

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2011 CURRENT EXPENSE BUDGET

BOARD OF DIRECTORS

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Marie T. Turner

John J. Walsh

Prepared under the direction of

Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
Rachel C. Madden, Director, Administration & Finance

together with the participation of MWRA staff.



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue – Building 30
Boston, MA 02129

Frederick A. Laskey
Executive Director

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

September 2010

Katherine Haynes Dunphy, Chairwoman
MWRA Advisory Board
11 Beacon Street
Boston, MA 02108

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for Fiscal Year 2011. The CEB was approved by the MWRA's Board of Directors at its June 30, 2010 meeting.

In light of the current economic climate, MWRA and the Advisory Board have developed a multi-year rates management strategy in order to provide our customer communities with a modest rate increase in FY2011 and moderate, predictable rate increases in FY2012 and FY2013. The community assessments reflect an average combined water and sewer rate revenue increase of 1.49% over FY2010 assessments - the lowest MWRA rate increase since 1996.

The goal of this multi-year strategy is to provide much needed rate relief in the short-term, preserve MWRA's high credit rating, and bridge the gap to FY2014 when we anticipate a sizeable release of reserves which will be available to mitigate future rate increases.

Capital financing costs total \$354.3 million and represent nearly 59% of total expenses. Debt Service remains the largest component of the budget and represents the greatest rate management challenge in the future.

MWRA is taking every opportunity to cut and control costs. Our direct expenses are level funded for three consecutive years; no wage increases are included in FY2011 for union and non-union staff. The overall increase from the FY2010 budget is \$5.6 million or 0.9%. In FY2010, MWRA defeased \$54.6 million in future debt service and restructured \$75 million of outstanding bonds which yields significant debt service savings through FY2013.

Additional budget information and a copy of this document are available online at www.mwra.com. Questions or comments on this document should be directed to the MWRA Budget Department.

Thank you for your continued support.

Sincerely,

Frederick A. Laskey
Executive Director, MWRA

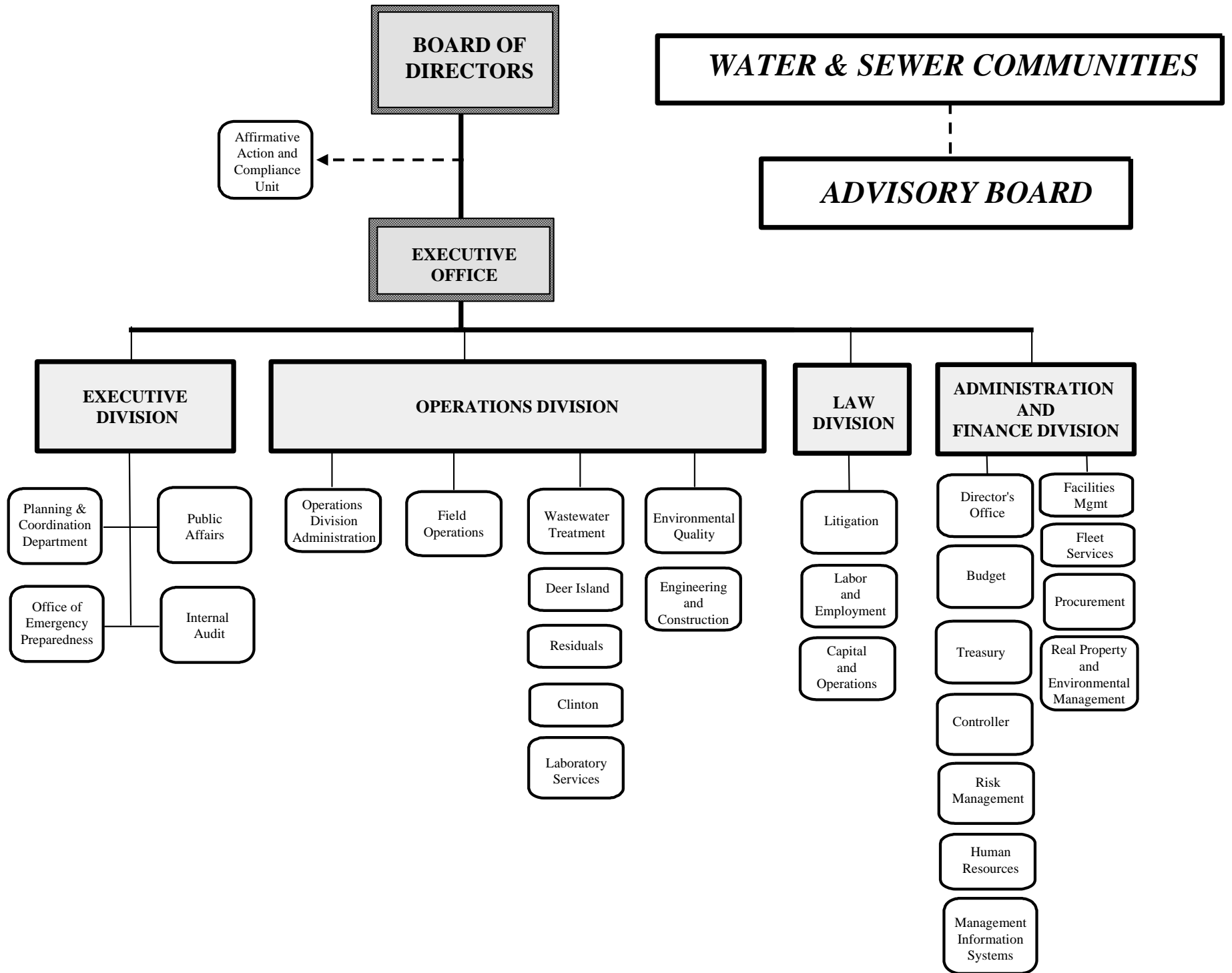


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Executive Summary

Executive Summary

MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its member communities and funds its operations primarily through user assessments and charges. MWRA's mission is to provide reliable, cost-effective, high-quality water and sewer services that protect public health, promote environmental stewardship, maintain customer confidence, and support a prosperous economy. MWRA's long-term plan emphasizes improvements in service and systems and includes aggressive performance targets for operating the water and wastewater systems and maintaining new and existing facilities.

Parallel to MWRA's goal of carrying out its capital projects and operating programs is its goal of limiting rate increases by working in partnership with its member communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing MWRA. A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

During the year, MWRA measures actual performance on a monthly basis using various reporting tools. The monthly financial staff summary reports on actual spending versus the budget and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the year-end with a similar level of explanations. The performance indicator reports (the Orange and Yellow Notebooks) capture a variety of parameters regarding performance of each major functional area.

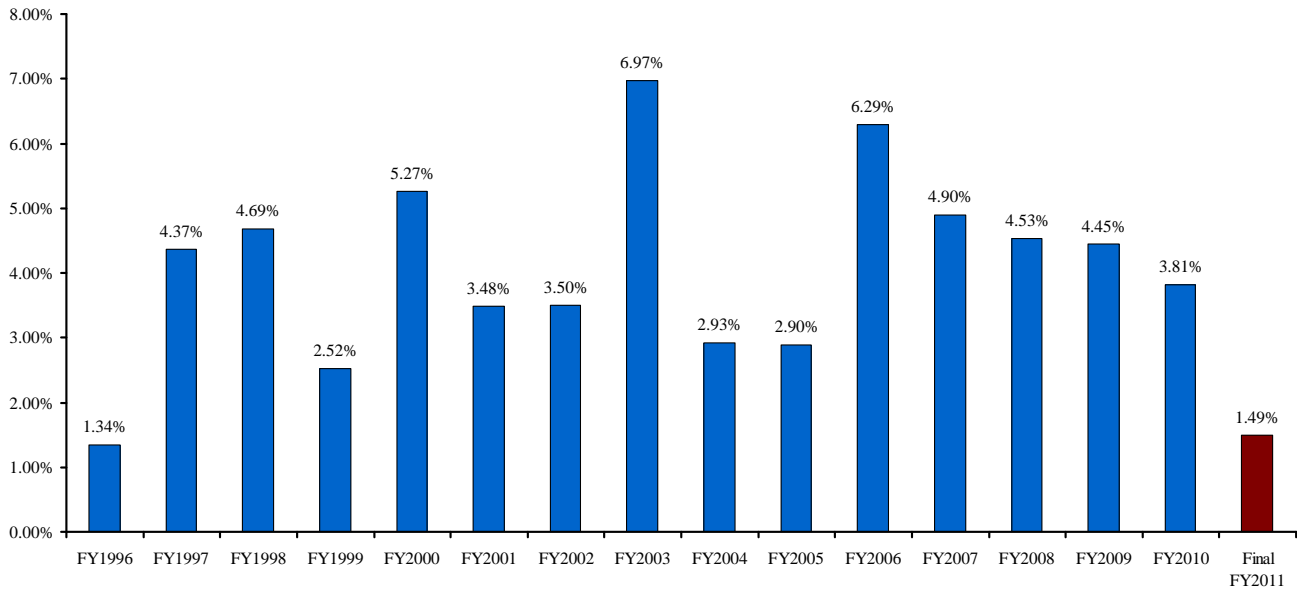
Overview

Each year, MWRA prepares a budget that reflects the best available information for anticipated expenditures and revenues. MWRA transmitted its FY11 Proposed Budget to the Advisory Board in February. The Advisory Board has sixty days to review, comment, and provide recommendations. MWRA also hosts a public hearing to solicit comments on the budget and community assessments from citizens in its service area. In June, MWRA's Board of Directors holds hearings on the budget to review recommendations by the Advisory Board and new information available since the budget was developed. Staff incorporate Board decisions from the hearings and present a final budget for approval in June.

FY11 Final Budget Summary

In recognition of the unprecedented budgetary challenges facing MWRA's member communities under the prevailing weak economy, the MWRA evaluated a variety of options to provide the lowest responsible rate increase in FY11 and moderate predictable rate increases through FY13. The FY11 Final Budget puts forth a 1.49% rate increase for FY11 which is the lowest rate increase in 15 years. As evidenced in the graph below, this is the lowest MWRA rate increase since 1996, a year in which the Authority received \$31.5 million in Debt Service Assistance (DSA) from the Commonwealth. For FY11, no Debt Service Assistance is assumed.

Historical Annual Rate Increases



Total expenses are \$601.9 million, 2.1% above FY10 actual results. Capital financing costs remain the largest component of the budget and account for 58.9% of total expenses. There are no offsets from Debt Service Assistance (DSA) assumed for FY11. Debt Service Assistance was reduced to \$350,000 in FY10 and later eliminated entirely in response to the State's fiscal crisis. While capital financing costs remain the largest component of the budget, other escalating operating expenses continue to put pressure on the operating budget.

The Authority's operations are energy intensive and rising energy costs over the past several years have put pressure on the operating budget. Utilities are the Authority's third largest and most volatile line item in the direct expense category. As a result of increased self-generation at Deer Island due to improved Steam Turbine Generator (STG) operation and new green initiatives along with efficiency improvements in Field Operations, the total spending for utilities is budgeted at \$23.3 million which is \$757,000 or 3.1% lower than FY10 budgeted levels providing that oil and other energy prices continue to trade at current levels. However, it should be noted that a return to more volatile energy markets and pricing would have a significant impact on this budget.

Total expenses include \$354.3 million for capital financing costs, 58.9% of total costs, and \$247.6 million or 41.1% for operating expenses, of which \$209.6 million is for direct expenses and \$38.0 million is for indirect expenses. Total expenses increased by \$12.6 million over FY10 actuals, \$9.1 million of which comes from increased capital financing expense and \$3.5 million for higher operating expenses.

The \$9.1 million net increase in capital financing expenses is the result of debt service associated with issuances of \$100 million in May 2010 and the projected \$100 million in April 2011 as well as new State Revolving Fund (SRF) debt of \$49.4 million which was issued in July 2010 and an estimated issuance of \$85 million in FY11. Offsetting these new issuances, are the impacts of the recent \$75 million restructuring and the \$54.6 million defeasance. These actions will result in approximate savings of \$33.9 million in FY11, \$19.2 million in FY12 and \$47.8 million in FY13.

The \$3.5 million increase in operating expenses from FY10 actuals results from higher maintenance of \$3.2 million, fringe benefits of \$2.0 million, and wages and salaries of \$1.2 million partially offset by \$2.7 million in lower projected energy costs. Wages and salaries assume a head count of 1,216, of which 1,210 are funded versus an average of 1,222 in FY10. FY10 Actual filled positions averaged 1,212 or 10 positions fewer than budgeted due to higher than planned attrition rate. Indirect expenses are essentially level funded with FY10 actuals at \$38.0 million. Higher Watershed/PILOT payments of \$1.4 million and Harbor Electric Energy Company (HEEC) of \$278,000 offset by lower Insurance related expenses of \$867,000 and lower Other Post Employment Benefits (OPEB) of \$800,000.

Total revenues of \$601.9 million are budgeted for FY11. The FY11 Final Rate Revenue Requirement is \$569.8 million, an increase of \$8.4 million or 1.49% over FY10 actual rate revenue. FY11 non-rate revenues total \$32.1 million, a decrease of \$3.3 million or 9.3% from FY10 actuals mainly due to a \$2.3 million reduction in the use of Rate Stabilization and a \$722,000 reduction in the Other User charges primarily due to a decrease for the Chicopee Valley Aqueduct (CVA) assessment reflecting a decrease in expenses and a prior period adjustment for FY09 expenses and the effect of including the Town of Wilmington in the Rate Revenue base for the first time in FY11. The FY11 Final non-rate revenue budget includes \$15.3 million for investment income, \$11.8 million in other user charges and other revenue - which includes an estimated \$1.7 million from the sale of renewable energy portfolio credits and participation in demand response programs, and the use of \$5.0 million in Rate Stabilization.

Table I-1 shows MWRA's FY11 Final Budget for revenue and expenses compared with FY10 actual spending. Changes from FY10 to FY11 are described in the Revenue and Expense section of the Executive Summary.

Table I-1

TOTAL MWRA	FY09 Actual	FY10 Actual	FY11 Final	Change FY11 Final vs FY10 Actuals	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 88,624,447	\$ 89,957,003	\$ 91,151,296	\$ 1,194,293	1.3%
OVERTIME	2,990,600	3,965,999	3,310,659	(655,340)	-16.5%
FRINGE BENEFITS	16,579,652	15,995,517	17,995,660	2,000,143	12.5%
WORKERS' COMPENSATION	1,841,638	2,226,080	1,870,000	(356,080)	-16.0%
CHEMICALS	9,867,555	8,998,799	9,797,118	798,319	8.9%
ENERGY AND UTILITIES	24,428,446	25,982,266	23,314,734	(2,667,532)	-10.3%
MAINTENANCE	27,443,721	25,561,320	28,759,673	3,198,353	12.5%
TRAINING AND MEETINGS	157,515	94,865	231,783	136,918	144.3%
PROFESSIONAL SERVICES	6,357,126	6,089,889	5,961,508	(128,381)	-2.1%
OTHER MATERIALS	4,630,791	4,811,574	4,612,316	(199,258)	-4.1%
OTHER SERVICES	22,819,397	22,477,713	22,607,937	130,224	0.6%
TOTAL DIRECT EXPENSES	\$ 205,740,888	\$ 206,161,025	\$ 209,612,684	\$ 3,451,659	1.7%
INSURANCE	\$ 1,994,022	\$ 3,453,720	\$ 2,586,000	\$ (867,720)	-25.1%
WATERSHED/PILOT	22,439,393	23,349,465	24,744,921	1,395,456	6.0%
SPECIAL PAYMENT OBLIGATION	53,743,500	-	-	-	
HEEC PAYMENT	4,142,047	3,895,850	4,174,256	278,406	7.1%
MITIGATION	1,416,686	1,447,883	1,518,401	70,518	4.9%
ADDITIONS TO RESERVES	1,743,337	(653,254)	(407,581)	245,673	-37.6%
RETIREMENT FUND	8,630,339	5,621,259	5,342,856	(278,403)	-5.0%
POSTEMPLOYMENT BENEFITS	-	800,000	-	(800,000)	-100.0%
TOTAL INDIRECT EXPENSES	\$ 94,109,324	\$ 37,914,923	\$ 37,958,853	\$ 43,930	0.1%
DEBT SERVICE (before offsets)	\$ 342,130,723	\$ 363,937,694	\$ 354,326,676	\$ (9,611,018)	-2.6%
VARIABLE RATE DEBT/OTHER	(11,309,667)	(18,708,191)	-	18,708,191	-100.0%
BOND REDEMPTION	-	-	-	-	
DEBT SERVICE ASSISTANCE	-	-	-	-	
TOTAL DEBT SERVICE	\$ 330,821,056	\$ 345,229,503	\$ 354,326,676	\$ 9,097,173	2.6%
TOTAL EXPENSES	\$ 630,671,268	\$ 589,305,451	\$ 601,898,212	\$ 12,592,762	2.1%
REVENUE & INCOME					
RATE REVENUE	\$ 540,819,000	\$ 561,431,000	\$ 569,800,000	\$ 8,369,000	1.49%
OTHER USER CHARGES	7,163,518	7,786,906	7,065,350	(721,556)	-9.3%
OTHER INCOME SPECIAL PMT	53,743,500	-	-	-	
OTHER REVENUE	7,210,575	5,079,438	4,693,216	(386,222)	-7.6%
RATE STABILIZATION	5,073,365	7,312,438	5,029,744	(2,282,694)	-31.2%
INVESTMENT INCOME	19,769,035	15,222,741	15,309,902	87,161	0.6%
TOTAL REVENUE & INCOME	\$ 633,778,993	\$ 596,832,524	\$ 601,898,212	\$ 5,065,689	0.8%

FY10 Accomplishments

Operations

- MWRA's service area experienced an unprecedented rainfall total of more than 21 inches during a 36-day period between February 24 and April 1, 2010. This monthly precipitation was three-and-one-half times more than the 8-year average. During this period, Deer Island set an overall plant flow record of 726 million gallons a day. Similarly, Clinton Wastewater Treatment Plant set new treatment records with influent flow exceeding 12 mgd, four times more than normal. During this period, there were no NPDES permit violations.
- Deer Island treated 97.2% of flow through secondary and met secondary permit limits at all times.
- Processed 105.7 average tons per day of sludge at the Pelletization Plant.
- On May 1, 2010, a major water main break in Weston interrupted water service to 30 communities in MWRA's district, resulting in a boil water order for drinking water and implementation of emergency water conservation measures. Despite the catastrophic nature of the break, MWRA restored the pipe into service within 72 hours.
- Met all water quality and treatment standards in the drinking water system during FY10.
- Commenced operation of the new Blue Hills Covered Storage Tanks in August, 2009.

