenue received amounted to \$9,433.
- Revenue received from online auctions held during Q1 amounted to \$112,139. Year to date revenue received amounted to \$112,139.

Items	Base Value July-15	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	7,663,973	7,697,859	-20,693
Spare Parts Inventory Value	8,263,059	8,304,317	-61,229
Total Inventory Value	15,927,032	16,002,176	-81,922

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.

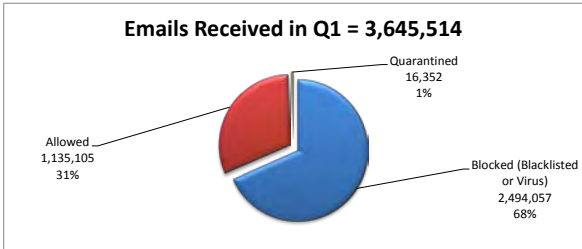
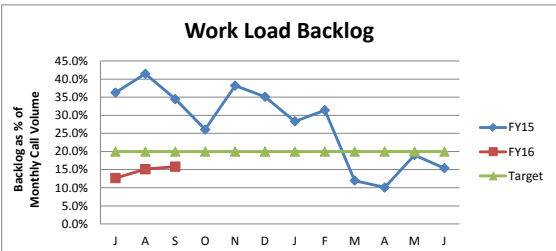
MIS Program 1st Quarter FY16



Performance and Backlog

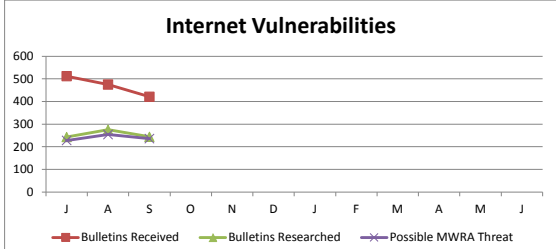
Call Volume: Peaked in September. FY16-Q1 call volume decreased by 13% from FY15-Q1 last year.

Call Backlog: Peaked in September. FY16-Q1 backlog average is 5.4% below the targeted benchmark of 20%.



Information Security

During Q1, pushed security fixes/updates to desktops/ servers to protect against 234 vulnerabilities. LANDesk Antivirus quarantined 21 distinct viruses from 22 PCs. PCs are current with anti-virus providers' signatures for all known malware.



Infrastructure:

Citrix Mobile Application Design and Development: SDX units were installed and configured. All of the Citrix environments were migrated to new hardware. XenMobile 10 and Sharefile 3.2 are being tested. Sharefile provides secure file sharing and collaboration needs from mobile devices and PCs. Citrix databases moved to production server providing High Availability. 14 business applications configured for mobile remote access.

Southborough Laboratory: Moved the Laboratory into the ICCF building/trailers located in Marlborough. This move required extending MIS voice and data network services for continued Laboratory operations.

Applications/Training/Records Center:

Strategic Sourcing and Contract Management: Conducted training for: a) contract invoice entry (non-retainage) for AP staff in anticipation of first live NPS invoice; b) subcontractor payments, supplier diversity, and view-only access to sourcing events for AACU staff. Coordinated the transition of bid bond functionality to Live status with Surety2000 to prepare for the first Chapter 30 (C30) and Chapter 149 (C149) Construction Contract Events. Procurement emailed UCANE members informing them of upcoming bid events and encouraged them to register for notifications and with Surety2000 bonding service. The first C30 and C149 (no sub-bidders) events were posted during the quarter and staff were trained on how to put the events online.

Miscellaneous Lawson Support: Changed the PCR report to reflect division changes. Loaded Unit 9 vacation forfeiture files and vacation milestone adjustment files for Units 2, 3, and 9. Uploaded files for all non-union employees who are due retroactive pay adjustments; five annual union mutual aid donation files; and the first sick buy back cycle file. Monitored/oversaw first successful payroll of FY16 due to the benefit and organizational changes including pay raises and new sick time plan for temporary employees. Began designing a solution for new Federal Affordable Care Act (ACA), requiring IRS 1095c forms for all employees. Worked with the AACU vendor to produce a newly required Veterans' report and updated Lawson to produce the report. Performed a 'live' run of the AP checks/remittances to test our Disaster Recovery (DR) system. Installed two new scanners at the Chelsea warehouse for Lawson Mobile Supply Chain Management and implemented Window issuing at Chelsea and DI Warehouses. Began designing a new Purchase Card (P-Card) program to support the MWRRA switch to Bank of America (BoA) and allow delivery of credit card invoices to the MWRRA electronically.

Talent Acquisition Application: After reviewing Talent Acquisition products offered by 3rd party vendors, selected ApplicantPro for the vendor-hosted job applicant tracking application. Expect to go live in FY16 Q2.

Library Upgrade Project: The Inmagic Presto replaces several legacy MWRRA Library applications with one commercial-off-the-shelf (COTS) application. Inmagic will support searching across internal and 3rd party information assets for managing, finding and sharing library resources. Began process of data migration and mapping of information from multiple databases into the new schema is required. Implementation starting in Q2.

Electronic Laboratory Notebook (ELN): Pilot logbook design utilizing Standards and Reagents Module accepted by DLS. Pending DLS SRM Requirements: 6. One log that was eliminated is now being developed.

Maximo Upgrade Project: Maximo is used to manage maintenance activities for Water and Wastewater assets. All quarter goals of the Maximo Upgrade have been met and the project is on schedule. Received several deliverables including project management documents and interface plans. Conducted 2 weekly workshops. Delivered initial draft of the Maximo/Lawson interface design document to MWRRA. Conducted Maximo 7.6 Differences Training. Conducted a one week workshop between MWRRA and project consultant, Total Resource Management (TRM), to gather core requirements for the Maximo upgrade. Finalized Maximo Best Practices document and released to upgrade team.

Telog Upgrade Project: Telog collects flows and pressures used for calculating MWRRA community water and sewer flows. The project is in Phase 2 where water meters are being converted to wireless. PI system was updated to allow for data continuity of flow, gradient, and pressure from wireless meters. MIS and SCADA group added new PI interface node and tags to monitor the new Spot Pond Storage Tank.

Library & Records Center: The Library fulfilled 43 research requests, cataloged 112 books and reports, provided 242 periodicals, standards, books and reports, supported 212 staff online searches. Oversaw the scanning of City Tunnel and Extension and Dorchester Tunnel images from State Archives for shaft assessment redundancy project and eventually Digital Commonwealth (DigiComm). The Records Center added 101 boxes, conducted 3 training sessions, and attended 2 Records Conservation Board Meetings. Seven departments (Law, HR, TRAC, RP&EM, Enqual, Lab, Proc) were sent lists of their boxes eligible for disposal to review totaling 634 boxes.

IT Training: For the quarter, 241 staff attended 25 classes. 18% of the workforce has attended at least one class year-to-date. MAXIMO 7.6 Differences training was offered to the Maximo upgrade project team. Lawson Requisitioning and Lawson Receiving job-aids were developed for new hire and succession training purposes.

Legal Matters

1st Quarter - FY16

PROJECT ASSISTANCE

COURT AND ADMINISTRATIVE ORDER

- **NPDES:** Worked with group to complete National Association of Clean Water Agencies blending survey. Drafted memorandum relative to the new MA Department of Agriculture regulations at 330 CMR 31.00: "Plant Nutrient Application Requirements for Agricultural Land and Land Not Used for Agricultural" relative to the application of MWRA's Biosolids.
- **Boston Harbor Litigation and CSO:** Filed quarterly compliance and progress report with the Court on September 15, 2015.

REAL ESTATE, CONTRACT AND OTHER SUPPORT

- **Licenses:** Drafted a License with Volpe National Transportation Systems Center to site equipment at DITP in support of the FAA's Weather Observation Improvements Program; drafted a license for March Fourth relative to access of Building 11 in Fore River Shipyard; drafted licenses for use of Deer Island pier by Sea and Shore Contracting; drafted license for entry at Deer Island for 5th Annual Neil Shapiro memorial 5K Run/Walk; drafted a license for access to and the use of Leach Park in Reading for MWRA Contract 747; drafted a License for the use of Echo Bridge in Needham and Newton..
- **Watershed Acquisition:** Reviewed and approved the acquisition of the property of Dourdeville, Watershed W-001103, 001104.
- **Public Access:** Drafted public access 8(m) permits for Southborough, Wayland and Needham.
- **Order of Conditions:** Recorded extension permit for order of conditions DEP file 297-0353 related to Spot Pond water storage facility (MWRA contract 6457). Recorded certificate of compliance for order of conditions DEP file 212-1089 for Carroll Water Treatment Plant (MWRA contract 7085C).
- **Easements:** Recorded grant of permanent easements from the City of Marlborough to MWRA relative to the construction of a new entrance to the John J. Carroll Water Treatment Plant as part of MWRA Contract 7157 – Wachusett Aqueduct Pumping Station; Sent offer to purchase a temporary easement to owner of St. Martin Drive property in Marlborough needed for the construction of Contract 7157; Recorded grant of temporary easement from owner of St. Martin Drive property in Marlborough to MWRA relative to MWRA Contract 7157, Wachusett Aqueduct Pumping Station.
- **Contractor Claims:** Reviewed and made recommendations on two (2) construction contract claims.
- **MWRA Contract No. OP-158 - DPS fine:** Reached agreement with the contractor whereby the contractor will pay the fine levied by Department of Public Safety in the amount of \$20,000 for failure to apply for a safety inspection of the elevator at MWRA's Ward Street facility in a timely manner.
- **Alewife Brook Pump Station Rehabilitation:** Responded to the bid protest of Fall River Electrical Associates Co., Inc. regarding the filed sub-bids and general bid of Waterline Industries Corporation for the Alewife Brook Pump Station Rehabilitation, Contract No. 6797. Response included drafting of opposition briefs and attendance at a hearing at the offices of the Attorney General; the Protester also filed suit in Superior Court for injunctive relief and expedited discovery; response and opposition briefs had to be prepared and argued before the court.

MISCELLANEOUS

- Reviewed and approved fifty-seven (57) Section 8(m) Permits.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

Three demands for arbitration were filed.

A Charge was filed at the Massachusetts Commission Against Discrimination alleging that the MWRA retaliated against an employee.

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

Matters Concluded

Received a Department of Unemployment Assistance decision in favor of a claimant granting unemployment benefits.

LITIGATION/TRAC

New Matters

Fall River Electrical Associates Co., Inc., J.F. White Contracting Company, Barletta Engineering Corporation, Utility Contractors' Association of New England, Inc., Associated Subcontractors of Massachusetts, Inc. and Associated Builders & Contractors, Inc. v. Waterline Industries Corporation and Massachusetts Water Resources Authority: This action arises out of a bid protest filed with the Bid Protest Unit of the Attorney General's Office by Plaintiffs on July 14, 2015, in connection with Waterline Industries' low general bid (\$11,947,677) for MWRA's rehabilitation of the Alewife Brook Pump Station, MWRA Contract No. 6797. Plaintiffs allege that Waterline violated the statutory bid laws, G.L. c. 149 §§ 44A-44F, by submitting sub bid prices which were neither bona fide nor for the complete work enabling Waterline to gain an unfair advantage over other filed sub bidders

Bay State Regional Specialties, Inc. v. MWRA: This action arises out of MWRA Contract No. 7260, Gillis Pump Station Short Term Improvements. Plaintiff alleges that deficiencies in the plans and specifications, and MWRA-issued proposal and construction change requests for the project substantially increased the scope of the work, the cost of the work and the necessary time to perform the work under the contract, resulting in a substantial deviation from the project plans and specifications, which changed the scope of the project. Plaintiff alleges that it sustained additional losses, costs and expenses in processing and administering the changes and modifications embodied in the change proposals and change orders.

Western Surety Company, as Assignee and Subrogee of Interstate Engineering Corp. v. MWRA; Western Surety v. MWRA: This action arises out of MWRA Contract No. 6966, Gravity Thickener improvements – Phase I Deer Island Treatment Plant. Plaintiff, as surety, executed and delivered payment bonds to MWRA in the sum of \$538,940.00. Pursuant to the indemnity agreement and rights of equitable subrogation, Western alleges that it is entitled to pursue and collect any sums due to Interstate from MWRA under the Contract. Plaintiff further alleges that MWRA paid Interstate \$82,555.00 and the remaining balance due on the Contract is \$456,385.00. The contract contained a forum selection clause which required that Western file suit in a Massachusetts state court. MWRA was prepared to enforce the clause by way of a motion to dismiss but Western voluntarily dismissed the suit without prejudice and re-filed the suit in state court.

Significant Claim Not in Court

There are no New Significant Claims Not in Suit to report.

Significant Developments

Oscar Melara v. MWRA and Black & Veatch: The Court heard argument on Defendants' Motion for Summary Judgment on August 25, 2015. The Court granted defendants leave to file a supplemental memorandum to respond to questions raised by the Court, and has taken the motion under advisement.

Matters Concluded

Portfolio Recovery Associates, LLC v. (Former Employee): On August 7, MWRA was served with a trustee summons in the above matter. The employee no longer works for MWRA. An Answer was filed providing that information, and requested that the action as to MWRA be withdrawn. On August 25, 2015, the creditor's attorney filed a Discharge of Trustee with the Court. The matter is now closed.

Agostinho Braiani claim: This claim is a former Risk Management matter. The claim arises out of a motor vehicle accident which occurred on May 19, 2013 in the Deer Island parking lot, where a current MWRA employee, driving an MWRA vehicle, struck a parked vehicle while backing up. Claimant Agostinho Braiani, an employee of SJ Services, cleaning contractor for DI, was standing beside the SJ Services vehicle when it was hit and he sustained injuries. MWRA settled this claim for \$80,000 and the settlement was approved by the Massachusetts Division of Industrial Accidents.

(Current Employee): This is a wage garnishment matter involving a Chapter 13 Proceeding that was in the US Bankruptcy Court for the District of Rhode Island that is now concluded.

Subpoenas

During the First Quarter of FY 2016, one new subpoena was received and no subpoenas were pending at the end of the First Quarter FY 2016.

Public Records

During the First Quarter of FY 2016 three public records requests were received and two public records request were closed.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of Sept 2015	As of June 2015	As of Mar 2014
Construction/Contract/Bid Protest (other than BHP)	5	3	4
Tort/Labor/Employment	3	3	3
Environmental/Regulatory/Other	1	1	1
Eminent Domain/Real Estate	0	0	0
total – all defensive cases	9	7	8
Affirmative cases not in suit:	0	0	0
Other Litigation matters (restraining orders, etc.) <u>MWRA v. Thomas Mercer</u>	1	1	1
total – all pending lawsuits	10	8	9
Significant claims not in suit: <u>Deer Island Submarine Power Cable</u> <u>Rosa, Antonio</u> <u>Gonzalez, Dora</u> <u>Poli, Mark</u>	4	6	4
Bankruptcy	1	1	1
Wage Garnishment	13	15	15
TRAC/Adjudicatory Appeals	2	1	1
Subpoenas	0	0	0
TOTAL – ALL LITIGATION MATTERS	30	31	30

TRAC/MISC.

New Appeals

There was one new TRAC appeal received in the 1st Quarter FY 2016.

School of the Museum of Fine Arts; MWRA Docket No. 15-01

**Settlement by
Agreement of
Parties**

No cases were settled by Agreement of Parties in the 1st Quarter FY 2016.

**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
Final
Decisions**

No Tentative Decisions were issued in the 1st Quarter FY 2016.

No Final Decisions were issued during the 1st Quarter FY 2016.

INTERNAL AUDIT AND CONTRACT AUDIT PROGRAM 1st Quarter FY16

Highlights

Staff issued three labor burden reviews for new construction contracts and two consultant preliminary reviews on new professional services contracts. In progress are incurred cost audits of the three engineering firms with the largest billings to MWRA. Staff also commenced a new program of unannounced compliance reviews, with Halon fire suppression system inspections at DITP being the first to be completed. Management advisory services performed this quarter included:

- Change order/amendment analysis
- Computation of overhead rates for MWRA and the Fore River Railroad Corporation
- Participated in meetings on solar power for various facilities
- Review of a proposed amendment for a professional services contract.

Status of Open Audit Recommendations (11 recommendations closed in the 1st 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
Physical Security at the Chelsea Facility (12/31/12)	2	30
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)	2	8
Expanded Affirmative Action Requirements (9/30/14)	1	15
8(m) Permit Fee (11/17/14)	2	4
Records Management (12/5/14)	7	1
AVL Tracking System, Contract A586 (4/22/15)	4	1
Unmatched Receipts and Accruals (6/30/15)	5	5
Halon Inspections at DITP – Contract WRA3845Q (9/30/15)	1	8
Total Recommendations	37	112

Audit Savings

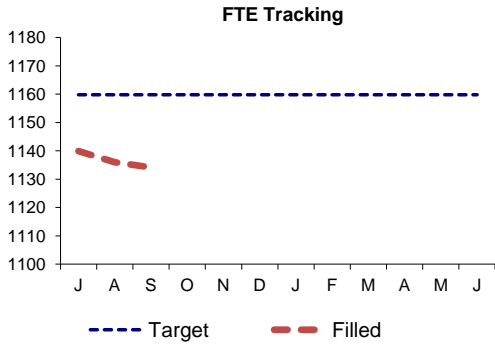
The Internal Audit Department's target is to achieve at least \$1 million in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of work in prior years.

Savings	FY12	FY13	FY14	FY15	FY16 (1 st Q)	TOTAL
Consultants	\$259,245	\$587,314	\$294,225	\$87,605	\$21,330	\$1,249,719
Contractors & Vendors	\$435,760	\$2,153,688	\$415,931	\$1,146,742	\$162,957	\$4,315,078
Internal Audits	\$407,350	\$391,083	\$923,370	\$543,471	\$12,500	\$2,277,774
Total	\$1,102,355	\$3,132,085	\$1,633,526	\$1,777,818	\$196,787	\$7,842,571

OTHER MANAGEMENT

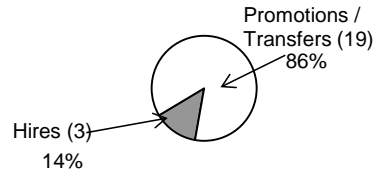
Workforce Management

1st Quarter FY16

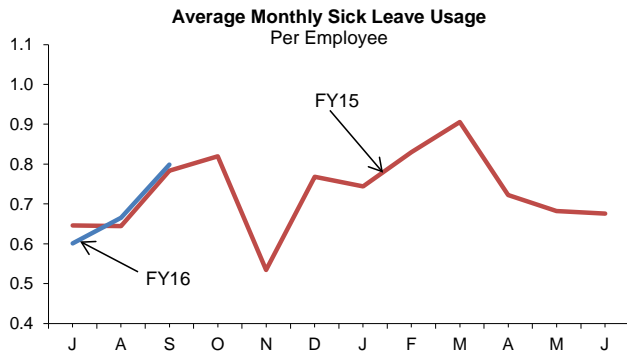


FY16 Target for FTE's = 1159.8
 FTE's as of Sept 2015 = 1134.2

Positions Filled by Hires/Promotions
 FY16-YTD



	Pr/Trns	Hires	Total
FY13	82 (64%)	47 (36%)	129
FY14	111 (69%)	51 (31%)	162
FY15	133 (67%)	65 (33%)	198
YTD FY16	19 (86%)	3 (14%)	22



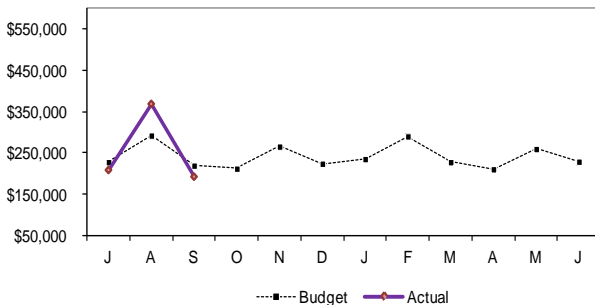
Average monthly sick leave for the 1st Quarter of FY16 decreased as compared to the 1st Quarter of FY15 (8.30 to 8.26 days)

In Q1 of FY16, the average quarterly sick leave usage has decreased 0.5% from the same time last year.

	Number of Employees	YTD	Annualized Total	Annual FMLA %	FY15
Admin	139	2.03	8.10	20.6%	9.61
Aff. Action	5	1.09	4.35	0.0%	16.89
Executive	5	9.02	36.06	96.1%	7.20
Finance	36	2.64	5.47	38.3%	5.56
Int. Audit	7	1.37	5.47	38.3%	5.56
Law	16	2.27	9.09	34.7%	11.30
OEP	5	1.12	4.48	0.0%	13.28
Operations	929	2.03	8.12	14.2%	8.53
Pub. Affs.	14	1.35	5.40	0.0%	7.26
MWRA Avg	1156	2.07	8.26	17.5%	8.75

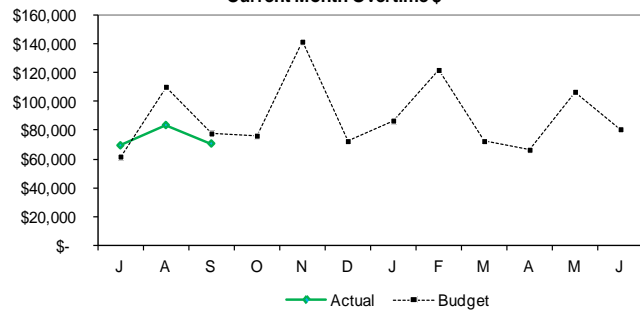
Percent of sick leave usage for FY16, attributable to Family and Medical Leave Act (FMLA) is 17.5% .

Field Operations
 Current Month Overtime \$



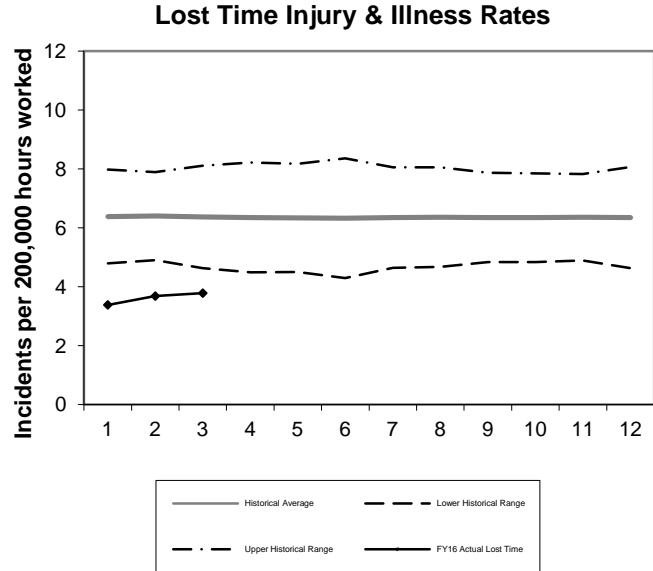
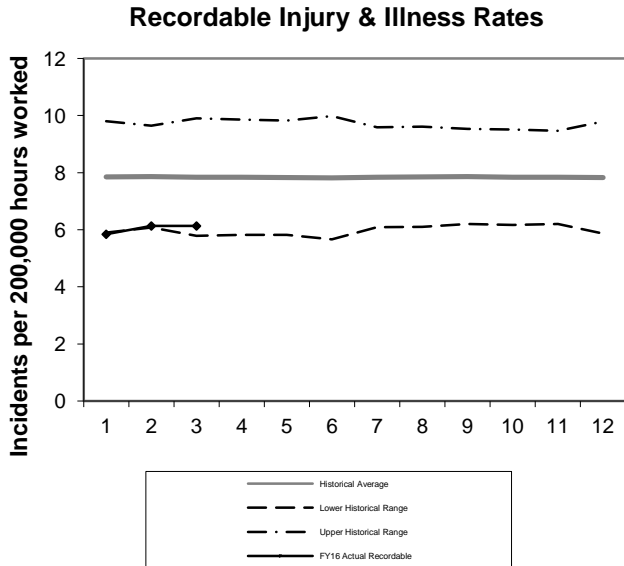
Total Overtime for Field Operations for for the first Quarter of FY16 was \$770,282 which is \$30k over budget. Emergency overtime was \$302k, which was \$11k over budget, mainly due to wet weather response, which totaled \$199k for the quarter. Coverage overtime was \$182k, which was less than \$1k over budget, reflecting the month's shift coverage requirements. Planned overtime was \$286k or \$18k over budget, mainly for maintenance off-hours work at \$80K, Planned operations at \$77k, \$47k of which was for the North Main Pump Station project, and maintenance work completion at \$46k. YTD, Field Operations has spent \$770,282 on overtime which is \$30k over budget.

Deer Island Treatment Plant
 Current Month Overtime \$



Total Overtime for Deer Island for the first Quarter of FY16 was \$223,890, which is (\$26k) under budget. Storm coverage overtime is (\$39k) under budget due to less than anticipated wet weather/high flow events. Shift coverage overtime is \$26k over budget mainly due to three vacant Operator positions. Planned and unplanned overtime is a combined \$7k over budget mainly due to the valve replacement project.

Workplace Safety 1st Quarter FY16



- 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 - 1st Quarter FY16

	New	Closed	Open Claims
Lost Time	5	8	62
Medical Only	20	21	23
Report Only	20	20	
	New		YTD Light Duty Returns
Light Duty Returns	1		1

Highlights/Comments:

Light Duty Returns

July none
August none
Sept none

Regular Duty returns

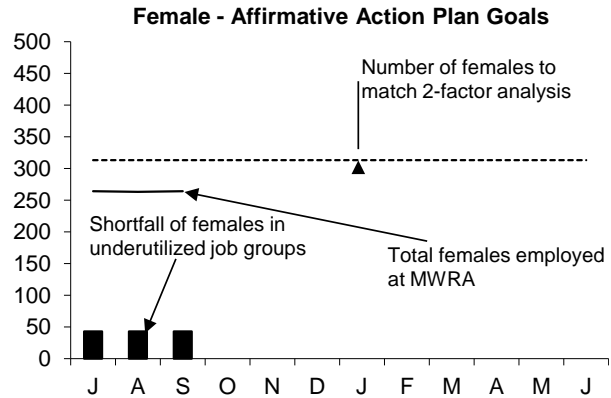
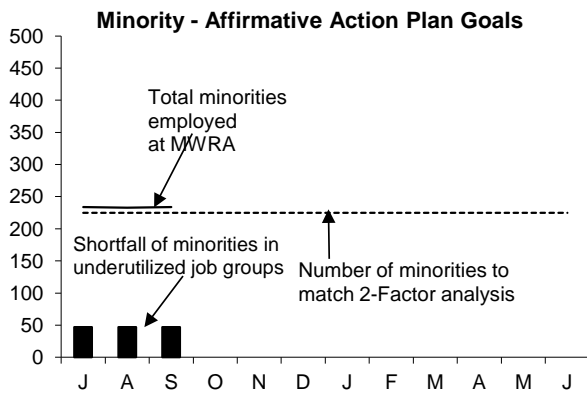
July 1 employee returned to full duty for one week (from workers' compensation then worked light duty 2 weeks and then returned to full duty).

August 1 employee returned to full duty.
Sept none

Note: Claims may initially be counted in one category and changed to another category at a later date. Examples include a medical treatment only claim (no lost time from work) but the employee may require surgery at a later date resulting in the claim becoming a lost time claim. At that time we would only count the claim as opened but not as a new claim.

*Report only claims are closed the month they are filed.

MWRA Job Group Representation 1ST Quarter, FY16



Highlights:

At the end of Q1 FY16, 10 job groups or a total of 47 positions are underutilized by minorities as compared to 10 job groups or a total of 51 positions at the end of Q1 FY15; for females 11 job groups or a total of 43 positions are underutilized by females as compared to 12 job groups or a total of 58 positions at the end of Q1 FY15. During Q1, 1 minority and 2 female were hired. During this same period, 3 minorities and 3 females terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 9/30/2015	Minorities as of 9/30/2015	Achievement Level	Minority Over or Under Underutilized	Females As of 9/30/2015	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	15	5	10	33	35	-2
Clerical B	32	8	8	0	13	14	-1
Engineer A	82	19	21	-2	12	33	-21
Engineer B	55	15	11	4	10	12	-2
Craft A	109	14	20	-6	0	5	-5
Craft B	148	30	36	-6	3	6	-3
Laborer	66	20	15	5	2	3	-1
Management A	101	14	23	-9	36	20	16
Management B	43	7	11	-4	10	6	4
Operator A	66	5	8	-3	1	5	-4
Operator B	66	10	18	-8	4	3	1
Para Professional	55	14	8	6	26	19	7
Professional A	34	4	7	-3	21	15	6
Professional B	161	41	36	5	80	68	12
Technical A	53	15	10	5	5	6	-1
Technical B	7	1	1	0	1	0	1
Total	1157	234	246	35/-47	264	260	47/-43

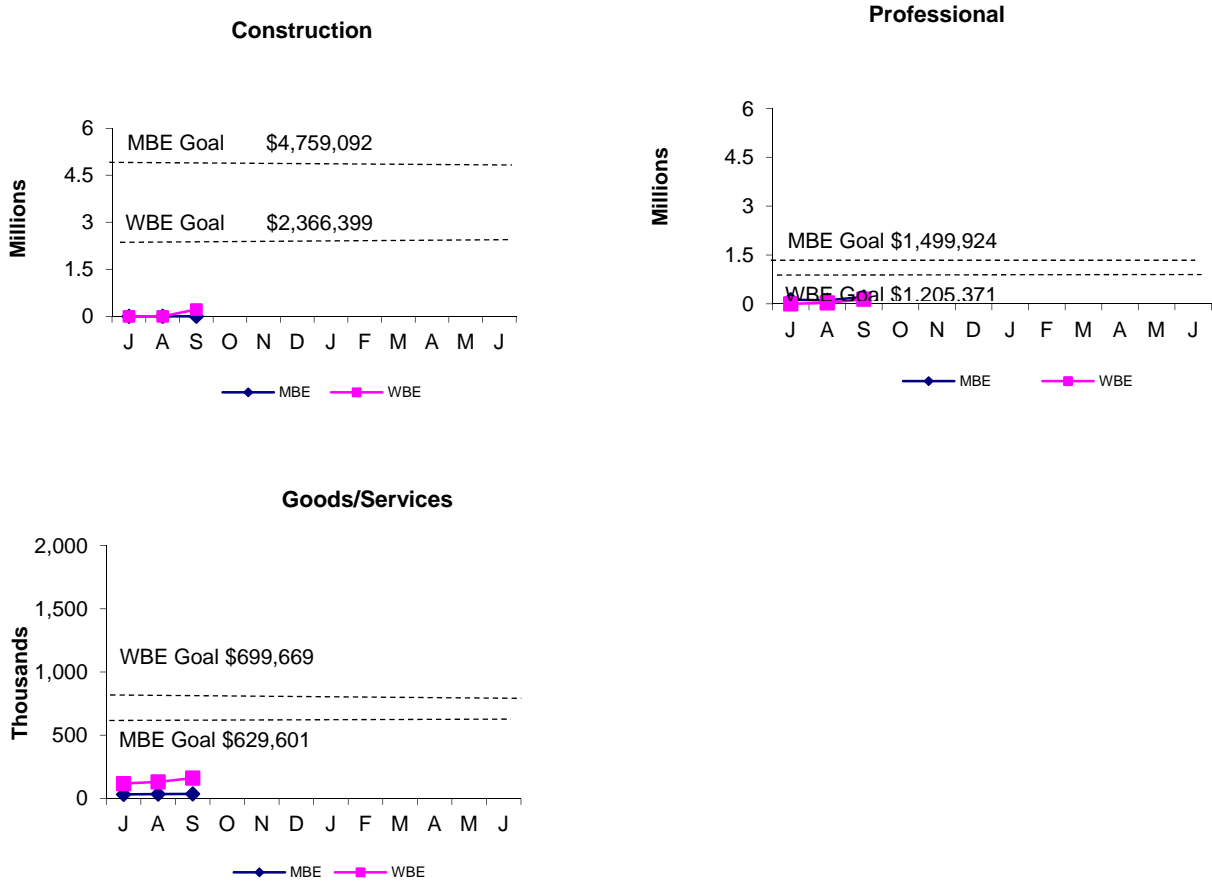
AACU Candidate Referrals for Underutilized Positions

Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/ Transfers	AACU Ref. External	Position Status
Craft A	Electrical Operations Supervisor	1	Int	1	0	Promo = WM
Craft A	M & O Specialist	2	Int/Ext	0	0	In Progress
Craft B	Metal Fabricator/Welder	1	Int/Ext	0	0	In Progress
Clerical A	Executive Secretary	1	Int/Ext	0	0	In Progress
Clerical A	Payables Coordinator	2	Int/Ext	0	0	NH = BF & HM
Clerical A	Payroll Specialist	1	Int	0	0	In Progress
Clerical A	Payroll Coordinator	1	Int	1	0	Promo = BF
Clerical B	Inventory Control Specialist	1	Int/Ext	1	0	Promo = WF
Engineer A	Sr. Civil Engineer	1	Int	1	0	Promo = BM
Engineer A	Sr. Monitoring and Controls Engineer	1	Int/Ext	0	0	In Progress
Engineer	Project Manager, Condition Monitoring	1	Int	1	0	NH = WM
Laborers	OMC Laborer	1	Int/Ext	0	0	NH = WM
Management A	Sr. Program Manager	1	Int/Ext	0	0	In Progress
Management A	Programmer Analyst II	1	Int/Ext	0	0	In Progress
Operator A	T & T Operator	1	Int/Ext	0	0	In Progress
Professional B	Security Services Administrator	1	Int/Ext	0	0	NH = WM
Professional B	Chemist I	1	Int	1	0	Promo = BF
Professional B	IT Financial Manager	1	Int	1	0	Promo = WF
Professional B	Senior Laboratory Technician	1	Int/Ext	0	1	In Progress
Professional B	Sampling Associate	1	Int	1	0	Promo = WF
Professional B	Microbiologist I	1	Int/Ext	0	0	NH = WF

MBE/WBE Expenditures

1st Quarter FY16

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 September.