Energy

- Continued to leverage Deer Island's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.5 million for FY10. Deer Island also self-generated 31% of the plant's total required power in FY10.
- Completed energy audits at Chelsea office and eight other FOD facilities and initiated energy audits at 14 more FOD facilities. Established a contract to implement energy efficiency improvements at CNY Headquarters with work scheduled to be completed during FY11.
- Entered a new power purchase contract for electric power for 25 larger, FOD accounts, including Carroll Water Treatment and Clinton plants, with fixed pricing for over 60% of the MWRA load.
- Generated revenue at two water hydroelectric facilities including \$811,000 at the Oakdale Station and \$213,000 at the Cosgrove Station.
- Commenced acceptance testing and operations of two 600 kW wind turbines at Deer Island.

Capital Improvements

Recognized substantial completion on several major projects and components including:

Water System

Blue Hills Covered Storage Design Build - \$37.7 million

NHS – Revere & Malden Pipeline Improvement Construction-Revere Section 53 – \$2.9 million

Northern Low Storage Service Rehab Sections 8, Section 97A Construction -\$2.0 million

Wastewater System

CSO South Dorchester Bay Sewer Separation Design/Commercial Pt and Fox Pt - \$28.7 million

CSO Morrissey Boulevard Drain Design - \$4.6 million

Alternative Energy Initiatives DI Wind & Photovoltaic System Phase 1 Construction - \$5.1 million

Wastewater Central Monitoring Construction 2 - \$5.1 million

Finance

- Preserved the MWRA's high credit ratings of Aa1, AA+, AA+, from Standard and Poor's, Moody's Investor Service and Fitch Ratings, respectively, during a challenging year. These ratings are critical to the \$5.8 billion in outstanding debt and ongoing borrowing programs.
- Secured \$33 million in American Recovery and Reinvestment Act of 2009 funds for water and wastewater initiatives.
- Continued to manage through historically low yields on investments particularly short-term money market positions.
- Restructured \$75 million of outstanding bonds and defeased \$54.6 million in future debt service which yields significant debt service savings through FY13.
- Managed eight permit agreements (three at Turkey Hill and five at Walnut Hill) including executing an amendment with Verizon, coordinating with the Town of Arlington, and improving the invoicing system for maintenance reimbursements. Total revenue for the eight agreements is \$412,000 of which MWRA and the host community each receive half.

Environment

- Employ environmentally friendly products wherever possible, including recycled toners, batteries, copy paper, hybrid vehicles and bio-fuels. In FY10 the MWRA recycled 81 tons of paper, 198 tons of scrap metal and 9,000 gallons of waste oil, generating \$42,000 in revenues. Added 12 alternative fuel or hybrid models.

Ethics

- Implemented the State Ethics Commission On-line Training program Authority-wide.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance. Table I-2 shows MWRA's sources and uses of funds for the FY11 Final Budget.

REVENUE

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$7.1	1.2%
Other Revenue	4.7	0.8%
Investment Income	15.3	2.5%
Rate Revenue	569.8	94.7%
Rate Stabilization	5.0	0.8%
TOTAL REVENUE	\$601.9	100.0%
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$601.9	
Less:		
Debt Service Assistance	0.0	
Bond Redemption	0.0	
Sub-Total Net Expenses	601.9	
Capital Financing	354.3	58.9%
Direct Expenses	209.6	34.8%
Indirect Expenses	38.0	6.3%
TOTAL EXPENSES	\$601.9	100.0%
TOTAL EXPENSES Less Offsets	\$601.9	
*May not add up due to rounding		

MWRA is required by its enabling act to balance its budget each year by establishing user assessments for water and sewer services that provide funds sufficient to recover the cost of operations (excluding depreciation), maintenance and improvements, and debt service, as well as meeting required reserve levels.

In the FY11 Final Budget, 94.7% of revenue is derived from rate revenue. The remaining 5.3% of revenue will come from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department (TRAC), penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the FY11 Final Budget, MWRA will raise \$569.8 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$569.8 million, \$389.6 million will fund the sewerage system, an increase of 1.89% as compared to FY10; and \$180.2 million will fund the water system, an increase of 0.63% as compared to FY10.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the FY11 Final Budget total \$7.1 million and are composed of \$1.4 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation at Deer Island, \$3.7 million paid by the Chicopee Valley Aqueduct communities, \$1.0 million in water revenue and \$350,000 in sewer revenue to contract communities and others, and \$651,000 in entrance fees paid by Stoughton and Wilmington.

Other Revenue

Other Revenue is budgeted at \$4.7 million, a decrease of \$386,000 from the FY10 actuals. Other Revenue includes permit fees, penalties, hydro-power revenues, other miscellaneous revenues, and revenue from energy programs.

Permit Fees and Penalties

The FY11 Final Budget includes \$2.2 million in fees charged to industries that discharge toxic materials into the MWRA sewer system. These permit fees partially offset the annual costs of permitting, inspecting, and monitoring these industries.

Miscellaneous Revenue

The FY11 Final Budget includes \$2.5 million in miscellaneous revenues of which \$1.6 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard credits and participation in the demand response program; \$117,000 is for hydro-power generation at the MWRA's Cosgrove Intake facility, and \$800,000 in other revenue.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY11 Final Budget includes \$15.3 million in investment income, an increase of \$87,000 from the FY10 Actual. The FY11 Final short-term interest rate is at 0.50%, 25 basis points less than the FY10 Budget rate of 0.75%, lowering investment rate offset by higher invested balances. This rate assumption may represent risk going forward, given that it is approximately 25-50 basis points higher than the current federal fund rate.

Non-Recurring Revenue

Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA may transfer the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the Rate Revenue Requirement in any subsequent year. Consistent with the requirements of its enabling act and its general bond resolution, MWRA treats transfers from the rate stabilization reserve as revenue in that fiscal year. For the FY11 Final Budget, \$5.0 million in Rate Stabilization fund usage is assumed.

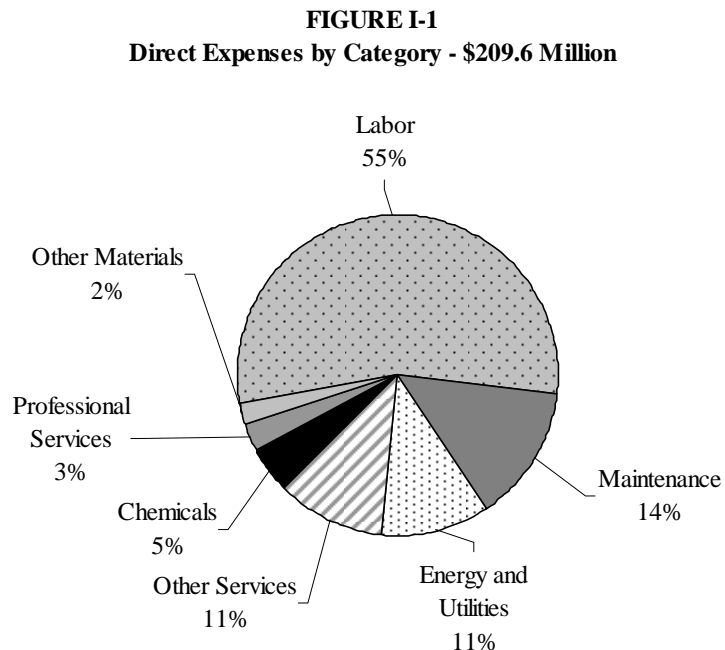
Direct Program Expenses

The FY11 Final direct program expense budget is \$209.6 million, an increase of \$3.5 million or 1.7% over FY10 actuals. Increased funding for Maintenance, Fringe Benefits due to increased health insurance costs, and Wages are the principal drivers for the increase. To address rising direct costs, the MWRA has actively moved to consolidate operation and maintenance facilities, reorganized and automated facilities, reduced leased space, sold surplus assets, negotiated competitive purchase agreements for energy and chemicals, and increased self-generation and utilization of digester gas for energy production.

Line Item Budget Summary

Figure I-1 combines related direct expense line items into general cost categories and shows that labor costs (wages and salaries, overtime, fringe benefits, workers' compensation and training and meetings) are the largest component of the direct expense budget (55%), followed then by maintenance (14%), energy and utilities (11%), and other services (11%).

Within the labor cost category, wages and salaries account for \$91.2 million, 1.3% above FY10 actual spending. Of the \$91.2 million, \$89.7 million is for regular pay. The FY11 Final Budget assumes a staffing level of 1,216, offset by a 0.5% vacancy rate for a net average funded position count of 1,210, two (2) fewer positions than the FY10 average head count. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management.



Filled positions at MWRA have declined by 559 positions since the peak of 1,775 in March 1997 to 1,216 for FY11.

The FY11 Final Budget includes \$23.3 million for utilities, which is \$2.7 million or 10.3% lower than the FY10 actuals. FY10 utility spending was \$1.9 million higher than budgeted due to the significant Spring wet weather events which triggered significant Combined Turbine Generator (CTG) usage and the need to replenish diesel fuel inventory at Deer Island. The FY11 Final Budget assumes funding of \$18.2 million for electricity, \$2.5 million for diesel fuel, \$1.7 million for water and \$665,000 for natural gas. The FY11 Final energy and utilities budget reflects the most recent pricing outlook based on energy futures and on the latest power purchase contracts for Deer Island, Carroll Water Treatment Plant, and other large FOD facilities. In May 2009, the Authority entered into a 2-year power purchase agreement for Deer Island where the Authority purchased a fixed 10 MW block of power and will purchase the remaining plant energy demand in the real-time market. In November 2010, the new 4 MW, 3-year, fixed block power purchase agreement goes on-line where 80% of interval demand will be fixed. With the addition of this new contract, the MWRA has fixed pricing for over 60% of its electric load, with remaining demand being purchased in the real-time market. Projected energy savings in FY11 under the new interval contract are estimated at \$500,000.

As the Authority’s major capital initiatives wind down, maintenance expenditures to preserve these operating assets and maintain its infrastructure will continue to grow. The FY11 maintenance budget is \$28.8 million, an increase of \$3.2 million or 12.5%, compared to FY10 actual spending. This demonstrates the Authority’s continued commitment to maintaining its core operation related to facilities and infrastructure.

The FY11 Final Budget includes \$22.6 million for other services, an increase of \$130,000 or 0.6% from FY10 actuals mainly due to increased Other Services of \$253,000 largely for increased water quality initiatives, Space Lease/Rentals of \$232,000 to reflect the new Marlboro warehouse space, Printing of \$111,000, and Permit Fees of \$103,000 offset by \$554,000 for reduced inflation assumptions for the sludge pelletization contract. The budget includes funding of \$14.0 million for sludge pelletization, \$3.4 million for Space Lease/Rentals mainly for the CNY and Chelsea facilities, and \$1.4 million for voice and data services.

The FY11 Final Budget includes \$9.8 million for chemicals, an increase of \$798,000 or 8.9% from FY10 actual spending. FY10 spending on chemicals were \$1.4 million or 13.2% under budget due to lower chemical prices and lower water usage and wastewater dosing as result of the significant wet weather events. The FY11 Final Budget assumes one quarter of higher sodium bisulfite and sodium hypochlorite usage for regulatory requirements of enterococcus compliance at Deer Island.

Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-2 presents direct expenses by MWRA functional area and shows that 46% of the FY11 Final direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

FIGURE I-2
Direct Expenses by Functional Area - \$209.6 Million

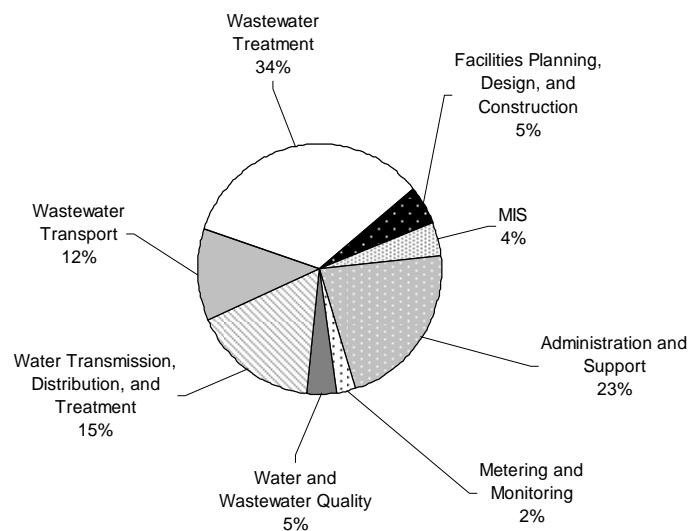
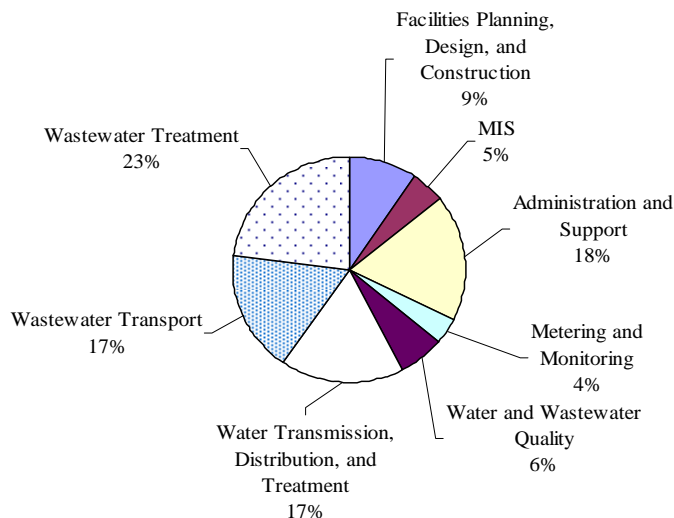


Figure I-3 illustrates staffing by Functional Area and shows the breakdown of the 1,209 filled positions as of June 2010. Of the 1,209 positions, 57% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions and Meter and Monitoring account for the remaining 10% of staff.

FIGURE I-3
Staffing by Functional Area



Capital Financing

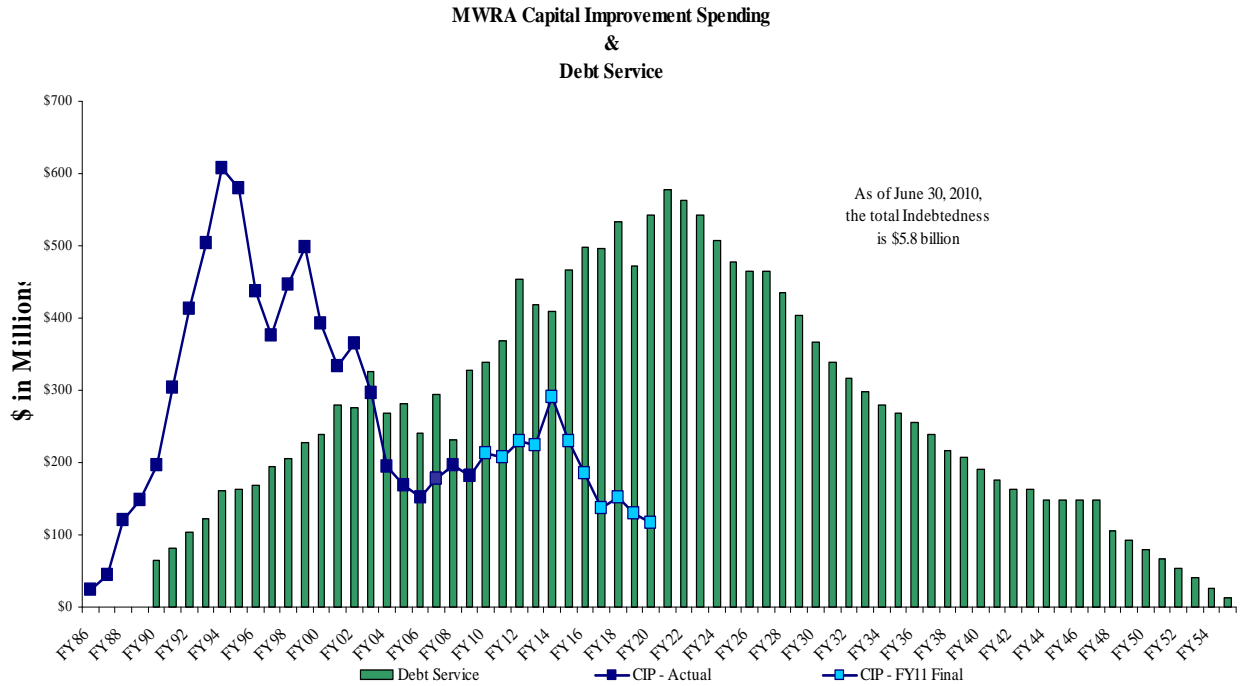
Outstanding Debt and Debt Management

The \$7.2 billion spent on MWRA’s modernization efforts to date, has relied heavily on debt financing. Total debt as of June 2010 was \$5.8 billion consisting of senior and subordinated debt, as well as Tax-Exempt Commercial Paper. The MWRA enjoys strong unenhanced senior debt ratings of Aa1, AA+, and AA+ from Moody’s, Standard & Poor, and Fitch, respectively.

The Authority’s debt service obligation as a percent of total expenses has increased from 36% in 1990 to 59% in the FY11 Final Current Expense Budget. Much of this debt service is for completed projects. MWRA’s capital spending, from its inception, has been dominated by court-mandated projects, which in total have accounted for 80% of capital spending to date. Going forward, the majority of capital spending will be geared towards asset protection and water redundancy initiatives.

The MWRA expects to finance the capital expenditures identified in the FY11 Final Capital Improvement Program (CIP) through the issuance of revenue bonds as provided for in the Enabling Act, and from the proceeds of federal and state grants and operating revenues. As of June 30, 2010, the MWRA’s indebtedness included \$3.3 billion of senior revenue bonds, approximately \$1.3 billion of subordinated revenue bonds, approximately \$1.1 billion of loans with the SRF and \$194 million of tax-exempt commercial paper notes.

The following graph illustrates the relationship between the MWRA’s CIP and outstanding debt as of June 2010.



The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include maximizing use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, current and advanced refunding of outstanding debt, the use of surplus revenues to defease debt, and swap agreements. The MWRA also uses Tax Exempt Commercial Paper to minimize the financing cost of construction in process.

On May 6, 2010 the Authority restructured \$75.0 million and on June 17, 2010 it defeased \$54.6 million in bonds in order to decrease the FY11 through FY13 debt service requirements. These actions resulted in approximate savings of \$33.9 million in FY11, \$19.2 million in FY12 and \$47.8 million in FY13. The FY10 defeasance was accomplished by using funds made available from the 2010 Series B refunding transaction and the FY10 surplus.

The FY11 Final capital financing costs total \$354.3 million and remains the largest portion of the MWRA's budget, accounting for 58.9% of total expenses. The FY11 Final capital financing costs increased by \$9.1 million or 2.6% compared to the FY10 actuals. This increase in the MWRA's debt service requirement is the result of the new money which will be issued in FY10 and projected FY11 issuances partially offset by the impact of the restructuring and defeasance. The FY11 Final capital financing budget includes:

- \$199.7 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$1.8 million to support issuances of \$100 million of new money in April 2011.
- \$71.8 million in principal and interest payments on subordinate bonds;
- \$68.9 million in principal and interest payments on SRF loans. This amount includes \$10.2 million to support issuances of \$49 million in July 2010 and \$85 million in March 2011;
- \$7.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$3.4 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

The debt service budget includes the impact of restructuring \$75.0 million of certain maturities of the 2008 Series D & E bonds and a defeasance of \$54.6 million. Over the FY11-13 timeframe, the combined reduction is approximately \$100.9 million.

Similarly in 2009, the Authority defeased approximately \$20 million in future debt service. The defeasance and redemption of these bonds decreased the FY10 and FY11 debt service requirements by approximately \$10.8 million and \$9.6 million, respectively. This defeasance was also accomplished using surplus funds.

The FY11 Final Budget assumes a 3.25% interest rate for variable rate debt which is 25 basis points lower than the FY10 assumption. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement and Letter of Credit providers, and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will stay low. The 20-year SIFMA interest rate average for variable rate debt is 3.03% and MWRA current average liquidity and remarketing costs are 67 basis points. The combination of these two costs results in an all-in average cost of approximately 3.70% which is 45 basis points higher than the budget assumption.

Table I-3 provides detail on the FY11 Final capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Nearly 70% percent of the FY11 Final capital financing is for wastewater improvements. Current and future borrowing increasingly support improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

TABLE I-3				
FY11 Final Current Expense Budget - Capital Financing Detail (as of 6/30/10)				
\$ in Millions				
	Amount Outstanding	Total	Sewer	Water
Total SRF ¹ Debt	\$1,055	\$68.9	\$54.1	\$14.8
Total Senior Debt	3,305	199.7	129.6	70.1
Total Subordinate Debt	1,257	71.8	57.5	14.4
Total SRF and Debt Service²	\$5,618	\$340.5	\$241.2	\$99.3
Water Pipeline Commercial Paper	194	3.4	0.0	3.4
Current Revenue/Capital ³		7.2	3.9	3.3
Capital Lease		3.2	2.0	1.2
Sub-Total	\$194	\$13.9	\$5.9	\$7.9
Total Capital Financing (before Debt Service Offsets)	\$5,812	\$354.3	\$247.1	\$107.2
Debt Service Offsets:				
Debt Service Assistance		0	0	0
Total Capital Financing	\$5,812	\$354.3	\$247.1	\$107.2

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects.

Indirect Expenses

Indirect Expenses for FY11 total \$38.0 million, an increase of \$44,000 or 0.1% above FY10 actuals. Below are the highlights of major changes:

Insurance

MWRA purchases property and casualty insurance from external insurance carriers with a self-insured retention of \$2.5 million dollars and Worker's Compensation Excess insurance with a self-insured retention of \$500,000 per claim. The FY11 Final Budget includes \$2.6 million for premiums, fees, and self-insured claims, an \$868,000 or 25.1% decrease from FY10 actual spending. The budget includes \$1.8 million for premiums and fees and \$800,000 for the projected cost of claims made against the self-insured portion of MWRA coverage. MWRA mitigates the budgetary risk of self-insurance by maintaining an Insurance Reserve. The reserve, which was established as part of the Bond Resolution, requires that an independent insurance consultant review the funding level every three years and provide recommendations as to its adequacy. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside

insurance consultant. An updated Insurance Reserve adequacy review is currently underway.

Watershed Reimbursement/PILOT

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: Payment in Lieu of Taxes (PILOT) for Commonwealth-owned land in the watersheds, operating expenses of the Division of Water Supply Protection, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The FY11 Final Budget includes \$24.7 million for Division of Water Supply Protection (formerly MDC Division of Watershed Management), an increase of \$1.4 million or 6.0% over FY10 actuals. The budget is comprised of \$12.2 million for reimbursement of operating expenses, \$6.9 million for Payment in Lieu of Taxes (PILOT), and \$5.6 million for debt service expenses on prior land purchases financed by the Commonwealth.

Harbor Electric Energy Company (HEEC)

The FY11 Final Budget includes \$4.2 million for the Harbor Energy Electric Company (HEEC), an increase of \$278,000 or 7.1% from FY10 actuals. This funding is for the repayment of the capital investment of the Deer Island electric cable and substation which provides electric power to the treatment plant.

Mitigation

MWRA disburses mitigation funds to communities affected by MWRA projects or facilities pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include relieving the direct impacts of construction, meeting environmental and regulatory requirements, long-term operating agreements, or community compensation for impacts over and above those addressed by other mitigation. In rare situations, where the extent and duration of the impact of a project or facility on a community is such that restoring the area to its pre-project state is insufficient to relieve the stress of MWRA's presence during the project, MWRA funds or contributes to improvements to affected areas.

Mitigation expenses are funded in the capital budget and in the current expense budget. The FY11 Final Budget includes \$1.5 million for community compensation for impacts, including \$790,000 for the City of Quincy and \$728,000 for the Town of Winthrop, based on Memoranda of Agreement with the communities.

Retirement System Contribution

The FY11 Final Budget includes a required contribution to MWRA's retirement fund of \$5.3 million, a decrease of \$278,000 or 5.0% versus FY10 actuals. The FY11 funding of \$5.3 million is significantly lower than the minimum contribution of \$9.2 million required under the January 1, 2009 actuarial study. The FY11 Final Budget is based on a revised estimate which reflects recent market gains.

GASB 45 – Accounting and Reporting by Employers for Postemployment Benefits Other than Pensions

The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved redirection of OPEB related expenses to the pension fund in the form of optional payments. In the past two years, the MWRA has redirected approximately \$10.4 million to the pension fund. However, given the current financial climate, there are no optional payments budgeted for the pension fund in FY11 and there is no budgeted OPEB funding.

Operating Reserves

Funding for the Operating Reserve for FY11 is \$408,000 lower than FY10 actuals and reflects operating expenses. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY11 Final Budget, the required balance is \$37.2 million versus the \$37.6 million required in FY10.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Fifty one local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty four local bodies purchase both. Approximately 2.8 million people, or 42% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY11 Final Current Expense Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-18, lists MWRA communities, the services received, and the preliminary MWRA assessments for FY11.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-5 on page I-19 presents the calculation of MWRA's FY11 Final Rate Revenue Requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the FY11 Final Budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment income and other revenues offset water and sewer expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

Wholesale Assessment Methodology

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow. In April 2005, the MWRA installed a new wastewater metering system which has been used to generate sewer assessments since FY07.

Table I-4

Massachusetts Water Resources Authority
Final FY11 Water and Sewer Assessments

MWRA Fully Served Water and Sewer Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
ARLINGTON	\$3,893,299	\$3,993,340	2.6%	\$6,732,264	\$6,763,055	0.5%	\$10,625,563	\$10,756,395	1.2%
BELMONT	2,094,622	2,183,280	4.2%	4,161,876	4,234,838	1.8%	6,256,498	6,418,118	2.6%
BOSTON (BWSC)	66,256,569	67,381,413	1.7%	108,380,160	109,888,745	1.4%	174,636,729	177,270,158	1.5%
BROOKLINE	5,216,987	5,310,862	1.8%	10,824,841	11,279,012	4.2%	16,041,828	16,589,874	3.4%
CHELSEA	2,978,069	3,118,910	4.7%	5,739,883	6,157,340	7.3%	8,717,952	9,276,250	6.4%
EVERETT	4,552,198	4,152,168	-8.8%	6,530,382	6,614,319	1.3%	11,082,580	10,766,487	-2.9%
FRAMINGHAM	6,531,365	6,448,218	-1.3%	9,517,520	9,983,704	4.9%	16,048,885	16,431,922	2.4%
LEXINGTON	4,482,551	4,745,093	5.9%	6,245,946	6,405,931	2.6%	10,728,497	11,151,024	3.9%
MALDEN	5,658,857	5,494,013	-2.9%	10,367,785	10,588,739	2.1%	16,026,642	16,082,752	0.4%
MEDFORD	4,761,277	5,061,181	6.3%	10,318,684	10,350,919	0.3%	15,079,961	15,412,100	2.2%
MELROSE	2,048,045	2,093,320	2.2%	5,148,514	5,245,603	1.9%	7,196,559	7,338,923	2.0%
MILTON	2,122,571	2,290,290	7.9%	4,520,576	4,536,045	0.3%	6,643,147	6,826,335	2.8%
NEWTON	8,662,740	8,710,520	0.6%	17,548,082	18,034,955	2.8%	26,210,822	26,745,475	2.0%
NORWOOD	3,017,939	2,875,398	-4.7%	5,565,811	5,561,031	-0.1%	8,583,750	8,436,429	-1.7%
QUINCY	9,360,041	9,387,744	0.3%	16,761,810	17,150,548	2.3%	26,121,851	26,538,292	1.6%
READING	1,737,501	1,726,878	-0.6%	3,844,457	3,922,082	2.0%	5,581,958	5,648,960	1.2%
REVERE	4,039,752	4,086,484	1.2%	8,782,042	9,553,669	8.8%	12,821,794	13,640,153	6.4%
SOMERVILLE	5,889,612	5,958,943	1.2%	12,507,364	12,822,076	2.5%	18,396,976	18,781,019	2.1%
STONEHAM	2,673,786	2,710,209	1.4%	3,963,348	4,036,494	1.8%	6,637,134	6,746,703	1.7%
WALTHAM	7,149,732	7,639,702	6.9%	11,731,972	11,906,428	1.5%	18,881,704	19,546,130	3.5%
WATERTOWN	2,807,488	2,683,079	-4.4%	5,149,170	5,271,596	2.4%	7,956,658	7,954,675	0.0%
WINTHROP	1,247,329	1,239,532	-0.6%	2,999,987	2,871,107	-4.3%	4,247,316	4,110,639	-3.2%
TOTAL	\$157,182,330	\$159,290,577	1.3%	\$277,342,474	\$283,178,236	2.1%	\$434,524,804	\$442,468,813	1.8%

MWRA Sewer and Partial Water Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
CANTON	\$2,316,722	\$2,245,811	-3.1%	\$3,256,556	\$3,240,704	-0.5%	\$5,573,278	\$5,486,515	-1.6%
NEEDHAM	427,332	265,017	-38.0%	5,028,493	5,043,945	0.3%	5,455,825	5,308,962	-2.7%
STOUGHTON	485,781	560,611	15.4%	4,013,770	4,209,243	4.9%	4,499,551	4,769,854	6.0%
WAKEFIELD	1,408,297	1,519,711	7.9%	4,942,223	5,033,655	1.9%	6,350,520	6,553,366	3.2%
WELLESLEY	831,203	1,039,510	25.1%	4,743,999	4,801,042	1.2%	5,575,202	5,840,552	4.8%
WILMINGTON	0	100,782	100.0%	1,985,771	1,963,446	-1.1%	1,985,771	2,064,228	4.0%
WINCHESTER	812,945	836,681	2.9%	3,366,865	3,465,522	2.9%	4,179,810	4,302,203	2.9%
WOBURN	2,670,355	1,713,327	-35.8%	9,931,347	9,292,091	-6.4%	12,601,702	11,005,418	-12.7%
TOTAL	\$8,952,635	\$8,281,450	-7.5%	\$37,269,024	\$37,049,648	-0.6%	\$46,221,659	\$45,331,098	-1.9%

MWRA Sewer-only Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
ASHLAND				\$1,869,649	\$1,942,553	3.9%	\$1,869,649	\$1,942,553	3.9%
BEDFORD				2,929,353	2,872,853	-1.9%	2,929,353	2,872,853	-1.9%
BRAINTREE				6,880,530	7,090,129	3.0%	6,880,530	7,090,129	3.0%
BURLINGTON				4,366,388	4,447,740	1.9%	4,366,388	4,447,740	1.9%
CAMBRIDGE				21,019,359	21,622,817	2.9%	21,019,359	21,622,817	2.9%
DEDHAM				4,740,776	4,715,220	-0.5%	4,740,776	4,715,220	-0.5%
HINGHAM SEWER DISTRICT				1,368,516	1,434,012	4.8%	1,368,516	1,434,012	4.8%
HOLBROOK				1,325,371	1,379,633	4.1%	1,325,371	1,379,633	4.1%
NATICK				4,219,801	4,346,280	3.0%	4,219,801	4,346,280	3.0%
RANDOLPH				4,821,993	4,910,670	1.8%	4,821,993	4,910,670	1.8%
WALPOLE				3,104,740	3,116,054	0.4%	3,104,740	3,116,054	0.4%
WESTWOOD				2,072,034	2,158,037	4.2%	2,072,034	2,158,037	4.2%
WEYMOUTH				9,010,767	9,316,303	3.4%	9,010,767	9,316,303	3.4%
TOTAL				\$67,729,277	\$69,352,301	2.4%	\$67,729,277	\$69,352,301	2.4%

MWRA Water-only Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
LYNNFIELD WATER DISTRICT	\$456,370	\$362,005	-20.7%				\$456,370	\$362,005	-20.7%
MARBLEHEAD	1,768,433	1,805,608	2.1%				1,768,433	1,805,608	2.1%
NAHANT	340,192	303,713	-10.7%				340,192	303,713	-10.7%
SAUGUS	2,700,713	2,972,346	10.1%				2,700,713	2,972,346	10.1%
SOUTHBOROUGH	666,245	625,916	-6.1%				666,245	625,916	-6.1%
SWAMPSCOTT	1,380,309	1,462,442	6.0%				1,380,309	1,462,442	6.0%
WESTON	1,438,311	1,367,778	-4.9%				1,438,311	1,367,778	-4.9%
TOTAL	\$8,750,573	\$8,899,808	1.7%				\$8,750,573	\$8,899,808	1.7%

MWRA Partial Water-only Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
DEDHAM-WESTWOOD WATER DISTRICT	\$7,234	\$781	-89.2%				\$7,234	\$781	-89.2%
LYNN (LWSC)	159,682	169,958	6.4%				159,682	169,958	6.4%
MARLBOROUGH	2,901,191	2,390,943	-17.6%				2,901,191	2,390,943	-17.6%
NORTHBOROUGH	823,787	793,981	-3.6%				823,787	793,981	-3.6%
PEABODY	312,793	392,317	25.4%				312,793	392,317	25.4%
TOTAL	\$4,204,687	\$3,747,980	-10.9%				\$4,204,687	\$3,747,980	-10.9%
SYSTEMS TOTAL	\$179,090,225	\$180,219,815	0.63%	\$382,340,775	\$389,580,185	1.89%	\$561,431,000	\$569,800,000	1.49%

Retail Charges

As noted above, MWRA provides water and sewer services to communities on a wholesale basis. Each community then re-sells services on a retail basis. As a result, household water and sewer charges include each household's share of the community's MWRA water and sewer assessments, plus the community's own charges for the provision of local water and sewer services.

Each community independently establishes retail rates. When establishing local rates, community officials consider issues related to the pricing of services, level of cost recovery, and the local rate structure or methodology. Several factors contribute to a broad range of local rate structures in the MWRA service area:

- Differences in the extent to which water and sewer costs are supported through property taxes and other sources of revenue;
- Differences in the means by which communities finance investments in their own water and sewer systems; and
- Differences in communities' retail rate methodologies.