FY16 spending and percentage of goals achieved, as well as FY15 performance are as follows:

	MBE				WBE			
	FY16 Year-to-Date		FY15		FY16 Year-to-Date		FY15	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Construction	0	0%	2,314,979	106.5%	216,827	9.2%	3,566,302	146.8%
Professional Svc.	209,830	14%	633,926	55.4%	142,286	11.8%	345,476	37.6%
<u>Goods & Svcs.</u>	<u>35,115</u>	<u>5.6%</u>	<u>387,847</u>	<u>69.9%</u>	<u>160,055</u>	<u>22.9%</u>	<u>870,175</u>	<u>180.3%</u>
Total	244,945	3.6%	3,336,752	86.2%	519,168	12.2%	4,781,953	124.8%

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

MWRA FY16 CEB Expenses 1st Quarter FY16

	September 2015 Year-to-Date					
	Period 3 YTD Budget	Period 3 YTD Actual	Period 3 YTD Variance	%	FY16 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 22,148,173	\$ 21,544,753	\$ (603,420)	-2.7%	\$ 99,363,168	21.7%
OVERTIME	1,046,239	1,070,713	24,474	2.3%	4,219,293	25.4%
FRINGE BENEFITS	4,792,208	4,785,357	(6,851)	-0.1%	19,326,756	24.8%
WORKERS' COMPENSATION	585,750	283,322	(302,428)	-51.6%	2,343,000	12.1%
CHEMICALS	2,776,615	2,783,555	6,940	0.2%	9,790,848	28.4%
ENERGY AND UTILITIES	4,603,669	4,352,157	(251,512)	-5.5%	23,164,822	18.8%
MAINTENANCE	5,868,543	5,509,668	(358,875)	-6.1%	28,698,772	19.2%
TRAINING AND MEETINGS	36,191	66,142	29,951	82.8%	413,714	16.0%
PROFESSIONAL SERVICES	1,430,024	1,434,545	4,521	0.3%	5,819,611	24.7%
OTHER MATERIALS	913,836	934,099	20,263	2.2%	6,164,589	15.2%
OTHER SERVICES	6,258,818	6,116,303	(142,515)	-2.3%	23,529,902	26.0%
TOTAL DIRECT EXPENSES	\$ 50,460,066	\$ 48,880,614	\$ (1,579,452)	-3.1%	\$ 222,834,475	21.9%
INDIRECT EXPENSES						
INSURANCE	\$ 540,199	\$ 425,469	\$ (114,730)	-21.2%	\$ 2,160,797	19.7%
WATERSHED/PILOT	7,024,058	6,768,947	(255,111)	-3.6%	28,096,233	24.1%
BEC _o PAYMENT	567,034	559,811	(7,223)	-1.3%	1,946,157	28.8%
MITIGATION	350,000	380,000	30,000	8.6%	1,400,000	27.1%
ADDITIONS TO RESERVES	(8,732)	(8,732)	-	0.0%	(34,927)	25.0%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%	8,159,521	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	5,224,848	0.0%
TOTAL INDIRECT EXPENSES	\$ 16,632,080	\$ 16,285,016	\$ (347,064)	-2.1%	\$ 46,952,629	34.7%
DEBT SERVICE						
STATE REVOLVING FUND	\$ 19,108,254	\$ 19,108,254	\$ -	0.0%	\$ 81,876,277	23.3%
SENIOR DEBT	68,679,857	67,656,199	(1,023,658)	-1.5%	283,024,431	23.9%
CORD FUND	-	-	-	---	-	---
DEBT SERVICE ASSISTANCE	-	-	-	---	-	---
CURRENT REVENUE/CAPITAL	2,800,000	2,800,000	-	0.0%	11,200,000	25.0%
SUBORDINATE MWRA DEBT	12,129,876	12,129,876	-	0.0%	49,222,442	24.6%
LOCAL WATER PIPELINE CP	1,037,310	1,037,310	-	0.0%	4,149,240	25.0%
CAPITAL LEASE	804,265	804,265	-	0.0%	3,217,060	25.0%
VARIABLE DEBT	-	(3,778,151)	(3,778,151)	---	-	0.0%
BOND REDEMPTION SAVINGS	-	-	-	---	-	---
DEFEASANCE ACCOUNT	-	-	-	---	-	---
TOTAL DEBT SERVICE	\$ 104,559,562	\$ 99,757,753	\$ (4,801,809)	-4.6%	\$ 432,689,450	23.1%
TOTAL EXPENSES	\$ 171,651,708	\$ 164,923,383	\$ (6,728,326)	-3.9%	\$ 702,476,554	23.5%
REVENUE & INCOME						
RATE REVENUE	\$ 168,110,000	\$ 168,110,000	\$ -	0.0%	\$ 672,440,000	25.0%
OTHER USER CHARGES	2,217,735	2,261,052	43,317	2.0%	8,683,898	26.0%
OTHER REVENUE	6,581,497	6,735,840	154,343	2.3%	12,000,066	56.1%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	2,218,385	2,465,783	247,398	11.2%	9,352,590	26.4%
TOTAL REVENUE & INCOME	\$ 179,127,617	\$ 179,572,675	\$ 445,058	0.2%	\$ 702,476,554	25.6%

As of September 2015, total expenses were \$164.9 million, \$6.7 million or 3.9% lower than budget and total revenue was \$179.5 million, \$0.5 million or 0.2% higher than budget, for a net variance of \$7.2 million.

Direct Expenses are \$48.8 million, \$1.6 million or 3.1% lower than budget.

- **Wages & Salaries** are under budget by \$603k or 2.7%. At the end of September the average Full Time Equivalent (FTE) positions were 1,137, 23 positions less than the 1,160 budgeted FTE's.
- **Maintenance** is under budget by \$359k or 6.1%. Services are lower than budget by \$780k due to some schedule shifts for some planned projects. Materials were overspent by \$421k due to the purchase of unbudgeted items including the interior air monitoring system at Nut Island.
- **Workers' Compensation** is underspent by \$302k or 51.6% due to lower Medical Payments of \$158k and Compensation Payments of \$143k.
- **Utilities** are underspent by \$252k or 5.5% due to lower Electricity of \$696k mainly due to over accrual in June 2015, lower transmission, distribution, and commodity costs at Deer Island offset by overspending for Diesel Fuel of \$444k mainly due to accelerated purchase at Deer Island to take advantage of favorable pricing.
- **Other Services** is underspent by \$142k or 2.3% mainly for Pellet Processing and Grit and Screenings due to lower quantities.
- **Training** is overspent by \$30k or 82.8% due to the timing of some MIS specialized training.
- **Chemicals** are over budget by \$7k or 0.3% mainly due to higher spending on Hydrogen Peroxide of \$174k due to increased need for pretreatment of hydrogen sulfide gas due to lower flows offset by lower than budgeted Soda Ash usage \$72k, sodium bisulfate \$33k, and sodium hypochlorite \$30k due to timing.

Indirect Expenses of \$16.3 million \$347k or 2.1% lower than budget mainly due lower Watershed reimbursement due to FY15 overaccrual and lower Insurance of \$115k mainly due to lower claims of \$99k.

Debt Service Expenses totaled \$99.8 million, which was \$4.8 million lower than budget mostly due to favorable variable interest rates and the favorable impact of defeasances related to reserve releases.

Revenue / Income for September is \$179.6 million, \$445k over budget mainly due to higher Investment Income of \$247k and higher Non-Rate Revenue of \$154k.

Cost of Debt 1ST Quarter, FY16

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.

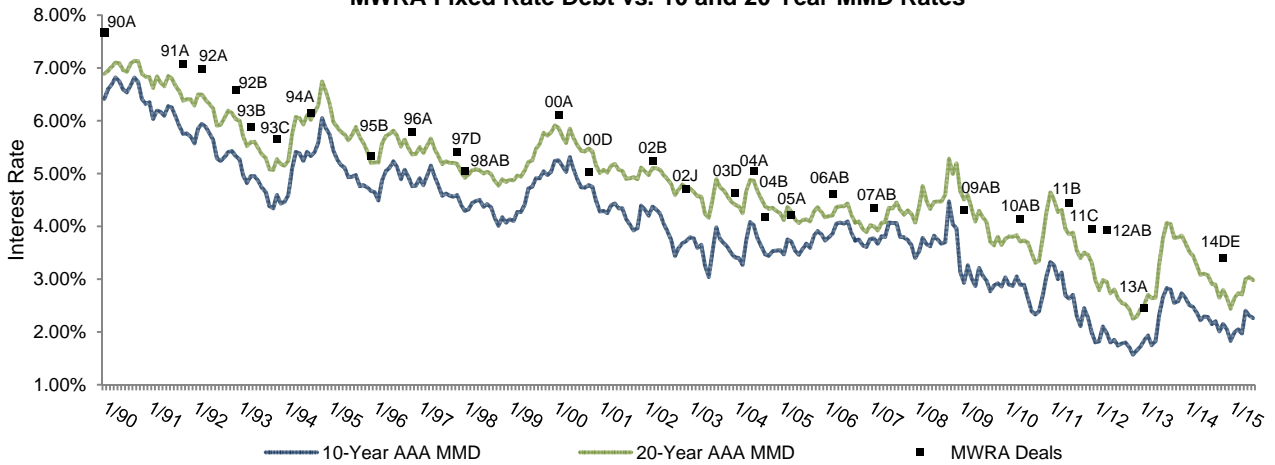
Average Cost of MWRA Debt

Fixed Debt (\$3,771)	4.24%
Variable Debt (\$484.2)	0.60%
SRF Debt (\$987.7)	1.32%
Weighted Average Debt Cost (\$5,243)	3.35%

Most Recent Senior Fixed Debt Issue November 2014

2014 Series D-F (\$243.9)	3.41%
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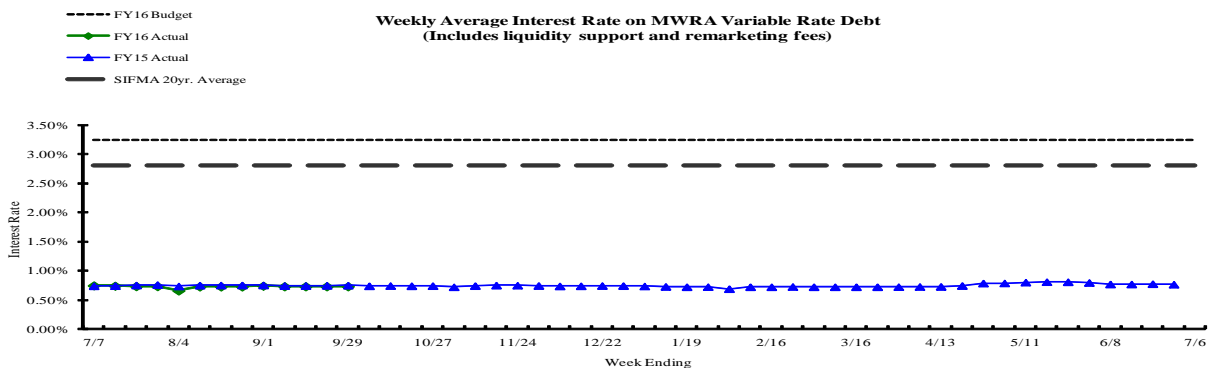
MWRA Fixed Rate Debt vs. 10 and 20 Year MMD Rates



Bond Deal	1990A	1991A	1992A	1992B	1993B	1993C	1994A	1995B	1996A	1997D	1998AB	2000A	2000D	2002B
Rate	7.67%	7.08%	6.98%	6.58%	5.89%	5.66%	6.15%	5.34%	5.78%	5.40%	5.04%	6.11%	5.03%	5.23%
Avg Life	21.8 yrs	19.8 yrs	22.6 yrs	6.3 yrs	19.8 yrs	19.1 yrs	19.5 yrs	20.5 yrs	19.5 yrs	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs
Bond Deal	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB	2011B	2011C	2012AB	2013A	2014DE
Rate	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%	4.14%	4.45%	3.95%	3.93%	2.45%	3.41%
Avg Life	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	16.4 yrs	18.8 yrs	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs

Weekly Average variable Interest Rates vs. Budget

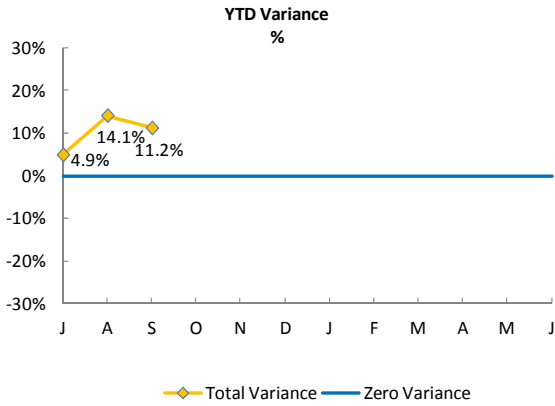
MWRA currently has ten variable rate debt issues with \$1.0 billion outstanding, excluding commercial paper. Of the ten outstanding series, five have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have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

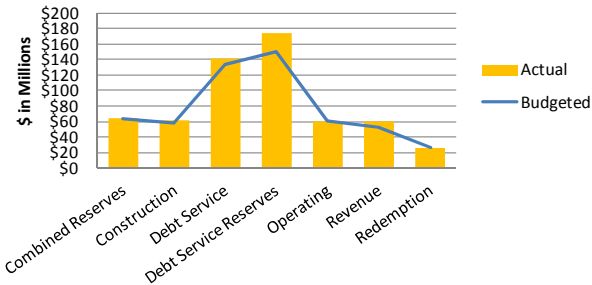
1st Quarter FY16

Year To Date



	YTD BUDGET VARIANCE			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	\$2	\$90	92	20.8%
Construction	\$3	\$9	12	41.3%
Debt Service	\$4	\$20	24	36.8%
Debt Service Reserves	\$13	\$111	124	9.9%
Operating	(\$5)	(\$4)	(8)	-4.1%
Revenue	\$6	(\$1)	5	5.2%
Redemption	\$1	(\$1)	(0)	-0.1%
Total Variance	\$23	\$225	\$247	11.2%

YTD Average Balances Budgeted vs. Actual

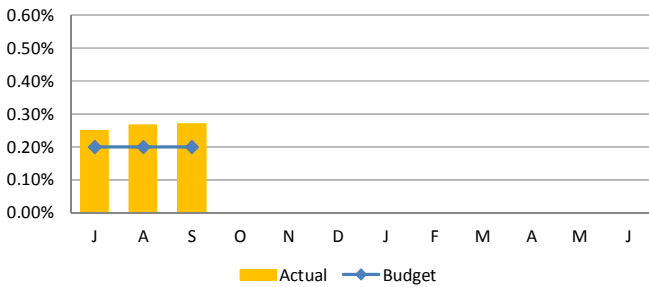


YTD Average Interest Rate Budgeted vs. Actual

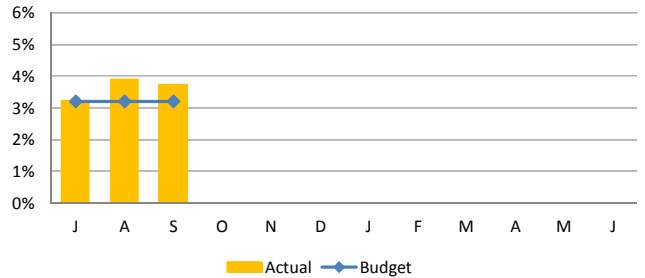


Monthly

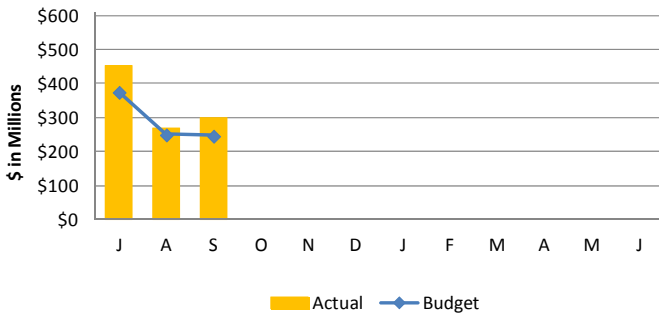
Short-Term Interest Rates



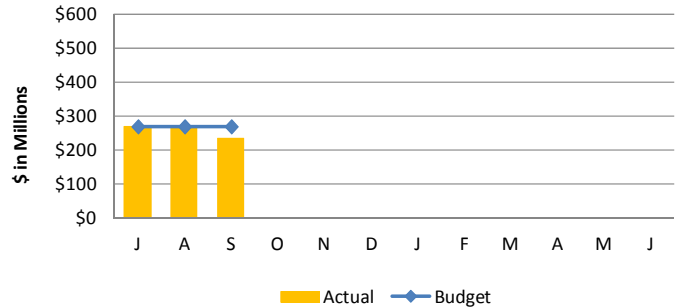
Long-Term Interest Rates




Short-Term Average Balances



Long-Term Average Balances




STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: FY16 Financial Update and Summary - October 2015

COMMITTEE: Administration, Finance & Audit

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 October, comparing actual spending to the budget.

DISCUSSION:

Total year-to-date expenses are lower than budget by \$9.0 million or 4.0% and total revenues were higher than budget by \$862,000 or 0.4% for a net variance of \$9.9 million.

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

	FY16 Budget	FY16 Actual	\$ Variance	% Variance
Direct Expenses	\$67.7	\$65.7	-\$2.0	-3.0%
Indirect Expenses	\$19.3	\$18.9	-\$0.4	-2.0%
Debt Service	\$136.9	\$130.3	-\$6.6	-4.8%
Total	\$223.9	\$214.9	-\$9.0	-4.0%

The variances through October by major categories were:

- Lower Direct Expenses of \$2.0 million for Wages and Salaries, Workers' Compensation, Utilities, Other Services, Maintenance, Chemicals, Professional Services, and Fringe Benefits;
- Lower Indirect Expenses of \$390,000 for lower Watershed reimbursements and lower insurance costs, mostly for claims;
- Lower Debt Service Expense of \$6.6 million due to favorable short-term interest rates of \$5.0 million and the impact of defeasances related to reserve releases for \$1.6 million.

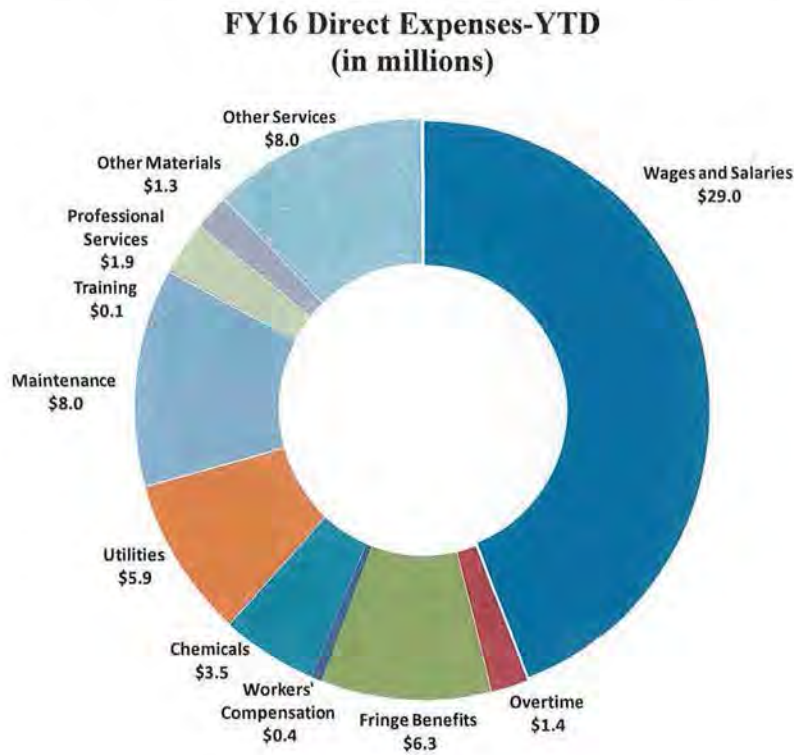
- Revenues exceeded budget by \$862,000 due to higher non-rate revenue and more than budgeted investment income.

As the year progresses, staff intend to once again deposit favorable debt service savings in the defeasance account which will be used for targeted defeasance in the spring. Targeted defeasances are a critical component of the Authority's multi-year rate management strategy.

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

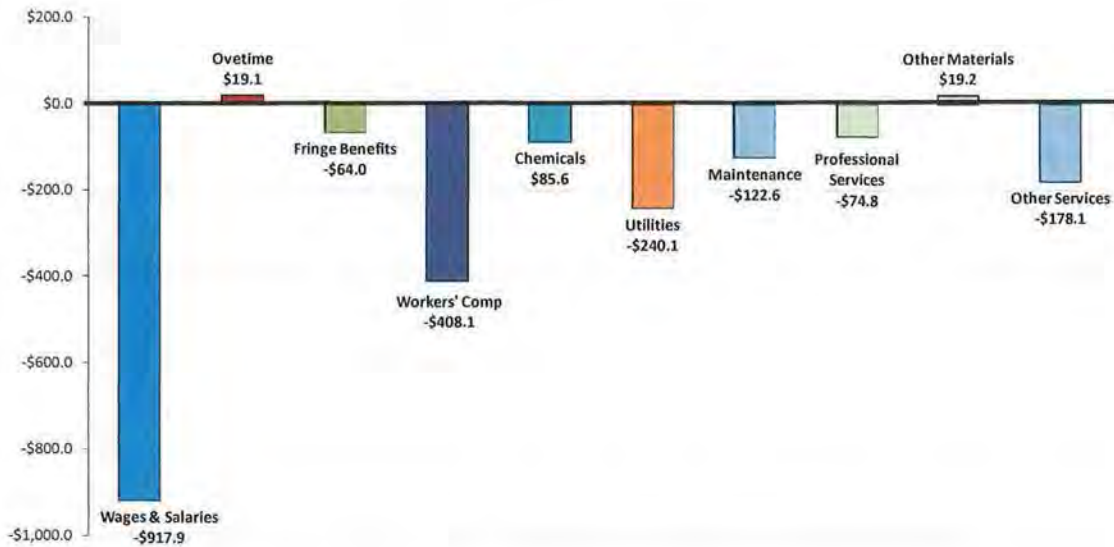
Direct Expenses

Year-to-date direct expenses totaled \$65.7 million, \$2.0 million or 3.0% less than budgeted.



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

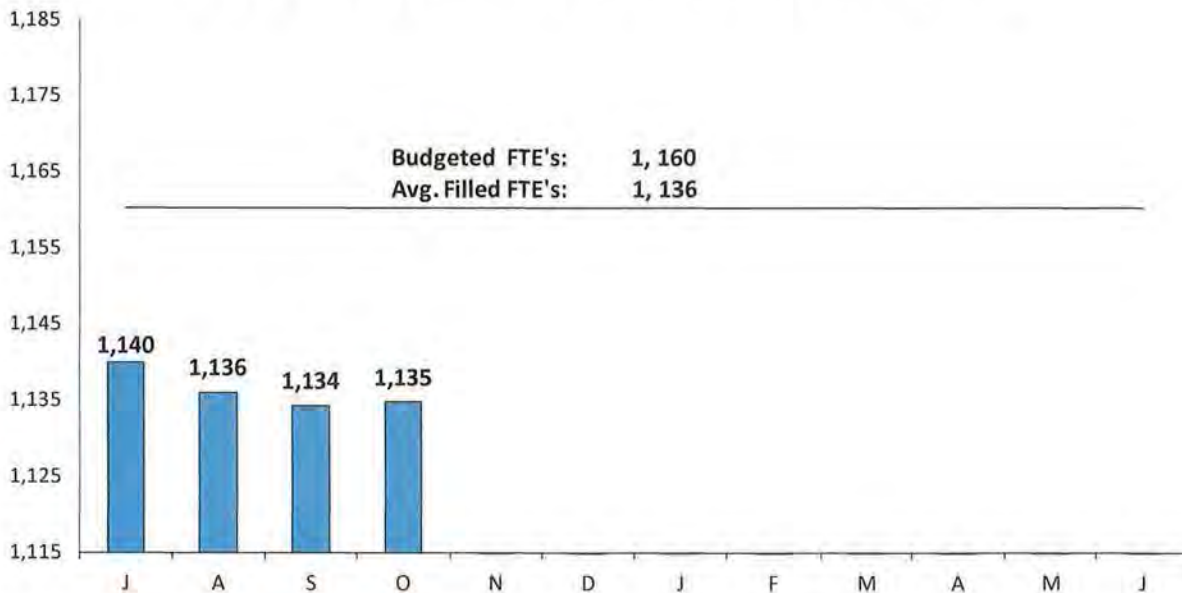
FY16 Direct Expense Variance (in 000's)



Wages and Salaries

Wages and Salaries were underspent by \$918,000 or 3.1% mainly as a result of lower average Full Time Equivalent positions (FTEs) than budgeted and the timing of back filling vacant positions and the salary mix differential between staff retiring and new hires. The average FTEs through October were 1,136, which was 24 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had two temporary employees.

FY16 MWRA Full Time Equivalent (FTE) Position Trend

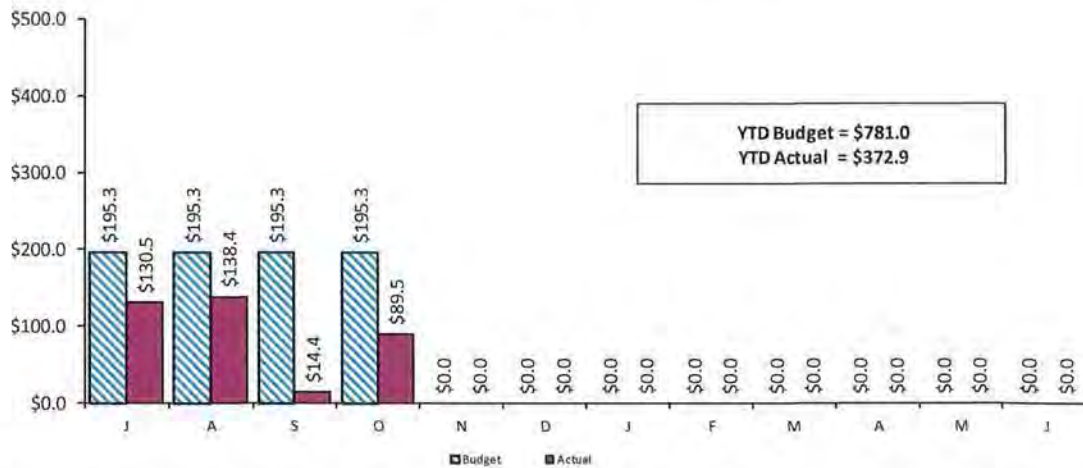


In October 2015, the Authority had 1,142 filled positions vs. 1,170 budgeted positions.

Workers' Compensation

Workers' Compensation expenses were lower than budget by \$408,000 or 52.3% based on lower compensation payments of \$228,000 and medical expenses of \$178,000. The lower spending trend continued in October, which is the result of lump sum settlements in prior periods, thus lowering reserves. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.

**FY16 Workers' Compensation Spending
(in 000's)**



# of Open Claims-Lost Time	62	61	62	62	0	0	0	0	0	0	0	0
# of Open Claims-Medical Only	22	17	23	23	0	0	0	0	0	0	0	0

Utilities

Utilities were underspent \$240,000 or 3.9% for lower Electricity of \$612,000 mainly due to underspending at Deer Island of \$640,000 for over accrual at the end of FY15, lower commodity and transmission and distribution costs, and lower flows which resulted in less pumping demand. This was offset by higher spending on Diesel Fuel of \$366,000 due the early purchase for Deer Island to take advantage of low market pricing. In September, 294,000 gallons of diesel fuel were purchased at a cost of \$1.57/gallon versus a budgeted price of \$2.75/gallon planned for March 2016.

Other Services

Other Services were lower than budget by \$178,000 or 2.2% due to lower spending of \$100,000 for sludge pelletization services for lower year to date tonage; \$59,000 for Grit and Screenings disposal services primarily due to lower quantities; \$34,000 for Space Lease Rentals for the Chelsea facility lease due to an overpayment of escrow for insurance; \$27,000 for Other Rentals; \$18,000 for Police details; and \$11,000 for Health & Safety Services. The underspending is offset by higher spending on Telephone Services of \$35,000 associated with FOD SCADA lines for the water and wastewater facilities and Other Services of \$33,000 for Ward Street Headworks radio tower demolition.

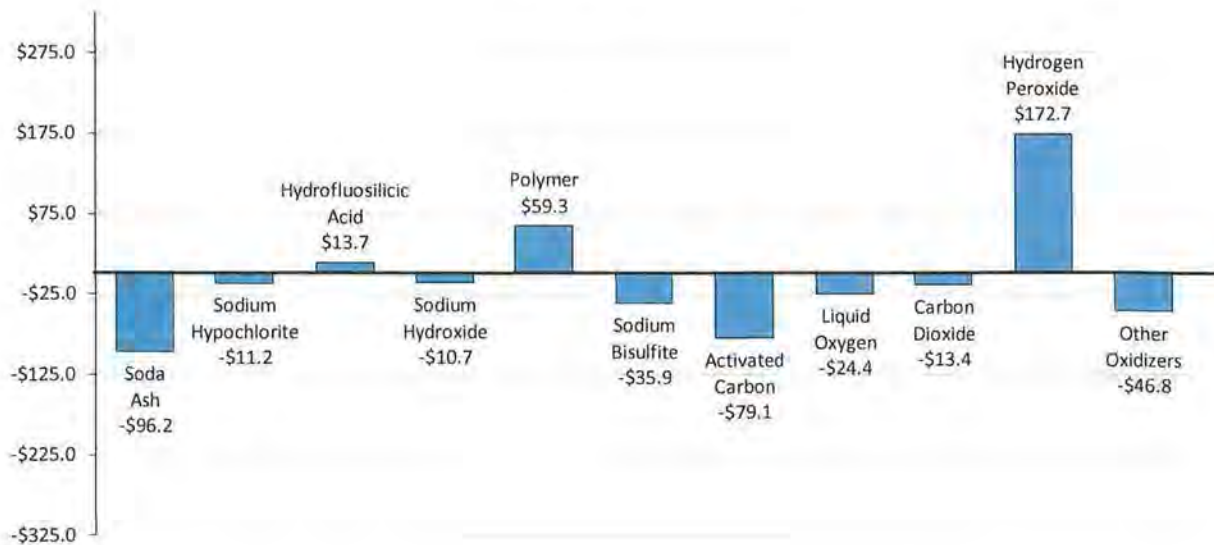
Maintenance

Maintenance expenses were lower than budgeted by \$123,000 or 1.5% year-to-date. Services were underspent by \$701,000 primarily due to schedule shifts for several projects planned for this year. Materials were overspent by \$578,000. Some projects such as the CTG maintenance, the roller gates refurbishments and the digester mixer replacement at Deer Island were delayed, and some materials such as transfer switches for Water Pump Stations and a forklift scheduled for FY15 was received this year. Maintenance expenses are projected to be close to budget by year-end.

Chemicals

Chemical expenses were lower than budgeted by \$86,000 or 2.4% year-to-date mainly due to lower than budgeted Soda Ash of \$96,000 and Carbon Dioxide of \$13,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Activated Carbon of \$79,000 due to timing of deliveries; Other Oxidizers of \$47,000 due to timing of deliveries and lower pricing for the new contract; Sodium Bisulfite of \$36,000 due to time of deliveries at DITP and lower usage in Wastewater Ops due to lower rain fall; Liquid Oxygen of \$24,000 due to lower usage due to better raw water quality and UV disinfection. This is offset by overspending on Hydrogen Peroxide of \$173,000 due to increased need for pretreatment of hydrogen sulfide gas due to lower than budgeted plant flows and Polymer of \$59,000 due to treating high volume of sludge.

FY16 Chemical Expense Variances
(in 000's)



Professional Services

Professional Services spending was lower than budget by \$75,000 or 3.8% primarily associated with Lab Testing & Analysis of \$52,000 in ENQUAL-Wastewater; Resident Inspection of \$22,000 in Reservoir Operations; Engineering of \$18,000; and Legal of \$11,000 in Law and HR.

Fringe Benefits

Fringe Benefits spending is lower than budget by \$64,000 or 1.0% for Health Insurance of \$48,000 and Dental Insurance of \$40,000 due to fewer than budgeted filled positions. This is offset by higher spending in Medicare costs of \$14,000.

Other Materials

Other Materials were higher than budget by \$19,000 or 1.5% mainly due timing of Vehicle Purchase of \$157,000; Computer Hardware of \$58,000 and Lab and Testing Supplies of \$49,000 mainly due to receipt of equipment ordered in FY15 and received in Quarter 1 of FY16, and Health & Safety of \$26,000. The overspending is offset by lower Equipment and Furniture purchases of \$142,000 and Other Materials of \$45,000 due to timing and Vehicle Expense of \$94,000 mostly due to lower fuel prices.

Overtime

Overtime expenses were higher than budgeted by \$19,000 or 1.4% for greater spending in Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, and start-up at Spot Pond offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.

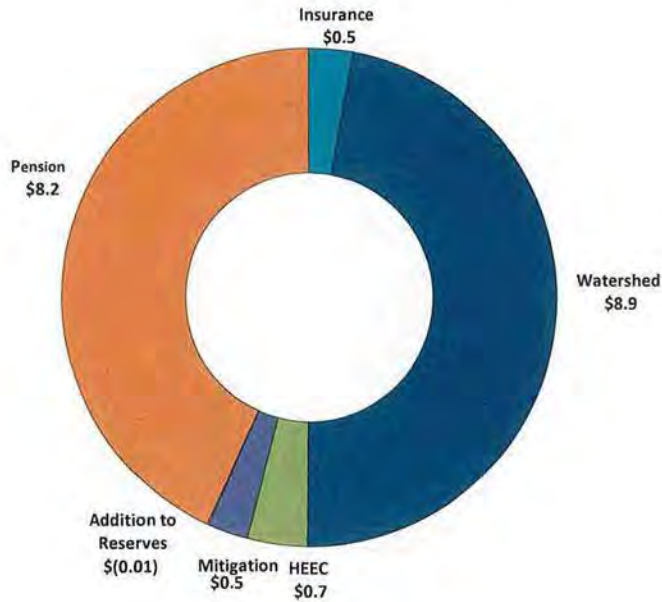
Training & Meetings

Training and Meetings spending was more than budget by \$9,000 or 11.4% due to timing.

Indirect Expenses

Through October Indirect expenses total \$18.9 million, \$390,000 or 2.0% lower than budget. The majority of the FY16 underspending is related to lower Watershed Reimbursement of \$255,000 for FY15 over accrual and lower Insurance costs of \$169,000 mostly related to claims. Offset by higher spending of \$39,000 for Winthrop and Quincy mitigation.

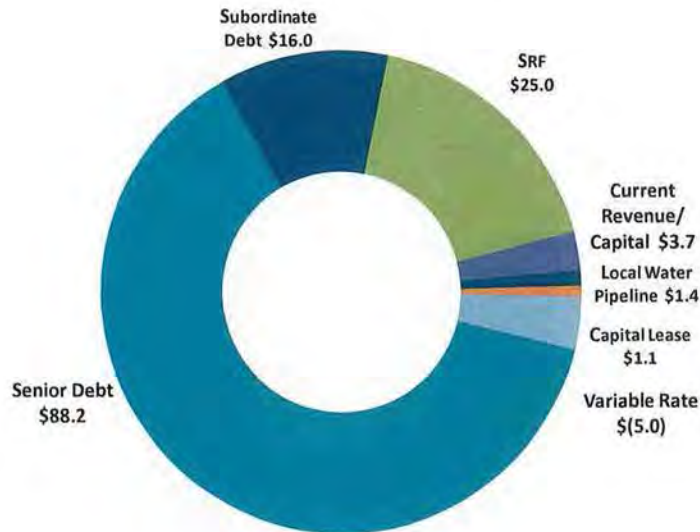
**FY16 Indirect Expenses-YTD
(in millions)**



Debt Service Expenses

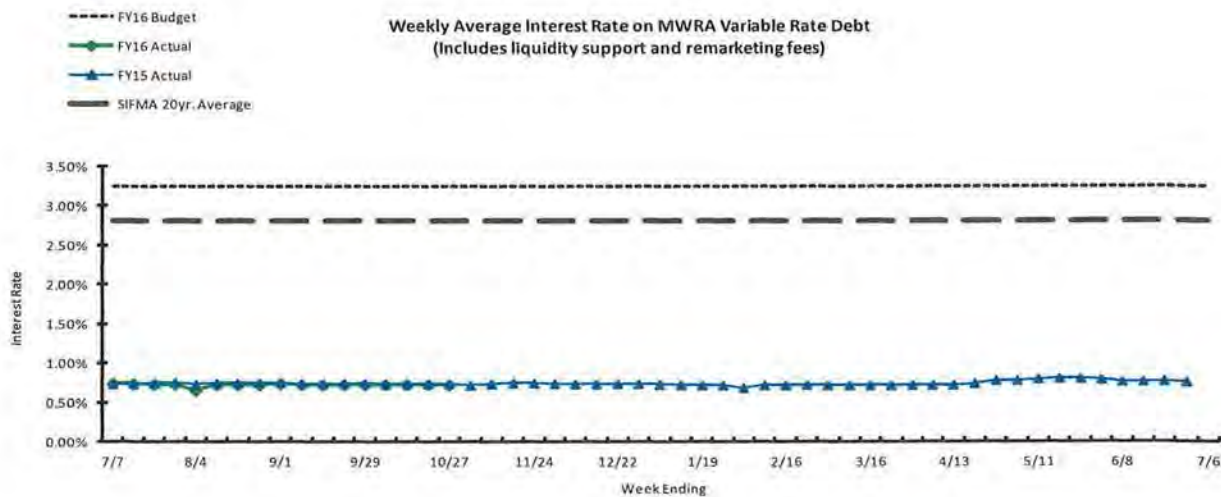
Debt Service expenses include the principal and interest payment for fixed debt, the variable subordinate debt, and the State Revolving Fund (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, and the Chelsea facility lease payment.

**FY16 Debt Expenses-YTD
(in millions)**



Debt Service expenses YTD October totaled \$130.3 million which was \$6.6 million or 4.8% lower than budget. Of the \$6.6 million, \$5.0 million is due to the low short-term interest rates and \$1.6 million is the favorable impact of defeasances related to reserve releases.

The graph below reflects the FY16 actual variable rate trend by month over the past year and the FY16 Budget.



Revenue

Revenue for year to date through September totaled \$234.1 million which was \$862,000 or 0.4% higher than budget.

The higher non-rate Revenue is due to \$263,000 for Energy Revenue due to timing, higher Miscellaneous Revenue of 187,000, higher surplus equipment sales of \$159,000, and greater Investment Income of \$195,000.

The higher Investment Income of \$195,000 is primarily due to investments called sooner than projected that provided gains on investments not budgeted. This positive variance will erode as long-term funds are reinvested at lower rates than the called investments. Short-term interest rates are higher than budgeted which also had a slightly favorable impact on the investment income variance.

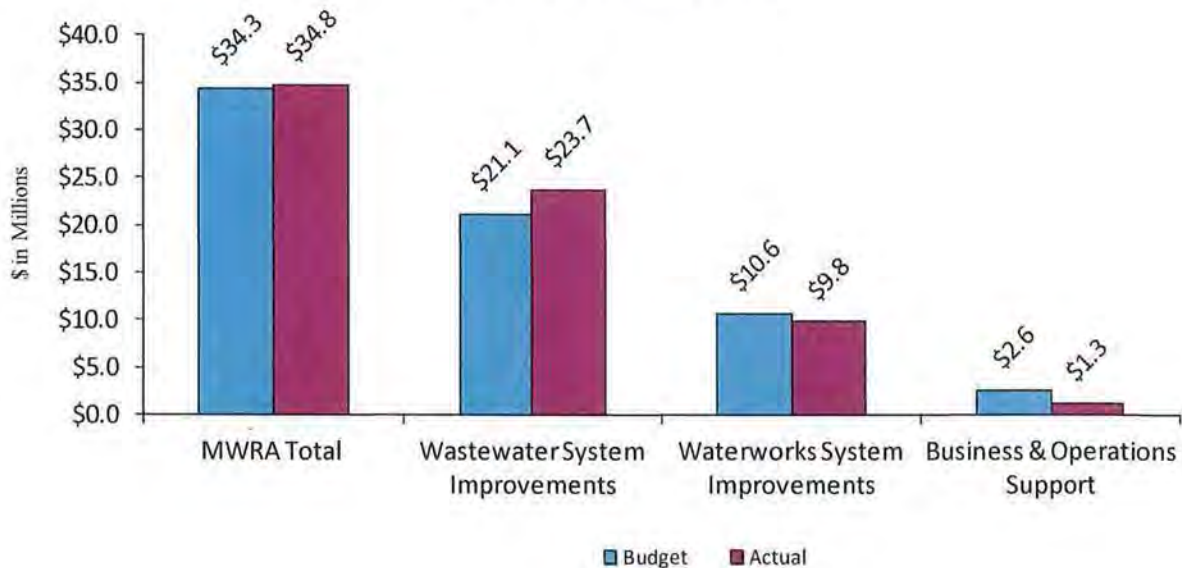
Please refer to Attachment 2 for a more detailed comparison by line item.

FY16 Capital Improvement Program

Spending year-to-date in FY16 totals \$34.8 million, \$0.4 million or 1.3% higher 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, underspending is \$5.4 million or 21.2%. Overspending was reported in Wastewater of \$2.5 million offset by underspending in Business and Operations Support of \$1.3 million and Waterworks of \$789,000.

Spending By Program:

FY16 CIP Spending Year-To-Date October



\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	1.8	0.9	-0.8	-46.5%
Treatment	10.5	9.0	-1.5	-14.6%
Residuals	0.0	0.0	0.0	N/A
CSO	6.6	13.9	7.3	110.5%
Other	2.3	-0.1	-2.4	-105.3%
Total Wastewater System Improvements	\$21.1	\$23.7	\$2.5	12.0%
Waterworks System Improvements				
Drinking Water Quality Improvements	3.0	1.7	-1.3	-43.8%
Transmission	1.4	0.8	-0.5	-39.0%
Distribution & Pumping	5.7	6.1	0.4	7.6%
Other	0.6	1.2	0.6	99.1%
Total Waterworks System Improvements	\$10.6	\$9.8	-\$0.8	-7.4%
Business & Operations Support	\$2.6	\$1.3	-\$1.3	-50.9%
Total MWRA	\$34.3	\$34.8	\$0.4	1.3%

The main reasons for the overspending were:

1. **Combined Sewer Overflow (CSO)** of \$7.3 million – due to the Cambridge water use of \$5.6M and updated cost estimates of approximately \$2.1 million due to unforeseen utility locations and private utility coordination, subsurface conditions, and additional engineering services during construction, partially offset by MWR003 Gate & Siphon of \$424,000 due to timing.
2. **Waterworks Other** of \$602,000 – due to higher community requests and an amended community repayment schedule approved by the Board after the submittal of the FY16 budget.
3. **Water Distribution and Pumping** of \$435,000 – mainly for Spot Pond Supply Mains Rehabilitation of \$689,000 due to progress on Webster Avenue Bridge Construction and Weston Aqueduct Supply Mains Section 36/W11 C/S 9-All Valve of \$106,000, partially offset by NIH Redundancy & Storage of \$174,000.

The overspending was offset by underspending on the following programs:

1. **Wastewater Other** of \$2.4 million – primarily due to less than anticipated community requests for grants and loans.
2. **Wastewater Treatment** of \$1.5 million – mainly for Butterfly Valve Replacement Construction of \$826,000, Electrical Equipment Upgrade Construction of \$474,000, Clinton Digester Cleaning of \$408,000, North Main Pump Station VFD Replacement of \$357,000, Secondary Reactor Variable Frequency Drives of \$227,000, and Clarifier Rehab Phase 2 \$136,000 due to timing.
3. **Drinking Water Quality Improvements** of \$1.3 million – mainly for Spot Pond Covered Storage of \$1.1 million due to timing of work and weather delays.
4. **Business and Operations Support** of \$1.3 million – mainly for lower than budgeted spending for Security Equipment of \$443,000 due to delay in award of monitoring equipment and network upgrade contracts, Capital Maintenance Planning & Development of \$475,000 due to lower than projected use of as-needed technical assistance, and MIS initiatives of \$357,000 due to timing of IT Strategic Plan implementation.
5. **Interception & Pumping** of \$815,000 – reflecting underspending on Chelsea Creek Screen House of \$722,000 due to timing and Chelsea Creek Upgrade Design of \$225,000.
6. **Waterworks Transmission** of \$531,000 – underspending for Watershed Land of \$502,000 due to the timing of land acquisitions and Long Term Redundancy of \$210,000 due to schedule changes and alternative analysis.

Construction Fund Balance

The construction fund balance was at \$47.5 million as end of October. Commercial Paper availability was at \$220 million to fund construction projects.

Attachment 1 – Variance Summary October 2015

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1

	October 2015					
	Year-to-Date					
	Period 4 YTD Budget	Period 4 YTD Actual	Period 4 YTD Variance	%	FY16 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 29,906,512	\$ 28,988,573	\$ (917,939)	-3.1%	\$ 99,363,168	29.2%
OVERTIME	1,349,367	1,368,494	19,127	1.4%	4,219,293	32.4%
FRINGE BENEFITS	6,376,539	6,312,543	(63,996)	-1.0%	19,326,756	32.7%
WORKERS' COMPENSATION	781,000	372,864	(408,136)	-52.3%	2,343,000	15.9%
CHEMICALS	3,623,502	3,537,901	(85,601)	-2.4%	9,790,848	36.1%
ENERGY AND UTILITIES	6,106,260	5,866,146	(240,114)	-3.9%	23,164,822	25.3%
MAINTENANCE	8,116,059	7,993,425	(122,634)	-1.5%	28,698,772	27.9%
TRAINING AND MEETINGS	79,362	88,447	9,085	11.4%	413,714	21.4%
PROFESSIONAL SERVICES	1,965,841	1,891,087	(74,754)	-3.8%	5,819,611	32.5%
OTHER MATERIALS	1,285,884	1,305,086	19,202	1.5%	6,164,589	21.2%
OTHER SERVICES	8,154,027	7,975,913	(178,114)	-2.2%	23,529,902	33.9%
TOTAL DIRECT EXPENSES	\$ 67,744,353	\$ 65,700,479	\$ (2,043,873)	-3.0%	\$ 222,834,475	29.5%
INSURANCE	\$ 706,414	\$ 537,729	\$ (168,685)	-23.9%	\$ 2,160,797	24.9%
WATERSHED/PILOT	9,185,307	8,930,195	(255,112)	-2.8%	28,096,233	31.8%
BEC _o PAYMENT	751,709	746,415	(5,294)	-0.7%	1,946,157	38.4%
MITIGATION	457,692	496,923	39,231	8.6%	1,400,000	35.5%
ADDITIONS TO RESERVES	(11,418)	(11,418)	-	0.0%	(34,927)	32.7%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%	8,159,521	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	5,224,848	0.0%
TOTAL INDIRECT EXPENSES	\$ 19,249,225	\$ 18,859,365	\$ (389,860)	-2.0%	\$ 46,952,629	40.2%
STATE REVOLVING FUND	\$ 24,987,716	\$ 24,987,716	\$ -	0.0%	\$ 81,876,277	30.5%
SENIOR DEBT	89,812,121	88,233,414	(1,578,707)	-1.8%	283,024,431	31.2%
CORD FUND	-	-	-	---	-	---
DEBT SERVICE ASSISTANCE	-	-	-	---	-	---
CURRENT REVENUE/CAPITAL	3,661,538	3,661,538	-	0.0%	11,200,000	32.7%
SUBORDINATE MWRA DEBT	16,043,193	16,043,193	-	0.0%	49,222,442	32.6%
LOCAL WATER PIPELINE CP	1,356,482	1,356,482	-	0.0%	4,149,240	32.7%
CAPITAL LEASE	1,051,731	1,051,731	-	0.0%	3,217,060	32.7%
VARIABLE DEBT	-	(4,995,704)	(4,995,704)	---	-	0.0%
BOND REDEMPTION SAVINGS	-	-	-	---	-	---
DEFEASANCE ACCOUNT	-	-	-	---	-	---
TOTAL DEBT SERVICE	\$ 136,912,782	\$ 130,338,371	\$ (6,574,411)	-4.8%	\$ 432,689,450	30.1%
TOTAL EXPENSES	\$ 223,906,360	\$ 214,898,215	\$ (9,008,144)	-4.0%	\$ 702,476,554	30.6%
REVENUE & INCOME						
RATE REVENUE	\$ 219,836,154	\$ 219,836,154	\$ -	0.0%	\$ 672,440,000	32.7%
OTHER USER CHARGES	3,694,124	3,747,803	53,679	1.5%	8,683,898	43.2%
OTHER REVENUE	6,809,241	7,422,299	613,058	9.0%	12,000,066	61.9%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	2,924,130	3,119,095	194,965	6.7%	9,352,590	33.4%
TOTAL REVENUE & INCOME	\$ 233,263,649	\$ 234,125,351	\$ 861,703	0.4%	\$ 702,476,554	33.3%

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD October	FY16 Actuals YTD October	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	29,906,512	28,988,573	(917,939)	-3.1%	Underspending is mainly the result of lower average Full Time Equivalent positions (FTEs) than budgeted and the timing of backfilling vacant positions and the salary mix differential between staff retiring and new hires. The average FTEs through October were 1,136, which was 24 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had two temporary employees.
Overtime	1,349,367	1,368,494	19,127	1.4%	Overspending mainly in Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, and start-up at Spot Pond offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.
Fringe Benefits	6,376,539	6,312,543	(63,996)	-1.0%	Lower than budget mainly due to Health Insurance of \$48,000 and Dental Insurance of \$40,000 due to lower headcount offset by overspending for Medicare of \$14,000 and Unemployment Insurance of \$3,500.
Worker's Compensation	781,000	372,864	(408,136)	-52.3%	Underspending due to lower compensation payments of \$228,000 and medical expenses of \$178,000. The lower spending trend continued in October, which is the result of lump sum settlements in prior periods which lower reserves. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.
Chemicals	3,623,502	3,537,901	(85,601)	-2.4%	Lower year-to-date spending primarily due to lower than budgeted use of Soda Ash of \$96,000 and Carbon Dioxide of \$13,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash, Activated Carbon of \$79,000 and Other Oxidizers of \$47,000 due timing of deliveries, Sodium Bisulfite of \$36,000 due to timing of deliveries at DITP and lower usage in Wastewater Ops due to lower rain fall, Liquid Oxygen of \$24,000 due to lower usage due to better raw water quality and UV disinfection. This is offset by higher spending for Hydrogen Peroxide of \$173,000 due to pretreatment being required due to elevated H2S levels due to low flows and Polymer of \$59,000 due to treating higher volume of sludge.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY16 Budget YTD October	FY16 Actuals YTD October	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Utilities	6,106,260	5,866,146	(240,114)	-3.9%	Underspending due to lower Electricity of \$612,000 mainly at DITP of \$640,000 for over accrual at the end of FY15, lower commodity, transportation & distribution costs, and lower flows requiring less pumping. This underspending was offset by higher spending on Diesel of \$366,000 due to the early purchase of diesel at DITP to take advantage of low pricing. We purchased 294,000 gallons of diesel at \$1.57/gallon versus a budgeted price of \$2.75/gallon, planned for March 2016.
Maintenance	8,116,059	7,993,425	(122,634)	-1.5%	Services were underspent by \$701,000 primarily due to schedule shifts for several projects planned for this year. Materials were overspent by \$578,000. Some projects such as the CTG maintenance, the roller gates refurbishments and the digester mixer replacement at Deer Island were delayed, and some materials such as transfer switches for Water Pump Stations and a forklift scheduled for FY15 was received this year. Maintenance expenses are projected to be close to budget by year-end.
Training & Meetings	79,362	88,447	9,086	11.4%	Higher spending primarily associated with timing of Operations and MIS training initiatives. This is offset by lower spending in Fleet Services for training of mechanics.
Professional Services	1,965,841	1,891,087	(74,754)	-3.8%	Lower spending on Lab & Testing & Analysis of \$52,000 in ENQUAL-Wastewater, Resident Inspection of \$22,000 in Reservoir Operations, Engineering of \$18,000 and Legal of \$11,000 in Law and HR.
Other Materials	1,285,884	1,305,086	19,202	1.5%	Higher than budget mainly for timing of Vehicle Purchases of \$157,000, Computer Hardware of \$58,000 and Lab and Testing Supplies of \$49,000 mainly due to receipt of equipment ordered in FY15 and received in quarter 1 of FY16; Health & Safety of \$26,000; and miscellaneous materials of \$16,000. The overspending is offset by lower Equipment and Furniture purchases of \$142,000 and Other Materials of \$45,000 due to timing and Vehicle Expense of \$94,000 mostly due to lower fuel prices.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY16 Budget YTD October	FY16 Actuals YTD October	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Other Services	8,154,027	7,975,913	(178,114)	-2.2%	Lower than budgeted spending for Pellet Processing of \$100,000 and Grit and Screenings of \$59,000 primarily due to lower quantities; Space Lease Rentals of \$34,000 primarily associated with the Chelsea facility lease due to overpayment of escrow for insurance; Other Rentals of \$27,000; Police Details of \$18,000 and Health and Safety services of \$11,000. Telephone of \$10,000. The underspending is offset by higher spending on Telephone Services of \$35,000 associated with SCADA lines for water and wastewater facilities and Other Services of \$33,000 for Ward Street Headworks radio tower demolition.
Total Direct Expenses	67,744,353	65,700,479	(2,043,873)	-3.0%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD October	FY16 Actuals YTD October	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	706,414	537,729	(168,685)	-23.9%	Lower Payments/Claims of \$138,000 and Premiums of \$31,000.
Watershed/PILOT	9,185,307	8,930,195	(255,112)	-2.8%	Underspending due to lower Reimbursement expenses of \$255k due to FY15 overaccrual.
HEEC Payment	751,709	746,415	(5,294)	-0.7%	Lower O&M charges.
Mitigation	457,692	496,923	39,231	8.6%	
Addition to Reserves	(11,418)	(11,418)	-	0.0%	
Pension Expense	8,159,521	8,159,521	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	19,249,225	18,859,365	(389,860)	-2.0%	
Debt Service					
Debt Service	136,912,782	130,338,371	(6,574,411)	-4.8%	\$5 million of the variance is due to the low short-term interest rates and \$1.6 million is the favorable impact of defeasances related to reserve releases.
Debt Service Assistance	-	-	-		
Total Debt Service Expenses	136,912,782	130,338,371	(6,574,411)	-4.8%	
Total Expenses	223,906,360	214,898,215	(9,008,144)	-4.0%	
Revenue & Income					
Rate Revenue	219,836,154	219,836,154	-	0.0%	
Other User Charges	3,694,124	3,747,803	53,679	1.5%	
Other Revenue	6,809,241	7,422,299	613,058	9.0%	Higher Energy revenue of \$263,000 due to timing, Miscellaneous Revenue of \$187,000 and sale of surplus equipment of \$159,000.
Rate Stabilization	-	-	-		
Investment Income	2,924,130	3,119,095	194,966	6.7%	The higher Investment Income of \$195,000 is primarily due to investments called sooner than projected that provided gains on investments not budgeted. This positive variance will erode as long-term funds are reinvested at lower rates than the called investments. Short-term interest rates are higher than budgeted which also had a slightly favorable impact on the investment income variance.
Total Revenue	233,263,649	234,125,351	861,703	0.4%	
Net Revenue in Excess of Expenses	9,357,289	19,227,134	9,869,847		

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

	FY16 Budget YTD October	FY16 Actuals YTD October	YTD Actuals vs. Budget		Explanations
			\$	%	
Interception & Pumping (I&P)	\$1,753	\$937	(\$815)	-46.5%	Underspending mainly due to Chelsea Screenhouse Upgrades of \$722,000 due to timing, Chelsea Creek Upgrades Design/Construction Administration of \$225,000 due to design delays, and other smaller projects totaling \$157,000. Offset by Nut Island Headworks Electric, Grit & Screenings Conveyance Design and Construction of \$289,000 due to progress.
Treatment	\$10,480	\$8,950	(\$1,530)	-14.6%	Underspending on Butterfly Valve Replacement of \$826,000, Electrical Equipment Upgrades - Construction 4 of \$474,000, As-Needed Design 7-2 and 7-3 of \$409,000, Clinton Digester Cleaning & Rehab of \$408,000, North Main Pump Station VFD Replacement of \$357,000, Secondary Reactor VFDs of \$227,000, and Clarifier Rehab Phase 2 - Design of \$136,000 due to timing. Offset by overspending on Scum Skimmer Replacement of \$759,000 due to contractor progress, HVAC Equipment Replacement Design/Engineering Services During Construction of \$177,000 due to timing and other smaller projects totaling \$371,000.
Residuals	\$0	\$0	\$0	-	
CSO	\$6,609	\$13,914	\$7,305	110.5%	Overspending on Cambridge Sewer Separation of \$7.7M due to water use during construction activities and updated cost estimates as a result of additional unforeseen conditions. Offset by MWR003 Gate & Siphon of \$424,000 due to timing.
Other Wastewater	\$2,308	(\$122)	(\$2,430)	-	Underspending on Infiltration and Inflow (I/I) due to community requests for grants and loans being less than budgeted.
Total Wastewater	\$21,150	\$23,680	\$2,530	12.0%	
Drinking Water Quality Improvements	\$2,955	\$1,661	(\$1,294)	-43.8%	Underspending due to timing of work and weather delays for Spot Pond Storage Facility of \$1.1M and Carroll Water Treatment Plant's Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection of \$236,000 due to timing. Offset by overspending on Existing Facilities CP-7 of \$137,000 primarily due to timing.

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

	FY16 Budget YTD October	FY16 Actuals YTD October	YTD Actuals vs. Budget		Explanations
			\$	%	
Transmission	\$1,364	\$833	(\$531)	-39.0%	Underspending for Watershed Land of \$502,000 due to the timing of land acquisitions and Long Term Redundancy of \$210,000 due to schedule change for Wachusett Aqueduct Pump Station and alternative analysis. Offset by Hatchery Pipeline Design/Engineering Services During Construction/Resident Engineer Inspection of \$239,000 due to consultant progress and scope changes.
Distribution & Pumping	\$5,699	\$6,134	\$435	7.6%	Overspending on Spot Pond Supply Mains Rehab of \$689,000 mainly for Section 4 Webster Avenue Bridge Pipe Rehabilitation - Construction and Weston Aqueduct Supply Mains Section 36/C/S9 - A11 Valve of \$106,000 due to contractor progress offset by NIH Redundancy & Storage of \$174,000.
Other Waterworks	\$607	\$1,209	\$602	99.1%	Overspending due to higher community requests for Local Water System loans and an amended community repayment schedule approved by the Board after the submittal of the FY16 budget.
Total Waterworks	\$10,625	\$9,836	(\$789)	-7.4%	
Business & Operations Support	\$2,571	\$1,263	(\$1,308)	-50.9%	Underspending on Security Equipment of \$443,000 due to delay in award of network upgrade and monitoring equipment contracts, Capital Maintenance Planning & Development of \$475,000 due to lower than projected use of as-needed technical assistance, and MIS-related projects of \$357,000 due to timing of IT Strategic Plan implementation.
Total MWRA	\$34,346	\$34,779	\$433	1.3%	

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: OPEB Trust Investment



COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

Matthew R. Horan, Treasurer
Preparer/Title



Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only.

DISCUSSION:

In April 2015, the Board approved the establishment of an irrevocable trust for the purpose of providing a means of funding MWRA's current and projected Other Post Employment Benefits (OPEB). The MWRA OPEB Trust was initially funded with \$10 million from a portion of the reserves available due to the amendments to the General Revenue Bond Resolution and with \$800,000 budgeted and put aside for OPEB funding in 2012.

The Trustees have met to develop an investment strategy, review the independent audited financial statements and are administering the Trust consistent with the best practices recommended by the Government Finance Officers Association.

In May 2015, the Trustees met with financial and investment advisors from MWRA's financial advisor firm, The PFM Group (PFM). PFM presented three strategic alternatives for the investment of the trust funds. First, the MWRA OPEB Trust could invest with the Massachusetts Pension Reserve Investment Trust (PRIT) managed by Pension Reserves Investment Management (PRIM). Second, the MWRA OPEB Trustees could manage the assets with the assistance of an investment consultant. Third, the MWRA OPEB Trustees could select a partner to whom they would outsource investment responsibility while retaining oversight responsibility. After much discussion and consideration, the Trustees have chosen to invest in the PRIT fund.

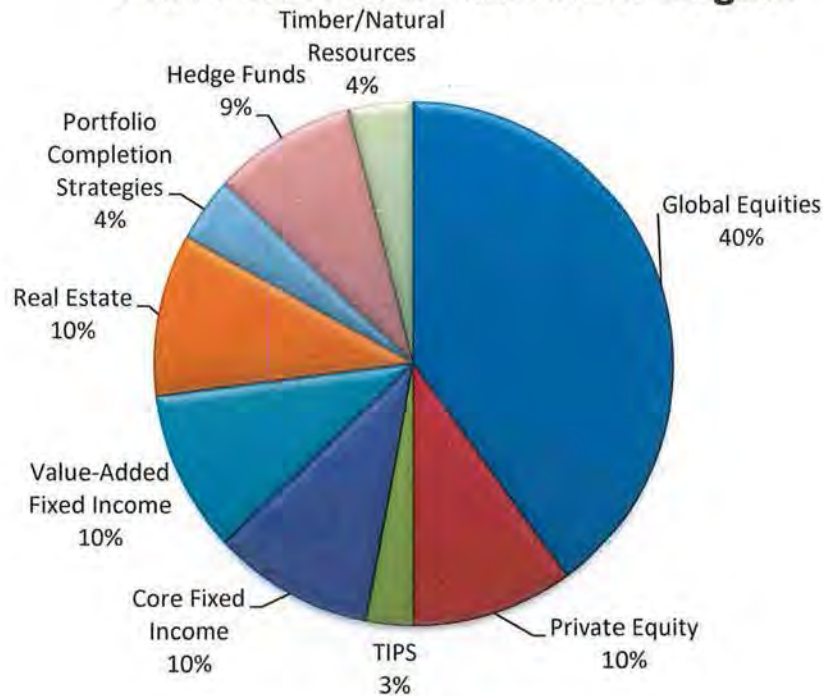
The PRIT Fund is the investment portfolio for the Massachusetts State Retirement System, the Massachusetts Teachers Retirement System, and other retirement systems of Massachusetts cities and towns, and other local governmental units. The fund is currently at approximately \$61.2 billion. The fund's performance has been strong.

Annualized Returns as of September 30, 2015

	CYTD	1 Year	3 Years	5 Years	10 Years
PRIT	-1.3%	0.8%	8.3%	8.3%	6.0%
Benchmark	-2.4%	-1.1%	6.1%	6.4%	5.5%

The fund is well diversified and appropriately balanced to best achieve its long-term goals.

PRIT Fund Asset Allocation Targets




The PRIT fund has several participants investing, all with somewhat different investment goals reflecting varied funding levels and assumed rates of return. This approach has been described as “one size fits all.” Theoretically, a more custom-tailored portfolio might better serve the MWRA OPEB Trust, but in practicality, given the competitive fee structure of 55 basis points (0.55%), the strong and consistent risk adjusted returns, the relatively small amount to be invested at this time, and no penalty for withdrawal if that should be decided, the MWRA OPEB Trustees found this approach most advantageous of the three alternatives presented by PFM as have 43 other Massachusetts local OPEB funds. The Trustees will evaluate this decision at least annually and make adjustments when warranted.

BUDGET/FISCAL IMPACT:



There is no impact to FY16 Current Expense Budget. Any management costs associated with this investment will be paid by the MWRA OPEB Trust.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Approval of the Seventy-First Supplemental Bond Resolution

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

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


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

To adopt the Seventy-First Supplemental Resolution authorizing the issuance of up to \$55,000,000 of Massachusetts Water Resources Authority Subordinated General Revenue Bonds and the supporting issuance resolution.

DISCUSSION:

The Massachusetts Clean Water Trust ("MCWT") is in the process of finalizing its plans to issue its Pool 19 bonds for purposes of providing subsidized financing for water and wastewater capital projects to Massachusetts governmental entities. In order to move ahead with the Pool 19 borrowing, MCWT requires that all borrowers sign loan commitment documents which indicate that they have the authorization to borrow these funds. Typically once that process is complete, MCWT will issue bonds and close on the loans with the various borrowers within three to six months. MCWT is currently planning on issuing its Pool 19 bonds in either late January or early February 2016.

In Fiscal Year 2016, MWRA anticipates receiving up to \$55 million in new low interest loans from the Pool 19 proceeds to fund several water and wastewater projects. Depending upon the useful life of the assets financed water projects funded with MCWT financing may have a maturity schedule of up to 20 years; wastewater projects funded with MCWT financing may have a maturity of up to 30 years,. The loans with a 20-year maturity will have a fixed interest rate of 2.15% and loans with a 30-year maturity will have a fixed interest rate of approximately 2.55%, including the MCWT administrative fee of 0.15%.

MWRA expects to receive reimbursements for projects including: Lower Hultman Aqueduct Rehabilitation, Southern Spine Distribution Mains, Spot Pond Covered Storage, Combined Sewer Overflow ("CSO") Control Plan, and Deer Island Treatment Plant Improvements.

BUDGET/FISCAL IMPACT:

There are sufficient funds available in the FY16 CEB to pay the debt service costs associated with these borrowings.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: Workers' Compensation Third Party Administrator Services
PMA Management Corp. of New England
Contract A601



COMMITTEE: Administration, Finance and Audit

 INFORMATION
 X VOTE


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


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to select PMA Management Corp. of New England to provide workers' compensation third party administration services and authorize the Executive Director, on behalf of the Authority, to execute Contract A601 with PMA Management Corp. of New England in a not-to-exceed amount of \$155,850, for a contact term from January 1, 2016 through December 31, 2018.

BACKGROUND:

MWRA is a self insurer for workers' compensation through the Department of Industrial Accidents in accordance with Chapter 152 of the Massachusetts General Law. Since 1987, the MWRA has utilized the services of a third party administrator (TPA) to process workers' compensation claims, set and adjust claim reserves, issue indemnity payments, review and pay medical expenses, notify and seek payment from excess carriers as needed, file necessary reports all within strict adherence to Department of Industrial Accidents' rules and is a key component of MWRA's strategy to provide timely, comprehensive and cost effective care to injured workers. The TPA maintains an automated web based claim management system to manage this process which includes medical claim history, financial claim history, and legal claim history. Additionally the TPA advises the MWRA on appropriate measures for complex cases. Presently the TPA services are being provided to MWRA by PMA under Contract A583 which is set to expire on December 31, 2015.

DISCUSSION:

An RFQ/P was issued in July 2015 using an evaluative process in which proposals were judged by the following criteria, with points assigned as noted.

1. Cost (35 points)
2. Experience and Past Performance on Similar Non-Authority Projects (15 points)
3. Technical Approach, Capacity, Organization and Management Approach (20 points)
4. Qualifications and Key Personnel (20)
5. Past Performance on Authority Projects (10)

In August 2015, the MWRA received proposals from three firms: FutureComp, Meadowbrook, and PMA. The Selection Committee's final scores and rankings were as follows:

<u>Firm</u>	<u>Proposed Price*</u>	<u>Total Points</u>	<u>Order of Preference Total Score</u>	<u>Final **Ranking</u>
PMA	\$209,350	417	7	1
FutureComp	\$203,200	393	10	2
Meadowbrook	\$199,750	385	13	3

*To ensure that all the proposers were evaluated equally, the RFQ/P included a onetime allowance of \$53,500 for the transfer of existing claims for all proposers. This allowance was for both data migration of the large database (\$8,500) and to assume responsibility for open claims (\$45,000). The recommended contract price does not include this allowance; since PMA is the incumbent there is no need for data migration and transfer of open claims.

** Order of Preference represents the sum of the individual Selection Committee members' rankings where the firm 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. Those Order of Preference points are then summed up to determine Final Ranking.

Although all three proposals reflected substantial related experience and qualifications, the Selection Committee determined that PMA's proposed cost, industry and municipal experience, and proven technical and management approach led to the firm's first-ranked finish. PMA has provided third party administration services to the MWRA since January 2013

PMA has workers' compensation and risk management services experience throughout New England and New York, in both public and unionized settings. PMA currently provides third party administration services for Massachusetts Port Authority, Tufts University, the City of Waterbury, Connecticut, the Visiting Nurse Service of New York (18,000 nurses). Positive references were received from all agencies. Massport initially hired PMA in 2011, and then again in 2014.

BUDGET IMPACT:

The FY16 budget includes sufficient funds for Workers' Compensation claims administration. Funds for the remainder of the contract will be included in FY17 and subsequent future fiscal year CEB requests.

MBE/WBE UTILIZATION:

No minimum MBE/WBE participation requirements were established for this project, due to the specialized nature of the services.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

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

to be held on

Wednesday, November 18, 2015

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

Time: Immediately following AF&A Comm.

AGENDA

A. Information

1. Update on Valve and Piping Replacement, Various Facilities – Deer Island Treatment Plant: Carlin Contracting Co., Inc., Contract 7275

B. Contract Awards

1. Digested Sludge Line Pump Replacement, Phase 2: Walsh Construction Company, Contract 6821

C. Contract Amendments/Change Orders

1. Rehabilitation of Anaerobic Digesters, Primary Clarifiers and New Influent Gates at Clinton Wastewater Treatment Plant: R. H. White Construction Co., Inc., Contract 7277A, Change Order 9

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee

October 14, 2015

A meeting of the Wastewater Policy and Oversight Committee was held on October 14, 2015 at the Authority headquarters in Charlestown. Chairman Walsh presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Cotter, Flanagan, Foti, Pappastergion, Pena, and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Carolyn Fiore, John Riccio, Betsy Reilley, Ken Keay, Dave Duest, Michele Gillen, Rick Adams, and Bonnie Hale. The meeting was called to order at 10:35 a.m.

Information

Staff gave presentations on the following two information items, and there was general discussion:

1. Industrial Pretreatment Annual Report to Environmental Protection Agency
2. 2014 Deer Island Outfall Monitoring Overview.

Approvals

***Approval of One New Member of the Wastewater Advisory Committee**

The Committee recommended approval of the appointment of Mr. James Pappas to the Wastewater Advisory Committee (ref. agenda item B.1).

Contract Awards

***Supply and Delivery of Sodium Hypochlorite to Deer Island Treatment Plant: Borden & Remington Corp., Bid WRA-4091**

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

* Approved as recommended at October 14, 2015 Board of Directors meeting.

*Deer Island Treatment Plant Fire Alarm System Replacement Design and Engineering Services During Construction: RDK Engineers, Contract 6904

Staff gave a presentation providing a fire alarm system overview and project-specific issues. There was general discussion and question and answer. The Committee recommended approval of the contract award (ref. agenda item C.2).


*Thermal/Power Plant Fuel Oil System Upgrade, Deer Island Treatment Plant: J.F. White Contracting Co., Contract 7061A

Staff gave a presentation on the project, and the Committee recommended approval of the contract award (ref. agenda item C.3).

The meeting adjourned at 11:35 a.m.

* Approved as recommended at October 14, 2015 Board of Directors meeting.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Update on Valve and Piping Replacements, Various Facilities
Deer Island Treatment Plant
Carlin Contracting Co., Inc.
Contract 7275

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
 — VOTE

John P. Vetere, Deputy Chief Operating Officer
David F. Duest, Director, Deer Island WWTP
Stephen Cullen, Director, Wastewater O&M
Richard J. Adams, Manager, Engineering Services
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only.

DISCUSSION:

Staff will be presenting to the Board an update on Contract 7275, Valve and Piping Replacements, Various Facilities, Deer Island Treatment Plant, which was awarded to Carlin Contracting Co., Inc. by the Board in May 2014. The project had a Notice to Proceed date of June 23, 2014, was issued for an award value of \$16,960,425 with a contract term of 1,095 calendar days.

This complex project includes extremely difficult and challenging work that has not been attempted since the Boston Harbor Project in the 1990s. The contract work requires shutting down the North Main Pump Station and Winthrop Terminal Facility pumps for up to eight hours (during low flow periods) up to 52 times over the course of the project. During these dry weather overnight periods, available storage in MWRA's upstream interceptor systems is utilized. The Contractor has begun changing out isolation valves in the North Main Pump Station and Winthrop Terminal Facility on Deer Island that currently do not isolate the pumps from the discharge force main creating maintenance challenge. The contractor must complete all scheduled activity during this eight hour shutdown periods to avoid potential sanitary sewer overflows.

In preparation for the work, MWRA staff conducted hydraulic modeling and planned and conducted four trial shutdowns. MWRA staff were deployed throughout the upstream MWRA interceptor system to compare actual system performance (depth of sewage in the pipes) during

the shutdowns relative to hydraulic modeling predictions. All this work was done to prepare for this project and to ensure specific shutdown target flows were established to reduce the risk of sanitary sewer overflows (assuming contractor work is completed within the specified eight hours).

The first year of the project included contractor mobilization, planning, shop submittals, and equipment ordering with many pieces of equipment requiring long-lead times to manufacture and deliver on-site. The Contractor has received a significant portion of the equipment and has begun the work starting with valve replacements in the Winthrop Terminal Facility.

To date, seven contract-related shutdowns of varying duration (four to eight hours) have been completed. The Contractor has installed a temporary force main for dewatering pipes on Deer Island and has replaced three 48-inch force main isolation valves. The Contractor is on schedule to complete the work within the prescribed contract period.

Staff will present a summary of the work completed to date.

BUDGET/FISCAL IMPACT:

Contract 7275, Valve and Piping Replacements Various Facilities, Deer Island Treatment Plant was awarded in May 2014 for a contract value of \$16,960,425. To date, the contract has only had two minor change orders completed under delegated authority for a total dollar value of \$26,305.22. Staff is in the process of negotiating one additional delegated authority change order. The total contract change order amount, including the proposed work will be approximately \$95,305, increasing the total value of the contract to \$17,055,730 or 0.6 %.