Some communities have flat unit rates, while others have inclining block rates. Local rates may also provide for differentials among classes of users, such as higher rates for commercial or industrial users, abatements to low-income or elderly residents, and adjusted sewer rates for customers with second meters used for lawn irrigation.

Additional information on rate structure within the member communities is available on the MWRA Advisory Board website as part of its annual retail rate survey.

TABLE I-5
Calculation of the FY11 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$147,005	\$62,608	\$209,613
Allocated Indirect Expenses	\$9,779	\$28,180	\$37,959
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$241,203	\$99,271	\$340,474
Current Revenue for Capital	\$3,917	\$3,283	\$7,200
Other Capital Expenses	\$2,007	\$4,645	\$6,653
PLUS			
Non-Rate Revenue:			
Investment Income	-\$9,922	-\$5,388	-\$15,310
Fees and Other Revenue	-\$4,409	-\$7,349	-\$11,759
Rate Stabilization	\$0	-\$5,030	-\$5,030
EQUALS			
Rate Revenue Requirement	\$389,580	\$180,220	\$569,800

Revenue and Expenditure Trends

Because MWRA is required by its enabling act to balance its budget and to establish annual assessments to cover all expenses, revenue must change in concert with the changes in expenses each year. The Rate Revenue Requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY11, community assessments will represent 94.7% of total revenue.

MWRA also updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These estimates provide a context for budget discussions and allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget options.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY11 through FY20.

Rates & Budget Projections										
FY11 Final CEB	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Total Rate Revenue (\$ in 000)	\$ 569,800	\$ 592,299	\$ 615,689	\$ 663,651	\$ 715,311	\$ 763,160	\$ 814,749	\$ 791,711	\$ 853,613	\$ 942,465
Rate Revenue Change from Prior Year (\$000)	\$ 8,369	\$ 22,499	\$ 23,390	\$ 47,962	\$ 51,660	\$ 47,849	\$ 51,588	\$ (23,037)	\$ 61,902	\$ 88,852
Rate Revenue Increase	1.49%	3.9%	3.9%	7.8%	7.8%	6.7%	6.8%	-2.8%	7.8%	10.4%
Use of Reserves (\$ in 000)	\$ 6,833	\$ 2,359	\$ 1,543	\$ 32,624	\$ 16,316	\$ -	\$ 7,636	\$ -	\$ -	\$ -

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's tax-exempt commercial paper program, debt refinancing, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new water system improvements, for which there are fewer non-ratepayer sources of funding, and the impact of new financing will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. refunding for savings, extended maturities on future borrowings, variable rate debt, and increased use of tax-exempt commercial paper) to help cushion and smooth the growth in capital financing expenses. Despite these initiatives, the size of the capital program will unavoidably continue to drive increases in community assessments.

The second largest budget factor is projected growth of base operating costs. The estimated \$84.3 million increase in direct expenses from FY11 to FY20 is primarily the result of an assumed inflation rate of 3.0% in FY12 and 4.0% annually thereafter. Also, over the next ten years, there will be increases in direct expenses as a result of capital improvement projects. The largest increases will be for the operation of new facilities such as the North Dorchester Bay CSO which will have incremental impacts beginning in FY12.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. The assumptions include:

- No Debt Service Assistance is projected;
- Direct expense inflation rate of 3.0% in FY12 and 4.0% thereafter;
- CIP inflation rate of 2.5%;
- Capital spending based on 85% of the CIP expenditure forecast with 10% (two-thirds of the 15% reduction) added back three years later;
- Long-term fixed rate debt issues with 40-year terms and 5% interest rates in FY11, 40-year terms 5.5% in FY12, and 40-year terms of 5.75% in FY13-30;
- Variable rate interest projected at 3.25% in FY11, 3.75% in FY12 and 4.0% thereafter.

MWRA uses the planning estimates to present a picture of what future rate increases might be and to test the impact of changes to assumptions. The planning estimates are not predictions of rate increases; rather, they provide the context and framework for the policy decisions that actually shape future Rate Revenue Requirements and increases.

The planning estimates generally use conservative assumptions to help communities plan for future payments to MWRA.

There are several areas where differences from planning estimate assumptions may alter projected increases:

- Changes in anticipated borrowing rates or expected investment income rates;
- The planning estimates do not factor in any positive year-end variances which may be used to defease debt or reserved to offset Rate Revenue Requirements in future years;
- More opportunities for SRF borrowing than expected; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 5% rate;
- Debt refinancing opportunities;
- Capital spending; and
- Growth in direct expenses, greater than current assumptions is an area of increased concern. Many of the savings in prior years through staffing reductions, optimization of operations, and scope revisions to professional services are already reflected in the budget. More importantly, going forward the MWRA is faced with a growing need to maintain its facilities and ensure that adequate funding is available.

Managing rate increases in the coming years may involve tradeoffs between smaller increases in the upcoming fiscal year and significantly larger increases in subsequent years.

FY11 Final Capital Improvement Program

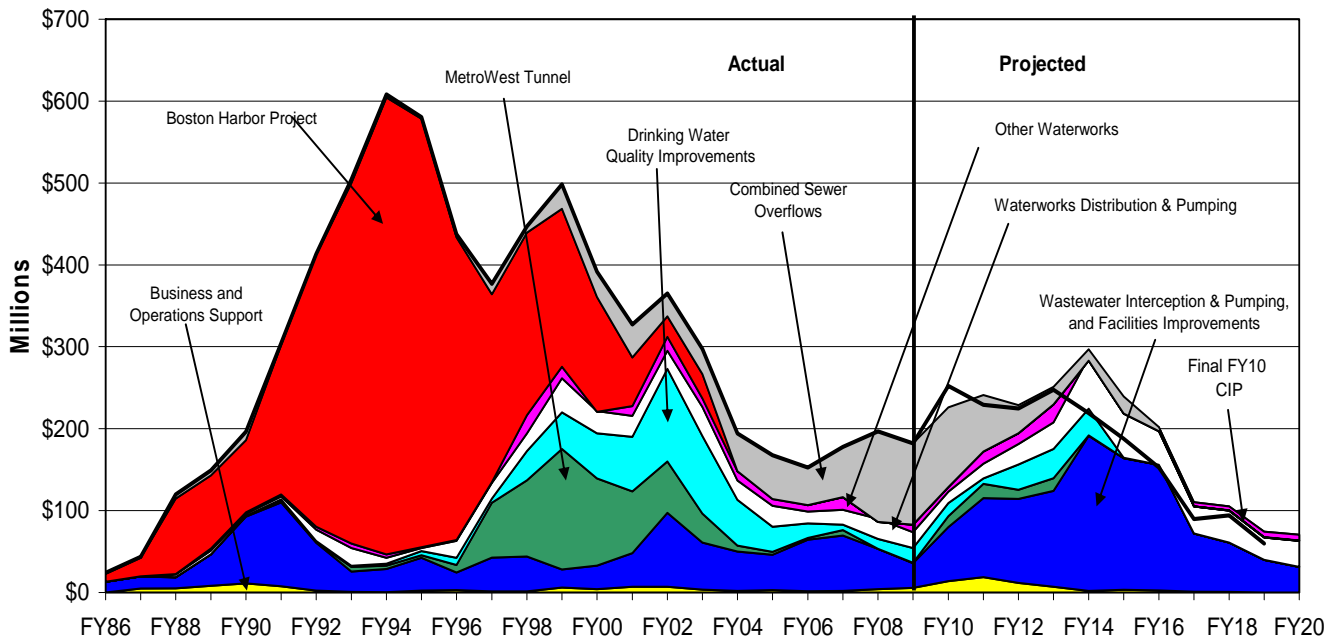
The FY11 Final Capital Improvement Program (CIP) budget totals \$5.3 billion, of which \$3.0 billion has been expended through FY09 with a balance of \$2.3 billion remaining to be expended. The CSO program is the largest remaining program initiative in terms of spending with an FY11 Final Budget of \$885.3 million of which \$621.6 million has been expended through FY09. The CSO Program accounts for \$336.6 million or 32% of Authority spending over the FY09-13 period.

The capital investment in the MWRA’s operating facilities has been primarily funded through the proceeds of \$5.8 billion in long-term borrowings, and the debt service on this indebtedness represents a significant and growing portion of the Authority’s operating budget.

As the MWRA matures as an agency, a greater proportion of its capital budget is designated for Asset Protection and Water Redundancy initiatives, absent new regulatory mandates, to preserve operating assets and insure interrupted water service to our user communities. This long-term strategy for capital work is identified in the Authority’s Master Plan which was published in 2006 and serves as a road map for inclusion of projects in the CIP in every proposed budget cycle.

The graph below highlights major capital improvement spending by program categories, both completed (actual) and remaining (projected).

MWRA CAPITAL PROGRAM FY1986-2020



MWRA's Green Initiatives

Building upon its track record in sustainable resource use – most notably dramatic system-wide reductions in water demand, 100% beneficial reuse of sludge, self-generation of approximately 25% of Deer Island's power needs, and maximizing revenue through hydropower – MWRA continues to work aggressively to use its resources efficiently and reduce the environmental impacts of its daily operations. The FY11 Final Current Expense Budget (CEB) projects that Deer Island self-generation will grow to 28% mostly due to Steam Turbine Generation (STG) operation. The MWRA is on track to meet the Governor's initiative that 30% of power demand be met by green sources. Key initiatives now underway or planned for FY11 include the following:

- Design/build to upgrade Deer Island STG generating an additional 5 million kwh/year of power from digester gas scheduled to go on-line January 2011.
- Second battery of 180 kW solar panels at Deer Island expected to go on-line March 2010.
- Installation of 1.5 MW wind turbines at Nut Island with a start up date of November 2011.
- Installation of a 1.5 MW wind turbine at the DeLauri pump station with a start up date of August 2011.
- Construction of 200 kW hydropower turbine/generator at Loring Road to generate 1.2 million kWh annually.
- Continue design/permitting of Wachusett Hydropower.
- Installation of 478 kW of solar power to be installed at Carroll Water Treatment Plant in July 2011.
- Conduct additional Wind Feasibility studies at various locations to assess if additional opportunities exist.
- Retrofit of diesel-powered vehicles and equipment and continued purchase of alternative fuel vehicles. Of the 378 vehicles in MWRA's fleet, 249 are powered by alternative fuel.
- Initial responses to comprehensive energy audits at the Carroll Water Treatment Plant, the Chelsea Facility, and Deer Island Treatment Plant facilities are already yielding energy savings.
- Conduct comprehensive energy audits of 15 MWRA pump stations and CSOs, and begin implementation of recommendations from audits of 13 pump stations and headworks completed in FY10.

MWRA will continue to assign high priority in its capital and current expense budgets to projects which demonstrate its commitment to energy efficiency and environmental sustainability and will seek to maximize grant funding to improve the economic efficiency of green energy projects.

Stimulus Funding

The MWRA was awarded \$33.0 million in stimulus funding based on the American Recovery and Reinvestment Act (ARRA) signed by President Obama on February 17, 2009. This funding was distributed through the State Revolving Fund (SRF) program and is being administered as principal forgiveness loans funding eligible drinking and clean water projects. This program is projected to save the Authority an estimated \$40.9 million in debt service payments. Of the \$33.0 million in stimulus funding, \$9.2 million will support Green Infrastructure projects, specifically the Carroll Water Treatment Plant, Deer Island photovoltaic projects, Loring Road Hydroelectric conduit, and the DeLauri Pump Station Wind Turbine initiative. To date, the MWRA has received \$23.7 million of this stimulus funding.

FY11 Final CIP

As shown in Table I-6 below, the MWRA's total capital budget is \$5.3 billion with \$3.0 billion spent through FY09 and \$2.3 billion remaining to be expended. Wastewater System Improvements represent \$1.2 billion or 53.9% of remaining spending. Budgeted spending for FY11 is \$208.0 million.

Table I-6

	Total Contract Amount	Spending Thru FY09	Remaining Balance 6/30/09	FY10	FY11	FY12	FY13	5-Year Total FY09-13	Beyond FY13
Wastewater System Improvements	\$2,574.7	\$1,341.4	\$1,233.3	\$151.4	\$130.8	\$138.5	\$100.2	\$644.6	\$712.5
Waterworks System Improvements	\$2,652.5	\$1,655.3	\$997.2	\$50.9	\$58.2	\$81.7	\$115.8	\$359.5	\$690.6
Business & Operations Support	105.6	48.6	56.9	10.0	19.0	9.7	8.6	53.1	9.5
Total MWRA	\$5,332.8	\$3,045.3	\$2,287.5	\$212.3	\$208.0	\$230.0	\$224.7	\$1,057.2	\$1,412.6

FY11 Final Capital Budget Highlights

The FY11 Final CIP is \$1.06 billion for fiscal years 2009-2013, and projected spending of \$1.41 billion beyond FY13 which is primarily driven by spending on new projects from the Master Plan. The FY14-18 spending window is \$995.1 million, but this forecast will grow in future budget cycles as additional Master Plan projects are incorporated into the CIP. The FY11 Final CIP includes 101 new projects/sub-phases from the Master Plan, nine of which were added in the FY11 CIP, with the highest priority ratings totaling \$19.7 million. A total of \$1.06 billion in new projects has been added to the CIP since the Master Plan was adopted.

Highlights of Project Changes from the FY10 Final CIP to the FY11 Final CIP

The FY11 Final CIP represents updated spending and schedules for projects contained in the FY10 Final CIP and new spending on 25 projects and sub-phases which total \$44.7 million. These additional projects and sub-phases represent those capital initiatives outside of the FY10 Final CIP that staff recommends as most essential to assure reliable service to MWRA's customers.

The FY11 Final CIP increased \$351.7 million or 7.1% above the FY10 Final CIP approved by the Board in June 2009. The majority of the capital budget increase is due to: inclusion of approximately \$221.3 for water redundancy projects, \$44.7 million for new projects related to Interceptor Renewal, Deer Island Asset Protection, and Alternative Energy initiatives. The balance reflects updated cost estimates, the largest increase being for the Headworks Upgrades of \$56.3 million, and schedule changes.

It is important to note that even with a substantial increase in the CIP between the FY10 Final and FY11 Final CIP, projected spending on projects in the FY09-13 CAP period decreased by \$32.6 million, associated with underspending in FY09 and FY10.

Table I-7 describes the dollar and percent changes by major program between the FY10 Final and FY11 Final CIP for the total project level and for the FY09-13 timeframe.

Table I-7

	Final FY10	Final FY11	\$ Change	% Change	FY09-13 \$ Change	FY09-13 % Change
Wastewater Systems Improvements	2,461.5	2,574.7	113.2	4.6%	-29.5	-4.4%
Waterworks System Improvements	2,429.6	2,652.5	222.9	9.2%	-15.4	-4.1%
Business Operations & Support	89.9	105.6	15.6	17.4%	12.3	30.3%
Total MWRA	\$4,981.0	\$5,332.8	\$351.7	7.1%	-\$32.6	-3.0%

Contingency

Contingency for each fiscal year is incorporated into the Capital Improvement Program to fund the uncertainties inherent in construction programs. MWRA uses a contingency budget to cover these costs in the event they exceed the Approved Budget. The contingency budget is calculated as a percentage of budgeted expenditure outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. The total contingency budget for the CIP (FY10-FY20) is \$125.1 million with \$33.7 million allocated to the FY09-13 timeframe.

	Total Budget	FY09	FY10	FY11	FY12	FY13	FY09-13	Beyond 13
Contingency	\$125.1	\$0.0	\$0.0	\$10.3	\$11.0	\$12.4	\$33.7	\$91.4

Major Planned Spending for Fiscal Year 2010

Capital spending in FY11 is estimated to be \$208.0 million. Spending will be driven by several large projects, including the ten projects listed below, which account for 76.1% of budgeted FY11 spending:

Table I-8

	Total Contract Amount	FY11 Spending	%
S.206 DI Treatment Plant Asset Protection	\$512.5	\$48.3	23.2%
S.339 North Dorchester Bay	223.3	21.0	10.1%
S.359 Reserved Channel Sewer Separation	73.7	16.6	8.0%
S.765 Local Water Pipeline Improvement Loan Program	0.0	14.5	7.0%
S.935 Alternative Energy Initiatives	25.5	12.5	6.0%
S.604 Metro West Tunnel (Hultman Aqueduct Rehabilitation)	704.0	11.9	5.7%
S.346 Cambridge Sewer Separation	64.0	10.4	5.0%
S.360 Brookline Sewer Separation	29.6	10.1	4.9%
S.721 Souther Spine Distribution Mains	69.5	7.0	3.4%
S.104 Braintree Weymouth Relief Facilities	233.6	5.9	2.8%
Top 10 Spending in FY11	\$1,935.7	\$158.2	76.1%
FY11 Spending	\$5,332.8	\$208.0	100.0%

CIP Impact on Current Expense Budget Table I-9

In addition to the annual financing costs included in the Current Expense Budget, the Capital Improvement Program affects the annual operating budget when capital facilities come on-line and require adjustments to operating budgets. In prior years, completion of the Deer Island Treatment Plant, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. New facilities are adding operating costs of approximately \$900,000 and MIS program related maintenance initiatives are increasing operating costs by nearly \$800,000 by FY20. These increases will be more than offset by anticipated savings for energy initiatives at Deer Island, most notably the digester gas fueled Steam Turbine Generator (STG) upgrade as well as water and wastewater Alternative Energy Initiatives including solar, wind and hydroelectric power projects which will result in energy savings. The following table summarizes projected CIP impact by project over the next 10 years.

Fiscal Year	CEB Impacts (000)									
	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	Total
DI Asset Protection	(\$608)	\$0	(\$111)	(\$275)	(\$152)	\$0	\$0	\$0	(\$169)	(\$1,315)
FERS Biofilter	0	0	0	(20)	(21)	0	0	0	0	(41)
Clinton Wastewater Treatment Plant/Aeration Efficiency Improvement	0	(48)	0	0	0	0	0	0	0	(48)
Wastewater Alternative Energy Projects	0	(1,157)	0	0	0	0	0	0	0	(1,157)
North Dorchester Bay	464	0	0	0	0	439	0	0	0	902
Total Wastewater (inflated)	(\$144)	(\$1,205)	(\$111)	(\$295)	(\$173)	\$439	\$0	\$0	(\$169)	(\$1,659)
Carroll Water Treatment Plant	\$0	\$0	\$0	\$87	\$0	\$0	\$0	\$0	\$0	\$87
Quabbin Water Treatment Plant	0	40	14	0	0	0	0	0	0	54
Wachusett Algae Treatment Facility	0	0	0	0	24	25	0	0	0	49
Alternative Energy	(210)	(48)	0	0	(158)	0	0	0	0	(416)
Total Water (inflated)	(\$210)	(\$8)	\$14	\$87	(\$134)	\$25	\$0	\$0	\$0	(\$226)
Phase II: TRAC Replacement	\$61	\$0	\$167	\$0	\$0	\$0	\$0	\$0	\$0	\$228
Phase V: LIMS Replacement, GIS & OMS	0	0	208	0	0	0	0	0	0	208
SAN II	0	0	0	116	0	0	0	0	0	116
SAN III	0	0	0	0	0	0	0	136	0	136
NET 2020	0	0	56	0	0	0	0	0	0	56
Telecommunications	0	0	0	0	0	0	0	34	0	34
Total Business and Operations Support (inflated)	\$61	\$0	\$431	\$116	\$0	\$0	\$0	\$169	\$0	\$777
TOTAL MWRA	(\$294)	(\$1,213)	\$333	(\$92)	(\$307)	\$464	\$0	\$169	(\$169)	(\$1,109)

Capital Financing and Grant Revenues

In the past, MWRA has been able to finance approximately 20 percent of its capital spending with grant receipts, totaling approximately \$1.1 billion through FY03. In addition to participating in federal and state grant programs, the MWRA will also benefit from the American Recovery and Reinvestment Act of 2009 which is projected to forgive approximately \$33 million in State Revolving Fund loan principal. The Authority will continue to pursue grant funding and take advantage of any possible program available to maximize grant funding opportunities.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's

Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

MWRA Organization and History

The MWRA Enabling Act

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to MWRA.

History and Accomplishments

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long-term Combined Sewer Overflow (CSO) control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (DEP) mandating the steps necessary to achieve required improvements to the MWRA water system.

Since taking over operation and maintenance of the water and sewer systems from MDC, MWRA has increased annual investment in the system infrastructure from an average of \$11 million per year to an average of more than \$350 million per year between (FY90 to FY08). This investment has greatly improved the operating efficiency of the existing water and sewer systems, protecting fresh water sources and improving the water quality in Boston Harbor.

MWRA Rates Management

Between FY96 and FY02 the MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance (DSA) allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. The Authority cut \$420 million from its capital improvement program and \$47.2 million from the current expense budget through various budget cuts including layoffs. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of these two elements. In response to a strengthening local economy, debt service assistance was restored in FY05 at the level of \$8 million. In the following three years, the debt service allocation increased to \$9.6 million in FY06, \$19.0 million in FY07, and \$17.0 million in FY08. In light of the economic downturn in FY09, the Commonwealth was forced to eliminate the \$15.0 million appropriation in October 2008. The MWRA, after an aggressive budget cutting process, combined with favorable spending trends, was able to make-up this shortfall without a mid-year rate increase. For the FY11 Final Budget, no Debt Service Assistance is assumed.

Planning estimates for 2011 through 2020 forecast rate revenue requirement increases of 3.9% annually for the next two years, 7.9%, 7.9%, 6.7%, 6.7%, -3.4%, 10.0%, and 8.8% in years 2014, 2015, 2016, 2017, 2018, 2019, and 2020 respectively.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant.

In recognition of the unprecedented economic climate affecting MWRA's member communities and ratepayers is a multi-year problem, staff evaluated a variety of options to provide the lowest responsible rate increase in FY11 and moderate predictable rate increases through FY13.

The FY11 Final Budget:

- Refines planning estimates assumptions to provide greater predictability of future assessments for member communities;
- Judiciously uses reserves to lower rate increases, but maintain adequate balances;
- Responsibly restructures debt for relief; and
- Employs a multi-year strategy to mitigate rate increases in the following three years without potentially jeopardizing the Authority's high credit rating.

MWRA Organization

MWRA has historically had seven divisions. Based on the October 2009 Board approval, a new division was formed called Administration and Finance which includes the Finance units, Human Resources, MIS and the majority of the Support Division.

Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. MWRA's organizational structure is included in the document before the Table of Contents.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees.

The MWRA created the **Office of Emergency Preparedness** in November 2005 by consolidating its security and emergency response functions throughout the agency. The Department is responsible for oversight of the security and emergency response policies and procedures, implementation of the Emergency Response Plan, and training of the Site Characterization Team.

The **Affirmative Action and Compliance Unit (AACU) Department** develops, administers and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority Procurement activities.

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The department works for passage of legislation necessary to carry out MWRA's mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects. Additionally, the Public Affairs Department deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives.

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

The **Planning and Coordination Department** provides decision support on planning, policy and operations matters. It provides regulatory, public policy and public health advocacy for MWRA's drinking water and wastewater programs and administers financial assistance programs to improve the infrastructure of member communities.

The **Operations Division** operates the water and wastewater treatment systems; the water transmission and distribution system; the wastewater collection, transport, and combined sewer overflow (CSO) systems; and the residuals processing facility. It also provides laboratory and engineering and construction services; enforces sewer use regulations and seeks to limit the discharges of toxic materials; manages environmental studies of Boston Harbor and Massachusetts Bay; and monitors water quality.

The **Administration and Finance Division** was created in 2009 and is responsible for managing the finance and support service functions necessary to support daily operations of the Authority and insure the implementation of the Authority's long-term goals and strategies.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

The **Law Division** provides legal counsel to all divisions on compliance with federal and state law, real estate matters, labor and employment law, litigation, and construction issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation.

Statement of Financial Position

In accordance with its enabling act, each year MWRA submits annual reports to the Governor, the President of the State Senate, the House of Representatives, the Advisory Board, and the Chairs of the State Senate and House Committees on Ways and Means containing financial statements relating to its operations maintained in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2009 and 2008 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Final FY11 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 388,759	\$ 395,729	\$ 412,602	\$ 406,699	\$ (5,903)	-1.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	985	0	0	700	700	-
PROFESSIONAL SERVICES	163,537	165,949	160,031	163,587	3,556	2.2%
OTHER MATERIALS	3,546	3,474	4,575	3,585	(990)	-21.6%
OTHER SERVICES	436,813	452,881	457,955	457,824	(131)	0.0%
TOTAL	\$ 993,640	\$ 1,018,033	\$ 1,035,163	\$ 1,032,395	\$ (2,768)	-0.3%

Final FY11 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 396,195	\$ 402,381	\$ 420,339	\$ 413,996	\$ (6,343)	-1.5%
ADVISORY BOARD / OTHER COMMITTEES	597,445	615,652	614,824	618,399	3,575	0.6%
TOTAL	\$ 993,640	\$ 1,018,033	\$ 1,035,163	\$ 1,032,395	\$ (2,768)	-0.3%

The **Executive Office** provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities, systems and employees.

The Executive Office has direct oversight of the Office of Emergency Preparedness, Planning and Coordination Department, Internal Audit, Public Affairs and Affirmative Action and Compliance Unit (AACU) Department.

FY11 Goals:

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Continue to aggressively pursue renewable and sustainable energy resources to reduce the environmental impacts of daily operations, increase energy efficiencies and reduce overall operating costs.
- Garner support from key constituents for MWRA programs.

The Executive Office budget supports the Executive Director's Office (which includes the Board of Directors cost center), the MWRA Advisory Board and Advisory Committees cost centers. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision-making. The MWRA Advisory Board was established by the Enabling Act to serve as a “watchdog” for MWRA’s customer

communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. In addition, the Advisory Board reviews and comments on MWRA reports hold hearings on related matters, and makes recommendations to the Governor and the Legislature. The other advisory committees supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the FY11 Final Budget.

Budget Highlights:

- Total FY11 Final Budget of \$1,000,000, a decrease of \$3,000 or 0.3% from FY10 Actual.
- \$406,500 for **Wages and Salaries** represents 39% of the Executive Office budget. The final budget includes funding for four positions.
- \$453,000 or 44% of the Executive Office final budget is for the MWRA Advisory Board staff. The final budget supports its operating expenses, including wages and salaries, space rental and general administrative office materials and supplies and is level funded to the FY10 Actual.
- \$164,000 or 16% of the Executive Office final budget is for **Professional Services** to fund the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee.

OFFICE OF EMERGENCY PREPAREDNESS

Final FY11 Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 240,963	\$ 335,281	\$ 401,615	\$ 441,264	\$ 39,649	9.9%
MAINTENANCE	216,872	425,531	412,907	383,883	(29,024)	-7.0%
TRAINING & MEETINGS	(1,177)	-	1,989	-	(1,989)	-100.0%
PROFESSIONAL SERVICES	1,812,091	1,838,392	1,526,557	1,616,610	90,053	5.9%
OTHER MATERIALS	191,274	39,583	64,892	51,317	(13,575)	-20.9%
OTHER SERVICES	8,232	9,305	13,477	21,252	7,775	57.7%
TOTAL	\$ 2,468,255	\$ 2,648,092	\$ 2,421,437	\$ 2,514,326	\$ 92,889	3.8%

The **Office of Emergency Preparedness (OEP)** was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit, which will respond to any intentional or accidental contamination of the water supply.

The Director of Emergency Preparedness reports directly to the Executive Director with a matrix reporting relationship to the Chief Operating Officer. In addition, the Safety/Security Manager for Deer Island will continue to report to the Deer Island Director with a matrix reporting relationship to the Director of Emergency Preparedness to include this major facility in all Authority-wide emergency-planning efforts.

FY11 Goals:

- Develop and implement policies and programs to provide security, critical infrastructure protection and emergency planning for the MWRA’s water and wastewater systems.
- Equip, train and command the Emergency Service Unit (ESU).
- Develop and exercise emergency plans and procedures.
- Manage and direct contract security guard and system maintenance contracts.

FY11 Initiatives:

- Continue the building of new Emergency Response Plans for all Water and Wastewater facilities.
- Complete the procurement process for the new security services contract.
- Increase the ESU and FOD capabilities to respond to spills inside Water and Wastewater facilities by outfitting a spill control truck and expanding the Metro Boom Deployment teams.
- Continue work on changing the MWRA radio system to new frequencies as part of the national frequency reallocation program.
- Continue the process of ensuring that new construction and rehabilitation of facilities include an integrated security and surveillance system improvement component. This will affect the Gillis Pump Station, the new Stoneham tank, Ward Street and Columbus Park Headworks projects.

FY10 Accomplishments:

- Completed new security gates at DITP and Chelsea facilities.
- Using one of two Department of Homeland Security (DHS) grants, built and fielded a mobile emergency laboratory, equipped with a Gas Chromatography/Mass Spectrometer Unit in order to support field water quality incident response and fielded new multi gas monitors, funded with a separate DHS grant that will replace current gas meters.
- Completed the procurement process for a new security systems maintenance contract.
- Completed the security system installations at the Chelsea Headworks and Blue Hills Covered Storage Facilities.

Budget Highlights:

- Total FY11 Final Budget of \$2.5 million, is an increase of \$93,000 or 3.8% from FY10 Actual.
- \$441,000 for **Wages and Salaries**, an increase of \$40,000 or 9.9% from FY10 Actual, primarily due to the addition of one position through transfer, which is offset by the reduction in funding for the Temporary Employee. The Final Budget includes funding for five positions.
- \$384,000 for **Ongoing Maintenance**, a decrease of \$29,000 or 7.0% from FY10 Actual, mainly due to lower than projected use of security systems maintenance service contracts in FY10. The final budget includes funding of \$259,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$104,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$22,000 for the Intrusion alarm annual and semi-annual monitoring services contracts.
- \$1.6 million for **Professional Services**, an increase of \$90,000 or 5.9% from FY10 Actual, primarily due to underspending in professional services security line item at DITP and CNY facilities. The FY11 Final Budget includes \$536,000 for security services contract for the Chelsea facility, \$574,000 for DITP facility, \$330,000 for the Carroll Water Treatment Plant, and \$29,000 for the CNY facility.
- \$51,000 for **Other Materials**, a decrease of \$14,000 or 21.0% from FY10 Actual. The final budget includes \$27,000 for Health and Safety equipment needs and \$19,000 for the annual operation and maintenance of equipment assigned to the Mobile Emergency Laboratory.
- \$21,000 for **Other Services**, an increase of \$7,800 over FY10 Actual. The final budget includes \$20,000 for mandatory monthly testing and inspection of Self-Contained Breathing Apparatus (SCBA).

PLANNING AND COORDINATION DEPARTMENT

Final FY11 Current Expense Budget PLANNING AND COORDINATION by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,927,749	\$ 1,997,711	\$ 1,967,082	\$ 1,934,297	\$ (32,785)	-1.7%
OVERTIME	601	-	211	-	(211)	-100.0%
FRINGE BENEFITS	6	-	-	-	-	-
TRAINING & MEETINGS	10,812	11,046	4,841	6,175	1,334	27.6%
PROFESSIONAL SERVICES	600	44,790	1,975	600	(1,375)	-69.6%
OTHER MATERIALS	136,269	139,285	152,250	152,425	175	0.1%
OTHER SERVICES	169,474	181,344	77,336	141,984	64,648	83.6%
TOTAL	\$ 2,245,511	\$ 2,374,176	\$ 2,203,695	\$ 2,235,481	\$ 31,786	1.4%

The **Planning and Coordination Department** provides regulatory, public policy and public health advocacy for MWRA’s drinking water and wastewater programs. It provides decision support on planning, policy and operations matters, using a range of technical and analytical tools. Staff administers financial assistance programs to improve the infrastructure of member communities and to promote water conservation. The Department integrates staff efforts and coordinates MWRA activities related to system and capital planning, infrastructure renewal, and watershed management (in conjunction with the Commonwealth’s Department of Conservation and Recreation, (DCR); strategic business planning; agency-wide performance measurement; and industry research. The following functions comprise the Department’s primary responsibilities:

Mapping, Modeling, and Data Analysis - Technical staff develops and maintains the Geographic Information Systems (GIS) for the water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff. Provides demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, performs drought forecasting and planning; evaluates system expansion requests; and develops and maintains water and wastewater system models in support of master planning, system operations, and optimization.

System Planning and Renewal - Staff with expertise in engineering and planning is responsible for water and wastewater system master planning; infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff reviews water and wastewater system expansion requests, water supply agreements, and emergency withdrawal requests. Staff also assists the Operations Division on project siting, environmental reviews, and permitting, including impacts on MWRA facilities from other agency projects, and assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems.

Regulatory and Policy Matters - Staff work with various regulatory entities to promote cost-effective rule setting that protects the environment and promotes public health. Senior staff members actively work with industry associations and other groups with interests and agendas consistent with MWRA’s to advance water and wastewater regulations that make environmental and economic sense. Senior staff conducts strategic policy research on a broad range of topics and staff conducts public health research, including outreach and water quality reporting and the annual Consumer Confidence Report (CCR). Staff also coordinates with DCR to ensure water protection.

Community Support Program - Staff are responsible for inflow/infiltration (I/I) and sanitary sewer overflows (SSO) policy development, implementation, and reporting, provide oversight of and reporting on MWRA leak detection regulations and demand management programs, and report on the portions of MWRA’s NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial

assistance, water distribution systems Best Management Practices technical assistance, water leak detection technical assistance, and water conservation grant programs.

FY11 Goals:

- Begin planning for the next iteration of the MWRA Master Plan and MWRA Business Plan.
- Continue to oversee the Loring Road hydro facility now in construction, advance other hydro projects toward design, and seek appropriate agreements and certifications to maximize revenue for existing hydro facilities.
- Continue work on implementing a MWRA water system expansion strategy.
- In conjunction with Engineering and Operations staff, continue to advance concept planning and design for capital projects, including storage, treatment and pipeline projects and development of long-term transmission and system redundancy options.
- Effectively communicate water quality information to customers and health officials.
- Implement the new \$200 million Local Water System Assistance Program, and continue to implement the existing water Local Pipeline Assistance Program to provide interest-free loans for local water projects. Continue outreach assistance for water conservation and water system leak detection and repair programs. Continue implementation of the Infiltration/Inflow (I/I) Local Financial Assistance Program to provide grants and interest-free loans for local I/I reduction and sewer system rehabilitation projects.

FY10 Accomplishments:

- Advanced the Loring Road hydroelectric project to construction award.
- Provided information and worked with communities expressing interest in joining the Authority.
- With Engineering and Operations staff, developed a strategic concept for a pumping station alternative to provide redundancy for the Cosgrove Tunnel, and advance the concept plan for Northern Intermediate High (NIH) redundancy into the MEPA review process.
- Distributed \$13.6 million (grants and loans) for local sewer rehabilitation projects under the I/I Local Financial Assistance Program and \$21.9 million (loans) for local water quality projects under the Local Pipeline Assistance Program. A new phase of the Local Water Pipeline Assistance Improvement Program was included in the FY11 CIP.
- With MWRA Operations and DCR staff, developed a successful 2010 Quabbin Boat Program in response to the discovery of zebra mussels in Laurel Lake.
- Continued to assist local communities to advance water conservation education and water system leak detection and repair. A total of 28 member sewer communities or housing authorities participated in a \$100,000 program (EPA SEP) to install low-flow toilet retrofits in municipal building or local housing authority properties.
- Effectively communicated water quality information to customers and health officials.
- In conjunction with Public Affairs, kicked off the Five Year Report process.