STAFF SUMMARY

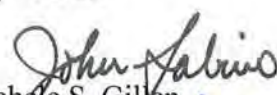
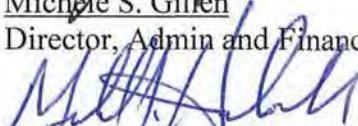
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: Digested Sludge Line Pump Replacement Phase 2
Walsh Construction Company
MWRA Contract 6821



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

David Duest, Director, DIWWTP
Richard J. Adams, Manager, Engineering Services
William Riley, Program Manager, Engineering Services
Preparer/Title

for 
Michele S. Gillen
Director, Admin and Finance

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 6821, Digested Sludge Line Pump Replacement Phase 2 - Deer Island Treatment Plant, to the lowest responsible and eligible bidder, Walsh Construction Company, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$2,591,100, for a contract term of 548 calendar days from the Notice to Proceed.

DISCUSSION:

As part of the wastewater treatment process, Deer Island transfers thickened sludge from the Residuals complex to the Pelletizing Plant at the Fore River Pelletizing Plant (FRSA) in Quincy via two 14-inch conduits within the Inter-Island and Braintree-Weymouth Relief Tunnels. The thickened sludge is further processed in the Pelletizing Plant where it is converted into a fertilizer pellet then marketed and distributed for beneficial use. The original Deer Island sludge pumping system consisted of three positive piston displacement diaphragm sludge pumps installed in the DITP Residuals Complex in 2002. Normal operation required two pumps, as the third was used as a back-up unit.

Maintenance requirements and costs for the three sludge pumps dramatically increased and spare parts for the pumps became technically obsolete and have become very difficult and costly to attain. Due to these reasons, staff, in 2008, performed a technical assessment of pumping options that were available in the marketplace to utilize in place of the positive displacement pumps. This investigation concluded that it was possible to utilize a centrifugal pump in lieu of the positive displacement pump.

In September 2009, the Board approved Contract 7123 which was the first phase of a two-phase program to improve the overall reliability and performance of the transfer of sludge to the Pelletizing Plant. The first phase included the installation of one centrifugal sludge pump and one flushing pump. The flushing pump was added to flush the 14-inch digested sludge transfer lines to keep the lines clear of digested sludge material (material that could compact and block the lines) when digested sludge transfer pumping was not in operation. The first phase was completed and placed into operation in 2010.

Staff have operated the new pumping system for the past five years and the system performance and reliability has performed to expectation with one exception: staff noted during the operation of the prototype sludge pump that the inside of the pump housing (volute) and the impeller was wearing at an excessive rate. Staff determined that the velocity of the sludge that was passing through the pump along with the pump material needed to be reevaluated to extend the life of the pump. Staff have selected a pump with a larger discharge (output) diameter to lower the velocity and specified a hardened material, HC-600 high chrome, for the housing and impeller to reduce wear rate.

Contract 6821 will replace the three existing Abel piston diaphragm sludge pumps and the prototype pump with two new centrifugal pumps. The installation includes two new digested sludge pumps, new sludge grinders, and all other appurtenances. The existing flushing pump system will remain in place. Staff have determined that a second flushing pump is no longer required as the new design will allow one of the new sludge pumps to provide flushing during extended downtime of the flushing pump.



Existing Abel Pumps



Prototype Pumping System

Procurement Process

Contract 6821 was advertised and bid in accordance with Chapter 149 of Massachusetts General Laws. Bids were opened and read on October 9, 2015 and the results are presented below.

Contractor	Bid Amount
<i>Engineer's Estimate</i>	\$2,378,693
Walsh Construction Company	\$2,591,100
Delta Control Engineers, Inc.	\$2,741,000
O'Connor Corporation	\$2,942,556
Waterline Industries Corporation	\$3,047,077
William M. Collins Co., Inc.	\$3,132,374

Walsh Construction Company's bid is 9% higher than the Engineer's Estimate and 5.5% below the next lowest bidder. Staff contacted Walsh to discuss the company's bid and to ensure that the Contractor understood the full nature and scope of work required under the contract. The Engineer's Estimate for instrumentation and controls was \$175,000. The Contractor's instrumentation and controls price from Aztec Technologies was approximately \$371,000. After discussion with the Designer, staff determined that the Engineer's Estimate did not accurately reflect the cost of the control system. Based on results of staff's bid review and interview with the Contractor, staff are confident that the bid price is reasonable, complete, and includes the payment of prevailing wage rates, as required.

References were checked and Walsh Construction Company has a high Division of Capital Assets and Management (DCAM) rating on all projects listed with DCAM. Walsh Construction Company has performed well on two Deer Island projects: MWRA Contract 7055 Digester Pipe Replacement (contract value \$7 million) and MWRA Contract 7396 Tip Tube Replacement (contract value \$20.2 million). Walsh Construction Company received a poor rating on a third

smaller Deer Island project, MWRA Contract 7123A Pipe Supports (\$565,795) - primarily due to completion several months behind schedule. Walsh Construction Company is also currently nearing completion of MWRA Contract 6457 Spot Pond Water Storage Facility (\$51.3 million). Staff were satisfied overall with previous similar work performed by Walsh, and staff are of the opinion that it possesses the skill, integrity and ability necessary to perform the work under this contract and is qualified to do so. Therefore, staff recommend the award of this contract to Walsh Construction Company as the lowest responsible and eligible bidder.


BUDGET/FISCAL IMPACT:

The approved FY2016 CIP includes \$4,659,000 for Contract 6821. A portion of work that was the basis of the budget amount for this contract (Thickened Primary Sludge Pump replacement and header piping), is being performed by MWRA staff.

MBE/WBE PARTICIPATION:

The MBE/WBE requirements for this contract were established at 7.24% and 3.6%, respectively. The Affirmative Action and Compliance Unit has determined that Walsh Construction Company's bid is responsive to these requirements.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Rehabilitation of Anaerobic Digesters, Primary Clarifiers, and New Influent Gates, Clinton Wastewater Treatment Plant
R.H. White Construction Co., Inc.
Contract 7277A, Change Order 9

COMMITTEE: Wastewater Policy and Oversight

 INFORMATION
 X VOTE

John P. Vetere, Deputy Chief Operating Officer
Terrence Flynn, P.E., Construction Coordinator
Corinne M. Barrett, Director, Construction
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 9 to Contract 7277A, Rehabilitation of Anaerobic Digesters, Primary Clarifiers and New Influent Gates, Clinton Wastewater Treatment Plant, with R.H. White Construction Co., Inc., for a lump sum amount of \$12,085.95, increasing the contract amount from \$4,568,095.13 to \$4,580,181.08, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7277A in an amount not to exceed the aggregate of \$250,000 and 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

The Clinton Advanced Wastewater Treatment Plant provides services to the Town of Clinton and the Lancaster Sewer District. Originally built in 1955, MWRA completed construction of new primary, secondary, and advanced wastewater treatment facilities in 1992.

Under Contract 7277A, the Contractor is performing necessary rehabilitation work at the Clinton Plant, including the removal and replacement of various walkways, equipment platforms, beams, and repair of the concrete structure on and around the primary clarifier tanks. Much of the process equipment, including existing scum and sludge collection equipment in the primary clarifiers such as the drives, motors, shafts, scum piping, sprockets and chains will also be replaced.

The contract also includes replacement of the rubber membrane on one digester's fixed concrete dome cover; refurbishment of the other digester's existing floating cover; the existing mechanical mixer systems in the anaerobic digesters; the existing digested gas and sludge piping; and the sludge transfer pumps and valves within and adjacent to the anaerobic digesters.

This Change Order

Change Order 9 consists of the following item:

Furnish and Install New Curbing and Alter New Flashing at the Abutment of the Fixed Cover Digester Roof and Digester Building Roof \$12,085.95

The Contractor is required to remove and replace the fixed cover digester roof. After award and commencement of the work, the wood curb around the circular ethylene propylene diene terpolymer (EPDM) dome was found to be extremely deteriorated. This wood curbing was not visible during design and could not be inspected until the EPDM membrane was removed. In order to complete the contract Work, the wood curb must be replaced and the flashing must be altered.

The approved PCO for this item has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$12,085.95 for this additional work with no increase in contract term. The Contractor has not begun this work.



View of fixed cover digester roof from Digester Building roof

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$4,347,571.00	730 Days	04/15/14
Change Orders			
Change Order 1*	\$10,109.24	0 Days	10/29/14
Change Order 2*	\$27,984.77	0 Days	01/08/15
Change Order 3*	\$22,683.96	0 Days	02/17/15
Change Order 4*	\$6,963.21	0 Days	04/08/15
Change Order 5*	(\$18,188.65)	0 Days	05/05/15
Change Order 6*	\$74,931.08	0 Days	06/11/15
Change Order 7*	\$5,277.57	0 Days	09/28/15
Change Order 8*	\$90,762.95	0 Days	10/29/15
Change Order 9	\$12,085.95	0 Days	Pending
Total Change Orders:	\$232,610.08	0 Days	
Adjusted Contract:	\$4,580,181.08	730 Days	

*Approved under delegated authority

If Change Order 9 is approved, the cumulative total value of all change orders to this contract will be \$232,610.08 or 5.4% of the original contract amount. Work on this contract is approximately 80% complete.

BUDGET/FISCAL IMPACT:

The approved FY16 Capital Improvement Program (CIP) includes a budget of \$4,478,812 for Contract 7277A. Including this change order for \$12,085.95, the adjusted subphase total is \$4,580,181.08 or \$101,369.08 over budget. This amount will be covered within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

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



MASSACHUSETTS WATER RESOURCES AUTHORITY

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WATER POLICY AND OVERSIGHT COMMITTEE MEETING

Chair: A. Pappastergion

Vice-Chair: (vacant)

Committee Members:

J. Carroll

J. Foti

H. Vitale

J. Walsh

J. Wolowicz

to be held on

Wednesday, November 18, 2015

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

Time: Immediately following Wastewater Comm.

AGENDA

A. Information

1. Emergency Response Drill – Wachusett Reservoir
2. Remediation of Direct Discharges at Wachusett Reservoir
3. Update on Lead and Copper Rule Compliance – Fall 2015

B. Contract Awards

1. Supply and Delivery of Soda Ash to the John J. Carroll Water Treatment Plant: Tata Chemicals Soda Ash Partners, Bid WRA-4103
2. Northern Intermediate High Section 110 - Reading and Woburn: Albanese D&S, Inc., Contract 7471
3. Wachusett Aqueduct Pumping Station: BHD/BEC JV 2015, A Joint Venture, Contract 7157

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

October 14, 2015

A meeting of the Water Policy and Oversight Committee was held on October 14, 2015 at the Authority headquarters in Charlestown. Chairman Pappastergion presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Cotter, Flanagan, Foti, Pena, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Dave Coppes, Brad Palmer, Nava Navanandan, Geetha Mathiyalakan, and Bonnie Hale. The meeting was called to order at 11:35 a.m.

Information

John J. Carroll Water Treatment Plant – 10 Year Operation Status Report

Staff gave a presentation on the performance of the plant to date, changes made since initial construction, and upcoming challenges.

Contract Awards

***Engineering Services to Conduct Feasibility Study for Section 56 General Edwards Bridge Crossing of the Saugus River: Weston & Sampson Engineers, Inc., Contract 7500**

Staff gave a presentation highlighting problems with the Section 56 pipeline and describing key elements of the feasibility study to replace it. The Committee recommended approval of the contract award (ref. agenda item B.1).


***Metropolitan Operations Paving: Newport Construction Corp., Contract OP-288**

The Committee recommended approval of the contract award (ref. agenda item B.2).

The meeting adjourned at 11:55 a.m.

* Approved as recommended at October 14, 2015 Board of Directors meeting.

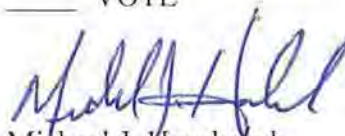
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Emergency Response Drill - Wachusett Reservoir

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Andrew Hildick-Smith, Director, Emerg. Plan & Prepare
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only.

DISCUSSION:

On October 15, 2015, approximately 45 MWRA staff members participated in an inter-agency emergency response drill at the Wachusett Reservoir. The drill simulated a chemical spill and included the field activities of collecting reservoir water quality samples, having them analyzed and setting booms in the reservoir for contaminant containment. The Department of Conservation and Recreation Watershed staff also played a large role. Other organizations that participated included the Massachusetts Department of Environmental Protection, South Wachusett Regional Emergency Planning Committee, Massachusetts Emergency Management Agency, Massachusetts State Police, Commonwealth Fusion Center, West Boylston Fire Department, Boylston Fire Department, Holden Fire Department, Sterling Fire Department, Boylston Water District, Environmental Protection Agency, Transportation Security Agency, Massachusetts Department of Transportation, Pan Am Railways, the Federal Railroad Administration, and the University of Amherst.

The drill provided a great opportunity for MWRA staff to exercise the emergency response plan, coordinate field responses and deployment of equipment with DCR Watershed and practice using the Incident Command System, and in particular work within a Unified Command, where the local Fire Departments, DCR and MWRA recognize their organizational responsibilities and expertise to cooperatively solve a public health threat. Staff also had an opportunity to work on an Incident Action Plan and practice a multi-agency press briefing.

A brief overview of the drill will be presented.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: Remediation of Direct Discharges at Wachusett Reservoir



COMMITTEE: Water Policy and Oversight

INFORMATION
 VOTE

David W. Coppes, P.E., Director, Waterworks
Jonathan Yeo, Director, DCR-DWSP
John Gregoire, Program Manager, Reservoir Operations
Preparer/Title


Michael J. Hombrook
Chief Operating Officer

Direct discharges from storm water and vehicle accidents on state roadways could have a direct impact to the water quality of Wachusett Reservoir. An effort has been underway, with significant cooperation from the Massachusetts Department of Transportation (MA DOT), to address these threats. To date, MA DOT has funded, under Phase I, \$1.9 million in roadway improvements in the vicinity of Cosgrove Intake. Under Phase II, a project for roadway drainage improvements is out to bid, at an estimated cost of \$3.0 million. Two additional projects under Phase II, with an estimated cost of \$3.3 million, are under review at MA DOT. This totals over \$8 million in storm water improvements surrounding Wachusett Reservoir funded by MA DOT.

RECOMMENDATION:

For information only. Staff will provide a presentation to the Board.

BACKGROUND:

The Wachusett Reservoir is surrounded by major roads that drain directly to the reservoir. These drainage networks were installed when the highways were constructed in the 1950s and 1960s. Not only has the volume of traffic increased since the roads were constructed, but so has the volume of hazardous materials that traverse these roads. Today, these roadways pose a significant threat to drinking water quality due to storm water road runoff that routinely enters the reservoir after every storm and the increased potential for contaminant releases from vehicular accidents.

To address these threats, MWRA and DCR Watershed staff developed a two-pronged approach to protect water quality: 1) trained in-house staff with the proper equipment to respond to a reservoir spill; and 2) removal of direct discharges from the reservoir shoreline, initially

prioritizing potential roadway release sites close to the Cosgrove Intake Facility in Clinton.

In 2002, an emergency response boom deployment program was set up at not only Wachusett Reservoir but also Quabbin Reservoir. The program includes substantial response equipment procured by MWRA, such as in-water containment booms and absorbents, as well as support equipment and trailers. The program has evolved to include new equipment and response techniques, and annual training by a professional spill response trainer.

The photo to the right is of an actual response in 2008 by DCR Watershed staff to a Route 140 vehicle accident which caused fuel oil to be released to a catch basin and enter the reservoir. The teams deployed prepositioned response equipment as they were trained. The result of the rapid response was containment of this release to the near shore area of South Bay where it could be efficiently cleaned up. This location's storm drain (direct discharge) is targeted for remediation under Phase II.



In 2008, DCR Watershed staff completed an in-house study that developed an inventory of locations where storm water runoff discharges directly to the reservoir (see examples in photos below). Forty-one locations were identified. The report

recommended that the drainage be redirected away from the reservoir, where possible. If removal of discharge by redirection was not possible, construction of impervious treatment basins (known as Best Management Practices or BMPs) to store and treat storm water as well as contain potential road releases was recommended. The work was prioritized, based on the relative risk to the reservoir if a spill should occur at the location.

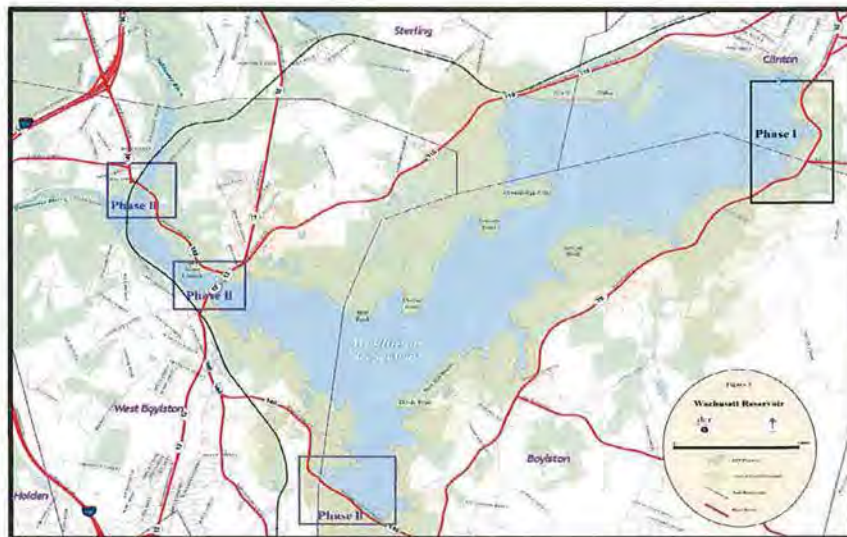


Highway catch basin



Catch basin discharge point in reservoir

Remediation efforts were divided into two phases. Phase I included the discharges located closest to Cosgrove Intake which represented the greatest proximal threat to water entering the Water transmission/treatment system. The Phase I roadway area is Route 70 from Mile Hill Road in Boylston to the watershed divide at Wachusett Dam in Clinton. The remainder of the discharges were designated for Phase II of the project. These areas are located in the southwestern portion of the reservoir as shown in the map below:



Additionally, prior to Phase I, MWRA completed a project at Cosgrove Intake which collected local parking lot, roof runoff and miscellaneous building drainage from that facility and conveyed it to a new storm water system which discharged out-of-basin from the reservoir.

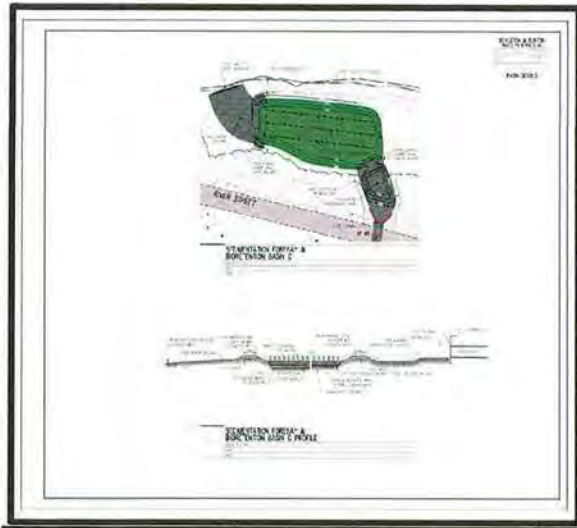
DISCUSSION:

PHASE I

In 2009, DCR Watershed contracted with a consultant to provide engineering design services for the Phase I area shown in the map below. The drainage redesign included 10,900 feet (2.1 miles) of two-lane paved road. The road drainage included catch basin and piping systems as well as grass shoulders and drainage swales. The total cost for engineering services was \$173,000, funded by MWRA as part of the approved DCR Watershed operations budgets in FY09, FY10, and FY11.



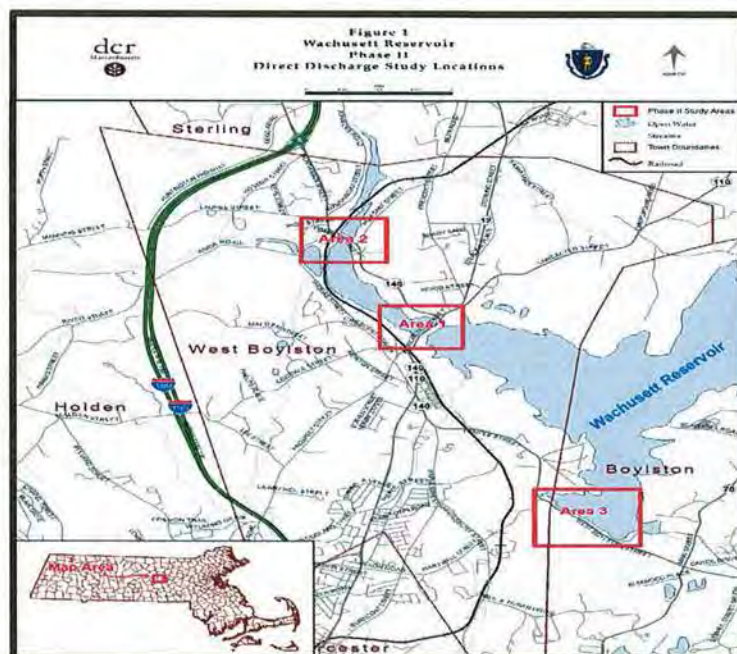
MA DOT advertised construction of the project in 2011. Construction began in spring of 2012 and was completed in September of that year. Since the study area is located at the edge of the watershed, much of the drainage could be redirected off the watershed, to increase protection of the reservoir. Five direct discharge pipes within this road segment were redirected away from the reservoir. Stormwater treatment was provided, and discharge was redirected to the adjacent watershed or infiltrated to the ground in grassed bioretention ponds (BMPs) as show in the photos below. Thus, the risk of a spill entering the reservoir from any point along this road segment was remediated and all storm water discharges were eliminated. The total construction cost was \$1.9 million, funded entirely by MassDOT.



BMP: Grassed bioretention pond for runoff collection and treatment under Phase I

PHASE II

The Phase II project dealt with the remaining untreated direct discharge locations in the southwestern area of the reservoir. The discharges were clustered in three areas in the map below: Highest priority Area 1 - the Route 12 Causeway crossing of the Reservoir in West Boylston; Area 2 - the Beaman Street Bridge in West Boylston; and Area 3 - the South Bay portion of Route 140 in West Boylston and Boylston.



A consultant engineering study was performed to develop conceptual BMP alternatives, assess and rank the alternatives, and provide recommended BMPs for implementation. That study was

completed June 30, 2012 at a cost of \$45,000, which was included in the MWRA funded DCR Watershed FY12 operations budget.

The study recommended combinations of storm water treatment BMPs to completely treat or eliminate all the direct discharges in the Phase II study area. Based on the recommended alternatives, design work was initiated and coordinated with MA DOT. Due to site constraints, the roadway discharges in Phase II could not be totally eliminated. However, the selected design will provide storage for a significant release and will provide removal of storm water pollutants as shown in the table below.

Phase II					
Area	BMP	Total Spill Volume (cu ft)	TSS (#/yr)	TP (#/yr)	TN (#/yr)
1	Rt. 12 Causeway	30,000	65,000	63	264
2	Beaman St. Bridge	30,000	50,500	27	214
3	Rt. 140 South Bay	20,000	29,700	7	45
	TOTAL	80,000	145,200	97	523

Stormwater BMP storage and pollutant removal

Area 1:

The highest priority Route 12 Causeway project consists of approximately 1,200 feet of two-lane roadway with two bridge crossings. Runoff discharges directly to the reservoir from four locations. The design includes drainage to collect runoff and direct it to two storm water BMP treatment basins. The project also includes improvements to West Boylston water mains that run through the project area (paid for by West Boylston Water District). The total design cost is \$191,000 and has been included in the MWRA-funded DCR Watershed operations budget for FY12-FY16. The project has been approved by MA DOT and was put out for construction bidding in September, 2015. Construction is scheduled for spring of 2016. The estimated construction cost is \$3.0 million, with funding committed by MA DOT.

Area 2:

This Beaman St. Bridge project consists of approximately 1,200 feet of two lane roadway with two bridge crossings. Runoff discharges directly to the reservoir from eight locations. The improvements will include piping to collect runoff and direct it to two storm water BMP treatment basins that also serve as temporary storage for releases.

Design for this project began in May 2013. The project is currently at 75% design, permitting is completed and the public hearing has been held. The total design cost is \$116,500 and has been spread over MWRA funded DCR Watershed operations budgets from FY13 through FY16. Similar to the Causeway project, the work area includes local water main that needs repair. DCR Watershed and MA DOT have coordinated with West Boylston Water Department to include the water main repairs, at West Boylston cost, when the road project goes to construction.

MA DOT determined that the project was eligible for Federal Aid Funding. The project was placed on the Statewide Transportation Improvement Program list, initially to go out to bid in FY19. However, as the design is essentially complete, permits have been received, and the public hearing held, it is possible that it may be accelerated to an earlier bid and construction date.

The estimated construction cost is \$1,011,800, with funding committed by MA DOT. DCR design includes two storm water treatment units that MA DOT will not fund. DCR is currently discussing this issue with MA DOT. If DCR cannot convince MA DOT to fund the storm water treatment units, they may be included in the MWRA funded DCR Watershed operations budget when the project goes to construction. The cost of the two units is \$60,000.

Area 3:

The Route 140 South Bay project area consists of approximately 5,000 feet of roadway containing approximately twenty-three discharges. An engineering design consultant contract for this project was awarded in June of 2014. The design improvements will include piping to collect runoff and direct it to two storm water BMP treatment basins that have impervious pretreatment units that also provide temporary storage for road releases. The total design cost is \$173,000, and has been included in MWRA funded DCR Watershed operations budgets for FY15 and FY16.

MA DOT determined that the project was eligible for Federal Aid Funding. The current project design (storm water improvements) is at 75% complete, has received all environmental permits, and the public hearing is being scheduled. The project was placed on the Statewide Transportation Improvement Program list, scheduled to go out to construction bid in FY19. The estimated construction cost is \$2,189,600, with funding committed by MA DOT.

As with Area 2, the Area 3 design also includes two storm water treatment units that MA DOT may not fund. If necessary, these may be included in the approved DCR Watershed budget when the project goes to construction.

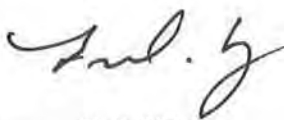
With the completion of these important major projects, Wachusett Reservoir will have enhanced protection from not only storm water runoff but from the ever present threat of a hazardous materials release to the road.

BUDGET/FISCAL IMPACT:

MWRA design funding for this program has been included in DCR Watershed operations budgets from FY09 through FY16. The total design costs are \$698,000 over eight fiscal years. MA DOT funded construction of the Phase I project at \$1.9 million. The Phase II –Area 1 Route 12 Causeway improvements are presently out to bid at \$3.0 million. The remaining Areas 2 and 3 projects are included in the MA DOT Transportation Improvement Plan Budget for FY19. Area 2 is budgeted at \$1,001,800 and Area 3 is budgeted at \$2,189,600.

STAFF SUMMARY

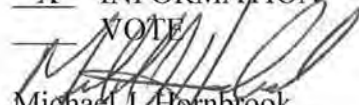
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: Update on Lead and Copper Rule Compliance – Fall 2015



COMMITTEE: Water Policy & Oversight

Joshua Das, Project Manager, Public Health
Stephen Estes-Smargiassi, Director, Planning
 Preparer/Title

X INFORMATION
NOTE


Michael J. Hornbrook
 Chief Operating Officer

MWRA system-wide lead levels in the September 2015 sampling round were below the Action Level of 15 parts per billion (ppb) again for the 20th consecutive sampling round. MWRA system-wide 90th percentile value for calendar year 2015 is 6.2 ppb. Two communities were individually above the Lead Action Level. MWRA continues to meet the copper standard.

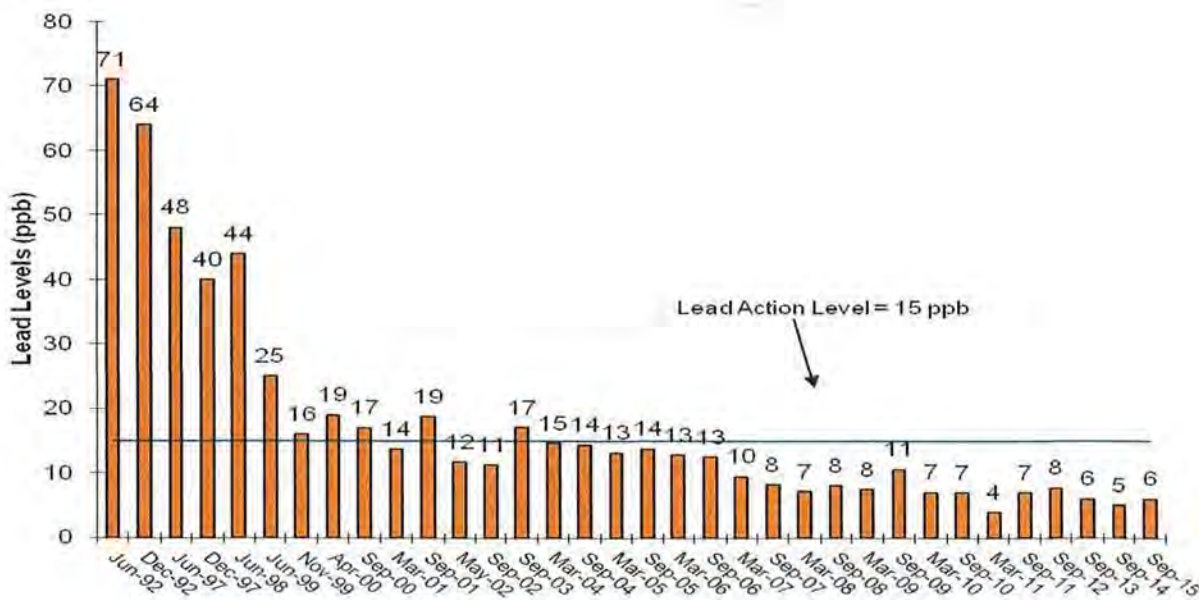
RECOMMENDATION:

For information only.

DISCUSSION:

MWRA and its communities conducted the calendar year 2015 sampling round beginning in September 2015. The 90th percentile value for the system as a whole in September was 6.2 ppb, which is below the Lead Action Level of 15 ppb. The 90th percentile for copper was 96.3 ppb, well below the Action Level of 1300 ppb.

**90% Lead Levels in MWRA Fully Served Communities
1992-2015**



Under EPA's Lead and Copper Rule, each year MWRA and every fully-supplied community must collect and test tap water in a sample of homes¹ that are likely to have high lead levels. These are usually homes with lead services or lead solder. EPA requires that nine out of ten of the sampled homes must have lead levels at or below the Action Level of 15 ppb.

Starting in 2012, MWRA's fully-supplied communities were only required to sample for lead and copper once per year, as long as their 90th percentile results are below the Action Level. A community that exceeds can return to once-per-year sampling after it has two consecutive sampling rounds under the Action Level. One community, Malden, was above the Action Level in September 2014. Malden was below the Action Level in the March 2015 sampling round, but was again above in this September 2015 sampling round, and will need to sample twice in 2016.

Another community, Melrose, was above the Action Level in the September 2015 sampling round, and will need to sample twice in 2016. Both communities have been notified and will be required to meet education requirements, including mailing lead education brochures, as well as meet lead service line replacement requirements set by DEP. MWRA provides the education brochures, and staff have offered assistance in working with DEP on the education requirements and service line documentation.

Each community also collects samples from two schools or daycare facilities. MWRA staff immediately contact any community that had a school above the Action Level. Only one school in Boston tested above the Action Level, and Boston was notified. DEP is expected to also send a letter to the community, as well as the affected school, and includes a list of recommendations that water departments should follow. DEP also includes a checklist that DEP strongly recommends that communities send back to DEP. MWRA staff have provided assistance and sent an e-mail to Boston with references on how to work with the school to flush fountains, submit re-samples of respective school fountains, and encourage sending documentation to DEP.

MWRA has already formally transmitted these results to DEP. The results were also transmitted to the communities, and, through them, to every individual homeowner or school that collected a sample for the program. MWRA staff directly contacted communities with schools above the Action Level or that had any individual homeowners with very high or unusual results.

Other Related Efforts on Lead

Changes to the Lead and Copper Rule: As reported previously, the Environmental Protection Agency (EPA) continues to review the Lead and Copper Rule and is expected to propose a number of changes. EPA re-opened the stakeholder process to attempt to resolve several of the thornier aspects of the existing rule. The stakeholder process extended from early 2014 to mid-2015, and a draft report is likely to be formally adopted this month. MWRA's Director of Planning and Sustainability, Stephen Estes-Smargiassi, participated in EPA's National Drinking Water Advisory Committee (NDWAC) working group advising EPA on these issues, and will be in Washington DC presenting to the full NDWAC as they finalize their recommendations at the time of the Board meeting. A full briefing on the NDWAC's recommendations to EPA will be presented in the next several months.

¹ In most communities, 15 homes are sampled; the exceptions are Boston, which collects 25 samples, and Lynnfield and Nahant, which collect 10 samples. A total of at least 450 samples are collected.


EPA is now expected to issue a draft rule some time in 2016, with a final rule to follow most likely in 2017.

Boston School Department Project: MWRA staff continue to work with staff from Boston Public Schools, BWSC, Boston Public Health Commission and Harvard School of Public Health on an initiative to replace or reopen drinking water fountains in schools to encourage the use of tap water, and to reduce the use of bottled water. MWRA has provided staff assistance and laboratory support for this effort.

BUDGETING/FISCAL IMPACT:


MWRA began modern effective corrosion control treatment to reduce lead and copper levels at the tap in 1997. MWRA's corrosion control treatment involves raising the pH and alkalinity to the water to provide a stable, non-corrosive product, reducing the potential for both lead and copper to leach from customer's home plumbing. The annual average cost for corrosion control is approximately \$3.6 million (\$3.4 in soda ash costs, and \$0.2 million in carbon dioxide costs).


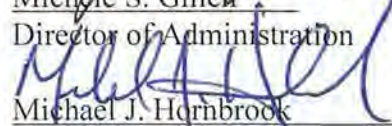
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Three-Year Purchase Order Contract for the Supply and Delivery of Soda Ash to the John J. Carroll Water Treatment Plant
Tata Chemicals Soda Ash Partners
Bid WRA-4103

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

David W. Coppes, Director, Water Operations
John Sabino, Director of Procurement 
Preparer/Title


for Michele S. Gilley
Director of Administration

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-4103, for the supply and delivery of soda ash to the John J. Carroll Water Treatment Plant, to the lowest responsive bidder, Tata Chemicals Soda Ash Partners, and authorize the Executive Director on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$11,398,680 for a period of three years from January 1, 2016 through December 31, 2018.

DISCUSSION:

MWRA uses sodium carbonate, more commonly referred to as soda ash, at the Carroll Water Treatment Plant for corrosion control. In combination with carbon dioxide, soda ash increases and stabilizes the alkalinity and pH of MWRA's water. MWRA takes delivery of soda ash in powder form where it is stored in six 120-ton vertical silos inside the Post-Treatment Building. It is fed into the system by six gravimetric feeders with solution tanks.

A tangible result of the use of soda ash and one of the most significant benefits of its use are reflected in the sampling results under EPA's Lead and Copper Rule, which requires that nine out of ten or 90% of the sampled homes must have lead levels below the Action Level of 15 parts per billion (ppb). A separate informational staff summary providing the most current lead and copper sampling results is also being presented at today's Board meeting. Soda ash is also used for compliance with the Department of Environmental Protection's Optimal Water Quality Control Parameters program which requires a continuous finished water tap pH of greater than equal to 9.1, an alkalinity of greater than or equal to 37 mg/L, and a pH no less than 9.0 collected from 27 distribution system locations on a quarterly basis.

Procurement Process

Bid WRA-4103 was advertised in the following publications: Boston Herald, Goods and Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA's e-procurement system (Event 2093), and five potential bidders were solicited through the e-Portal.