Budget Highlights:

- \$1.9 million is for **Wages and Salaries**, a decrease of \$33,000 or 1.7% from the FY10 Actual, primarily due to the transfer of one position to Public Affairs department. The FY11 Final Budget includes funding for 23 positions.
- \$6,000 is for **Training and Meetings**, an increase of \$1, 300 from FY10 Actual.
- \$600 is for **Professional Services**, a decrease of \$1,400 from FY10 Actual.
- \$152,000 is for **Other Materials**, level funded to FY10 Actual, mainly to fund the postage costs associated with the Consumer Confidence Report (CCR). The FY11 Final Budget includes \$124,500 for postage and mailing of the CCR, \$15,000 for water conservation kits, and \$10,000 for mapping supplies.
- \$142,000 is for **Other Services**, an increase of \$65,000 from the FY10 Actual. The FY11 Final Budget includes \$117,000 for printing the CCR, \$10,000 for printing Lead in tap water brochures, and \$10,000 for reprinting water conservation bill stuffers.

AFFIRMATIVE ACTION and COMPLIANCE

Final FY11 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 569,845	\$ 591,924	\$ 605,065	\$ 602,684	\$ (2,381)	-0.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	2,384	180	-	2,000	2,000	-
OTHER MATERIALS	2,079	1,176	1,018	1,500	482	47.3%
OTHER SERVICES	471	397	387	632	245	63.3%
TOTAL	\$ 574,779	\$ 593,677	\$ 606,470	\$ 606,816	\$ 346	0.1%

The **Affirmative Action and Compliance Unit (AACU)** develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority procurement activities.

FY11 Goals:

- Assist divisions and departments in the implementation of MWRA’s affirmative action program and promote MWRA’s policy of non-discrimination for all persons in or recruited into its work force.
- Maintain internal audit and reporting systems adequate to monitor MWRA’s accomplishments of goal attainment in identified underutilized job groups for minorities and female representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Provide for the equitable participation of minority and women-owned businesses in procurement opportunities and ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE program policies and practices and monitor and report on contractor compliance and expenditures.

FY10 Accomplishments:

- Provided management guidance for all personnel selection committee hiring processes as part of a proactive strategy to ensure adherence to the Authority’s fair employment practices.
- Conducted numerous compliance audits on MWRA construction projects and assisted Administration and Finance in securing an additional \$735,000 in funding via the American Recovery and Reinvestment Act (ARRA) to support Alternative Energy Professional Services.

Budget Highlights:

- Total FY11 Final Budget is \$607,000 of which \$603,000 is for **Wages and Salaries**. The wages and salaries line is \$2,400 or 0.4% less than the FY10 Actual and includes funding for eight positions.

INTERNAL AUDIT

Final FY11 Current Expense Budget INTERNAL AUDIT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 569,213	\$ 581,055	\$ 579,202	\$ 619,583	\$ 40,381	7.0%
OVERTIME	7	-	-	-	-	-
TRAINING & MEETINGS	10,092	3,306	3,872	7,738	3,866	99.8%
OTHER MATERIALS	2,501	2,050	2,157	2,400	243	11.3%
OTHER SERVICES	1,818	1,105	789	1,168	379	48.0%
TOTAL	\$ 583,631	\$ 587,516	\$ 586,020	\$ 630,889	\$ 44,869	7.7%

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

FY11 Goals:

- Encourage more economical and efficient operations, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

FY10 Accomplishments:

- Identified \$1 million in savings related to: contractor and vendor assignments \$313,000; construction labor burden reviews \$287,000; management advisory services \$206,000 and consultant audits \$194,000.
- Issued final audit reports on the review of Fixed Asset and Work In Process Accounting, the Bay State Fertilizer Program, BWSC CSO Financial Assistance Agreement (FAA) Eligible and Force Account Costs, Construction Change Order Pricing, and completed four incurred cost assignments, twelve preliminary construction reviews, two vendor audits, a prevailing wage review, a true-up of CY2008 billings by Harbor Energy Electric Company (HEEC) and validation of fee payments by the Fore River Transportation Company.

Budget Highlights:

- Total Final FY11 Budget of \$631,000, an increase of \$45,000 or 7.7% over the FY10 Actual.
- \$620,000 for **Wages and Salaries**, an increase of \$40,000 or 7.0% over the FY10 Actual, mostly due to reclassification of four positions. The budget includes funding for eight positions.
- \$7,700 for **Training and Meetings**, an increase of \$4,000 over FY10 Actual due to rescheduling of out of state consulting audits.

PUBLIC AFFAIRS

Final FY11 Current Expense Budget PUBLIC AFFAIRS							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 1,207,344	\$ 1,024,857	\$ 1,098,755	\$ 1,205,243	\$ 106,488		9.7%
OVERTIME	128	-	27	-	(27)		(1)
TRAINING & MEETINGS	2,409	1,747	1,226	315	(911)		-74.3%
PROFESSIONAL SERVICES	1,113	1,630	3,085	1,050	(2,035)		-66.0%
OTHER MATERIALS	26,672	37,585	20,784	20,550	(234)		-1.1%
OTHER SERVICES	34,834	51,796	35,323	59,831	24,508		69.4%
TOTAL	\$ 1,272,500	\$ 1,117,615	\$ 1,159,200	\$ 1,286,989	\$ 127,789		11.0%

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The **Intergovernmental Affairs Section** works for passage of legislation necessary to carry out MWRA's mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects.

The **Community Relations Section** deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work in conjunction with Planning and Coordination Department staff to ensure compliance with state and local regulations and restrictions.

The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA.

The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing school education materials on water quality, water conservation, wastewater topics, and environmental issues.

FY11 Goals:

- Enhance overall public understanding of MWRA's mission, goals, and benefits to the public through extensive outreach and effective communication.
- Develop and implement proactive strategies for educating and informing key MWRA constituencies and the public at large about MWRA's mission, projects and progress, and promote understanding for associated costs.
- Gain public support for MWRA programs and projects, and respond to the needs and concerns of elected and appointed public officials.
- Provide support to MWRA staff to ensure that MWRA projects meet regulatory requirements, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

Budget Highlights:

- Total FY11 Final Budget of \$1.3 million, an increase of \$128,000 or 11.0% from the FY10 Actual, is primarily due to transfer of position into the department resulting from reorganization approved by the Board of Directors during their June meeting.
- \$1.2 million for **Wages and Salaries**, an increase of \$106,000 or 9.7% from the FY10 Actual due to the transfer of a position from the Planning Department. The final budget includes funding for 14 positions.
- \$80,000 for **Other Materials** and **Other Services**, an increase of \$24,000 from the FY10 Actual, includes funds associated with the publication of MWRA's Annual Report, production of materials to inform the public about MWRA activities and to educate school children, teachers and environmental organizations about the importance of MWRA's programs to public health and the environment.



Operations Division
Budget

OPERATIONS DIVISION

Final FY11 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 64,939,674	\$ 66,546,039	\$ 67,744,764	\$ 68,724,406	\$ 979,642	1.4%
OVERTIME	3,695,290	2,932,713	3,893,234	3,252,181	(641,053)	-16.5%
FRINGE BENEFITS	73,923	51,742	69,620	65,945	(3,675)	-5.3%
WORKERS' COMPENSATION	-	-	-	-	-	-
CHEMICALS	8,642,802	9,867,555	8,998,799	9,797,118	798,319	8.9%
UTILITIES	25,768,591	24,294,274	25,855,089	23,164,142	(2,690,947)	-10.4%
MAINTENANCE	21,965,418	23,025,086	22,575,229	24,655,400	2,080,171	9.2%
TRAINING & MEETINGS	159,750	106,025	48,987	172,000	123,013	251.1%
PROFESSIONAL SERVICES	3,604,540	3,401,480	3,451,755	2,843,883	(607,872)	-17.6%
OTHER MATERIALS	3,875,200	3,303,935	3,250,608	3,174,508	(76,100)	-2.3%
OTHER SERVICES	18,692,193	19,162,518	19,006,986	18,859,027	(147,959)	-0.8%
TOTAL	\$ 151,417,382	\$ 152,691,367	\$ 154,895,071	\$ 154,708,610	\$ (186,461)	-0.1%

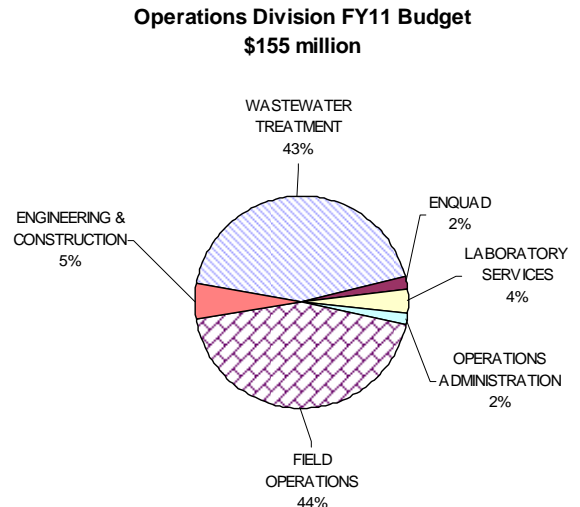
Final FY11 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
OPERATIONS ADMINISTRATION	\$ 3,508,180	\$ 3,338,066	\$ 2,729,340	\$ 2,693,439	\$ (35,901)	-1.3%
CSO PROGRAMS/ENERGY	(802)	-	-	-	-	-
WASTEWATER TREATMENT	66,740,246	67,870,719	68,821,838	67,116,198	(1,705,640)	-2.5%
FIELD OPERATIONS	63,727,381	64,484,723	65,926,123	68,259,262	2,333,139	3.5%
LABORATORY SERVICES	5,040,457	5,094,203	5,272,058	5,531,010	258,952	4.9%
ENQUAD	4,152,300	3,805,918	3,822,093	3,001,051	(821,042)	-21.5%
ENGINEERING & CONSTRUCTION	8,249,705	8,097,741	8,323,619	8,107,651	(215,968)	-2.6%
CAPITAL ENG & CONSTR.	(85)	-	-	-	-	-
TOTAL	\$ 151,417,382	\$ 152,691,367	\$ 154,895,071	\$ 154,708,611	\$ (186,460)	-0.1%

The **Operations Division** integrates wastewater and water system operations and maintenance, treatment, laboratory services, and engineering and construction functions, including implementation of the Combined Sewer Overflow (CSO) plan.

The FY11 Current Expense Budget (CEB) and existing structure of the Operations Division is shown in the pie chart to the right and described below.

The **Wastewater Treatment Department**, which accounts for 43% of the Operations Division budget, operates and maintains the Deer Island (DITP) and Clinton wastewater treatment plants and the Residuals Processing Facility at Fore River Staging Area (FRSA).

The **Field Operations Department (FOD)**, which accounts for 44% of the Operations Division budget, is responsible for operating, maintaining, and metering the water and wastewater transport systems. The department also manages the water treatment and wastewater pretreatment functions, including the Carroll Water Treatment Plant (CWTP).



The **Engineering and Construction Department** provides in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems.

The **Environmental Quality Department (EnQuad)** manages the monitoring of Boston Harbor and Massachusetts Bay water quality and oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** supports various client groups in the Operations Division, in the Department of Conservation and Recreation (DCR), and in MWRA member communities, providing field sampling, laboratory testing and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** provides oversight and general management support in the areas of finance, contract administration, and personnel. The Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

FY11 Goals:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and NPDES permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Dispose of wastewater treatment by-products in a cost-effective and environmentally sound manner.

Major FY10 Accomplishments:

Emergencies

- *Spring 2010 Storms* - MWRA's service area experienced an unprecedented rainfall total of more than 21 inches during a 36-day period between February 24 and April 1, 2010. Overall monthly precipitation was approximately three-and-one-half times more than the 8-year average. Highlights of MWRA's performance during the event are as follows:
 - *DITP* - Overall total plant flow set a new record and was 68% more than target (726 actual vs. 432 expected mgd) during the period. Pumping and treatment operations continued without incident and DITP remained in compliance with its NPDES permit limitations throughout the storm events.
 - *Wastewater System* – Staff performed continuous monitoring and maintenance throughout the storm events and managed to keep all pumping stations, CSOs facilities, and four headworks facilities operating at their design capacities. No major facility problems occurred during these storms. Staff also continued to operate temporary pumps at the Braintree-Weymouth Pump Station and several other places in the system. Post-storm work included sweeping, tree removal, fence repair, and Sanitary Sewer Overflow (SSO) clean-up in numerous locations.
 - *Squantum Force Main/Quincy* - Damaged as a result of the storm and was subsequently repaired via emergency contract.

- *Nut Island Headworks* - MWRA opened gates to the emergency outfalls to allow discharge to Quincy Bay for two short periods to protect the facility from damage that would potentially render it inoperable for an extended period of time. This also prevented backups of sewage into the Houghs Neck Pump Station, streets, homes, and businesses.
- *Clinton Wastewater Treatment Plant* – Also set new treatment records during the storms. Influent flow exceeded 12 mgd, four times more than normal plant flow of 2.8 mgd. Staff also successfully protected plant assets during a period of significant flooding from the Nashua River.
- *Water System* - The Quabbin Reservoir, Wachusett Reservoir, and all four reservoirs in the Sudbury System crested. Staff made frequent gate changes during and after the event to minimize flooding.
- **Water Main Break** – On May 1, 2010, a major water main break in Weston interrupted water service to 30 communities in MWRA’s district, resulting in a boil water order for drinking water and implementation of emergency water conservation measures. Despite the catastrophic nature of the break, MWRA successfully handled the situation and swiftly restored the pipe into service within 72 hours. Work included the following:
 - Implemented an emergency plan involving public communication and extensive water quality testing in conjunction with numerous state and local government agencies and other organizations.
 - Provided continuous water service throughout the period by activating emergency water supplies including the Sudbury Aqueduct, Chestnut Hill Reservoir, and Spot Pond Reservoir.
 - Stopped leak by the evening of May 1 and hired a contractor to repair the pipe.
 - Developed and launched a plan to recover the failed coupling.
 - Established an independent panel to review and investigate the circumstances and causes leading to the water main break.

Operations, Energy, and New Facilities Start-ups:

- Commenced operation of the new Blue Hills Covered Storage Tanks in August, 2009.
- Continued to monitor and modify operations of newer facilities including the Union Park CSO Detention Treatment Facility (start-up in Q3 FY07, operated in conjunction with BWSC) and Braintree-Weymouth Replacement Pump Station (start-up in Q4 FY08).
- Completed Phase I HVAC audit at MWRA’s Chelsea office building and energy audits at eight other FOD facilities. Staff continued to evaluate the audit reports and commence implementation of recommendations. Also, MWRA commenced energy audits of 14 more facilities in FOD.
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals including sodium hypochlorite and sodium bisulfite at numerous facilities; aqua ammonia, soda ash, carbon dioxide, sodium hypochlorite, and hydrofluorosilicic acid for the CWTP; and hydrogen peroxide, activated carbon, sodium hydroxide, and ferric chloride for DITP.
- Completed the installation of upgraded pumps and metering for sodium hypochlorite and sodium bisulfite chemical feed systems at the Framingham Pump Station to allow for more precise dosage control at lower levels. This will result in approximately 10% savings in chemical use for disinfection and dechlorination.
- Generated revenue at two water hydroelectric facilities including \$811,000 at the Oakdale Station and \$213,000 at the Cosgrove Station.
- Continued to leverage Deer Island’s self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.5 million for FY10. Deer Island also self-generated 31% of the plant’s total required power during FY10.

- Procured new contract for the purchase and supply of electric power for 25 large facilities in Field Operations including the Carroll Water Treatment Plant (CWTP) and the Clinton Treatment Plant.
- Commenced acceptance testing and operations of two 600 kW wind turbines at DITP.
- Processed 105.7 average tons per day of sludge at the Pelletization Plant during FY10.

Maintenance:

- The Operations Division spent \$22.6 million on maintenance of which \$10.8 million was for materials and \$11.8 million for services.
- Completed numerous major maintenance projects including the following:
 - o Procured and implemented numerous contracts or change orders for maintenance services including: Fuel Storage Tank Maintenance; Boiler and Water Heater Maintenance; Fire Alarm and Fire Sprinkler System Service; Crane Maintenance; Laser and Belt Alignment Training and Support (DITP); Oxygen Generation Facility Maintenance (DITP); Combustion Turbine Generators Service (DITP); Overhead Door Maintenance (DITP); Steam and Hydro Turbine Generator Maintenance (DITP); Instrumentation Maintenance for water and wastewater facilities; Electrical Systems Maintenance (CWTP); Ozone Generator Repair (CWTP); and Diesel Generator Maintenance.
 - o In conjunction with the Boston Water and Sewer Commission, procured a two year contract extension for management, operation, and maintenance of Union Park Pump Station/CSO facility.
 - o Rehabilitated the gas flares at the Deer Island digester complex. The flares provide better operational control and system feedback.
 - o Improved ferric/ferrous feed piping to the Deer Island digesters. The new piping configuration allows for the dosing of individual digesters instead of feeding all of the digesters with the same dosage. Staff anticipates a reduction in overall usage, while providing the maximum dosage to each individual digester thus reducing the potential for the formation of struvite.
 - o Significant progress on facility painting and coating repair at Deer Island.
 - o Continued to work with SCADA and Process Control to field-test automatic influent gate control via SCADA at three remote headwork facilities.
 - o Completed maintenance tasks for dam maintenance at the Norumbega Reservoir to continue to protect integrity of the structures.
 - o Rewired the electrical feed at the Lexington Street Pump Station after an external bus duct failure.
 - o Installed total chlorine residual samplers at the Somerville Marginal CSO and Sampling building. These samplers will improve chemical dosage control for sodium hypochlorite and sodium bisulfite.
 - o Cleared water and wastewater easements in addition to clearing grounds at numerous MWRA facilities.
 - o At the Clinton Wastewater Treatment Plant, commenced review of consultant's report on condition of major plant components. Management will use this report to prioritize Clinton's maintenance and capital projects for at least the next decade.
- In the water system, exercised 427 and replaced 9 mainline valves; exercised 279 blow-off valves; and surveyed 283 miles of water mains for leaks.
- In the wastewater system, inspected 33 miles and cleaned 43 miles of pipeline. Also inspected 682 structures and rehabilitated 128 manholes.

Engineering, Construction, and Planning:

- Award of contracts or Notice to Proceed for numerous contracts including the following major projects:
 - Water System
 - MetroWest Tunnel Lower Hultman Rehab CP6A
 - Southern Spine Distribution Mains Section 107 Phase 2 Construction
 - New Connecting Mains Northeast Segment CP5
 - Weston Aqueduct Supply Mains (WASM) Section 28
 - CWTP Photovoltaic System Construction
 - Loring Road Hydroelectric Project construction
 - Dam Projects Safety Modifications Design CA/RI
 - Wastewater System
 - North Dorchester Bay Ventilation Building Construction
 - Alternative Energy Initiatives Delauri Pump Station Wind Construction
 - DITP Asset Protection DI Digester Sludge Pump Replacement Construction
 - DITP Facility Asset Protection STG System Modifications Construction
 - Clinton Wastewater Treatment Plant Digester Cleaning and Rehab
 - Alternative Energy Initiatives DI Photovoltaic System Phase 1 Construction
- Substantially completed numerous projects including the following:
 - Water System
 - Blue Hills Covered Storage Design Build
 - NHS – Revere & Malden Pipeline Improvement Construction-Revere Section 53
 - Northern Low Storage Service Rehab Sections 8, Section 97A Construction
 - Wachusett Reservoir Spillway Impr/Winsor Dam Repairs Design and Rehab Equipment Pre-Purchase
 - Weston Aqueduct Supply Main Arlington Pipe Work
 - Winsor Dam Hydroelectric/Pipeline Replacement Valve Repair
 - Wastewater System
 - CSO North Dorchester Bay Tunnel Construction, Rescue, and Emergency Response
 - CSO Dorchester Bay Sewer Separation Design/Commercial Pt and Fox Pt
 - CSO Morrissey Boulevard Drain Design
 - DITP Asset Protection As-needed Design Phase 5-1 and 5-2
 - Alternative Energy Initiatives DI Wind, Photovoltaic System Phase 1 Construction
 - Wastewater Central Monitoring Construction 2
 - I&P Facility Asset Protection Remote Headworks Concept Plan

Environmental:

- The TRAC Department completed the following EPA-required work for significant industrial users: 275 inspections, 1,255 monitoring events, and 372 sampling of connections. This department also issued or renewed 332 permits (significant industrial users SIU and non-SIU).
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY09.
- Continued to trouble-shoot implementation issues for new TRAC Pre-treatment Information Management System (PIMS).
- Authorized and published amendments to MWRA's regulations regarding adjudicatory proceedings, enforcement and administrative penalties, and sewer use.

- At DITP, treated 97.2% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during FY10.
- EnQuad carried out required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish, and CSO receiving water quality, finalizing numerous technical reports in FY10 and presenting results to the Outfall Monitoring Science Advisory Panel (OMSAP) and public.
- EnQuad staff continued to prepare reports, analyses, and presentations of MWRA's proposed monitoring revisions and also participated in numerous meetings with regulators and reviewers to discuss the proposal. The MWRA Board of Directors voted in June 2010 to authorize staff to submit the Ambient Monitoring Plan for the MWRA Effluent Outfall, Revision 2 to the Environmental Monitor for public comment.
- Awarded and implemented four contracts associated with the Harbor and Outfall Monitoring Program to provide environmental monitoring of outfall effects as required by MWRA's discharge permit for Deer Island Treatment Plant (DITP).
- Met all water quality and treatment standards in the drinking water system during FY10.
- In conjunction with the Department of Conservation and Recreation (DCR), developed and implemented program for preventing spread of zebra mussels in the Authority's drinking water source supplies.
- The Department of Lab Services (DLS) provided routine laboratory services and analysis for approximately 243,000 tests and also provided as-needed analytical support for numerous projects including the following: CWTP half-plant operation, Harbor and Outfall Monitoring fish and shellfish testing, DITP polymer vendor selection, and Somerville Marginal CSO facility special project.
- The Lab received DEP drinking water microbiology certification at the three water quality labs for a newly required Total Coliform Rule confirmation procedure and for Enterococcus bacteria that is now required for the Groundwater Monitoring Rule for communities using groundwater.

Budget Highlights:

- Total FY11 CEB is \$154.7 million, which is \$190,000 or .1% less than FY10 spending. The FY11 Budget continues to reflect an intentional effort by MWRA management to contain rate increases through several strategies including curtailing spending on less critical items or services wherever possible and implementing efficiency improvements that will result in long-term, sustainable reductions to the Operations Division's budget.
- Significant increases from FY10 spending include:
 - Net increase of \$2.1 million or 9.2% for **Maintenance** primarily due to new service contracts; increases in the price and/or scope of several contracts to be re-bid during FY11; additional projects required to rehabilitate aging facilities; and the accounting treatment of more than \$1.0 million of emergency repair work in FY10 which shifted charges from Maintenance to Insurance claims under indirect expenses.
 - Net increase of \$976,000 or 1.4% for **Wages and Salaries** primarily due to step increases for eligible positions; leave balance adjustments to account for more earned time for long-term employees; an additional temporary position to assist with implementation of the flagger program; and the full-year cost of several higher level positions filled in FY10. The Operations Division's FY11 CEB includes 939 funded permanent positions on average during the year, discounted by a .5% vacancy rate (approximately 5 positions) to reflect attrition, for a net funded position level of 934 positions. This is consistent with the average number of filled positions in FY10.
 - Net increase of \$798,000 or 8.9% for **Chemicals** primarily due to additional chemicals for enterococcus treatment at Deer Island associated with expected commencement of the new NPDES Permit during the fourth quarter of FY11. Also, in comparison, FY10 usage was lower than expected due to greater than

average rainfall. The FY11 CEB usage assumptions are based on multi-year averages in operating facilities adjusted for the full-year effects of optimization initiatives implemented in FY10.

- **Training and Meetings** increased by \$123,000 primarily for training in the Field Operations Department on diagnostic equipment associated with MWRA's asset management program and on spill prevention and control procedures at operating facilities as required by regulation. Also, FY10 spending was significantly less than budget because it was difficult for employees to attend planned trainings and conferences for four months due to the workload associated with the spring storms and water pipe break.
- Significant decreases from FY10 spending include:
 - Net decrease of \$641,000 or 16.5% for **Overtime** due to significantly greater than budgeted use in FY10 for the spring storms and water pipe break plus the continued reduction in FY11 of coverage overtime based on revised labor contracts and increased use of SCADA. Management also will continue to limit use of unplanned overtime for critical work and emergencies.
 - Net decrease of \$608,000 or 17.6% for **Professional Services** primarily due to continued reductions to the Harbor and Outfall Monitoring (HOM) Program. MWRA has formally requested that EPA revise the scope of required outfall and harbor monitoring requirements and has reflected the estimated full year impact (approximately \$800,000) in the FY11 Budget.
 - Net decrease of \$148,000 or .8% for **Other Services** primarily for inflation adjustments for the Residuals processing contract as compared to FY10 levels. The FY11 Budget is based on an average of 106 tons of sludge per day (TPD) which is consistent with historical averages since the start-up of the Braintree-Weymouth Tunnel. This decrease is partially offset by increases for the Chelsea Facility lease due to inflation adjustments, new funding for a baseline survey of invasive species in the water reservoirs, and new funding for Global Positioning System (GPS) service fees to support use of this system in managing operations
 - Net decrease of \$76,000 or 2.3% for **Other Materials** due to fewer vehicles replacements in FY11 than in FY10, offset by increased spending for laboratory equipment replacements. MWRA deferred replacement of laboratory equipment in FY09 and FY10 as part of cost-curtailement efforts. The FY11 Budget restores spending to a level which allows for replacement of several pieces of equipment each year that have reached or exceeded their useful lives.
- The \$23.2 million FY11 **Utilities** budget, which is 15% of the Operations Division's total budget, includes \$18.1 million for electricity, \$2.5 million for diesel fuel, and \$1.7 million for water. The FY11 Budget is \$2.7 million or 10.4% less than FY10 spending due to decreases in electricity and diesel fuel. FY10 spending was significantly greater than budget as a result of the extensive spring storms whereas the FY11 Budget is based on multi-year historical averages, excluding the unusual situation in FY10 when Deer Island operated the Combined Turbine Generators (CTGs) for more than 20 days. CTG use resulted in large purchases of diesel fuel to replenish inventory, offset by decreases in purchased electricity when DI was self-generating power.

Electricity decreases by \$387,000 or 2.0% from FY10 spending primarily due to lower prices, offset by net increases for purchased power at Deer Island. The budgets for both the Deer Island and Field Operations departments incorporate projected savings from the implementation of additional conservation and self-generation projects. Diesel Fuel decreases by \$2.4 million or 49.0% primarily due to lower planned purchases at Deer Island in FY11.

- The FY11 Budget is subject to risk in the following areas: scope of the HOM Program (pending EPA approval), timing of the implementation of Deer Island's new NPDES permit, chemical and utility usage and prices, potential impacts of the Deer Island cable relocation project, sludge quantities, and more than expected emergency-related maintenance and overtime needs.

FY11 Initiatives:

Operations, Energy, and New Facilities Start-ups:

- Plan for start-up of the North Dorchester Bay odor control facility and decommissioning of Fox and Commercial Point CSO facilities.
- Continue to implement and optimize SCADA in Wastewater Operations facilities.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. This includes completion of the construction and the use of additional wind and solar power at MWRA facilities and the implementation of recommendations from energy audits. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Self-generate 26% of Deer Island's required power through optimization of power generation assets, including the recently installed wind turbines and the STG back pressure system modifications.
- Procure new electricity supply contract for Deer Island.
- In conjunction with MIS, implement and optimize use of a Global Positioning System (GPS) in MWRA vehicles.

Engineering & Construction:

- Award numerous contracts and/or issue Notice To Proceeds including the following major contracts:
 - Water System
 - Cosgrove Tunnel Redundancy PS Design
 - Long Term Redundancy Remote Vehicle Inspection of Quabbin Aqueduct
 - Lynnfield Pipeline Construction Phase 2
 - NIH Redundancy & Storage Section 89/29 Redundancy Design
 - Valve Replacement Construction 7
 - Weston Aqueduct Supply Mains Design, Sec 36 Waltham Connection
 - Wastewater System
 - Alternative Energy Initiatives DI Wind Phase II
 - Braintree-Weymouth Relief Facilities Rehab Section 624
 - DITP Asset Protection: NMPS VFD Replacement Construction, Digester Mod 1 & 2 Pipe Replacement, North Main Pump Station Motor Control Ctr Construction, Cryogenics Plant – Equipment Replacement Construction, Electrical Equipment Upgrade Construction 4, HVAC Equipment Replacement Design/ESDC, South System Pump Station Lube System Replacement, Centrifuge Backdrive Replacement
 - I&P Facility Asset Protection: Headworks Upgrade Design, NI Mechanical & Electrical Replacements, Prison Point HVAC Upgrades
 - Business and Operations Support
 - Laboratory Services Central Lab Fume Hood Replacements
- Substantially complete the following Capital Improvement Program design and construction phases
 - Water System
 - Alternative Energy Initiatives Loring Road Hydro Construction
 - Long Term Redundancy: Water Transmission Plan, Remote Vehicle Inspection of Quabbin Aqueduct
 - Rehab of Other Pumping Stations Design 2
 - Wachusett Reservoir Spillway Improvements/Winsor Dam Repairs Ph2 PCB Material Remediation

- WASM Section 28 Arlington CP1
- o Wastewater System
 - Alternative Energy Initiatives Delauri Pump Station Wind Construction
 - Braintree-Weymouth Relief Facilities Rehab Section 624
 - CSO Program East Boston Branch Sewer Relief: Construction, Sections 38 & 207 Replacement
 - CSO Program North Dorchester Bay: Dewater/Pump Station and Sewers, Design ESDC/Tunnel, Ventilation Building Construction
 - CSO Program Fort Point Channel Sewer Separation Design and Construction
 - CSO Program Bullfinch Triangle Sewer Separation Construction
 - DITP Asset Protection: Electrical Equipment Upgrade Constr 3, Heat Loop Pipeline Replacement Constr 3, Roof Replacements, Misc VFD Replacements, STG System Modifications Construction
 - Residuals Asset Protection Condition Assessment
 - Wastewater Central Monitoring Design and Integration Services
- Support work of expert panel charged with investigating the cause of the major water main break that occurred in Weston on May 1, 2010.

Maintenance:

- Optimize staff resources, overtime, service contract scopes and use, and use of as-needed design contracts to complete routine and major maintenance projects.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, lighting equipment retrofits, Zurn boiler maintenance and repairs, electrical system maintenance, carbon absorber replacements, and critical equipment maintenance.
- Work on numerous projects in Field Operations including meter inspection and repairs, ozone generator rebuild, lighting efficiency upgrades in metro facilities, dam appurtenances inspections, and back-up pump control panel installations at wastewater pump stations.
- Continue work on multi-year initiative of replacing surge valves in water pump station facilities.
- Continue expanding use of Maximo (maintenance tracking software) in Field Operations Department facilities.
- Wherever appropriate, continue transition to use of flaggers versus police details on maintenance projects requiring traffic control.

Environmental:

- Pending approval by regulators, implement requirements of new NPDES Permits for DITP and Clinton Wastewater Treatment Plant.
- Pending approval by regulators, implement revised harbor and outfall monitoring plan to reflect reduced scope. Carry out the required outfall, harbor, and river monitoring, implement additional in-house data management tasks, implement in-house preparation of interpretive reports, and deploy continuous monitoring instrumentation on the National Oceanic and Atmospheric Administration (NOAA) buoy.
- Ensure the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective.
- Continue to implement and optimize the new environmental information systems in TRAC and the Central Laboratory.

- Plan and implement the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits. This work can commence after EPA issues the new NPDES permits.
- In conjunction with the DCR, continue to monitor, revise, and implement program for preventing spread of zebra mussels in the Authority's drinking water source supplies.
- Conduct periodic baseline invasive species monitoring at water reservoirs.
- Design and implement Spill Prevention Control and Countermeasure (SPCC) program at various operating facilities.

OPERATIONS ADMINISTRATION

Final FY11 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,842,292	\$ 1,798,240	\$ 1,789,319	\$ 1,779,117	\$ (10,202)	-0.6%
OVERTIME	277	526	798	-	(798)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
WORKERS' COMPENSATION	-	-	-	-	-	-
MAINTENANCE	-	171	-	-	-	-
TRAINING & MEETINGS	1,814	-	468	2,200	1,732	370.1%
PROFESSIONAL SERVICES	-	23,844	6,500	215,453	208,953	3214.7%
OTHER MATERIALS	1,386,092	1,238,916	831,973	602,001	(229,972)	-27.6%
OTHER SERVICES	277,705	276,369	100,282	94,668	(5,614)	-5.6%
TOTAL	\$ 3,508,180	\$ 3,338,066	\$ 2,729,340	\$ 2,693,439	\$ (35,901)	-1.3%

The **Operations Administration Department** is comprised of the Office of the Chief Operating Officer and Division level support staff. The department goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: labor relations, finance, contract administration and general administration.

Budget Highlights:

- \$1.8 million for **Wages and Salaries**, which represents 66% of the FY11 Current Expense Budget (CEB). The budget includes funding for 23 positions and a temporary employee to provide support for the expert panel reviewing the May 2010 water pipeline break.
- \$215,000 for **Professional Services** which includes \$150,000 for services that may be required to support the expert panel in their review of the May 2010 water pipeline break and \$65,000 for energy consulting services to support energy procurements and evaluation of energy projects.
- \$602,000 for **Other Materials**, of which \$600,000 is for replacement of aged vehicles in MWRA’s fleet. This funding level continues to reflect efforts to contain rate increases by curtailing purchases. The FY11 vehicle budget of \$600,000 will allow MWRA to replace only the high priority vehicles that meet the eligibility criteria. Actual spending for vehicle purchases for FY02-FY10 is as follows:

FY02:	\$ 622,000	FY06:	\$ 717,381	FY10:	\$826,513
FY03:	\$ 120,000	FY07:	\$1,846,396		
FY04:	\$1,580,000	FY08:	\$1,425,758		
FY05:	\$1,237,289	FY09:	\$1,134,779		

From FY00 to FY03, MWRA limited replacement of vehicles pending completion of an extensive fleet review. In FY03 MWRA reduced the active fleet by more than 10% (from 561 to 496 vehicles) as a result of this initiative. For example, staff identified opportunities to meet the needs of the new waterworks system facilities through redeployment of existing vehicles rather than adding to the fleet. More than 40% of MWRA’s active, operable fleet was seven years or older at the end of FY10.