On October 16, 2015, Event 2093 closed, with the following results:

Item	Description	Tata Chemicals Soda Ash Partners	Brenntag Northeast, Inc.	OCI Chemical
1	12,000 Tons Year 2016	\$306.63 per ton = \$3,679,560	\$330.00 per ton = \$3,960,000	\$343.00 per ton = \$4,116,000
2	12,000 Tons Year 2017	\$316.63 per ton = \$3,799,560	\$340.00 per ton = \$4,080,000	\$351.00 per ton = \$4,212,000
3	12,000 Tons Year 2018	\$326.63 per ton = \$3,919,560	\$350.00 per ton = \$4,200,000	\$358.00 per ton = \$4,296,000
	Total	\$11,398,680	\$12,240,000	\$12,624,000

The contract will provide up to 12,000 tons of soda ash each year during the three-year term of this contract and MWRA will only pay for product that is delivered and received.

Under the existing three year contract with OCI Chemical which expires on December 31, 2015, MWRA is paying \$335.00 per ton (third year pricing; similarly escalated - the first year's unit bid price for was \$315.00 per ton and the second year's price was \$325.00 per ton)

The marketplace for soda ash is typically in a state of consistent strong demand. Soda ash is primarily used in the production of flat glass and detergents. There are four main soda ash producers in the United States, Tata Chemicals Soda Ash Partners, Solvay Soda Ash, OCI Corporation, and Tronox (formerly FMC Corporation). All of these producers have mines in Sweetwater County, Wyoming. U.S. producers of soda ash have been successful maintaining lower production costs than their main competitors in China. As a result, global users buy all of the soda ash that the Wyoming-based companies can produce.

As evident from the bid results, MWRA received bids from three out of the four major producers. Solvay Soda Ash contacted the Purchasing Unit and stated that Brenntag Northeast, Inc. would be supporting them in this contract. In addition the Purchasing Unit received an email from Tronox stating that they were sold out globally and to support the MWRA they would have to take product from another portion of their existing sales portfolio.

Staff have reviewed all bids and have determined that Tata Soda Ash Partners' bid meets all of the requirements of the specifications. Therefore, staff recommend the award of this purchase order contract to Tata Soda Ash Partners as the lowest responsive bidder.


BUDGET/FISCAL IMPACT:

There are sufficient funds included in Operations Division's FY16 Current Expense Budget for the first portion of this contract. Appropriate funding will be included in subsequent CEB requests for the remaining term of this three-year contract.

MBE/WBE PARTICIPATION:


Tata Chemicals Soda Ash Partners is not a certified Minority- or Women-owned business.

STAFF SUMMARY

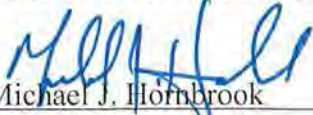
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Northern Intermediate High Section 110 – Reading and Woburn
Albanese D&S, Inc
Contract 7471

COMMITTEE: Water Policy & Oversight

 INFORMATION
 X VOTE


for Michele S. Gillen
Director of Administration

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


Michael J. Hoffbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 7471, Northern Intermediate High Section 110 – Reading and Woburn to the lowest responsible and eligible bidder, Albanese D&S, Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$9,888,000, for a contract term of 808 calendar days from the Notice to Proceed.

DISCUSSION:

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

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

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

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

On March 16, 2011, the Board approved the award of Contract 6906 to Fay, Spofford & Thorndike, LLC (FS&T) for Design, Construction Administration and Resident Inspection Services. This original design route, based on geotechnical investigations and community input was revised. The new route includes a 48-inch pipeline, that will extend from Gillis Pump Station to the Reading/Stoneham emergency connection and a 36-inch pipeline, which will extend from the Reading/Stoneham interconnection to Meter 240 in Woburn completing a looped service area. The total estimated cost of the new pipeline is \$44.9 million as included in the FY16 CIP.

Contract Components and Schedule

The project design originally included the bidding of two separate construction contracts. However, in coordination with the Town of Reading and MassDOT the project will now be completed with four construction contracts (shown on Attachment A) as follows:

- The first construction contract, Contract 7066, consisted of 2,400 linear feet of 36-inch water transmission main in the Town of Reading coordinated with the MassDOT road reconstruction project on West Street. This contract was completed in May 2015;
- The second construction contract, Contract 7471, the subject of this staff summary, includes the construction of 8,800 linear feet of 36-inch water transmission main in the City of Woburn and the Town of Reading (shown on Attachment B);
- The third construction contract, Contract 7478, will include the construction of 6,200 linear feet of 48-inch diameter transmission main in the Town of Stoneham and 3,000 linear feet of 12-inch diameter transmission main to service Wakefield Meter 229. Construction of this contact is expected to commence in May 2016 and be completed by December 2017; and
- The fourth construction contract, Contract 7067, will include the construction of 14,000 linear feet of 48-inch diameter transmission main in the Town of Stoneham Construction of this contact is expected to commence in July 2016 and be completed by June 2019.

Procurement Process

Contract 7471 was advertised and bid utilizing MWRA's e-procurement system (Event 2088) in accordance with Massachusetts General Laws, Chapter 30. Bids were received and opened on October 22, 2015 from 10 contractors as follows:

<u>Bidders</u>	<u>Bid Amount</u>
<i>Engineers Estimate</i>	<i>\$10,100,000</i>
Albanese D&S, Inc.	\$9,888,000
P. Gioioso and Sons, Inc.	\$9,945,400
Fed Corp	\$10,054,809
Baltazar Contractors Inc.	\$10,417,000
Albanese Brothers Inc.	\$10,897,000
Revoli Construction Co., Inc	\$11,032,450
RJV Construction Corp.	\$11,888,000
P. Caliacco Corp.	\$12,178,000
The Dow Company, Inc.	\$12,713,000
McCourt Construction Company	\$15,811,000

The Engineer's Estimate is \$10,100,000. The three lowest bids are within 1.7% of each other, an indication of the reasonableness of the low bid, which is 2.4% below the Engineer's Estimate.

References for Albanese D&S were checked and found to be favorable. Albanese D&S has no current ongoing contracts with MWRA, but has successfully completed MWRA projects within the past five years, including Northern High Service Pipeline Improvements-Section 53, Contract 5177 (\$2,938,026) and the Northern Intermediate High Stoneham-Reading Connection Contract 7216 (\$3,481,6281). Staff report that the Contractor's performance of these projects was very good and completed on schedule. Albanese D&S non-MWRA experience also includes past large value pipeline construction (Lowell sewer separation at \$10.3 million).

MWRA staff has concluded that Albanese D&S possesses the skill, ability, and integrity necessary to perform the work under this contract, and is qualified to do so. Staff have determined that the bid price is reasonable, complete and includes the payment of prevailing wage rates, as required. Therefore, staff recommend that Contract 7471 be awarded to Albanese D&S as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

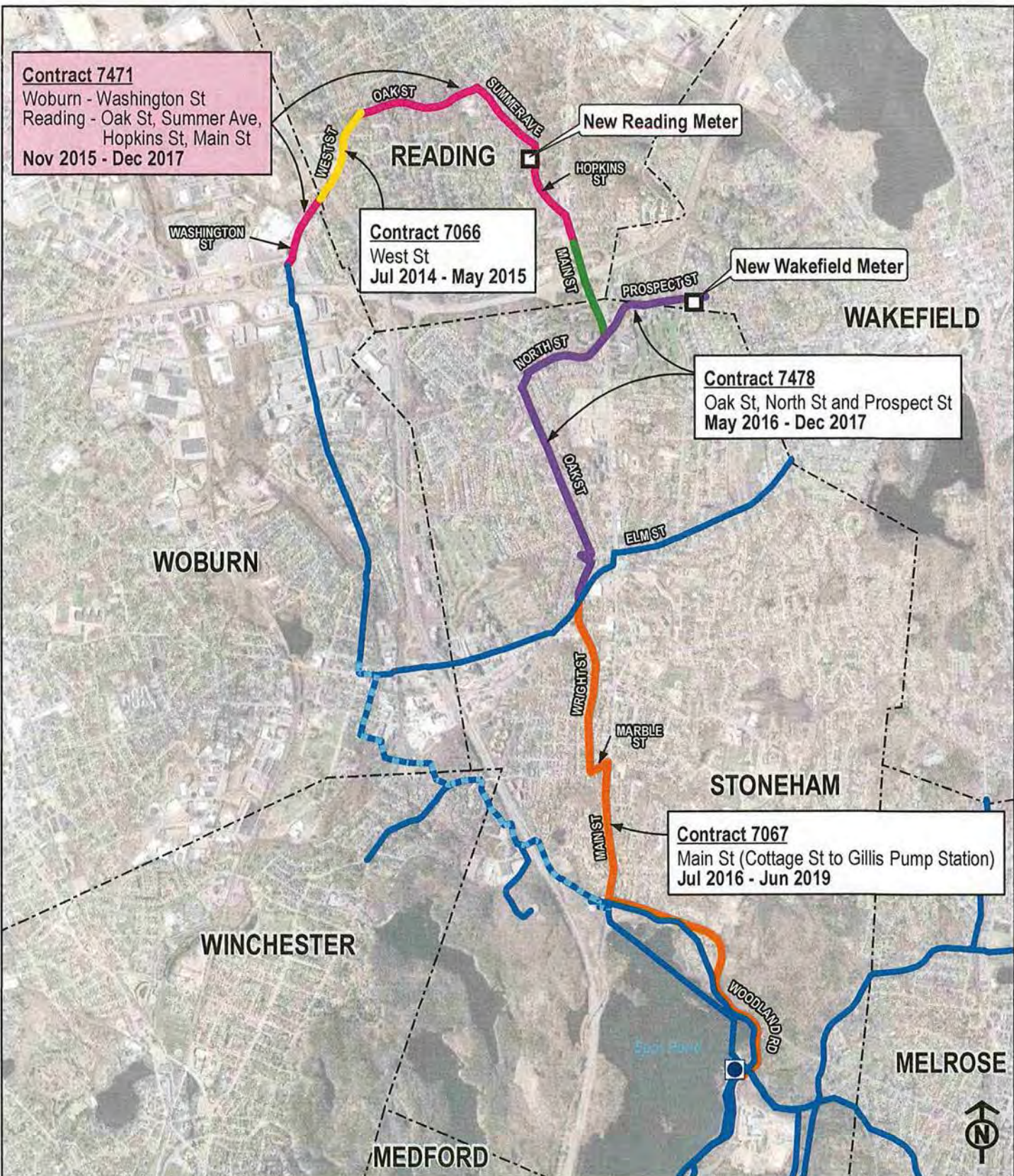
The approved FY16 CIP includes \$11,000,001 for Contract 7471. The award amount for Contract 7471 is \$9,888,000.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this project were established at 7.24% and 3.6%, respectively. The Affirmative Action & Compliance Unit has reviewed the bids and has determined that Albanese D&S's bid is responsive to these requirements.

ATTACHMENTS:

Attachment A Northern Intermediate High Redundant Pipeline Project, Route Overview
Attachment B NIH Section 110 Reading and Woburn, Contract 7471



Contract 7471
 Woburn - Washington St
 Reading - Oak St, Summer Ave,
 Hopkins St, Main St
 Nov 2015 - Dec 2017

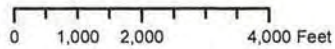
Contract 7066
 West St
 Jul 2014 - May 2015

Contract 7478
 Oak St, North St and Prospect St
 May 2016 - Dec 2017

Contract 7067
 Main St (Cottage St to Gillis Pump Station)
 Jul 2016 - Jun 2019

MASSACHUSETTS WATER RESOURCES AUTHORITY
Attachment A
Northern Intermediate High
Redundant Pipeline Project, Route Overview

- Contract 7471
- Contract 7478
- Contract 7067
- Contract 7066
- Short-Term Improvements
- MWRA Mains
- - - Class IV PCCP
- New Meter Locations



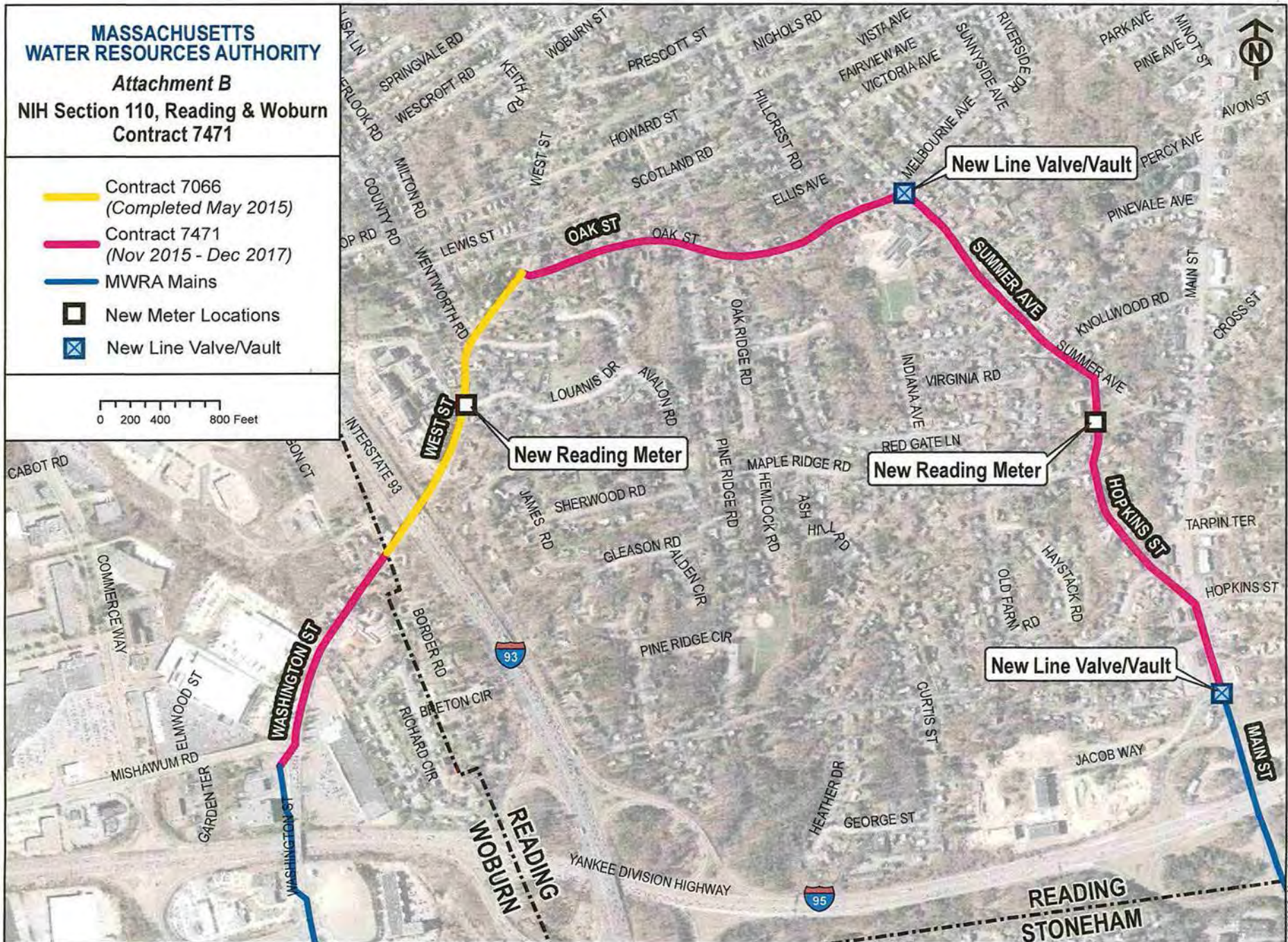
**MASSACHUSETTS
WATER RESOURCES AUTHORITY**

Attachment B

**NIH Section 110, Reading & Woburn
Contract 7471**

- Contract 7066
(Completed May 2015)
- Contract 7471
(Nov 2015 - Dec 2017)
- MWRA Mains
- New Meter Locations
- ⊠ New Line Valve/Vault

0 200 400 800 Feet



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: Wachusett Aqueduct Pumping Station
BHD/BEC JV 2015, A Joint Venture
Contract 7157



COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

William G. Sullivan, P.E., Sr. Program Manager
A. Navanandan, P.E., Chief Engineer
John P. Vetere, Deputy Chief Operating Officer
Preparer/Title

John Sabino
for Michele S. Gillen
Director of Administration
Michael J. Hornbrook
Michael J. Hornbrook
Chief Operating Officer

This construction contract is the next phase of the MWRA's long-term redundancy plan for the water transmission system as outlined at the January 18, 2012 Board briefing. This pumping station, located adjacent to the Carroll Water Treatment Plant, will address a major weakness in the current redundancy from the Wachusett Reservoir to the Carroll Treatment Plant in Marlborough. This project, combined with the completed Hultman rehabilitation, will provide redundancy for the 25 miles of the transmission system from the Cosgrove Intake in Clinton to Shaft 5 at Route 128 in Weston.

RECOMMENDATION:

To approve the award of Contract 7157, Wachusett Aqueduct Pumping Station, to the lowest responsible and eligible bidder, BHD/BEC JV 2015, A Joint Venture, which is a joint venture of Barletta Heavy Division and Barletta Engineering Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$47,011,000.00 for a contract term of 1,260 calendar days from the Notice to Proceed.

DISCUSSION:

The water transmission system between Wachusett Reservoir and the John J. Carroll Water Treatment Plant (Carroll Plant) consists of the Cosgrove Tunnel and the Wachusett Aqueduct (see map on the following page). The Cosgrove Tunnel provides the primary raw water supply to the Carroll Plant and the Wachusett Aqueduct is an emergency back-up. Although rehabilitation of the Wachusett Aqueduct in 2003 allowed its use during a short winter duration so that the Cosgrove Tunnel could be connected to the Carroll Plant, it is limited in its flow

capacity and it cannot meet the grade line requirements of the Carroll Plant in the event of an emergency.



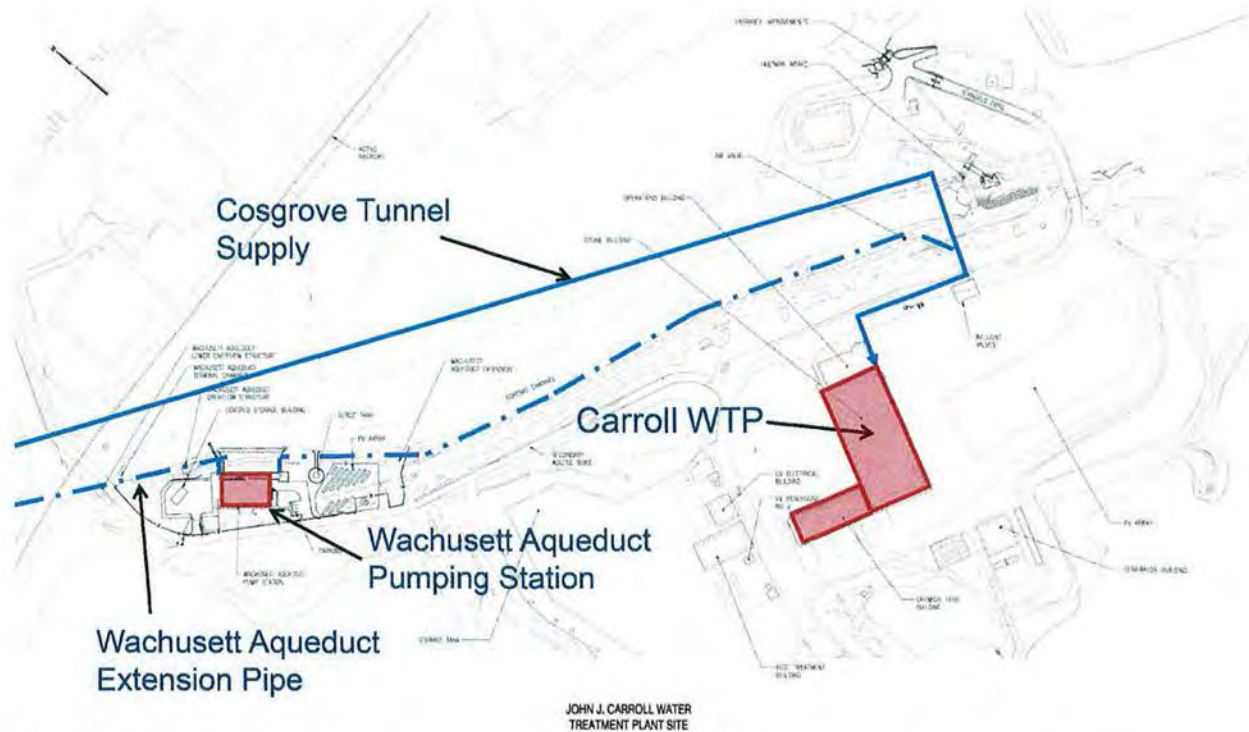
Location Plan – Wachusett Aqueduct Pumping Station

Since the Wachusett Aqueduct operates at a lower hydraulic grade line than the Cosgrove Tunnel, water cannot flow from it into the Carroll Plant’s ozone contactors without pumping. Water from the Wachusett Aqueduct can flow through the pipes under the Carroll Plant storage tank, but lacks the pressure needed to fill the tank. If the Wachusett Aqueduct were needed in an emergency, the Carroll Plant would have to be shut down and temporary chlorination facilities would have to be installed at the Wachusett Reservoir-end of the aqueduct to provide disinfection. This would result in non-compliance with drinking water regulations that went into effect in April 2014.

As staff previously briefed the Board on January 13, 2010 and January 18, 2012, the existing Wachusett Aqueduct with the proposed emergency pumping station could deliver approximately 240 million gallons per day (mgd) of raw water to the Carroll Plant for full treatment. Meeting the maximum day demand is not possible without pressurizing the Wachusett Aqueduct. This limitation in the capacity of the Wachusett Aqueduct is the reason staff did not recommend a 400 mgd pumping station to match the capacity of the Cosgrove Tunnel. The 240-mgd capacity would allow for unrestricted supply for at least eight months in the lower-demand fall/winter/spring period during a planned or emergency shutdown of the Cosgrove Tunnel. If the Cosgrove Tunnel was out of service during high-demand periods, demand reductions would be required to match the 240-mgd capacity of the Wachusett Aqueduct, including mandatory restrictions on use and limiting supply to some partial user communities.

Once completed, this new pumping station will allow the Wachusett Aqueduct to provide redundancy for the Cosgrove Tunnel. Completion of the Hultman Aqueduct rehabilitation and interconnections project provided redundancy for the MetroWest Water Supply Tunnel. Together, these projects will provide water transmission redundancy from the Wachusett Reservoir to metropolitan Boston.

The figure below shows the current raw water supply from the Cosgrove Tunnel to Carroll Plant and the proposed supply through the Wachusett Aqueduct extension pipe and the Wachusett Aqueduct Pumping Station.



A rendering of the Wachusett Aqueduct Pumping Station is shown in the figure below.



Wachusett Aqueduct Pumping Station

Procurement Process

Contract 7157, designed by Fay, Spofford & Thorndike, LLC (FS&T) was advertised and bid in accordance with Chapter 149 of Massachusetts General Laws. General bids were received and opened on October 15, 2015; six contractors bid and the results are presented below.

<u>Bidders</u>	<u>Bid Amount</u>
BHD/BEC, Joint Venture 2015	\$47,011,000
Walsh Construction Company	\$47,789,433
PC/R.H. White, Joint Venture	\$47,855,000
Carlin Contracting Co., Inc.	\$49,586,840
Daniel O'Connell's Sons	\$49,967,433
J.F. White Contracting Co.	\$50,467,433
<i>Engineer's Estimate</i>	<i>\$60,500,000</i>

The three lowest bids are within 2% of each other, an indication of the reasonableness of the low bid, which is 22% below the Engineer's Estimate. The breakdown of the \$13.5 million difference between the low bid and the Engineer's Estimate is as follows.

- Site Work (excavation, earth support, precast structures and exterior pipe) \$6 million
- Equipment (pumps and ozone destruct units) \$3.5 million
- Electrical Work \$3.0 million
- Mechanical Work (interior pipe, valves, gates, plumbing and HVAC) \$1 million

MWRA staff and FS&T analyzed the difference between the low bid and the Engineer's Estimate and concluded that the difference is related to a number of factors. The Engineer's Estimate was based on vendor quotes while actual costs to a contractor are typically lower. The Engineer's Estimate for site work was based on mass excavation around the pumping station to a depth of 35 feet while the low bidder based its bid on excavation to the varying depths of the structure. The Engineer's Estimate for the large diameter pipe was higher than the Contractor's actual as bid cost. The electrical sub bid was lower than the Engineer's estimate due to the recent decline of approximately 20% in the price of copper, a major component of the electrical work. Given that all six bids were \$10 million under the Engineer's Estimate, staff believe the Engineer's Estimate was overly conservative.

MWRA staff and FS&T reviewed the scope of work with BHD/BEC and are satisfied that the bid includes all elements of the work.

BHD/BEC JV 2015, A Joint Venture, is a joint venture of Barletta Heavy Division (BHD) and Barletta Engineering Corporation (BEC). BHD construction projects are primarily related to site work, utilities and transportation. BEC constructs water and wastewater treatment facilities, power plants and commercial buildings. The joint venture was created in order to comply with Division of Capital Asset Management's prequalification requirements. Both Barletta entities have successfully completed numerous projects for MWRA including the Hultman Aqueduct

Interconnections project, Wachusett Aqueduct Emergency Interconnection Valves, Section 156 Rehabilitation – North Metropolitan Sewer, Loring Road Hydroelectric, East Boston Branch Sewer Relief, Blue Hills Covered Storage, Rehabilitation of Water Pumping Stations, Union Park Detention/Treatment Facility, Carroll WTP Ozonation Treatment Facilities and Carroll WTP Site Work and Storage Facility. References were checked and found to be satisfactory.

Staff have determined that BHD/BEC JV 2015, A Joint Venture possesses the skill, ability, and integrity necessary to perform the work under this contract, and is qualified to do so. Staff have further determined that the bid price is reasonable, complete, and includes the payment of prevailing wages as required. Therefore, staff recommend the award of this contract to BHD/BEC JV 2015, A Joint Venture as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY16 CIP includes a budget of \$60,500,000 for Contract 7157. The contract award amount is \$47,011,000 which is \$13,489,000 or 22% lower than budgeted.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this project were established at 3.4% and 3.8%, respectively. The Affirmative Action & Compliance Unit has reviewed the bids and has determined that BHD/BEC's bid is responsive to these requirements.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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Fax: (617) 788-4899
TTY: (617) 788-4971

PERSONNEL & COMPENSATION COMMITTEE MEETING

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

to be held on

Wednesday, November 18, 2015

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

Time: Immediately following Water Comm.

A. Approvals

1. PCR Amendments – November 2015
2. Appointment of Senior Program Manager of Process Control & Project Support
3. Appointment of Program Manager, Electrical, Engineering and Construction
4. Appointment of Program Manager, Electrical, Deer Island
5. Appointment of Senior Program Manager, Engineering, Deer Island
6. Appointment of Director of Procurement

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

October 14, 2015

A meeting of the Personnel and Compensation Committee was held on October 14, 2015 at the Authority headquarters in Charlestown. Chairman Cotter presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Flanagan, Foti, Pena, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Karen Gay-Valente, Mike Hornbrook, and Bonnie Hale. The meeting was called to order at 11:55 a.m.

Approvals

*PCR Amendments – October 2015

Staff described the proposed amendments and there was general discussion. The Committee recommended approval of the amendments to the Position Control Register (ref. agenda item A.1).

*Appointment of Information Technology Financial Manager, MIS

The Committee recommended approval of the appointment of Ms. Patricia Russo (ref. agenda item A.2).

The meeting adjourned at 12:05 p.m.

* Approved as recommended at October 14, 2015 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 18, 2015
SUBJECT: November PCR Amendments



COMMITTEE: Personnel and Compensation


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

 INFORMATION

 X VOTE


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the amendments to the Position Control Register (PCR) included in 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.

October PCR Amendments

There are five PCR amendments related to changes within the Operations, Administration and Law Divisions.

The amendments are:

1. Title change to a vacant position, Database Analyst/Programmer to Systems Analyst Programmer III, in the MIS Department to align position with organizational structure as recommended in the MIS 5 Year Strategic Plan.
2. Title change to a vacant position, Administrative Systems Coordinator to Legal Coordinator, Litigation, in the Law Department to align title and job functions with position responsibilities.
3. Title change to a filled position, Construction Coordinator to Sr. Program Manager, in the Deer Island Capitol Engineering Department to align title and job functions to be consistent with others in the department.
4. Title and grade change to a vacant position, Programmer Analyst II to Special Projects Coordinator, in the Planning Department to align title and job functions with current and anticipated departmental needs.

5. Title and grade to a filled position, Project Manager, Technical Services grade 25, to Program Manager, Energy and Environmental Management grade 29, in the Operations Support Department, to reclassify position as a result of an increase in responsibilities.

The first four amendments require approval by the Personnel and Compensation Committee. The last amendment requires Board approval after review by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

The annualized budget impact of the five PCR amendments is a potential savings of between \$9,291 and \$32,316, depending on the individuals selected for the positions upon the completion of the hiring processes.

ATTACHMENTS:

New/Old Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2016

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - November 18, 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
P9	Administration MIS 8610007	V	T	Database Analyst/Programmer	6	11	Systems Analyst/Programmer III	6	11	N/A	N/A - N/A	\$0 - \$0	To align position with organizational structure as recommended in the MIS 5 Year Strategic Plan
P10	Law Law 7110035	V	T	Administrative Systems Coordinator	C1	20	Legal Coordinator, Litigation	1	20	N/A	N/A - N/A	\$0 - \$0	To align title and job functions to reflect position responsibilities
P11	Operations Capitol Engineering 2971013	F	T	Construction Coordinator	9	30	Sr Program Manager	9	30	N/A	N/A - N/A	\$0 - \$0	To align title and job functions to be consistent with other titles in the department
P12	Operations Planning 1510024	V	T,G	Programmer Analyst II	6	9	Special Projects Coordinator	6	8	\$86,760	\$47,383 - \$70,408	-\$39,377 - -\$16,352	To align title and job functions with current and anticipated needs
PERSONNEL & COMP COMMITTEE TOTAL=					4						SUBTOTAL:	-\$39,377 - -\$16,352	

PCR AMENDMENTS REQUIRING BOARD APPROVAL- November 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
B8	Operations Ops Support 5850003	F	T,G	Project Manager, Technical Services	9	25	Program Manager, Energy and Environmental Management	9	29	\$96,795	\$103,856 - \$103,856	\$7,061 - \$7,061	To reclassify position as a result of an increase in responsibilities
BOARD TOTAL =					1						SUBTOTAL:	\$7,061 - \$7,061	
GRAND TOTAL =					5						TOTAL ESTIMATED COSTS:	-\$32,316 - -\$9,291	

OLD

**MWRA
POSITION DESCRIPTION**

POSITION: Database Analyst Programmer

PCR#:

DIVISION: Administration

DEPARTMENT: MIS/CNY

BASIC PURPOSE:

Primary technical lead in support of assigned applications including, senior level programming, systems project management, application maintenance and database integrity. Defines and develops new functionality, database structures, application interfaces and the critically shared data elements through a comprehensive understanding of the MWRA's business functions.

SUPERVISION RECEIVED:

Works under the general supervision of the Data Resources Manager.

SUPERVISION EXERCISED:

Exercises close supervision of assigned project staff and technical resources.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assures the quality and integrity of the production version of assigned applications in compliance with SDM and Change Control Procedures.
- Manages new release and maintenance support activities provided by the assigned applications vendor.
- Identifies new business functions and defines information technology solutions to address the new functions.

- Defines the logical and physical organization of assigned application related data which support targeted business functions.
- Develops database definition and program code required to implement new modules, reports, and interfaces with other systems.
- Coordinates and executes quality assurance and system acceptance procedures.
- Validates the content of data structures for data security and data accuracy.
- Manages assigned technical staff resources and combined user and MIS implementation task forces.
- Analyzes and specifies the operational requirements of assigned applications.
- Participates in the identification and evaluation of the storage medium organization techniques and access methods.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four- (4) year college program in computer science or related field. Advance degree preferred; and
- (B) Six (6) to eight (8) years of experience with assigned systems and/or environmental software, preferably with vendor supplied packages. Expertise in minicomputer/server application and database programming; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of information system design and programming.
- (B) Proficiency with the following required: 3rd and 4th generation languages, Oracle

Developer, and OPEN VMS.

- (C) Proficiency with the following preferred: Beckman Lab Manager, Access; Maintenance Management Systems, Unix or NT; Workflow Management Systems, GIS and/or Engineering/scientific tools.
- (D) Demonstrated experience in project management techniques and the ability to establish effective relationships with users.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

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

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 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 frequently is required to sit and talk or hear. The employee is occasionally required to walk; stand; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

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 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 noise level is moderately loud in the field settings and moderately quiet in the office setting.

March, 2001

MWRA
POSITION DESCRIPTION

NEW

POSITION: Systems Analyst/Programmer III (GIS)

PCR#:

DIVISION: Administration

DEPARTMENT: Management Information Systems (MIS)

BASIC PURPOSE:

Under the direction of the Technical Services Program Manager, designs, operates, oversees and maintains the MWRA Geographic Information System (GIS), coordinates GIS activities among all Departments, between the cities and towns within the MWR Service area and with the Commonwealth of Massachusetts. Coordinates, manages, and directs GIS database/applications development, definitions, maintenance, and implementation. Manages and prepares general planning for the GIS system. Provides assistance and coordinates drafting, mapping, graphic illustrations, and related report preparation for the Authority. Provides training for GIS operators.

Responsible for translating business case analysis into functional requirements. Identifies potential opportunities to enhance business processes, improve efficiencies and reduce costs. Requires a broad knowledge of the organization and business functions.

SUPERVISION RECEIVED:

Works under the general supervision of the Technical Services Program Manager. On specific IT projects may be supervised by a team lead or project manager.

SUPERVISION EXERCISED:

Exercises supervision of assigned vendor resources and IT Project Team(s).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Application Development

- Reviews GIS application design prior to buy or build decision to ensure service levels can be met and recommend any performance enhancements prior to implementation
- Codes, configures, implements, maintains and supports, new and upgrades to GIS software applications (in-house and third party software) and interfaces to ensure processes and functionality of the applications comply with the organization's requirements, processes and standards.
- Develops and maintains technical documentation for GIS applications as follows:
 - Design Model - Description of the system design. Comprised of a variety of work products, potentially including a deployment model, an object model, a physical data model (PDM), a security threat model, a system overview document, and a user interface model.
 - Source Code – The program code for the system.
 - Regression Test Suite - Collection of test cases, and the code to run them in the appropriate order. The regression test suite will include a wide range of tests, including acceptance tests, unit tests, system tests, etc.
 - Installation Scripts - Code for installing the system into pre- and post-production environments.
 - Release Notes - Summarize the things to know pertaining to the current release of the system.
 - Operations Procedure - Procedures and supporting information to operate the system once it is in production including continuity and disaster recovery procedures.
 - Support Reference- Used by support staff, such as trouble shooting guides, contact information for the development team, which enables them to support end users
 - Asset & Configuration Management – Assist in determining and maintaining adequate license counts and system configurations
- Responsible for developing a release package for all systems changes when transitioning to the production environments.

Post Implementation Support

- Supports the resolution of incidents and problems with GIS software application functionality.
- Researches and corrects problems with the GIS system applications code during production processing in an efficient and timely manner ensuring system recovery and integrity.
- Coordinates technical support with the GIS vendor
- Is available to execute and carry out IT Continuity and Disaster Recovery Plans
- Is a Technical Member of the Change Advisory Board (CAB) as needed.

- Serves as team lead for assigned projects and updates/maintains project plans and schedules as required.
- Manages and administers the GIS relational database (ArcSDE)

Mentoring & Professionalism

- Maintains professional interaction with the application development staff, users and extended IT community (i.e. project teams) to ensure adequate system functionality, promote team participation and encourage user confidence in the Application Development Staff's quality of service.
- Provides assistance to Systems Analysts/Programmer I and II personnel ensuring that all technical design work, coding and testing are done in a manner that meets or exceeds design and testing requirements and standards.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in management science, engineering management, computer science or related fields; and
- (B) Five (5) to seven (7) years experience supporting enterprise wide applications as well as tier two applications.
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Strong knowledge of ESRI software (ArcGIS, ArcServer, ArcGIS Online)
- (B) Working knowledge of ESRI 'ModelBuilder' and 'ToolBoxes'
- (C) Possesses a working knowledge of ITIL
- (D) Extensive knowledge of programming languages, troubleshooting techniques, database structures, triggers and procedures, application server platforms, middleware and operating systems.
- (E) Knowledge of the following is desirable: MS .Net, J2EE, Crystal Reporting, ORACLE 11g, SQL Server and PL/SQL, Python.
- (F) Analytical and interpersonal skills
- (G) Written and oral communication skills.

SPECIAL REQUIREMENTS:

- Information Technology Infrastructure Library (ITIL) Foundation Certification is required or the ability to obtain within 6 months.
- Formal training or certification in programming methodologies and System Development Life Cycle methodologies
- Esri Technical Certifications: At least one of the following or the ability to obtain within one year
 1. ArcGIS Desktop
 2. ArcGIS Desktop Developer
 3. Web Application Developer
 4. Enterprise Geodata Management
 5. Enterprise System Design
 6. Enterprise Administration

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer, mobile devices, printers 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, stand, walk, talk and listen.

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 works in a computer center, network closet, and/or office environment and occasionally works in various field settings. The employee regularly works near moving mechanical parts and is occasionally exposed to risk of vibration and electromagnetic radiation. The employee is occasionally exposed to risk of

electrical shock. The Computer Center also uses automatically discharging chemicals to suppress fire.

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.

November 2015



MWRA
POSITION DESCRIPTION

POSITION: Administrative Systems Coordinator

DIVISION: Operations, Law, Administration, Finance

DEPARTMENT: Deer Island, Operations Administration, Administration, Lab Services, Public Affairs, Real Property and Management, Law

BASIC PURPOSE:

Assists in labor relations matters, administrative tasks, inventory control, recordkeeping, development and implementation of various computer software programs. Provides a range of possible duties, but will not necessarily perform all the duties listed below.

SUPERVISION RECEIVED:

Works under the general supervision of the location Director, Deputy Director, or Manager.

SUPERVISION EXERCISED:

Exercises supervision over assigned entry-level and clerical employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages all administrative activities such as payroll, accounting, inventory control and purchasing of items including equipment, supplies, and materials.
- Assists in the dissemination, direction and implementation of administration policies and procedures.
- Assists in yearly budget requests and manages databases for current expense budget for accounts and to-date reporting or expenditures. Answers quarterly variance questions and all other related budgetary questions.
- Coordinates the implementation of and manages the efficient use of the computerized programs in accordance with Authority policies and procedures.
- Under the supervision of the supervisor, reviews professional services invoices to verify the accuracy of data submitted and cross references data against contract documents. Assists in setting up detailed spreadsheets used to track contract data such as overhead rates, contract

hourly rates, fees and salaries. Enters and updates spreadsheet data as necessary to maintain the accuracy of contract invoice details.

- Reviews assigned employee performance in accordance with Authority Policies and Procedures.
- Coordinates the preparation of documents, reports, etc. for all administrative, human resources, payroll, and inventory functions.
- Performs all secretarial duties such as correspondence, telephones, files, calendar, conferences etc.
- Develops and implements computer generated work order systems and coordinates some with material requirements.

SECONDARY DUTIES:

- Coordinates special projects as needed.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A two (2) year undergraduate degree, bachelor of arts or bachelor of science or related field; and
- (B) Organizational and administrative skills as attained through four (4) to seven (7) years experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated proficiency in Microsoft Office products including Outlook, Word, Excel, Access and PowerPoint.
- (B) Familiarity of database and HRIS software
- (C) Demonstrated experience in planning, organizing, and supervising projects.
- (D) Excellent analytical, interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

Must have successfully completed the MIS and professional development-related ACP requirements for this position. . If no qualified ACP certified applicant applies for the position, the selected candidate will have 6 months to complete the ACP program.

TOOLS AND EQUIPMENT USED:

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

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 duties.

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.

The employee must regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, 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 regularly works in an office environment.

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

December 2014

NEW

MWRA
POSITION DESCRIPTION

POSITION: Legal Coordinator, Litigation

PCR #:

DIVISION: Law Division

DEPARTMENT: Litigation

BASIC PURPOSE:

Provides administrative, organizational and paraprofessional support to the General Counsel and Litigation Group.

SUPERVISION RECEIVED:

Works under the general supervision of the General Counsel and Associate General Counsel of the Litigation Group.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and maintains both paper and electronic filing systems, including litigation case files, departmental and attorney records and documents. Records, updates and tracks files on computer system by use of databases and specialized programs as required.
- Maintains and updates calendars for all litigation matters, including court appearances, depositions, and responses to litigation pleadings.
- Schedules depositions, appointments, meetings and conferences. Makes travel arrangements and prepares expense reports.
- Composes and edits correspondence regarding scheduling and deadlines.
- Prepares initial drafts of new matter assignment memoranda.

- Coordinates coverage of division support staffing needs.
- Transcribes, edits and routes legal memoranda and litigation documents, including pleadings, interrogatories and document requests.
- Assists in trial preparation efforts as directed by attorneys, including document and exhibit organization.
- Transcribes correspondence.
- Coordinate preparation of reports, agendas, special projects and other materials as required.
- Assists in the dissemination, direction and implementation of administration policies and procedures.
- MIS Liaison.

SECONDARY DUTIES:

- Coordinates special projects as needed.
- Perform related duties as required, including providing support as necessary to other Law Division sections.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A two (2) year undergraduate degree, bachelor of arts or bachelor of science in a related field; and
- (B) Organization and administrative skills as attained through four (4) to seven (7) years experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated proficiency in Microsoft office products including Outlook, Word, Excel, Access and PowerPoint.
- (B) Ability to successfully type at a rate of 60-70 WPM.
- (C) Familiarity with database software.

- (D) Demonstrated experience in planning, organizing, supervising projects, communication and interpersonal skills, including ability to handle confidential information.
- (E) Excellent analytical, interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated, with the use of telephone, personal computer including word process and other software, copy and fax machines.

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. The noise level in the work environment is usually moderately quiet.

November 2015

OLD

MWRA
POSITION DESCRIPTION

POSITION: Construction Coordinator

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering

BASIC PURPOSE:

Supervises office and field engineers to oversee and manage construction contracts and professional engineering contracts in the construction, rehabilitation, improvements, and start-up of Waterworks and Wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of the Assistant Director, Construction.

SUPERVISION EXERCISED:

Exercises close supervision of office and field employees including professional and technical staff, resident engineers, and inspectors.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees and manages a program of construction projects, including the rehabilitation and improvement of waterworks and wastewater facilities and pipelines.
- Supervises and manages office and field engineers, including assignment of projects, evaluation of performance, and staff development planning. Provides technical and administrative assistance to staff during the construction, startup, and warranty of projects.
- Oversees and directs consultant engineering services and contracts during construction, including all work for quality of work, budget, schedule, and compliance with contractual terms and MWRA objectives and policies. Negotiates and reviews construction services in consultant contracts.

- Acts as liaison with engineering, operations, and maintenance staff to ensure the smooth construction and start-up of new or rehabilitated facilities.
- Ensures contractor compliance with construction documents, MWRA procedures and policies, regulatory requirements, and applicable engineering standards.
- Supervises the development and maintenance of construction tracking and reporting procedures. Prepares and updates construction budget and schedule projections.
- Performs constructability reviews of construction plans and specifications.
- Reviews, negotiates and processes change orders and claims in accordance with MWRA policies and procedures.
- Reviews and processes pay estimates and final payment and construction closeout documents in a timely manner. Oversees preparation and submittal of accurate record drawings upon construction completion.
- Oversees office and field project files, ensuring that all project documentation is complete, up-to-date, and in accordance with MWRA policies and procedures.
- Prepares staff summaries for the Executive Director and Board for construction contract and engineering agreement changes, and project status.

SECONDARY DUTIES:

- Participates in preparing for collective bargaining and hears Step-One grievances.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil engineering or a related field; and
- (B) Eight (8) to (10) ten years experience in the construction of water and wastewater facilities and infrastructure, of which four (4) years should be in a supervisory capacity and four (4) years should include a project management experience; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.

(B) Knowledge of Massachusetts laws, including MGL Chapter 30 and Chapter 149 construction regulations.

(C) Familiarity with computer software, such as Word and Excel.

(D) Excellent interpersonal, managerial, oral and written communication skills are required.

SPECIAL REQUIREMENTS:

Registration as a Professional Engineer in Massachusetts is preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:

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

While performing the duties of this job, the employees frequently works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, extreme heat or extreme cold, and the risk of electrical shock.

The noise level in the work environment is usually loud in field settings, and moderately quiet in office settings.

June 1, 2011

MWRA
POSITION DESCRIPTION

NEW

POSITION: Senior Program Manager (DI)

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering Services

BASIC PURPOSE:

Manages all projects assigned for the Engineering Services Department from conceptual design through the construction phase.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Engineering Services.

SUPERVISION EXERCISED:

Exercises close supervision of Program Managers, Senior Staff, and Staff Engineers, and Design Engineers.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and manages plant engineering projects that support the operations staff for engineering resolution. Recommends solutions to the problems, which arise during normal plant operations.
- Provides plant engineering support to the maintenance staff with complex work orders and contract maintenance projects, and provides appropriate design services. Provides support services for the economical operation of plant wide compressed air, water, HVAC, process pumping and electrical systems.
- Supervises design, engineering, drafting, and finalization of in-house projects involving repair/replace/modification activities, renovation and layout changes for offices, laboratories, shops and warehouses.
- Oversees project management of concept designs, detailed designs and the preparation of plans and specifications for proposed plant engineering modifications. Identifies,

prioritizes, and establishes milestones for the completion of projects within the department.

- Manages blanket maintenance/construction contracts.
- Oversees the preparation of plans and specifications for vendor contracts for proposed plant engineering modifications.
- Oversees reviews of, and modifications to all operations and maintenance documentation. Ensures that all operations and maintenance documentation conforms to MWRA standards.
- Oversees and manages construction projects generated by the Engineering Services department, and outside consultants. Performs project management on construction projects.
- Oversees and directs consulting engineering services and contracts during construction including all work for quality of work, budgets, schedule, and compliance with contractual terms and MWRA objectives and policies.
- Oversees the updating of engineering drawings and records and the subsequent forwarding (in accordance with established procedures) to the Technical Services Center.
- Provides oral and written reports to the Manager, Engineering Services detailing results of problem investigations, proposed resolution, and economic justification for the proposed changes.
- Evaluates assigned employees performance according to MWRA procedures.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in mechanical, electrical or controls engineering; and
- (B) Understanding of facilities design and plant engineering, and construction project management techniques to include the preparation of plans, specifications, and biddable project documents as normally acquired through eight (8) to ten (10) years of related experience, of which three (3) years at least must be in a supervisory or managerial capacity; and
- (C) Experience in wastewater treatment operations, utilities and large facility start-up procedures desirable; and

(D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Ability to plan, organize, direct, train and assign duties to subordinates as obtained through the successful completion of an MWRA supervisory training program or an approved substitute.
- (B) Extensive experience in the development and oversight of MGL chapter 30 and 149 contracts.
- (C) Personal computer skills including spreadsheet, database, word processing, project management and Auto CADD desired.
- (D) Demonstrated verbal and written communication skills.

SPECIAL REQUIREMENTS:

Massachusetts Registered Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral 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 outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is usually loud in field settings and moderately quiet in other work facilities.

November 2015

MWRA
POSITION DESCRIPTION

OLD

POSITION: Programmer Analyst II (GIS)

PCR#:

DIVISION: Operations

DEPARTMENT: Planning

BASIC PURPOSE:

Reports to the program manager with assignments to the various ongoing Geographic Information Systems (GIS) projects in the Planning and other departments of the Operations division.

SUPERVISION RECEIVED:

Works under the general supervision of the Program Manager.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develop and maintain an array of spatial and non-spatial data including but not limited to data conflation, data conversion, digitizing, feature attribution, geographic data analysis, QA/QC of data for accuracy and completeness and developing/using scripts to automate/streamline data development processes and other essential applications for in-house use.
- Develop and deploy GIS solutions to support a variety of Engineering, Planning, Security, and Emergency Management projects.
- Develops the application system programming code to generate an application, which will

support user needs and user driven maintenance and enhancement opportunities.

- Design, develop and/or modify in-house web pages using HTML, and JavaScript. Assists in the solution of common computer desktop user problems.
- Works with MIS staff to schedule and coordinate MIS resources for solving user problems.
- Provide technical support for desktop GIS including all in-house developed applications.
- Reviews the programming code structure of system furnished by technical consultants to allow for future in-house maintenance and enhancements.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of programming design and coding, as normally attained through a four (4) year college program in computer science, Geographic Information Systems, or related field; and
- (B) Proficiency in a broad array of desktop productivity tools ranging from Microsoft Office Access, Excel, and Word, Esri's ArcGIS for Desktop, and ORACLE as acquired by three (3) to five (5) years of GIS work experience preferably in an engineering work environment utilizing these tools; or
- (C) Any equivalent combination of education or experience

Necessary Knowledge, Skills and Abilities:

- (A) Proven knowledge and practical experience of database design and development and programming techniques.
- (B) Excellent oral, writing and interpersonal skills required.
- (C) Knowledge of programming design, coding and application development using Python,

HTML, CSS, and JavaScript. Some knowledge of web-base and mobile mapping application a plus.

- (D) Hands-on experience and proven knowledge of concepts and techniques of GIS data development, geographic data analysis, and some application programming using Esri's ArcGIS for Desktop required.
- (E) Strong problem-solving and troubleshooting skills and ability to leverage documentation to solve technical issues.
- (F) Attention to details and experience with QA/QC and data analysis.
- (G) Must possess excellent organizational skills and ability to work on multiple projects simultaneously.
- (H) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.

SPECIAL REQUIREMENTS:

None.

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.

The employee must regularly lift and/or move up to 10 pounds. 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.

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

October 2014

NEW

MWRA
POSITION DESCRIPTION

POSITION: Special Projects Coordinator

PCR#:

DIVISION: Operations

DEPARTMENT: Planning

BASIC PURPOSE:

Provides support to projects of the Planning Department. Assists with report design and production for MWRA reports or official documents as necessary. Provides assistance as needed with research or analysis on planning topics.

SUPERVISION RECEIVED:

Works under the general supervision of the Senior Program Manager, Master Planning.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Works with staff across departments to gather information related to energy, sustainability, climate change and master planning projects.
- Researches details related to planning and sustainability projects, for inclusion in summaries and web updates.
- Prepares planning reports and analyses on waterworks and wastewater systems and facilities.
- Provides assistance as needed with research on technical planning or engineering topics and assembles and summarizes the information for review and use by others.
- Participates in the updating and review of the master plan and the business plan.

SECONDARY DUTIES:

- Drafts or reviews reports, memoranda and other documents.

- Assists as requested with the reviews of environmental documents and plans for non-MWRA projects that may affect MWRA facilities and/or planned projects;
- Assists are requested with review and permitting of MWRA projects;
- Performs other duties as required

MINIMUM QUALIFICATIONS:

Education and experience:

- (A) A four (4) year college program in Regional or Environmental Planning, Environmental Studies or Sciences, a related engineering or science discipline, or related field; and
- (B) One (1) to three (3) years professional experience in administrative or technical work, or,
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent computer skills.
- (B) Excellent interpersonal, oral and written communications skills.
- (C) Excellent organizational skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operator's License

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of multi-line 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 and talk or hear, to use hands to feel, finger, handle or operate objects, including office equipment or controls and reach with hands and arms. The employee is frequently required to stand and walk; and occasionally climb or balance; stoop, kneel, crouch, crawl, or smell.

The employee must frequently lift and/or move up to 10 pounds, occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, peripheral vision, distance vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

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

October 2015

MWRA
POSITION DESCRIPTION



POSITION: Project Manager, Technical Services

PCR#:

DIVISION: Operations

DEPARTMENT:

BASIC PURPOSE:

Initiates and manages projects for TRAC. Provides project support to other departments. Assists in establishing programs and policies for TRAC and the MWRA.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Technical Services.

SUPERVISION EXERCISED:

Exercises close supervision of consultants, project engineers, contract employees, and interns as needed for assigned projects.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages projects from inception to completion including, scheduling, budget task performance, data analysis, report writing, supervision of consultants, and presentations to all applicable groups within and outside the Authority.
- Participates in the consultant selection process by preparing requests for qualifications and proposals.
- Recommends agency, program, or department policy after analyzing pertinent issues and information regarding the impact of the proposed policy.
- Provides support and analysis for TRAC programs, other departments and divisions pertaining to toxic reduction and control and other pretreatment program issues.

- Supervises staff to assist in developing information needed to analyze and develop toxic reduction and control and other pretreatment programs.
- Conducts outreach on toxic reduction issues through presentations and written information to public interest groups, professional groups, students, and the general public.

SECONDARY DUTIES:

- Participates actively in TRAC multi-disciplinary work groups.
- Drafts reports, memoranda, and other documents.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year undergraduate degree in biology, chemistry, environmental sciences, a related engineering or science discipline, or related field; and
- (B) Knowledge and understanding of industrial and municipal pretreatment issues, source reduction and pollution prevention principles (including the toxic reduction planning and certification process) as required through a minimum of six (6) to eight (8) years of experience; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Ability to plan and implement projects. Demonstrated practical understanding of all phases of project management including supervision and implementation of complex projects as normally acquired by seven to nine years of project experience.
- (B) Ability to manage staff, including organize, direct, train, assign duties to, supervise, motivate and evaluate.
- (C) Strong written and oral communication skills. Strong analytical skills.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

Light equipment, 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 the job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

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

The employee must frequently lift and/or move up to 10 pounds, and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, 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 outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions, radiation and vibration. The employee is occasionally exposed to fumes or airborne particles and toxic or caustic chemicals.

The noise level in the work environment is usually loud in field settings, and moderately quiet in office settings.

August, 1999

MWRA
POSITION DESCRIPTION

NEW

POSITION: Program Manager, Energy and Environmental Management

PCR#:

DIVISION: Operations

DEPARTMENT: Operations Administration

BASIC PURPOSE:

Provides management of environmental and energy initiatives related to the operations of MWRA facilities, primarily with a focus on Field Operations departments and energy conservation and green house gas reduction initiatives. The position will play a central role within the Operations Division for assigned programs and projects; providing coordination and communication with MWRA management and staff, as well as outside agencies and regulators, to ensure the continued success of these programs.

SUPERVISION RECEIVED:

Works under the general supervision of the Deputy Chief Operating Officer, Programs, Policy, and Planning.

SUPERVISION EXERCISED:

Assists in the supervision of staff assigned to work on programs and projects that this position manages.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages all phases of consultant selection including development of scope of services, specifications, cost estimates, work schedules, negotiations, and preparations of contract award recommendations. Oversees work of consultants to ensure compliance with contract budgets, schedules and terms.
- Ensures compliance with MWRA policies, procedures and directives, and regulatory requirements and applicable engineering standards.

- Initiates outreach, manages projects, and acts as liaison with communities, government agencies, professional organizations and other MWRA departments as required to ensure all activities are coordinated as appropriate.
- Represents MWRA in proceedings, public hearings, and workshops with communities, and other governmental agencies as required.
- Develops long-range strategic plans to ensure that environmental/energy findings are integrated with operational issues.
- Conceives, designs, and manages in-house wastewater and industrial discharge monitoring programs, including analyzing monitoring data and preparing reports and outreach information interpreting this data for scientific and lay audiences such as the Board of Directors, the Advisory Board, MWRA communities, and consultants.
- Reviews and authorizes (or disallows) the discharge of new chemical substances into the sewer system by industries.
- Supervises professional, multi-discipline scientific and data management work of substantial difficulty and importance, requiring application of scientific principles and exercise of independent professional judgment, such as the Local Limits studies and the FES Odor and Corrosion Control Study.
- Directs and implements special, environmentally-focused projects requiring a high degree of problem solving, organization, and communication skills.
- Recommends agency, program or division energy policies and strategies by analyzing cost, operational and environmental impacts of proposed policy on division projects.
- Assists in the development, monitoring, revising, and reporting of MWRA's comprehensive energy management plan.
- Initiates, develops, and manages energy conservation programs, primarily for Field Operations departments' facilities including water and wastewater pump stations, headworks, and CSO facilities. Includes close coordination with electric and gas utility managers, as well as Operations staff. Also prepares, monitors, and updates capital or current expense budget requests for assigned projects as required.
- Directs energy audits and follows-up on implementation.
- Assists with the development, evaluation, implementation, and management of other energy projects as requested in the following areas: renewable energy, power supply, transmission and distribution, fuel supply, energy revenue programs, load reduction programs, utility rebate programs, and grant-funding.

- Coordinates closely with Authority staff and managers who have energy management sustainability, and environmental responsibilities.

SECONDARY DUTIES:

- Performs other related duties as required

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) college program in civil, sanitary, or environmental engineering or related field.
- (B) Seven (7) to nine (9) years of environmental management and energy management/renewable energy project management experience; or
- (C) Any equivalent combination of experience or education.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of Massachusetts bidding laws, including MOL Chapter 25A bidding regulations.
- (B) Understanding of the evolving electricity market and state and federal energy programs.
- (C) Understanding of environmental regulations at the state and federal levels.
- (D) Ability to read and understand technical reports and energy and environmental regulations.
- (E) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.
- (F) Demonstrated ability to effectively and successfully manage high level, sensitive projects, that have significant consequences for MWRA.
- (G) Ability to interact effectively with MWRA facility staff, consultants, and regulatory agencies.
- (H) Excellent interpersonal, oral and written communication skills.
- (I) Experience in Microsoft Word, databases and similar computer software.

SPECIAL REQUIREMENTS:

None

TOOLS AND EQUIPMENT USED:

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

Field equipment used may include flashlight, tape measure, air, water and soil sampling equipment and sampling containers, and various hand held measuring devices such as LEL meters.

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 and talk or hear. The employee is frequently required to use hands to finger, handle or operate objects, including office equipment and controls, and reach with hands and arms, and unroll plans. The employee is also required to stand, walk and be able to climb staging and or ladders as associated with construction site visits in order to see facilities, associated equipment, and observe conditions, record information, and collect samples or take meter readings. In addition, the employee will need to be able to lift and carry reports, proposals and project files.

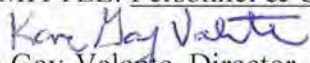
WORK ENVIRONMENT:

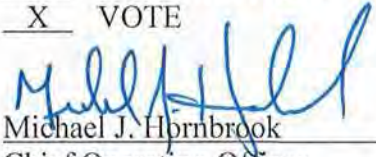
The work environment characteristics described here are representative of those an employee would encounter performing the essential functions of the job. While performing the duties of this job the employee works in an office environment as well as working in the field, at facilities, construction sites, or pipelines and easements.

November 2015

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Appointment of Senior Program Manager, Process Control & Project Support, Operations Division

COMMITTEE: Personnel & Compensation

Karen Gay-Valente, Director, Human Resources
Brian L. Kubaska, P.E., Manager, SCADA & PC
John P. Vetere, Deputy Chief Operating Officer
Preparer/Title

 INFORMATION
 X VOTE

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Ms. Lisa Bina to the position of Senior Program Manager, Process Control & Project Support (Unit 9, Grade 30) in the Operations Division (Unit 9, Grade 30) at the recommended annual salary of \$104,005 on a date to be determined by the Executive Director.

DISCUSSION:

The Senior Program Manager, Process Control & Project Support, reports to the Manager, SCADA & Process Control. This position has been vacant since the appointment of Mr. Brian L. Kubaska to his expanded role as Manager, SCADA & Process Control.

This position is responsible for managing process control issues for maintenance and construction projects, and for day-to-day process control systems of wastewater facilities (headworks, pump stations, CSO facilities) and water distribution and transmission system (pump stations and water storage tanks). The large number of these very unique, automated facilities, each having its own hydraulic considerations, treatment and/or control nuances, necessitate a dedicated person to oversee the process control needs of each of these 54 facilities. Process control at the Deer Island Treatment Plant, John J. Carroll Water Treatment Plant and the William Brutsch Water Treatment Plant are overseen by staff at those facilities. This position is responsible for supervising several engineering staff working in Chelsea on process control issues, service contracts, as needed projects, and to support Operations staff..

Selection Process

This position was posted internally and externally. A total of six candidates (five internal, one external) were determined to meet the qualification of the job description and were interviewed for the position. Senior staff from Water and Wastewater Operations and a representative from MWRA's Affirmative Action and Compliance Unit interviewed all six candidates and

determined that Ms. Lisa Bina was the most qualified candidate to fill the position based upon her combination of experience, abilities, knowledge, and education.

Ms. Bina has over 22 years of professional experience working in the field of water resources. Prior to coming to the MWRA, Ms. Bina performed design and construction work on various water and wastewater systems and facilities while in the Peace Corps and during her five years working for Engineering & Design firms.

Upon coming to the MWRA in 1999 as a Project Engineer, she acquired knowledge and experience of the MWRA's Combined Sewer Overflow (CSO) facilities while working on various court-ordered CSO design projects and wastewater hydraulic modeling efforts. She was promoted to project manager in the Planning department where she performed in-house hydraulic modeling services to assist in the development of designs and support of operational activities. During this time, she played a key role in the water system redundancy studies which have and will guide many major capital projects. Ms. Bina was then appointed to a position in the Operations Engineering group, where she coordinated between operations and construction staff on important design and construction projects. This enabled her to be a key member in the design, construction and startup of the Gillis Pump Station rehabilitation and new Spot Pond Water Pump Station. She has played a critical role while working on Spot Pond, helping to determine how the facility will be configured, operated and controlled, and then working to startup and test the facility.

Ms. Bina's experience and skills, which are directly relevant to the responsibilities of this position, make her the most qualified candidate for the position. Her experience working on various MWRA facilities, system designs and studies as well as facility construction and startups, and her detailed understanding of water and wastewater system hydraulics as acquired through her experience working on various MWRA hydraulic modeling activities has given her the knowledge to be a significant contributor in this position. In addition, she has direct experience working on facility control strategies and using PI data to support modeling efforts and answer operational questions, which is an asset to the position needs. Ms. Bina's experience, skills, proven work performance on various assignments including complex process control issues, and professional demeanor make her the best candidate for the position.

Ms. Bina earned a Bachelor of Science Degree in Civil and Environmental Engineering from Clarkson University. She is a Registered Professional Engineer in Massachusetts, and she holds a Water Distribution System Grade 4D Full License.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the Operations Division's FY16 Current Expense Budget. The recommended salary is in accordance in Unit 9's current collective bargaining agreement. It should be noted that this is a lateral transfer and the salary is the same as her former position.

ATTACHMENTS:

Resume of Lisa Bina
Position Description
Organizational Chart

MWRA
POSITION DESCRIPTION

POSITION: Senior Program Manager, Process Control & Project Support

PCR#:

DIVISION: Operations

DEPARTMENT: Field Operations/Metropolitan Operations

BASIC PURPOSE:

Manages process control issues for maintenance and construction projects, and for day-to-day operations within wastewater facilities and collection systems and water facilities, distribution and transmission systems. Provides complete technical support on all operations, trouble shooting, regulatory and process control matters. Acts as a back-up to and assists the Managers of Water and Wastewater Operations during emergencies and as needed.

SUPERVISION RECEIVED

Works under the general supervision of the Manager, SCADA & Process Control

SUPERVISION EXERCISED:

Exercises close supervision of assigned technical and engineering staff and supervises water and wastewater operations, and maintenance staff as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Provides technical support and develops/manages project work plans to support operations, maintenance and construction activities to ensure minimal impact to operations and customers.
- Manages the development and use of facility data to monitor, track and report on water and wastewater facility equipment and process performance.
- Develops updates and manages control strategies to ensure clear documentation of manual and automated facility controls and alarming functions.
- Works to implement and improve upon instrumentation and automated facility controls, to reduce energy consumption, reduce maintenance requirements, and improve facility/equipment performance and reliability.

- Manages the performance of facility audits to ensure automation, alarming functions, and emergency safeguards are functioning as designed and documented.
- Develops consultant engineering scope of services, participates in consultant procurement efforts and manages consultant teams as necessary.
- Oversees staff productivity monitoring and continual improvement through staff skill development, strategic planning, SOP improvements, and research and implementation of technology advances.
- Oversees process control issues during construction and start-up of new and rehabilitated facilities to ensure new equipment and automation meet the process control objectives as defined.
- Advises Operations and Maintenance Managers on process control aspects of facility operations.
- Participates in the Emergency Operations Center (EOC) staffing as required and trains staff to provide storm and incident management.
- Assists as directed with maintenance service contracts to support various MWRA needs.

SECONDARY DUTIES:

- Performs related duties as required

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of Engineering and Construction as normally attained through a four (4) year Bachelor of Science degree or higher, in civil, electrical, chemical or mechanical engineering or related field; and
- (B) Demonstrated knowledge of design, equipment, methods and practices related to process control of water and/ or wastewater facilities and systems as acquired by eight (8) to ten (10) years experience in the field of water resources. Three (3) years of experience in supervising staff and/or large projects; and
- (C) Recent experience in the design, rehabilitation or startup of contemporary automation systems used for water/wastewater facilities.; and

- (D) Any combination of education or experience.

Necessary Knowledge, Skills, and Abilities:

- (A) Ability to read and interpret plans and drawings.
- (B) Proficient in the use of personal computers and associated MicroSoft Office software programs, including Word, Excel, and Access and use of software used to store, manipulate and analyze historical data (such as OSISoft PI System).
- (C) Experience with the CMMS software, such as MAXIMO.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

A valid Grade 6 wastewater operator's license or 4D Drinking Water Supply Facilities Operators license preferred.

Registered Professional Engineer license preferred.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone and personal computer.

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment or controls and reaches with hands and arms. The employee must frequently lift and or move up to 10 pounds, occasionally lift/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, depth perception and the ability to focus.

WORK ENVIRONMENT:

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

While performing the duties of this job, the employee regularly works in an office environment. The employee will also be exposed to outdoor weather conditions. The employee is occasionally exposed to fumes and airborne particles.

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

March 2015

Lisa Bina P.E.

PROFESSIONAL EXPERIENCE

Massachusetts Water Resources Authority

10/1999 - Present

Construction Coordinator, Engineering & Construction

12/14 - Present

- Construction Coordinator for the Webster Avenue Pipe and Utility bridge replacement Project. The project includes the replacement of MWRA's 48-inch pipe, the City of Somerville's 20-inch pipes, as well as, the steel utility bridge.
- Field operations coordinator for the start up and commissioning of the Spot Pond Coverage Storage Facility Project. Work includes the review of start-up plans and control strategies, and the scheduling and witnessing of the start up of the facility along with the development of all necessary pipeline reconfigurations and shutdowns to assist with construction activities.

Project Manager, Operations Engineering

9/13 – 12/14

- Acted as the coordinator on behalf of Field Operations during the construction of the Spot Pond Coverage Storage Facility and Gillis Pump Station Improvement Projects. Responsibilities include design and construction submittal review, SCADA coordination, O&M manual review and start-up activities.
- Managed the Metropolitan Operations Paving Construction Contract. Responsibilities include the review of invoices, scheduling of work, and the development of change orders.
- Developed Operations Plans for water system isolation and system reconfigurations which have included the use of mobile pumping units to supplement supply. Responsibilities include the development of the operation plan, conducting the necessary hydraulic modeling, scheduling and coordinating the work, and monitoring system conditions at the OCC during the operation.

Project Manager, Planning Department

6/01 – 9/13

- Provided all in-house hydraulic modeling services for the design and construction of major water system distribution projects. Projects have included NIH and SEH system redundancy, Gillis Short Term Improvements, Blue Hills and Spot Pond Covered Storage tanks, and the concept design of the Metropolitan System Redundancy Study.
- Provided as needed assistance to operational staff by utilizing the hydraulic model to determine service impacts for planned and emergency shutdowns.
- Provided on-going technical assistance on hydraulic related issues for planning and engineering staff such as system expansion, alternative energy, and water quality monitoring and meter design.

- Responsible for managing the Authority's water distribution hydraulic model that entailed maintaining master files, updating model network and system demands, and updating modeling software, as needed.

Project Engineer, CSO Department

10/99 – 6/01

- Assisted in the management of the consultant's design of the North Dorchester CSO Project and the Cottage Farm Upgrade Project which included the review of plans and specifications, project scheduling and permitting issues.
- Assisted in the supervision of the consultant's progress on projects involving MWRA's SWMM model. Responsibilities include overseeing budgets, and reviewing quality and progress of work.

Coler & Colantonio Inc., Project Engineer

8/1997 to 10/1999

- Project Engineer for various water and wastewater system expansion projects including the design of a new groundwater pumping station that included corrosion control equipment for pH adjustment using hydrated lime.
- Managed the development of several hydraulic models for clients which included the building and calibration of the model using various software packages. Utilized the hydraulic models for master planning and system expansion purposes.

Earth Tech/Whitman & Howard Inc., Project Engineer

10/1994 – 8/1997

- Project/Field Engineer for the design and construction phases of various water system expansion and rehabilitation projects. The projects included the installation of water mains ranging in size from 8 to 20 in. Field responsibilities, when applicable, included full time inspection of construction materials and procedures, reviewing invoices and acted as prime liaison between Town and Contractor.
- Project Engineer/Staff Engineer for several water distribution studies that included the development, calibration and analyses of water system utilizing various commercial water software programs.

US Peace Corps - Bangkok, Thailand

- Worked for the Ministry of Public Health to provide design and construction support for wastewater collection and treatment systems in local hospitals throughout the country.

EDUCATION

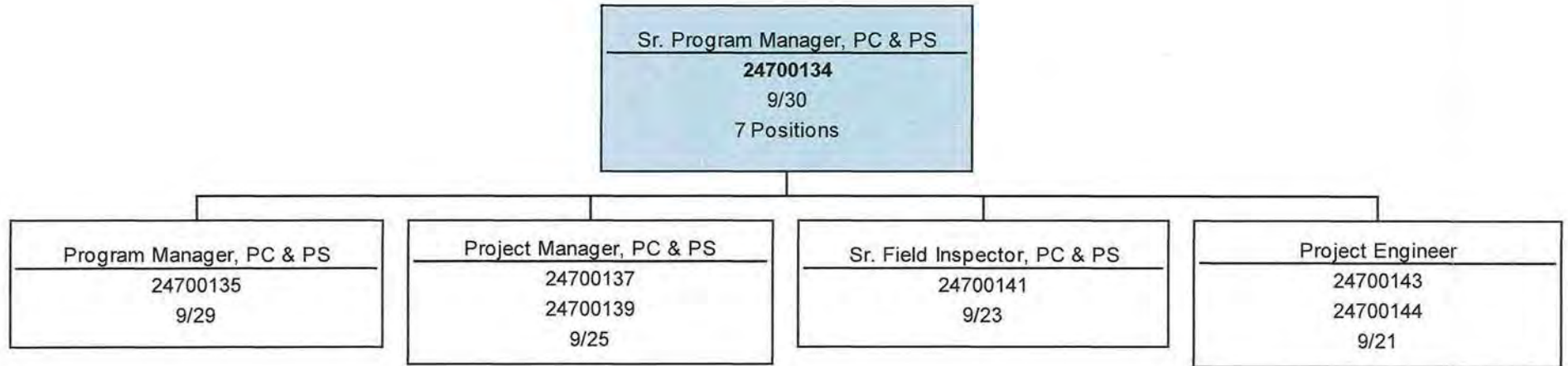
Clarkson University, BS Civil and Environmental Engineering, 1992

LICENSES


Registered Professional Engineer, Civil, Massachusetts #40698
Massachusetts Water Distribution System Grade 4D Full #24014

Process Control & Project Support

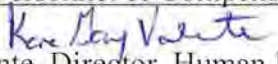
November 2015



STAFF SUMMARY

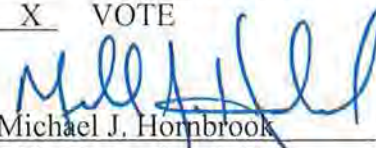
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Appointment of Program Manager, Electrical
Engineering and Construction, Operations Division

COMMITTEE: Personnel & Compensation


Karen Gay-Valente, Director, Human Resources
Anandan Navanandan, P.E., Chief Engineer
John P. Vetere, Chief operating Officer
Preparer/Title

 INFORMATION

 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Jorge P. Silva, P.E., to the position of Program Manager, Electrical (Unit 9, Grade 29) in the Engineering and Construction Department, at the recommended annual salary of \$103,855, to be effective commencing on a date determined by the Executive Director.

DISCUSSION:

The position of Program Manager, Electrical in the Engineering and Construction Department was created as a result of a Position Control Register (PCR) Amendment approved by the Board at the October 14, 2015 Board of Directors meeting. The position was established to meet complex electrical staffing needs in the Engineering and Construction Department. This position reports to the Senior Program Manager and provides electrical engineering support to the operations and maintenance departments for all water and wastewater facilities in the metropolitan Boston area, excluding Deer Island. The Program Manager, Electrical is responsible for managing all aspects of assigned design and construction related projects.

Selection Process

This position was posted internally. One candidate, Mr. Jorge Silva, applied and was determined to meet the qualifications of the job description. Mr. Silva was interviewed by the Assistant Director, Engineering and the Manager, Operations Support. It was determined, based upon his combination of education, experience, ability, and knowledge, that Mr. Silva is well qualified and is recommended for this position.

Mr. Silva has over 30 years of electrical engineering experience including 23 years at MWRA. Mr. Silva holds the position of Senior Staff Engineer, Electrical in the Engineering and Construction Department. His work has included professional engineering and design work for

complex upgrades, replacement and repair of electrical equipment and facilities for water and wastewater projects. His most recent responsibilities included projects such as the Oakdale Facility Upgrade and the Quabbin Area Electrical and Communication Improvements projects. He has performed in-house electrical designs and managed professional engineering consultants. Mr. Silva has extensive knowledge of MWRA's electrical systems and is experienced in MWRA electrical design concepts and preparation of bidding plans and specifications under Massachusetts bidding law requirements. Mr Silva is familiar with all electrical standards and Massachusetts code requirements.

Prior to MWRA, Mr. Silva was employed at professional engineering consulting firms (Parsons Main, Inc., Groundwater Technology, Inc., New England Power Services, Stone and Webster Engineering). His responsibilities in these positions included designing wiring diagrams for on-site emergency generators and switch gear, developing electrical standards for equipment installation and designing power distribution systems and upgrades for process equipment controls.

Mr. Silva earned a Bachelor of Science Degree in Electrical Engineering from the University of Massachusetts. He is a Registered Professional Electrical Engineer in Massachusetts. Mr. Silva is also a member of the Institute of Electrical and Electronics Engineers.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the Operations Division's FY16 Current Expense Budget. The recommended salary is in accordance in Unit 9's current collective bargaining agreement.

ATTACHMENTS:

Resume of Jorge P. Silva, P.E.
Position Description
Engineering Organizational Chart

Jorge P. Silva, PE

EXPERIENCE

MASSACHUSETTS WATER RESOURCES AUTHORITY, BOSTON, MA

Consultant Management, 2009 to Present

Oakdale Hydroelectric Facility

- Responsible for managing the design contract for the facility upgrade project.
- Duties included defining the scope of work and preparing the RFPQ.
- Managed the consultant's work during engineering and design effort.
- Provided concept design for upgrade of the hydro plant. Reviewed the consultant's engineering and design work.
- Oversaw construction work and consultant's contract administration activity.

Gillis Pumping Station

- Responsible for revisions to consultant's design during construction to conform to proper electrical equipment installation and improved reliability.
- Managed consultant's construction administration activities.
- Oversaw the installation of specialized electrical equipment for improved operations.

Quabbin Area Electrical and Communications Improvements

- Designed the conceptual design phase of electrical power distribution to the MWRA facilities located along the Quabbin reservoir.

Senior Staff Engineer, Electrical, 1993 – Present

Responsible for the technical support of in-house projects for rehabilitation upgrade and modifications of various water and wastewater facilities. Have contributed to electrical designs and specification of various systems and equipment such as pumping and other process controls, plant HVAC, electrical substations, emergency generators, switchgear, wind turbines, variable drives and other.

- Review consultant's designs and specifications and review of equipment shop drawings.
- Develop concept and detailed designs of plant systems and specify equipment for contract bidding.
- Prepare calculations and estimates. Write technical reports.
- Coordinate with electrical utilities on the service requirements of various facilities
- Investigate and troubleshoot systems.
- Resolve field construction issues.
- Interpret NEMA, UL, IEEE standards to ensure design and installation compliance.
- Perform studies to conform to National Electrical Code requirements, such as arc-fault studies, short circuit calculations, breaker settings and ratings of equipment.
- Work with CADD drafters to prepare design documents.

Jorge P. Silva

PARSONS MAIN, INC., BOSTON, MA

Senior Electrical Engineer, 1987-1993

Responsible for the design of electrical power systems within a large manufacturing facility.
Responsible for the design of power plant auxiliary electrical systems.

- Designed power distribution systems for power plants and process facilities.
- Designed upgrades of general plant facilities such as lighting, power distribution, life safety systems, communications network cabling.
- Designed manufacturing testing areas and laboratories.
- Designed upgrades of controls on process equipment and assembly machines.

GROUNDWATER TECHNOLOGY INC., NORWOOD, MA

Senior Project Engineer, 1991-1992

Responsible for providing electrical engineering and design of systems and processes controls related to environmental remediation projects.

- Developed company standards for equipment installation in hazardous areas.
- Performed systems start-up and troubleshooting.
- Supervised drafters.
- Developed manual for training on basic electrical concepts and safe work practice per OSHA guidelines.

NEW ENGLAND POWER SERVICES COMPANY, WESTBOROUGH, MA

Designer, 1987 (Temporary)

Designed interconnection diagrams, physical layouts for various projects of upgrades and expansion of power distribution substations.

STONE & WEBSTER ENGINEERING CORP., BOSTON, MA

Designer, 1981-1986

- Designed wiring diagrams for various systems in nuclear power plants, such as on-site emergency power, and medium voltage switchgear.
- Assigned in the construction site of a nuclear power facility. Assisted in implementing field design updates and coordinating between engineering and construction.

EDUCATION

UNIVERSITY OF MASSACHUSETTS, B.S.E.E., 1981

REGISTRATION

PROFESSIONAL ENGINEER, COMMONWEALTH OF MASSACHUSETTS

PROFESSIONAL ASSOCIATIONS

MEMBER, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager, Electrical

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering - Chelsea

BASIC PURPOSE:

Provides electrical engineering support to operation and maintenance departments. Supervises project teams in the department to oversee professional engineering and design projects related to the rehabilitation and capital improvement of waterworks and wastewater facilities and infrastructure from conceptual planning through construction. Additionally, manages engineering and design projects related to the rehabilitation and capital improvement of water and wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of a Senior Program Manager

SUPERVISION EXERCISED:

Supervises electrical engineering staff, medium voltage technicians, and electrical distribution staff as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Performs design, engineering and finalization of in-house projects involving repair/replace/modification activities, layout changes for shops, laboratories, offices and warehouses, lighting systems, and power distribution, including substation & power generation equipment.
- Develops preliminary designs, detailed designs and the preparation of plans and specifications for proposed electrical modifications/replacement and construction projects.
- Oversees installation, operation, maintenance and repair of complex electrical equipment including generation, transmissions, distribution systems.

- Oversees the preparation of plans and specifications for vendor contracts for proposed electrical modifications.
- Oversees reviews of and modifications to all operations and maintenance documentation with respect to electrical design changes.
- Assists the operations staff with engineering resolution and recommendations to electrical engineering problems, which arise during normal operations.
- Assists the maintenance staff with complex work orders and with the development of contract maintenance contracts.
- Provides on-site engineering inspection of construction projects generated by the Technical Services group, central engineering and outside consultants.
- Develops and maintains files and familiarity with all codes, code addends, code cases, and industry standards applicable to the electrical field and ensure that facility specifications comply.
- Performs periodic inspections to ensure facility-wide compliance with local and national electrical codes and other rules of safe electrical practice are enforced.
- Reviews electrical and related portions of design plans by outside firms who have been hired to design improvements or additions to facilities and infrastructure.
- Assists with the coordination of project activities with engineering consultants as required.
- Supervises the updating of electrical engineering drawings and records, and the subsequent forwarding (in accordance with established procedures) to the Technical Services Center.
- Provides oral and written reports to the Senior Program Manager detailing results of problem investigations, proposed resolution, and economic justification for the proposed changes.
- Evaluates assigned employees performance according to MWRA procedures.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of general and specific engineering and design principles and practices as attained through a accredited four (4) or (5) year college program in electrical engineering; and
- (B) Experience in design, installation and maintenance of a wide variety of electrical power and control equipment as normally acquired through seven (7) to nine (9) years of related electrical engineering experience; and
- (C) Experience with a complex processing facility and water or wastewater treatment operations and utility systems are desirable; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Personal computer skills including spreadsheet, database, word processing, project management and GDS, CADD and AutoCADD desired.
- (B) Knowledge of Massachusetts bidding laws, including M.G.L Chapter 30, Chapter 149, and Chapter 25A construction bidding regulations.
- (C) Excellent interpersonal, written and oral communication skills.

SPECIAL REQUIREMENTS:

Possession of Engineer-in-Training certification preferred.

A valid Massachusetts Licensed Professional Engineering certificate preferred.

A valid Massachusetts Drivers License required.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an

employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral vision and the ability to adjust focus.

WORK ENVIRONMENT:

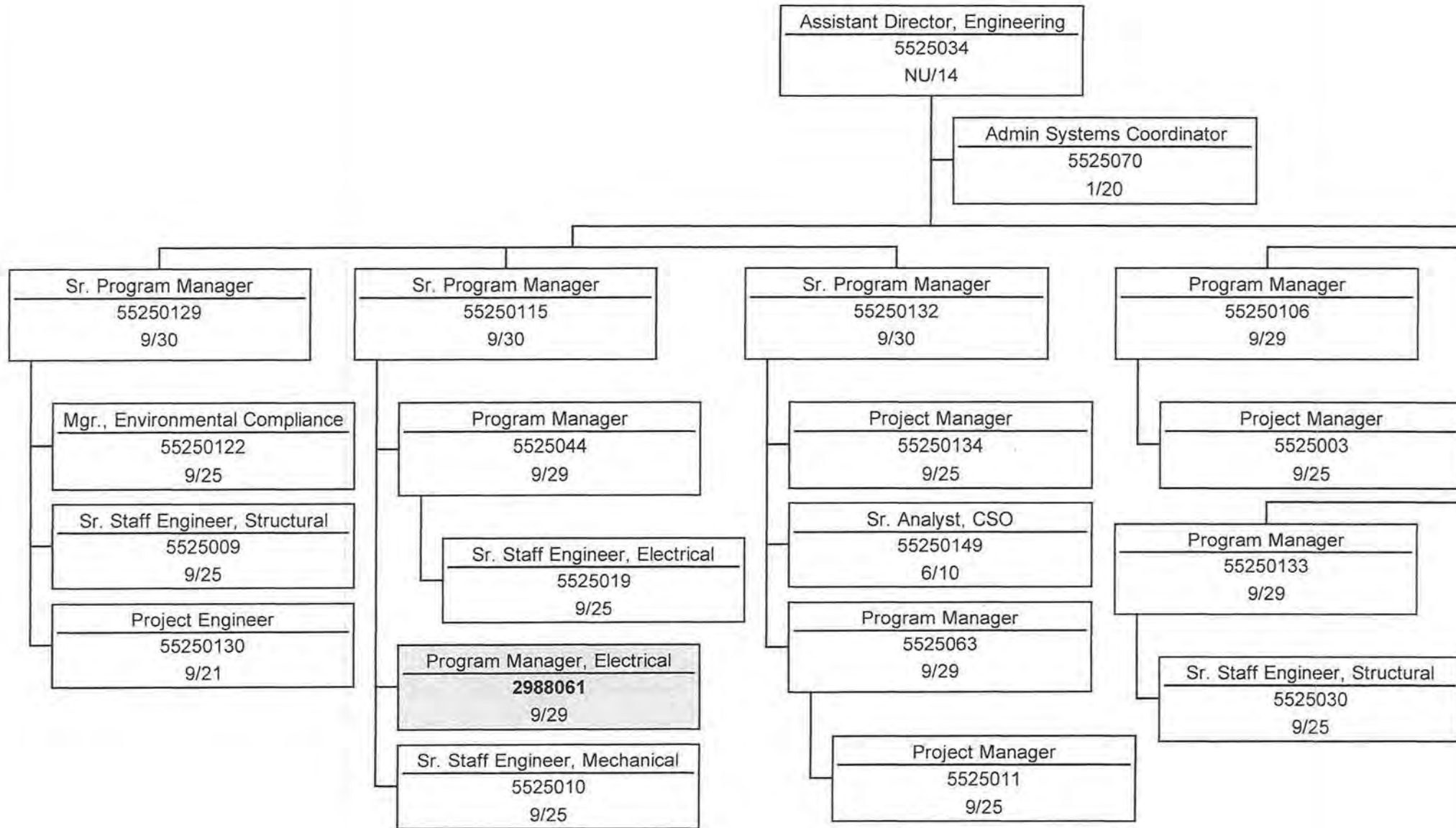
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.


The noise level in the work environment is usually loud in field settings and moderately quiet in an office setting.

October 2015

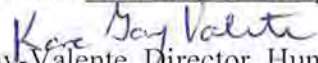
Engineering & Construction
Water/Wastewater Engineering
November 2015



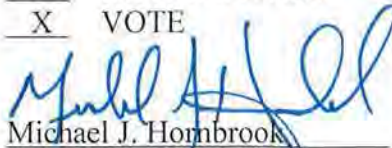
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Appointment of Program Manager, Electrical
Deer Island Capital Engineering, Operations Division

COMMITTEE: Personnel & Compensation


Karen Gay-Valente, Director, Human Resources
John P. Vetere, Deputy Chief Operating Officer
David Duest, P.E., Director, Deer Island
Preparer/Title

 INFORMATION

 X VOTE

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Darius Boyce, to the position of Program Manager, Electrical (Unit 9, Grade 29) in the Deer Island Capital Engineering Department, at the recommended annual salary of \$87,681, to be effective commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Program Manager, Electrical in the Deer Island Capital Engineering Department was created as a result of a Position Control Register (PCR) Amendment approved by the Board at its October 14, 2015 meeting. The position was established to meet complex electrical staffing needs at Deer Island. This position reports to the Senior Program Manager, Electrical and provides electrical engineering design and construction support to the operations and maintenance departments and for development and implementation of capital projects. The Program Manager, Electrical will be responsible for managing all aspects of assigned design and construction related electrical projects on Deer Island.

Selection Process

This position was posted internally. One candidate, Mr. Darius Boyce, applied and was determined to meet the qualifications of the job description. Mr. Boyce was interviewed by the Manager, Engineering Services, Deer Island and the Special Assistant for Affirmative Action. It was determined, based upon his combination of Mr. Boyce education, experience, ability, and knowledge, that Mr. Boyce is well qualified and is recommended for this position.

Mr. Boyce has over nine years of electrical engineering experience including one year at MWRA. Mr. Boyce presently holds the position of Senior Staff Engineer, Electrical in the Engineering Services Department on Deer Island. His work has included professional

engineering and design work for complex infrastructure upgrades, replacement of electrical distribution and other equipment for several Deer Island projects. His most recent responsibilities included projects such as the replacement of various substation transformers, load break switches and Uninterruptable Power Supplies (UPS). In addition, he has been involved in the development of two Requests for Proposals/Qualifications to engage professional engineering firms to provide design/construction packages for the replacement of various electrical substations and Motor Control Centers. Mr. Boyce has extensive knowledge of major electrical distribution equipment and is experienced with MWRA electrical design concepts and preparation of bidding plans and specifications under Massachusetts bidding law requirements.

Prior to MWRA, Mr. Boyce was employed at CDM Smith as an electrical design engineer. His responsibilities in this position included electrical design of various distribution equipment including switchgear, Motor Control Centers, Variable Frequency Drives and communication and security systems for water and wastewater facilities.

Mr. Boyce earned a Bachelor of Science Degree in Electrical Engineering from Mississippi State University in 2006. Mr. Boyce is also a member of the Engineers Without Borders.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the Operations Division's FY16 Current Expense Budget. The recommended salary is in accordance in Unit 9's current collective bargaining agreement.

ATTACHMENTS:

- Resume of Darius Boyce
- Position Description
- Deer Island Engineering Organizational Chart

Mr. Boyce has been working in the design and engineering of electrical systems for municipal, industrial, and private clients. In his nine years of experience he has both managed and designed projects on both the consultant and client levels. Experience entails many aspects of electrical design and energy audits, including secondary power distribution design (480V - Switchgear, MCC, Switchboard, Panelboard), area classification code analysis, energy efficient lighting with rebates, fire alarm design in MA, NY, RI, access control design, security system design, CCTV design, page party design, communications design, grounding design, lightning protection systems, project management, construction management, specification writing, technical memorandums, developing requests for proposals, and design budgeting.

Project Manager NMPS MCC Design and Engineering Services during Construction.

MWRA -, Darius is task with developing a RFQP and managing the design phase of the \$2.0 million project which will include reviewing consultant drawings and specification to ensure the schedule and scope of work is achieved.

Project Manager Security Enhancements at Main Switchgear Building. – MWRA-

Darius is task with reviewing the design and construction phase of this security project which will include reviewing consultant drawings and specification to ensure the schedule and scope of work is achieved.

Lead Electrical/Design Engineer, Water Pollution Control Facility, Bristol, Connecticut.

CDM SMITH - For the City of Bristol, Darius was tasked with helping the City meet future phosphorus permit regulations based on a 38MGD flow. Total estimated cost for the project is expected to be \$15 million. Mr. Boyce completed the electrical design for the plant, including fire alarm, lighting, grounding, process and motor control, and underground systems for the plant. Additionally, his responsibilities included technical memorandums and direct communications with the Facility's maintenance staff and plant manager.

Lead Electrical/Design Engineer, Regulatory Compliance Laboratory Building,

Providence, Rhode Island. CDM SMITH - Mr. Boyce is the lead electrical engineer for this new 36,000 square foot laboratory building which includes a Class 10,000 clean room. Total estimated cost for the project is expected to be \$20 million. Mr. Boyce completed the electrical design for the lab, including power distribution system fed by a primary utility service and secondary back-up generator to increase lab reliability. Mr. Boyce also completed the fire alarm, security, CCTV, page party, lighting, grounding, and underground systems for the lab where some of the systems will be tied into a building management system (BMS). Additionally, his responsibilities included technical memorandums and direct communications with the Facility's personnel and managers.

Electrical Engineer, New York DEP's Dewatering Facilities, New York, New York. CDM

SMITH - Mr. Boyce was responsible for doing a code review for four dewatering facilities throughout New York City. The facilities were reviewed for compliance with New York City's Fire Code, NFPA 820, and the New York City Building Code. A report was written noting code references and recommendations were made for compliance.

Education

B.S. - Electrical
Engineering,
Mississippi State
University, 2006

Lead Electrical/Design Engineer, Phase I Final Design, Yarmouth, Massachusetts.

CDM SMITH - Mr. Boyce provided support and reviews for the Chennai Office as they performed the electrical design for two new pumping stations in the Town of Yarmouth, Massachusetts. The electrical design consisted of electrical distribution, fire alarm, security and communications.

Lead Electrical/Design Engineer, MBI Sewer Upgrade, Phillipsburg, New Jersey. CDM

SMITH - Mr. Boyce designed the electrical distribution for multiple holding tanks at the MBI facility. This project was awarded a spot on quality award.

Lead Electrical/Design Engineer, Saugus - Electrical Improvements, Saugus

Massachusetts. CDM SMITH - Mr. Boyce designed the electrical distribution, fire alarm, security and communications for the existing Saugus Pump Station. He was also responsible for overseeing the construction of the electrical contractor to ensure that everything was done as shown on drawings.

Lead Electrical Engineer, Energy Audit, Cambridge, Massachusetts. CDM SMITH - Mr. Boyce visited the Cambridge Water Department to analyze existing lighting and controls throughout the facility and made recommendations on lighting fixture upgrades via a formal report which included annual energy savings, annual energy cost savings, annual maintenance cost savings, annual rate of return on investment, lifetime energy savings, internal rate of return, net present value and simple payback.

Electrical Engineer, 2010 Bond Program, San Antonio, Texas. CDM SMITH - Mr. Boyce was responsible for assessing the electrical conditions of a number of schools throughout the city of San Antonio for over a period of 3 weeks. He looked for sufficient lighting levels in classrooms, and electrical and fire alarm code violations that were noted throughout the facilities. A brief summary of existing conditions and code violations at each school were documented and given to the project manager at the end of each day.

Lead Electrical/Design Engineer Communications System Improvements, Worcester,

Massachusetts. CDM SMITH - Mr. Boyce was responsible for updating and redesigning the security, card access system, and CCTV at 18 sites throughout the City of Worcester based on new communication methods that had changed since 2008 when the project first started. Numerous meetings and research were conducted to find a vendor with demonstrated success in communications over Ethernet Radio which was used to transmit security, card access and CCTV signals.

Lead Electrical/Design Engineer, Guardhouse, Hartford Metropolitan District

Commission (MDC), Connecticut. CDM SMITH - Mr. Boyce designed the security, card access, and CCTV system for a new guardhouse at the Hartford MDC facility. The system was designed around very specific manufacturers per the client's request, and then the system was tied into the existing fiber optic network on the facility.

Electrical/Design Engineer, Prices Pit Landfill Groundwater Treatment System,

Pleasantville, New Jersey. CDM SMITH - Mr. Boyce designed the lighting, fire alarm, security and communications for the new plant and remote groundwater extraction wells. The 24,000 square foot facility consisted of multiple areas such as process, administration and laboratory.

Electrical Design Engineer, HL Mooney Water Reclamation Facility Design Build,

Prince William County, Virginia. CDM SMITH - Working with a senior engineer, Mr.

Boyce was responsible for power and control design in the return activated sludge pump station No. 2.

Lead Electrical Design Engineer, Holden Reservoir Design, Worcester, Massachusetts.

CDM SMITH - Mr. Boyce was responsible for the improvements to the Intake House at Holden reservoir No. 1 and electrical design of a new valve vault. His responsibilities included the design of a new electrical ductbank to the plant intake house to accommodate increased power feeder requirements, new distribution equipment, new fiber optic cable between the plant and the Intake house for SCADA communications and future systems (CCTV, security, etc.), and the upgrades to existing electrical equipment. Mr. Boyce also designed a lightning protection system for the Intake House.

Lead Electrical Design Engineer, Pumping Station Improvements, Ansonia,

Connecticut. CDM SMITH - For the Town of Ansonia, Mr. Boyce was responsible for the electrical design of ten pump stations. His responsibilities included coordinating with the Power Company, site visit and evaluation, and overhead utility service design, electrical power distribution and control, and grounding.

Lead Electrical Design Engineer, Submersible Stations, Towns of Tewksbury and Wareham, Massachusetts. CDM SMITH - Mr. Boyce was responsible for the design of multiple pumping stations in Tewksbury and Wareham. His responsibilities included, coordinating with the Power Company, site visit and evaluation, and overhead utility service design. Work included a pedestal cabinet design to house all electrical equipment.

Electrical Design Engineer, Wastewater Treatment Plant Improvements, Millbury, Massachusetts. CDM SMITH - For the Upper Blackstone Wastewater Pollution Abatement District, Mr. Boyce was responsible for performing load flow and protective device coordination studies for Phase II of the project.

Electrical Design Engineer, Nottingham Water Works Plant, Cleveland, Ohio. CDM SMITH - Mr. Boyce was responsible for performing load flow, power analyses and short circuit studies using SKM Power tools.

Electrical Design Engineer, Wastewater Treatment Plant, Montague, Massachusetts. CDM SMITH - For the Town of Montague, Mr. Boyce was responsible for the area classification design of the project.

Electrical Design Engineer, Water Treatment Plant Improvements, Taunton Massachusetts. CDM SMITH - For the Town of Taunton, Mr. Boyce was responsible for the Lighting and site plan design.

Professional Activities

Member, Engineers Without Borders

Darius L Boyce

EDUCATION

Bachelor of Science in Electrical Engineering with a Minor in Mathematics

Mississippi State University, Starkville, MS. August 2006

Florida International University, Miami, FL. 2001 - 2002

EXPERIENCE

Sr. Staff Electrical Engineer

MWRA- Deer Island, Winthrop, MA

September 2014 – Present

- Manage and purchase electrical equipment for plant engineering projects by developing specifications and reviewing bids to support operations staff needs. Purchases range from \$5,000 to \$250,000
- Provide engineering support to plant personnel as needed.
- Project management of design and construction contracts in accordance with all applicable codes and MWRA policies and procedures. Contracts range from \$100,000 to \$2,000,000.
- Provide on-site engineering inspection of construction projects.

Electrical Engineer

CDM Smith, Cambridge, MA

November 2006 – September 2014

- Managing projects as the lead electrical engineer in the amount of \$20 million plus.
- Performing design tasks and calculations including power distribution, lighting, fire alarm, CCTV, access control, communications, and security for building system layouts.
- NFPA 820 and Fire Alarm code analysis
- Write technical memorandums, and request for proposals
- Provide construction support after design which includes reviewing shop drawings, responding to RFI's, and performing site visits and site inspections during construction.
- Performing CADD (AutoCAD) tasks for electrical design drawings.
- Delegate and supervise work of junior staff as needed.

COMPUTER SKILLS

Amp Calc, EDR, Visual lighting software, Auto-Cad 2013, Microsoft Word, Excel, PowerPoint, Adobe, Windows

ACTIVITIES/AWARDS

- Member of Engineers Without Borders (EWB)

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager, Electrical

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering - Deer Island

BASIC PURPOSE:

Provides electrical engineering support to operation and maintenance departments. Supervises project teams in the department to oversee professional engineering and design projects related to the rehabilitation and capital improvement of waterworks and wastewater facilities and infrastructure from conceptual planning through construction. Additionally, manages engineering and design projects related to the rehabilitation and capital improvement of water and wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of a Senior Program Manager

SUPERVISION EXERCISED:

Supervises electrical engineering staff, medium voltage technicians, and electrical distribution staff as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Performs design, engineering and finalization of in-house projects involving repair/replace/modification activities, layout changes for shops, laboratories, offices and warehouses, lighting systems, and power distribution, including substation & power generation equipment.
- Develops preliminary designs, detailed designs and the preparation of plans and specifications for proposed electrical modifications/replacement and construction projects.
- Oversees installation, operation, maintenance and repair of complex electrical equipment including generation, transmissions, distribution systems.
- Oversees the preparation of plans and specifications for vendor contracts for proposed

electrical modifications.

- Oversees reviews of and modifications to all operations and maintenance documentation with respect to electrical design changes.
- Assists the operations staff with engineering resolution and recommendations to electrical engineering problems, which arise during normal operations.
- Assists the maintenance staff with complex work orders and with the development of contract maintenance contracts.
- Provides on-site engineering inspection of construction projects generated by the Technical Services group, central engineering and outside consultants.
- Develops and maintains files and familiarity with all codes, code addends, code cases, and industry standards applicable to the electrical field and ensure that facility specifications comply.
- Performs periodic inspections to ensure facility-wide compliance with local and national electrical codes and other rules of safe electrical practice are enforced.
- Reviews electrical and related portions of design plans by outside firms who have been hired to design improvements or additions to facilities and infrastructure.
- Assists with the coordination of project activities with engineering consultants as required.
- Supervises the updating of electrical engineering drawings and records, and the subsequent forwarding (in accordance with established procedures) to the Technical Services Center.
- Provides oral and written reports to the Senior Program Manager detailing results of problem investigations, proposed resolution, and economic justification for the proposed changes.
- Evaluates assigned employees performance according to MWRA procedures.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of general and specific engineering and design principles and practices as attained through a accredited four (4) or (5) year college program in electrical engineering; and
- (B) Experience in design, installation and maintenance of a wide variety of electrical power and control equipment as normally acquired through seven (7) to nine (9) years of related electrical engineering experience; and
- (C) Experience with a complex processing facility and water or wastewater treatment operations and utility systems are desirable; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Personal computer skills including spreadsheet, database, word processing, project management and GDS, CADD and AutoCADD desired.
- (B) Knowledge of Massachusetts bidding laws, including M.G.L Chapter 30, Chapter 149, and Chapter 25A construction bidding regulations.
- (C) Excellent interpersonal, written and oral communication skills.

SPECIAL REQUIREMENTS:

Possession of Engineer-in-Training certification preferred.

A valid Massachusetts Licensed Professional Engineering certificate preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee

frequently is required to sit and talk or hear. The employee is occasionally required to stand, walk, climb or balance, stoop, kneel, crouch, or crawl, taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral vision and the ability to adjust focus.

WORK ENVIRONMENT:

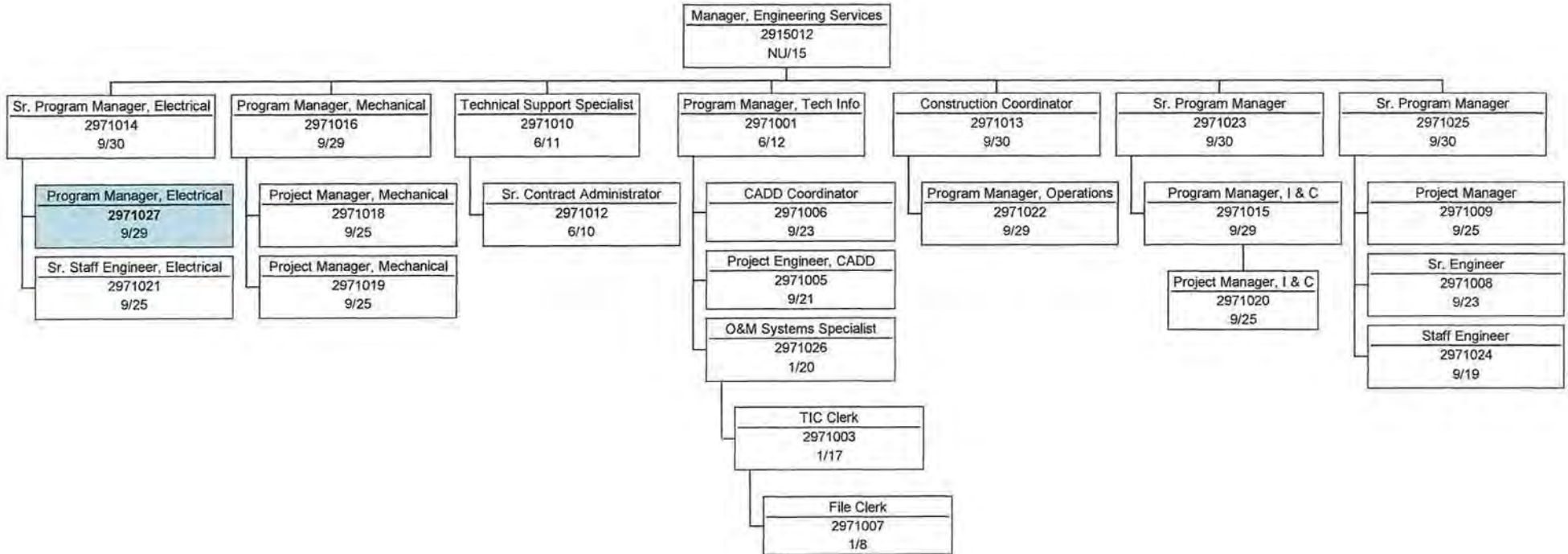
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.


The noise level in the work environment is usually loud in field settings and moderately quiet in an office setting.

October 2015

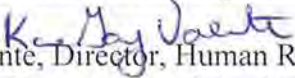
Operations-Wastewater Treatment
Deer Island - Capital Engineering
 November 2015



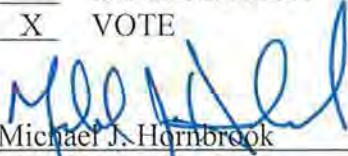
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Appointment of Senior Program Manager,
Deer Island Capital Engineering, Operations Division

COMMITTEE: Personnel & Compensation


Karen Gay-Valente, Director, Human Resources
David F. Duest, Director, Deer Island WWTP
John P. Vetere, Deputy Chief Operating Officer
Preparer/Title

 INFORMATION
 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Brian F. Driscoll, P.E., to the position of Senior Program Manager (Unit 9, Grade 30) in the Engineering Services Department, Deer Island Treatment Plant, at the recommended salary of \$117,682, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Senior Program Manager in the Engineering Services Department at the Deer Island Treatment Plant became vacant upon the retirement of the previous incumbent.

This position reports to the Manager of Engineering Services, and is responsible for managing all aspects of assigned Deer Island design and construction projects. The Senior Program Manager takes the lead role in all communication with consultants and contractors in negotiating and managing amendments and change order costs and determining the necessity for those changes, and, in general, ensures that MWRA's best interests are served during the design and construction of projects assigned. The position is responsible for performing and managing designs and constructability reviews of plans and specifications prior to bid. Additional responsibilities include, but are not limited to, supervision of design and field engineers and the assignment of projects, evaluation of staff performance, staff development, and the provision of technical and administrative assistance to staff assigned to design and construction projects, as required.

Selection Process

This position was posted both internally and externally. A total of five candidates applied, three external and two internal, and it was determined that all applicants met the minimum

qualifications for the available opening. Senior staff from the Engineering Services Department and the Affirmative Action and Compliance Unit interviewed all five candidates and determined that the most qualified individual to fill the position, based on his combination of education, experience, ability, and knowledge was Mr. Brian F. Driscoll.

Mr. Driscoll is a Massachusetts registered Professional Engineer with more than 28 years of experience in the management, engineering, and construction oversight of various large water and wastewater treatment projects. He comes to MWRA leaving his current position of Senior Project Manager for AECOM in Chelmsford, MA, a position he has held for the past 16 years. In this position, Mr. Driscoll was responsible for the project management of the design and construction for several wastewater treatment plants including several projects for Deer Island Treatment Plant. He was also responsible for the oversight of various engineering projects, including the design and construction phases on the Stony Brook system for the Boston Water and Sewer Commission and a several other projects for municipal treatment plants. Mr. Driscoll also worked as Program a Manager for the MWRA on the Boston Harbor Project from 1990-1999.

Mr. Driscoll has successfully demonstrated the ability to manage multiple large engineering and construction projects, has excellent leadership skills and has earned the respect of his supervisors and colleagues. References that were checked provided unqualified and favorable responses regarding his job skills and performance.

Mr. Driscoll earned both a Master of Business Administration Degree from Suffolk University and a Bachelor of Science Degree in Civil Engineering from the University of Lowell. Mr. Driscoll is a registered Professional Engineer in Massachusetts.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Operations Division's FY16 Current Expense Budget to fund this position. The recommended salary is commensurate with the responsibilities of the position, and Mr. Driscoll's experience, knowledge and education.

ATTACHMENTS:

Resume of Mr. Brian Driscoll
Position Description
Deer Island Engineering Organizational Chart

BRIAN F. DRISCOLL

Education: BS, Civil Engineering, University of Lowell, 1986
MBA, Suffolk University, Boston, MA, 2002

Registration: Registered Professional Engineer (Civil), Massachusetts

Experience:

January, 1999 AECOM, Chelmsford, MA
Present Senior Project Manager

Currently serving as project manager for a series of task order based technical assistance contracts for the Massachusetts Water Resources Authority at the Deer Island Treatment Plant. The task orders executed to date address a wide variety of multi-discipline issues including the following:

- Gravity thickener upgrades,
- Fuel oil distribution system upgrades,
- Replacement of critical large diameter valves,
- Replacement of sludge and scum piping and associated valves,
- Electrical distribution system upgrades,
- Miscellaneous Thermal Power Plant upgrades,
- Corrosion evaluations and repairs,
- Winthrop Terminal Facility VFD and motor replacement,
- Roofing system replacements,
- Plant-wide heat loop evaluation,
- Centrifuge power and control system upgrade,
- Multiple plant-wide coating system upgrades

Currently serving as project manager for a contract providing construction phase services, including resident engineering and inspection services, for a complex \$17,000,000 valve and pipe replacement project at the Deer Island Treatment Plant.

Currently serving as project manager for a contract providing resident engineering and inspection services for a complex \$11,000,000 electrical system upgrade project at the deer Island Treatment Plant.

Served as a project manager for the design of supervisory control and data acquisition (SCADA) system for the water distribution system and wastewater collection system operated by the City of Pittsfield.

Served as a deputy project manager for the design of a supervisory control and data acquisition (SCADA) system for the wastewater collection system operated by the Massachusetts Water Resources Authority.

Prepared plans and specifications in accordance with MGL Chapter 30 for 2,200 feet of gravity sewers in Dedham, Massachusetts. Currently managing M&E field and office staff to ensure adherence to schedule, budget, and technical requirements.

Served as project manager for engineering services during construction for the Massachusetts Water Resources Authority's \$40 million Union Park Detention / Treatment Facility in Boston's South End.

Served as project manager for the design of two submersible wastewater pump stations in Rockland, Massachusetts. Prepared civil design and coordinated designs of other support disciplines.

Provided design reviews of proposed connections to the sewer system in Rockland, Massachusetts to ensure compliance with local sewer commission standards.

Served as project manager for the preparation of a water system vulnerability assessment for the Massachusetts Water Resources Authority.

Prepared plans and specifications in accordance with MGL Chapter 30 for the separation of sewers in the Boston Water and Sewer Commission's Stony Brook system. Designed 23,000 feet of new storm drains and sanitary sewers ranging from 12 to 48 inches in diameter and 4,300 feet of replacement water lines.

Prepared plans and specifications in accordance with MGL Chapter 30 for 5,300 feet of gravity and pressure sewers throughout Rockland, Massachusetts. Managed M&E field and office staff to ensure adherence to schedule, budget, and technical requirements.

Served as project engineer for the design of a 45-mgd wastewater pump station and headworks in Weymouth for the Massachusetts Water Resources Authority. Prepared the site design and a hydraulic model for the pump station. Provided daily management and oversight of the multidisciplinary effort to prepare plans and specifications in accordance with MGL Chapter 149. Ensured timely resolution of technical and contractual issues raised by potential bidders during the bidding phase.

December, 1990 **Massachusetts Water Resources Authority, Charlestown, MA**
January, 1999 **Program Manager**

Served as design and construction manager for the \$28 million of ancillary modifications at the Deer Island wastewater treatment plant. Managed more than 50 discrete multidisciplinary scope items developed to address a variety of issues identified during the late stages of construction and initial operation of the new treatment plant.

Served as construction manager for \$23 million of shoreline protection structures at the Deer Island treatment plant. Managed construction of 6,130 feet of revetment and 530 feet of 108-inch-diameter sewer pipe. Conducted constructability reviews, developed recommendations for resolving contract disputes and claims, managed oversight of the change order system, and ensured that testing, start-up, and turnover were conducted in accordance with contract documents.

Served as design manager for the second phase of the concrete coating and repair program at the Deer Island wastewater treatment plant. Ensured that deliverable products were in accordance with quality standards and ensured adherence to negotiated schedules, budgets, and requirements of MGL Chapter 149. Assumed the lead role in coordinating input from treatment plant staff members.

Assisted in the daily management of project engineering services during construction of the Deer Island treatment plant. Ensured that consultants adhered to contract requirements, led amendment negotiations, and assisted the senior construction manager in resolving project issues.

Served as project engineer managing all aspects of a multidisciplinary design contract. Developed a request for qualifications and request for proposals and played a lead role in the consultant selection process. Ensured that deliverables were completed in accordance with quality standards and adhered to negotiated schedules and budgets. Participated directly in all issues encountered during the bidding phase of two MGL Chapter 149 construction packages.

Assisted in the management of a \$12 million professional services contract for the design of the third battery of oxygen reactors and secondary clarifiers in addition to ancillary modifications throughout the Deer Island plant for the Massachusetts Water Resources Authority. Managed contract requirements including task order preparation and amendment processing and played a lead role in the design management of the ancillary plant modifications package.

Assisted in the daily management of the Boston Harbor project's lead design engineer contract. Developed and prepared management reports and tracking systems which enabled effective management of an \$85 million professional services contract. Prepared and processed contract amendments, ensured that senior staff were informed of critical budget and schedule issues, and developed recommendations as appropriate.

October, 1987 **Sasaki Associates, Inc., Wakefield, MA**
December, 1990 **Project Engineer**

Coordinated site development projects with in-house architects, landscape architects, and planners and outside consultants and utility companies. Performed engineering calculations, drainage design, design layouts, cost estimating, and hydraulic analysis. Conducted preliminary site analysis, supervised staff engineers and drafters, managed project scheduling and commitments, and supervised drilling crews.

June, 1986 **Somerville Engineering, Inc., Somerville, MA**
October, 1987 **Engineer**

Served as staff engineer performing grading and drainage design, horizontal and vertical roadway alignment surveys, daily engineering tasks associated with land development and roadway construction projects, and performed MGL Chapter 21E site assessments.

**MWRA
POSITION DESCRIPTION**

POSITION: Senior Program Manager (DI)

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering Services

BASIC PURPOSE:

Manages all projects assigned for the Engineering Services Department from conceptual design through the construction phase.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Engineering Services.

SUPERVISION EXERCISED:

Exercises close supervision of Program Managers, Senior Staff, and Staff Engineers, and Design Engineers.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and manages plant engineering projects that support the operations staff for engineering resolution. Recommends solutions to the problems, which arise during normal plant operations.
- Provides plant engineering support to the maintenance staff with complex work orders and contract maintenance projects, and provides appropriate design services. Provides support services for the economical operation of plant wide compressed air, water, HVAC, process pumping and electrical systems.
- Supervises design, engineering, drafting, and finalization of in-house projects involving repair/replace/modification activities, renovation and layout changes for offices, laboratories, shops and warehouses.
- Oversees project management of concept designs, detailed designs and the preparation of plans and specifications for proposed plant engineering modifications. Identifies, prioritizes, and establishes milestones for the completion of projects within the department.
- Manages blanket maintenance/construction contracts.

- Oversees the preparation of plans and specifications for vendor contracts for proposed plant engineering modifications.
- Oversees reviews of, and modifications to all operations and maintenance documentation. Ensures that all operations and maintenance documentation conforms to MWRA standards.
- Oversees and manages construction projects generated by the Engineering Services department, and outside consultants. Performs project management on construction projects.
- Oversees and directs consulting engineering services and contracts during construction including all work for quality of work, budgets, schedule, and compliance with contractual terms and MWRA objectives and policies.
- Oversees the updating of engineering drawings and records and the subsequent forwarding (in accordance with established procedures) to the Technical Services Center.
- Provides oral and written reports to the Manager, Engineering Services detailing results of problem investigations, proposed resolution, and economic justification for the proposed changes.
- Evaluates assigned employees performance according to MWRA procedures.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in mechanical, electrical or controls engineering; and
- (B) Understanding of facilities design and plant engineering, and construction project management techniques to include the preparation of plans, specifications, and biddable project documents as normally acquired through eight (8) to ten (10) years of related experience, of which three (3) years at least must be in a supervisory or managerial capacity; and
- (C) Experience in wastewater treatment operations, utilities and large facility start-up procedures desirable; and
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Ability to plan, organize, direct, train and assign duties to subordinates as obtained through the successful completion of an MWRA supervisory training program or an approved substitute.
- (B) Extensive experience in the development and oversight of MGL chapter 30 and 149 contracts.
- (C) Personal computer skills including spreadsheet, database, word processing, project management and Auto CADD desired.
- (D) Demonstrated verbal and written communication skills.

SPECIAL REQUIREMENTS:

Massachusetts Registered Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral 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.

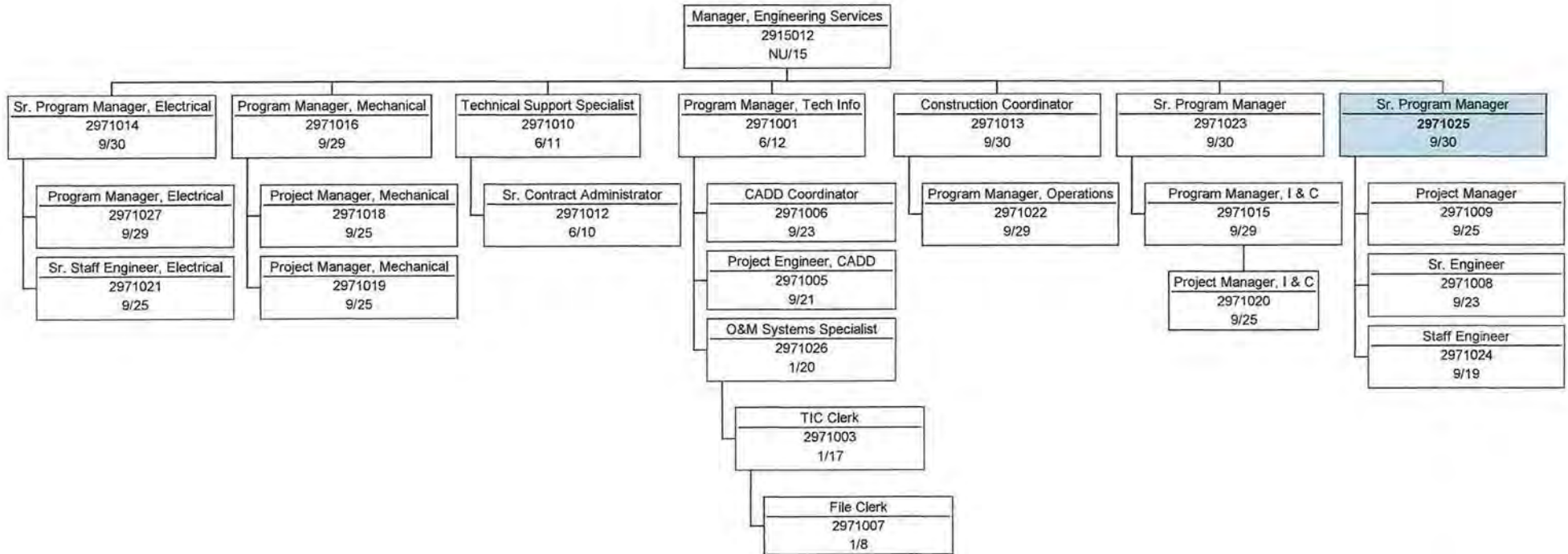
While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in

high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.


The noise level in the work environment is usually loud in field settings and moderately quiet in other work facilities.

November 2015

Operations-Wastewater Treatment
Deer Island - Capital Engineering
 November 2015



STAFF SUMMARY

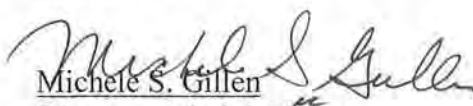
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 18, 2015
SUBJECT: Appointment of Director of Procurement, Administration Division

COMMITTEE: Personnel and Compensation

 INFORMATION

 X VOTE


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


Michele S. Gillen
Director, Administration

This Staff Summary recommends the appointment of the Director of Procurement resulting from the impending retirement at the end of January, 2016 of the incumbent Director of Procurement, Mr. John Sabino. Mr. Sabino has served as the Director of Procurement or Contracts Manager overseeing MWRA's professional services and construction contracts since 1986. With several key professional services and construction projects in various stages of the procurement process, such as cyber security services, investment banking services, ongoing energy efficiency projects, Caruso Pump Station Improvements and Chelsea Creek Headworks Upgrade, and in order to maintain MWRA's projected Capital Improvement Program schedule and spending, and to assure a smooth transition, continuity of management in the Procurement Department warrants the appointment of the Director of Procurement prior to the retirement of the incumbent.

RECOMMENDATION:

That the Board approve the appointment of Ms. Carolyn Francisco Murphy to the position of Director of Procurement, Administration Division (Non-Union, Grade 16) at an annual salary of \$137,000 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Director of Procurement will become vacant upon the retirement of the incumbent, Mr. John Sabino. The Procurement Department directs and manages a centralized system of procurement, surplus property disposal, consultant selection, contract administration and inventory management in accordance with all applicable state and federal laws and regulations as well as MWRA's Policies and Procedures.

The position reports directly to the Director of Administration and manages the day to day operations of the Procurement Department and provides guidance and direction on procurement related matters to the Operations, Finance and Law Divisions. The Director of Procurement works

closely with MWRA's other divisions, particularly Operations, to develop and approve appropriate design services procurement processes and to identify the statutory requirements of construction projects.

The Director of Administration, Chief Operating Officer and the Special Assistant for Affirmative Action interviewed seven candidates (five external and two internal) for this position and recommend the appointment of Ms. Carolyn Francisco Murphy to the Director of Procurement position. Ms. Carolyn Francisco Murphy's education, skills and relevant experience make her the most qualified candidate for this position.

Ms. Francisco Murphy has over twenty years of construction contract law experience and is highly regarded in the public construction community. She is currently a partner at the law firm of Corwin and Corwin, a firm specializing in private and public construction law. In this capacity, Ms. Francisco Murphy has represented contractors, sub-contractors and suppliers in all aspects of construction law including litigation, mediations, arbitrations and administrative proceedings before the Office of the Attorney General. Her work has included drafting and negotiating complex construction documents and advising clients on M.G.L. Chapter 30 and 149 procurements. She has also represented clients on bid protests, contract claims, and change orders. Since 2010 she has served as General Counsel to the Associated Subcontractors Association of Massachusetts.

Ms. Francisco Murphy has a B.A. in Political Science from Emmanuel College and a J.D. from Suffolk University Law School.

Ms. Francisco Murphy is the Co-Chair of the Boston Bar Association Construction Law Committee and is a member of the National Association of Women in Construction. She is a member of the Massachusetts Bar Association, the Rhode Island Bar Association, the United States District Court of Massachusetts and the United States Court of Appeals, First Court.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY15 CEB for this position.

ATTACHMENTS:

Resume of Ms. Francisco Murphy
Position Description
Organizational Chart for Procurement Department

CAROLYN M. FRANCISCO MURPHY

EXPERIENCE

Corwin & Corwin LLP, Woburn, MA

September 1995 - Present

Partner (1/2001 - Present); Associate (9/1995 - 1/2001)

Represent contractors, subcontractors, owners, suppliers and sureties in all aspects of public and private construction projects including litigation, mediations, arbitrations and appellate and administrative proceedings. Draft and negotiate complex construction contracts, supply and service agreements and purchase orders. Prosecute and defend against bid protests and payment, surety bond and construction defect claims. Analysis of contract documents to advise and represent clients on change orders, extra work and claims. Prepare, file, prosecute and defend against mechanic's lien claims. Analyze and advise clients on documents concerning real estate transactions including title and mortgage documents and leases. Advise clients on M/WBE, REO, labor agreement, prevailing wage, apprentice and licensing issues. Supervise and mentor associate attorneys and support staff. Manage firm business including financial, employment, and information technology matters. Responsible for selection and procurement of all legal research materials and resources. Since 2010 serve as General Counsel and Executive Secretary of major trade association. Represent Association in all legal matters. Advise Board of Directors and CEO on Association business, bylaw compliance and governance issues. Draft legislation and represent Association at legislative hearings. Meet with legislators and political officials to advocate for sponsored legislation. Co-authored legislation enacted in 2014 governing retainage on private construction projects. Counsel Board of Directors, CEO and Association members on legislation, statutes, regulations and case law concerning public and private construction.

Newbury College, Brookline, MA

2000 - 2008

Adjunct Faculty

Business Law, Environmental Law, Legal Research and Writing, Law Office Management and Constitutional Law.

Superior Court of Massachusetts, Boston, MA

September 1994 - August 1995

Law Clerk to the Justices

Assisted Justices in all aspects of civil and criminal litigation. Prepared draft decisions, legal memoranda and proposed jury instructions. Worked extensively with Justices on trials, hearings and motion sessions.

BAR MEMBERSHIP

MA - December 1994

U.S. District Court, MA - January 1996

U.S. Court of Appeals, First Circuit - May 1996

RI - May 1995

U.S. District Court, RI - May 1996

EDUCATION

Suffolk University Law School, Boston, MA

J.D., *Cum Laude*, May 1994

Class Rank: Top 21%; Honors: Dean's List 1992-1993 & 1993-1994

Best Brief, First Year Section, Moot Court Competition

Emmanuel College, Boston, MA

B.A., Political Science, *Summa Cum Laude*, May 1991

GPA: 3.99; Class Rank: 1; Honors: Dean's List - All Semesters

PROFESSIONAL AFFILIATIONS

Boston Bar Association, Co-Chair of Construction Law Committee and Member

Rhode Island Bar Association, Member

National Association of Women in Construction, Member

Massachusetts Building Congress, Member

SPEAKING ENGAGEMENTS

- *The New Massachusetts Retainage Law*, October 28, 2014, Boston Bar Association
- *The New Massachusetts Retainage Law*, October 7, 2014, Associated General Contractors of Massachusetts
- *The New Massachusetts Retainage Law*, September 15, 2014, Associated Subcontractors of Massachusetts
- *Understanding Your Insurance: The Nuts and Bolts of Indemnity & Insurance Liability Protection*, May 1, 2014, Associated Subcontractors of Massachusetts
- *Public Bidding Beyond the Basics*, April 3, 2014, Associated Subcontractors of Massachusetts
- *Prompt Pay Law Revisited*, March 21, 2013, Associated Subcontractors of Massachusetts
- *Don't Get Caught Holding the Bag: Tips and Tools to Lessen Contract and Insurance Risks*, June 13, 2012, Associated Subcontractors of Massachusetts
- *It's the Law: Hot Legal Issues in Construction*, April 3, 2012, Construction Financial Management Association
- *Payment Security for Subcontractors of Massachusetts Public and Private Projects*, May 18, 2011, Associated Subcontractors of Massachusetts
- *The New Massachusetts "Prompt Pay" Law*, February 24, 2011, New England Mechanical Contractors Association
- *The New Massachusetts "Prompt Pay" Law*, February 15, 2011, National Association of Women in Construction
- *The New Massachusetts "Prompt Pay" Law*, November 2, 2010, New England Mechanical Contractors Association, National Electrical Contractors Association, Plumbing, Heating & Cooling Contractors Association and Structural Steel Fabricators of New England
- *The New Massachusetts "Prompt Pay" Law*, September 22, 2010 and September 27,

- 2010, Associated Subcontractors of Massachusetts
- *Constructive Change? Massachusetts New Prompt Pay Law*, September 23, 2010, Massachusetts Building Congress
- *Navigating C. 149A CM at Risk: A Guide for Subcontractors*, May 13, 2010, Associated Subcontractors of Massachusetts,
- *Basics of Massachusetts Construction Law*, September 20, 2007 and June 16, 2010, Massachusetts Bar Association
- *Negotiating Construction Subcontracts, Part III*, May 13, 2009 and October 21, 2009, Associated Subcontractors of Massachusetts
- *Negotiating Construction Subcontracts, Part II*, May 17, 2007 and May 15, 2008, Associated Subcontractors of Massachusetts
- *Negotiating Construction Subcontracts, Part I*, October 20, 2005 and February 9, 2006, Associated Subcontractors of Massachusetts
- *How to Get Paid for Your Work*, March 2, 2005, Associated Subcontractors of Massachusetts
- *Essential Tools in Construction Contracts*, February 16, 2005, Plumbing, Heating & Cooling Contractors Association
- *The Essentials of Construction Contracts in Massachusetts*, September 23, 2004, Thomas Gregory Associates, Inc.
- *The Fundamentals of Construction Contracts in Massachusetts: Understanding the Issues*, May 5, 2004, Lorman Education Services
- *Public Bidding 101: A Guide to Bidding and Performing Public Work*, June 26, 2001, National Electrical Contractors Association

PUBLICATIONS

- Chapter: "Construction Law in the Public Sector" - *MCLE Massachusetts Construction Law and Litigation* (2013 and 2015)
- "The New Massachusetts Retainage Law" - *The Professional Contractor* (Fall, 2014)
- Chapter: Massachusetts - Foundation of the American Subcontractors Association, Inc. *Lien and Bond Claims in the Fifty States*
- "Will Massachusetts Courts Enforce an Agreement Requiring Indemnification for a Party's Own Gross Negligence?" - *The Standard* (July 24, 2015) and *The Professional Contractor* (Winter, 2014)
- "Know Your 'Little Miller Act' Rights Before Crossing the Border" - *The Professional Contractor* (Fall, 2013)
- "Be Aware Once You Cross the Border: Lien Laws Vary" - *The Professional Contractor* (Spring, 2012) (co-author)
- "Massachusetts' Revised Homestead Act - Greater Protection for the Massachusetts Homeowner" - *The Professional Contractor* (Fall, 2011) (co-author)

OTHER

Certified Mediator. Boston's Top Rated Lawyers, 2015. Massachusetts Super Lawyer, 2010. Martindale Hubbell National Law Directory AV Preeminent Rating.

**MWRA
POSITION DESCRIPTION**

POSITION: Director, Procurement

PCR#:

DIVISION: Administration

DEPARTMENT: Procurement

BASIC PURPOSE:

Directs and manages a centralized system of procurement and surplus property disposal, consultant selection and contract administration and inventory management in accordance with all applicable state and federal regulations.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Administration.

SUPERVISION EXERCISED:

Exercises close supervision of the Contracts Department, the Purchasing Manager, and the Materials Management Manager and oversees a staff of approximately forty-six (46) employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees a centralized system to procure construction, maintenance, operations and engineering, MIS, financial and other MWRA contracts and services and to purchase goods and materials; Manages MWRA's inventory and; Manages MWRA's disposition of surplus personal property in accordance with MWRA Policies and Procedures.
- Maintains and controls MWRA consumables and spare parts inventory at three locations.
- Develops policies and procedures for all elements of purchasing and contract services.
- Assures compliance with M.G.L. Chapter 30 and 149 and other applicable federal and state statutes and regulations and MWRA Policies and Procedures.
- Coordinates procurement and contract administration policies and procedures with the Special Assistant for Affirmative Action and Compliance.
- Directs and implements the advertising, bidding and award procedures for all contracts,

including electronic bidding.

- Oversees the development and maintenance of a variety of vendor sources for purchased materials and services including MBE and WBE sources; evaluates vendor quality, delivery and pricing considerations.
- Oversees the negotiation and placement of purchase orders with vendors for required materials and services; coordinates with end users to ensure that vendor commitments are fulfilled.
- Develops and implements a centralized system to administer all MWRA contracts and directs the development and maintenance of a master contract log.
- Approves contract amendments and change orders and assists in the defense of contract claims and the dispute resolution process.
- Directs MWRA's response to bid protests before the Attorney General.
- Reviews and approves Procurement and other staff summaries prior to submission to the Board of Directors; appears before Board of Directors on procurement matters.
- Reviews and approves, as necessary, sole source and proprietary requests.
- Directs the consultant selection process, including negotiating and drafting of all professional services contracts; reviews and approves all phases of contract preparation and implementation.
- Approves all contracts prior to execution by the Executive Director.

SECONDARY DUTIES:

- Participates in preparing for collective bargaining and hears Step-One Grievances.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A four (4) year college program in business, management, public administration or a related field. JD in law is required; and

(B) Understanding of procurement and contract administration as acquired through ten (10) to twelve (12) years related experience, of which at least five (5) years must be in a supervisory

capacity; or

(C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of management procedures.

(B) Excellent written and oral communication skills are required.

(C) Experience in a large public sector agency highly desirable.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

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.

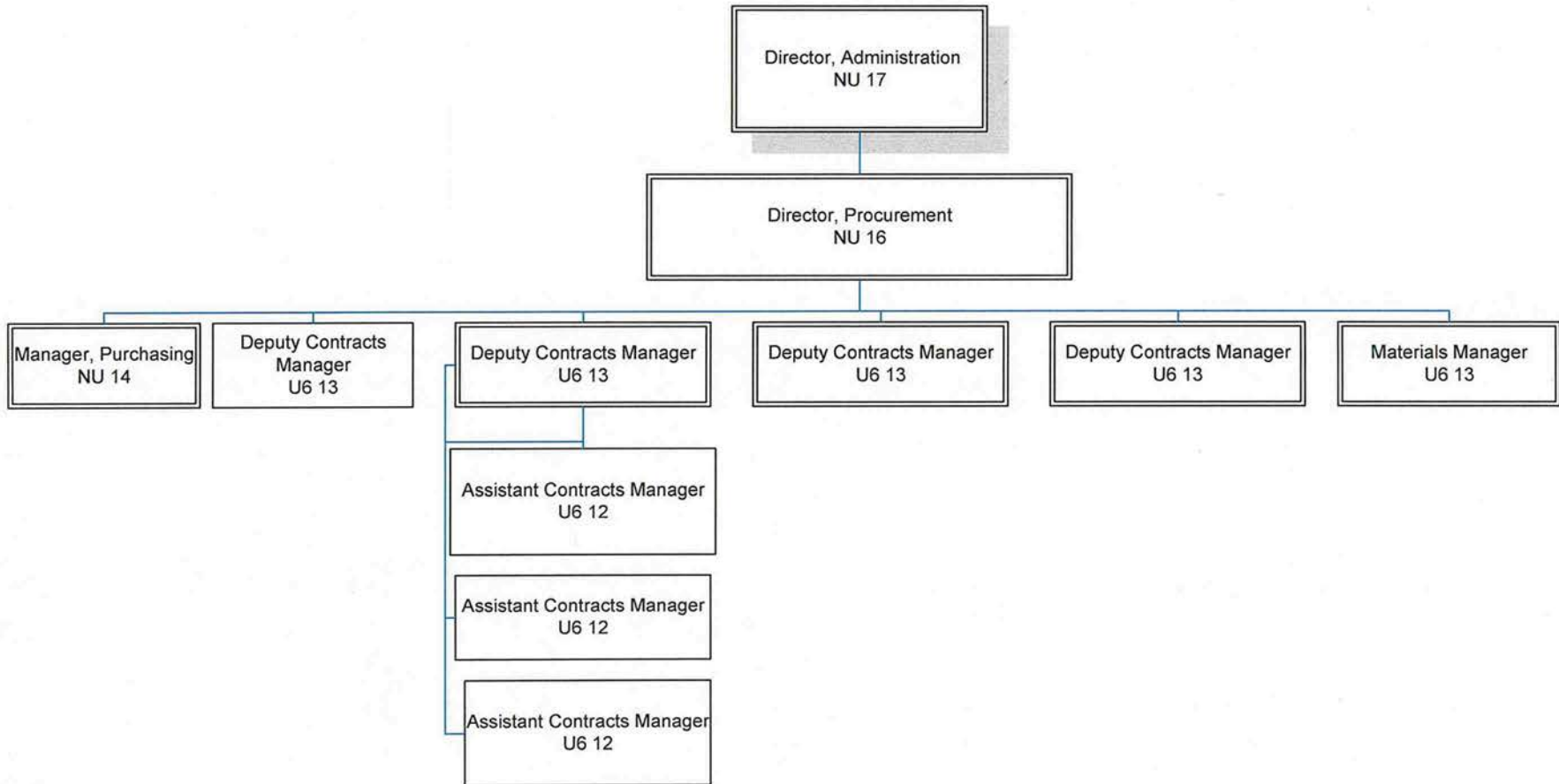
The employee must occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision and the ability to adjust focus.

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. The employee occasionally works in outside weather conditions.

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

Procurement Department





MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
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Chair: M. Beaton
Vice-Chair: J. Carroll
Secretary: J. Foti
Board Members:
A. Blackmon
K. Cotter
P. Flanagan
A. Pappastergion
B. Pena
H. Vitale
J. Walsh
J. Wolowicz

BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, November 18, 2015

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

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. BOARD ACTIONS

A. Approvals

1. Approval of the Seventy-First Supplemental Resolution (ref. AF&A B.1)
2. PCR Amendments – November 2015 (ref. P&C A.1)
3. Appointment of Senior Program Manager of Process Control & Project Support (ref. P&C A.2)
4. Appointment of Program Manager, Electrical, Engineering and Construction (ref. P&C A.3)
5. Appointment of Program Manager, Electrical, Deer Island (ref. P&C A.4)
6. Appointment of Senior Program Manager, Engineering, Deer Island (ref. P&C A.5)
7. Appointment of Director of Procurement (ref. P&C A.6)

B. Contract Awards

1. Workers' Compensation Third Party Administrator Services: PMA Management Corp. of New England, Contract A601 (ref. AF&A C.1)
2. Digested Sludge Line Pump Replacement, Phase 2: Walsh Construction Company, Contract 6821 (ref. WW B.1)
3. Supply and Delivery of Soda Ash to the John J. Carroll Water Treatment Plant: Tata Chemicals Soda Ash Partners, Bid WRA-4103 (ref. W B.1)
4. Northern Intermediate High Section 110 - Reading and Woburn: Albanese D&S, Inc., Contract 7471 (ref. W B.2)
5. Wachusett Aqueduct Pumping Station: BHD/BEC JV 2015, A Joint Venture, Contract 7157 (ref. W B.3)

C. Contract Amendments/Change Orders

1. Rehabilitation of Anaerobic Digesters, Primary Clarifiers and New Influent Gates at Clinton Wastewater Treatment Plant: R. H. White Construction Co., Inc., Contract 7277A, Change Order 9 (ref. WW C.1)

V. CORRESPONDENCE TO THE BOARD

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

A. Litigation:

1. MWRA Cross-Harbor Cable – Issues Pending at MA DPU and in Superior Court

B. Real Estate:

1. Update on Property Issues (Materials to Follow)

VIII. ADJOURNMENT

Meeting of the Board of Directors**October 14, 2015**

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on October 14, 2015 at the Authority headquarters in Charlestown. Vice-Chair Carroll presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Cotter, Flanagan, Foti, Pappastergion, Pena, Vitale and Walsh. Mr. Beaton was 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, 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 September 16, 2015 Board of Directors meeting, as presented and filed with the records of the meeting.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported on various matters, including: a presentation given by the North Reading Board of Selectmen at a Town Meeting on the importance of joining the MWRA water system and a vote to pursue preliminary design; a meeting held with the Mayor of Braintree; the status of progress at the Spot Pond water tank; a Wachusett Reservoir railroad safety drill scheduled for the following day, and an OPEB Trust meeting scheduled for October 19.

BOARD ACTIONS

APPROVALS

Approval of Letter of Credit and Direct Floating Rate Revolving Loan Agreements and Adoption of the Sixty-Ninth and Seventieth Supplemental Resolutions

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Selection Committee to award a Letter of Credit to support a principal amount not-to-exceed \$150,000,000 to TD Bank N.A. and a Direct Floating Rate Revolving Loan in a principal amount not-to-exceed \$100,000,000 to Bank of America N.A. to replace the 1994 Tax-Exempt Commercial Paper Notes; to adopt the Sixty-Ninth Supplemental Resolution authorizing the issuance of up to \$150,000,000 of Massachusetts Water Resources Authority Tax Exempt Commercial Paper Notes, Series 2015 and the supporting Issuance Resolution; and to adopt the Seventieth Supplemental Resolution authorizing the issuance of up to \$100,000,000 of Massachusetts Water Resources Authority Subordinated Tax Exempt Revolving Line of Credit, Series 2015.

Proposed Changes to Pension Benefits

Upon a motion duly made and seconded, it was

Voted to: (1) approve the MWRA Employees' Retirement Board's vote of September 24, 2015 pursuant to Section 29 and 30 of Chapter 176 of the Acts of 2011 to accept an increase to the minimum monthly allowance contained in G.L. c. 32, § 12(2)(d) for a member survivor allowance from \$250 to \$500; (2) approve the MWRA Employees' Retirement Board's vote of September 24, 2015 pursuant to Sections 27 and 28 of Chapter 131 of the Acts of 2010 to accept an increase to the annual allowance payable to surviving spouses of disability retirees under G.L. c. 32, § 101 from \$6,000 to \$9,000; and (3) approve the MWRA Employees'

Retirement Board's vote of September 24, 2015 pursuant to Section 19 of Chapter 188 of the Acts of 2010 to accept an increase in the maximum base amount on which the retiree cost-of-living adjustment is calculated from \$12,000 to \$13,000 effective July 1, 2016.

Approval of One New Member of the Wastewater Advisory Committee

Upon a motion duly made and seconded, it was

Voted to approve the addition of one new member, Mr. James Pappas, to the Wastewater Advisory Committee.

PCR Amendments – October 2015

Upon a motion duly made and seconded, it was

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

Appointment of Information Technology Financial Manager, MIS

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Ms. Patricia Russo to the position of Information Technology Financial Manager, MIS (Unit 6, Grade 10), at an annual salary of \$85,215.36 to be effective on the date designated by the Executive Director.

CONTRACT AWARDS

Supply and Delivery of Sodium Hypochlorite to Deer Island Treatment Plant: Borden & Remington Corp., Bid WRA-4091

Upon a motion duly made and seconded, it was

Voted to approve the award of Purchase Order Contract WRA-4091 for the supply and delivery of sodium hypochlorite to the Deer Island Treatment Plant, to the lowest responsive bidder, Borden & Remington Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order

contract in an amount not to exceed \$1,091,605.20 for a period of one year, from November 17, 2015 through November 16, 2016.

Deer Island Treatment Plant Fire Alarm System Replacement Design and Engineering Services During Construction: RDK Engineers, Contract 6904

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select RDK Engineers to provide preliminary design, final design, and engineering services during construction for the Deer Island Treatment Plant Fire Alarm Replacement project, and to authorize the Executive Director, on behalf of the Authority, to execute Contract 6904 with RDK Engineers in an amount not to exceed \$2,078,771, for a term of 81 months from the Notice to Proceed.

Thermal/Power Plant Fuel Oil System Upgrade, Deer Island Treatment Plant: J.F. White Contracting Co., Contract 7061A

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7061A, Thermal/Power Plant Fuel Oil System Upgrade, Deer Island Treatment Plant, to the lowest responsible and eligible bidder, J.F. White Contracting Co., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$4,550,000 for a term of 540 calendar days from the Notice to Proceed.

Engineering Services to Conduct Feasibility Study for Section 56 General Edwards Bridge Crossing of the Saugus River: Weston & Sampson Engineers, Inc., Contract 7500

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select Weston & Sampson Engineers, Inc. to provide Engineering Services to Conduct Feasibility Study for Section 56 General Edwards Bridge Crossing of the Saugus River, and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7500 with Weston & Sampson Engineers, Inc. in

an amount not to exceed \$246,998 for a term of 18 months from the Notice to Proceed.

Metropolitan Operations Paving: Newport Construction Corp., Contract OP-288

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract OP-288, Metropolitan Operations Paving, to the lowest responsible and eligible bidder, Newport Construction Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,127,070.50 for a term of 730 days from the Notice to Proceed.

CONTRACT AMENDMENTS/CHANGE ORDERS

Dental Insurance: Delta Dental of Massachusetts, Contract A591, Amendment 2

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to exercise the second option to renew Contract A591 with Delta Dental of Massachusetts and approve Amendment 2 to increase the amount by \$355,000 and extend the term for twelve months from January 1, 2016 to December 31, 2016.

EXECUTIVE SESSION

It was moved to enter executive session to discuss real estate and security.

Upon a motion duly made and seconded, it was, upon a roll call vote in which the members were recorded as follows:

YesNoAbstain

Blackmon
Cotter
Flanagan
Foti
Pappastergion
Pena
Vitale
Walsh
Wolowicz
Carroll

Voted to enter executive session for the purpose of discussing the purchase, sale, lease or value of real property, in that such discussion might have a detrimental effect on the negotiating position of the Authority, and to consider the deployment of security personnel or devices, or strategies with respect to security. It was stated that the meeting would return to open session solely for the consideration of adjournment.

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EXECUTIVE SESSION

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The meeting returned to open session at 1:40 p.m. and adjourned.