- \$95,000 is for **Other Services** of which the majority is for Authority-wide memberships including the National Association of Clean Water Agencies, Association of Metropolitan Water Agencies, American Waterworks Association, and the Boston Harbor Association marine debris program. The significant decrease from FY09 spending is due to the discontinuation of numerous memberships, including the American Waterworks Research Foundation, as part of MWRA’s decision to curtail non-essential spending.

WASTEWATER TREATMENT

Final FY11 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 16,764,551	\$ 17,114,724	\$ 17,553,076	\$ 17,725,978	\$ 172,902	1.0%
OVERTIME	1,214,864	798,752	1,379,720	1,057,873	(321,847)	-23.3%
FRINGE BENEFITS	27,028	15,664	28,799	19,300	(9,499)	-33.0%
CHEMICALS	2,828,939	3,280,345	2,887,823	3,215,286	327,463	11.3%
UTILITIES	15,531,352	14,946,585	16,184,157	13,432,758	(2,751,399)	-17.0%
MAINTENANCE	14,118,592	14,459,802	13,737,428	14,915,376	1,177,948	8.6%
TRAINING & MEETINGS	39,675	55,088	23,581	41,600	18,019	76.4%
PROFESSIONAL SERVICES	104,988	387,342	353,516	484,700	131,184	37.1%
OTHER MATERIALS	665,675	403,706	515,596	552,962	37,366	7.2%
OTHER SERVICES	15,444,582	16,408,711	16,158,142	15,670,365	(487,777)	-3.0%
TOTAL	\$ 66,740,246	\$ 67,870,719	\$ 68,821,838	\$ 67,116,198	\$ (1,705,640)	-2.5%

Final FY11 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
DEER ISLAND	\$ 48,776,729	\$ 49,020,875	\$ 50,400,723	\$ 49,584,988	\$ (815,735)	-1.6%
RESIDUALS	16,494,003	17,315,292	16,918,753	15,982,671	(936,082)	-5.5%
CLINTON	1,469,514	1,534,552	1,502,362	1,548,538	46,176	3.1%
TOTAL	\$ 66,740,246	\$ 67,870,719	\$ 68,821,838	\$ 67,116,197	\$ (1,705,640)	-2.5%

The **Deer Island Treatment Plant**, the **Residuals Management Program**, and the **Clinton Treatment Plant** comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 43% of the Operations Division's FY11 Current Expense Budget (CEB) and 32% of MWRA's FY11 CEB.

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where bricks, logs, and other large objects are screened out before the influent is transmitted to Deer Island through underground tunnels. At Deer Island, wastewater from the north system is pumped through chambers that remove grit and detritus for disposal in an off-island landfill. South system flows undergo preliminary treatment at the Nut Island headworks and are then pumped directly into the primary treatment facility, bypassing the grit removal chambers. The primary treatment facility consists of stacked clarifiers where scum rises to the top and the sludge settles to the bottom. Secondary reactors and clarifiers remove organic matter through biological and gravity treatment. Primary and secondary sludge and scum are thickened, anaerobically digested, and further thickened to reduce the volume of sludge before it is pumped through the Braintree-Weymouth tunnel to MWRA's Residuals Processing Facility at Fore River. Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

DEER ISLAND TREATMENT PLANT

Final FY11 Current Expense Budget DEER ISLAND TREATMENT PLANT by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 16,135,014	\$ 16,446,940	\$ 16,854,157	\$ 17,050,860	\$ 196,703	1.2%
OVERTIME	1,136,768	751,401	1,316,066	992,873	(323,193)	-24.6%
FRINGE BENEFITS	25,951	15,028	27,911	18,300	(9,611)	-34.4%
CHEMICALS	2,618,952	3,042,991	2,710,193	2,974,594	264,401	9.8%
UTILITIES	15,245,426	14,618,424	15,887,447	13,126,804	(2,760,643)	-17.4%
MAINTENANCE	12,280,634	12,854,386	12,300,411	13,881,053	1,580,642	12.9%
TRAINING & MEETINGS	37,527	55,088	22,999	40,000	17,001	73.9%
PROFESSIONAL SERVICES	100,942	362,425	263,157	470,500	207,343	78.8%
OTHER MATERIALS	535,205	296,823	450,148	419,079	(31,069)	-6.9%
OTHER SERVICES	660,310	577,369	568,234	610,925	42,691	7.5%
TOTAL	\$ 48,776,729	\$ 49,020,875	\$ 50,400,723	\$ 49,584,988	\$ (815,735)	-1.6%

Program Description and Goals:

The **Deer Island Treatment Plant** budget accounts for 32% of the Operations Division’s FY11 Current Expense Budget (CEB). DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant. There are three pump stations. The pumping capacity at the Deer Island plant has dramatically increased the volume of wastewater that can be taken into the plant from the conveyance tunnels. This reduces back-ups and overflows throughout the system when wet weather causes peaking of system flows.

North system flows pass through grit channels and bar screens at the Headworks that remove grit and screenings for disposal in an off-island landfill. South system flows are pre-treated for grit at Nut Island and the Braintree-Weymouth Intermediate Pump Station. Flow is routed to primary treatment clarifiers, which remove about half of the pollutants brought to the plant in typical wastewater (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remains in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. More than 150 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge and scum from primary treatment are thickened in gravity thickeners. Sludge and scum from secondary treatment are thickened in centrifuges. Polymer is used in the secondary thickening process to increase its efficiency. Digestion occurs in 12 egg-shaped anaerobic digesters, each 90 feet in diameter and approximately 130 feet tall. Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of purchased energy. Digested sludge is pumped through the inter-island Braintree-Weymouth tunnel directly to the MWRA’s Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

Organizational Structure:

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Engineering, and Operations and Maintenance (O&M) Support.

- Operations manages the day-to-day operation of plant processing units, perform minor preventative maintenance activities, and oversee plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manage and operate the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 emergency megawatts of electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improve efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures there is adequate stock for maintenance repairs and plant operations.
- Capital Engineering provides technical support services for both the Operations and Maintenance Units. Staff is responsible for all aspects of plant engineering including developing, procuring, and implementing all service contracts, consultant designs, and capital improvement projects at Deer Island. This group also manages the on-island Technical Information Center, which provides services to the DITP community and external constituents, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- O&M Support Section is responsible for supporting the business needs of the plant. The Administration and Finance Unit provides financial and administrative support to meet daily operational needs of the plant. The Safety/Security Unit is responsible for ensuring a safe and healthful work environment for employees and minimizing MWRA's exposure to liability and property loss or damage.

The Deer Island Director's Office provides overall policy direction and support in the areas of public access and community agreements.

Operating Assumptions

Deer Island's FY11 CEB assumes treatment of an average flow of 362.3 mgd based on eight years of historical data. Sludge production is projected to be an average of 106 TPD of digested sludge pumped to FRSA (TSS basis) through the Braintree-Weymouth tunnel. This estimate is based on seven years of historical data adjusted to account for the discontinuation of the DSL centrifuges after start-up of the Braintree-Weymouth tunnel.

Deer Island's FY11 CEB accounts for the impact of self-generation of electricity from the steam turbine generator, combustion turbine generators, hydroelectric generators, wind turbine generators, and photovoltaic panels. In total, these assets will meet approximately 25.6% of the total energy requirements resulting in an avoided cost savings of approximately \$3.7 million.

Deer Island continues to comply with the conditions of the current NPDES Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from EPA, Deer Island's FY11 CEB assumes the new permit will not go into effect until the fourth quarter of FY11. When the new permit is issued, Deer Island's treatment process will be required to kill enterococcus in addition to fecal coliform to comply with revised regulatory requirements.

Budget Highlights:

- \$17.1 million for **Wages and Salaries**, a \$197,000 or 1.2% increase from FY10 spending. The FY11 CEB funds on average 237 filled, permanent positions plus one temporary employee in engineering support. The CEB also include \$99,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies.
- \$993,000 for **Overtime** for operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections). The FY11 CEB is (\$323,000) or (25%) less than FY10 spending primarily due to more than typical overtime use in FY10 associated with numerous emergency wet weather events and extended periods of unusually high plant flows.
- \$3.0 million for **Chemicals**, which is \$264,000 or 9.8% more than FY10 spending. The FY11 CEB reflects management's expectation that the new NPDES permit will be in effect for DI sometime early in the fourth quarter of FY11. The budget includes approximately \$423,000 for additional sodium bisulfite and sodium hypochlorite required to treat enterococcus when the new permit is in effect. This increase is partially offset by price decreases for sodium hypochlorite and polymer due to market conditions.
- \$13.1 million for **Utilities**, a (\$2.8 million) or (17.4%) decrease from FY10 spending. The FY11 CEB includes \$10.7 million for electricity, \$1.4 million for water, and \$1.0 million for diesel fuel. The (\$2.5 million) decrease from FY10 spending for diesel fuel is due to the unusually extensive operation of the CTGs during the wet weather/high plant flows period experienced from late February through early April 2010.

The (\$220,000) decrease in electricity is primarily due to a projected price decrease of (\$0.006) per kWh offset by increases in purchased power from FY10 to FY11. The FY11 CEB assumes a full year of electricity unit pricing through a combination of spot market and fixed block pricing. It also reflects several years of history of required power usage offset by self-generation. The FY11 CEB includes expected increases in self-generation resulting from the operation of the new wind turbines, additional solar panels and the addition of a back pressure STG. Even with these self-generation improvements, the FY11 usage estimate is more than FY10 actuals due to reduced electricity purchases during the extensive use of the CTGS in the spring 2010 storm events.

- \$13.9 million for **Maintenance**, which is \$1.6M or 12.9% more than FY10 spending. The FY11 CEB includes \$4.8 million for materials and \$9.1 million for services. Of the total, 57% or \$8.0 million is for plant and

machinery services and materials, \$3.3 million is for electrical system maintenance, and \$1.5 million is for building and grounds work.

- \$471,000 for **Professional Services**, which is \$207,000 more than FY10 spending primarily due to expected increases in the use of as-needed design contracts to support the development of major maintenance projects. The FY11 CEB includes \$400,000 for as-needed engineering services to support CEB projects and \$50,000 for a beach nourishment study per regulatory requirements.
- \$419,000 for **Other Materials**, which is \$31,100 or 6.9% less than FY10 spending. The FY11 CEB includes \$114,000 for work clothes, \$110,000 for health and safety materials and \$62,000 for vehicles expenses (tolls, mileage, and gas).
- \$611,000 for **Other Services** which is \$43,000 or 7.5% more than FY10 spending. The FY11 CEB includes the ambulance service contract \$260,000, permit fees \$105,000, HAZmat/safety services \$90,000, fax/copier leasing and servicing \$68,000, telephones \$48,000, and freight charges \$20,000.

RESIDUALS MANAGEMENT

Final FY11 Current Expense Budget RESIDUALS by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 102,663	\$ 103,200	\$ 119,702	\$ 109,532	\$ (10,170)	-8.5%
OVERTIME	-	-	-	-	-	-
MAINTENANCE	1,633,243	1,398,552	1,226,841	822,968	(403,873)	-32.9%
TRAINING & MEETINGS	2,147	-	582	1,500	918	157.7%
PROFESSIONAL SERVICES	1,459	-	-	7,500	7,500	-
OTHER MATERIALS	250	-	-	300	300	-
OTHER SERVICES	14,754,241	15,813,540	15,571,628	15,040,871	(530,757)	-3.4%
TOTAL	\$ 16,494,003	\$ 17,315,292	\$ 16,918,753	\$ 15,982,671	\$ (936,082)	-5.5%

Program Description and Goals:

The **Residuals Management Program** manages the processing and disposal of approximately 106 dry tons per day (TSS) of sludge from the anaerobic digestion process at Deer Island, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001 and will expire on December 31, 2015. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

In FY05, major operational changes occurred regarding sludge processing at Deer Island. The Braintree-Weymouth cross-harbor tunnel came on-line in April 2005. The previous practice of thickening and barging sludge from Deer Island to Fore River ceased. Deer Island began pumping a much lower concentration of sludge (2.0% to 2.5% average total suspended solids) to the Residuals Processing Facility.

- MWRA is presently in the process of finishing a third-party independent condition assessment of the NEFCo facility. Management will use the information from this report to identify possible areas for additional maintenance and capital repair for funding in future budgets.
- The budget is based on 106 tons per day (TPD based on TSS), consistent with historical actual annual tonnage since the start-up of the Braintree-Weymouth Tunnel.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings and scum screenings. A two year contract with a new vendor started in May 2009.

Budget Highlights:

- \$110,000 for **Wages and Salaries**, which funds one position. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, and Operations Administration.

- \$823,000 is for **Maintenance**, the capital repair, replacement and improvement component of the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The change from FY10 spending to the FY11 CEB is due to a lower contractual amount for calendar year 2011 and also reductions in inflation based on market indices. The maintenance budget also includes a small amount for FRSA repairs.
- \$14.0 million or 88% of the FY11 Budget is for the **Sludge Pelletization** portion of the NEFCo contract. The FY11 Budget is \$554,000 or 4% less than FY10 spending due to inflation decreases, primarily for natural gas. The FY11 Budget is based on an average of 106 tons per day (TPD) which is level funded with the FY10 Budget and is consistent with historical trends since the start-up of the Braintree-Weymouth Tunnel.
- \$932,000 of the FY11 Budget is for **Grit and Screenings** disposal, a decrease of \$28,000 or 2.9% from FY10 spending.
- \$38,000 of the budget is for **Permit Fees**, which includes \$35,000 for bi-annual sludge dryer stack testing as required by DEP.

CLINTON WASTEWATER TREATMENT PLANT

Final FY11 Current Expense Budget						
CLINTON WASTEWATER TREATMENT PLANT by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 526,875	\$ 564,583	\$ 579,218	\$ 565,586	\$ (13,632)	-2.4%
OVERTIME	78,096	47,352	63,654	65,000	1,346	2.1%
FRINGE BENEFITS	1,077	636	888	1,000	112	12.6%
CHEMICALS	209,987	237,353	177,630	240,692	63,062	35.5%
UTILITIES	285,925	328,161	296,710	305,954	9,244	3.1%
MAINTENANCE	204,715	206,865	210,176	211,355	1,179	0.6%
TRAINING & MEETINGS	-	-	-	100	100	-
PROFESSIONAL SERVICES	2,588	24,917	90,358	6,700	(83,658)	-92.6%
OTHER MATERIALS	130,220	106,884	65,448	133,582	68,134	104.1%
OTHER SERVICES	30,031	17,801	18,280	18,569	289	1.6%
TOTAL	\$ 1,469,514	\$ 1,534,552	\$ 1,502,362	\$ 1,548,538	\$ 46,176	3.1%

Program Description and Goals:

The **Clinton Wastewater Treatment Program** provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, was completed in 1992.

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 mgd. The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

Budget Highlights:

- \$566,000 for **Wages and Salaries** represents 37% of the FY11 Budget. This funds seven positions and one part-time temporary contract clerical position.
- \$65,000 for **Overtime**, which is used to meet the 24 hour, 7 day per week emergency coverage requirement and to provide increased maintenance resulting from an aging facility.
- \$241,000 for **Chemicals** of which \$127,000 is used for sludge processing and disposal and \$114,000 is used for wastewater treatment.
- \$306,000 for **Utilities** represents 20% of the FY11 Budget. This includes \$252,000 for electricity, \$29,000 for fuel oil, and \$25,000 for water.
- \$211,000 for **Maintenance** represents 14% of the FY11 Budget. The budget includes \$65,000 for major projects and the remainder for routine services and maintenance.

- \$134,000 for **Other Materials**, including \$121,000 for clean fill for the landfill operation. Per regulatory directive, Clinton suspended the sludge reuse program for landfill coverage in FY09 thus requiring purchase of more fill.

FIELD OPERATIONS

Final FY11 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 33,397,317	\$ 34,567,080	\$ 34,959,350	\$ 35,900,759	\$ 941,409	2.7%
OVERTIME	2,275,528	2,001,173	2,333,975	2,058,432	(275,543)	-11.8%
FRINGE BENEFITS	45,366	35,498	39,919	44,945	5,026	12.6%
CHEMICALS	5,813,864	6,587,210	6,110,976	6,581,832	470,856	7.7%
UTILITIES	10,216,796	9,327,360	9,654,098	9,708,200	54,102	0.6%
MAINTENANCE	7,637,475	8,341,580	8,606,906	9,416,260	809,354	9.4%
TRAINING & MEETINGS	76,299	35,326	23,160	116,800	93,640	404.3%
PROFESSIONAL SERVICES	625,450	458,458	618,254	487,060	(131,194)	-21.2%
OTHER MATERIALS	932,189	767,292	943,143	975,254	32,111	3.4%
OTHER SERVICES	2,707,097	2,363,746	2,636,342	2,969,720	333,378	12.6%
TOTAL	\$ 63,727,381	\$ 64,484,723	\$ 65,926,123	\$ 68,259,262	\$ 2,333,139	3.5%

Final FY11 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
TRAC	\$ 3,381,274	\$ 3,410,288	\$ 3,436,145	\$ 3,533,818	\$ 97,673	2.8%
WASTEWATER OPERATIONS	11,439,765	11,399,949	11,624,424	11,452,944	(171,480)	-1.5%
WATER OPERATIONS & MAINT	20,669,390	21,527,413	21,110,594	26,542,430	5,431,836	25.7%
METRO MAINTENANCE	16,719,487	16,765,543	17,732,922	13,770,795	(3,962,127)	-22.3%
OPERATIONS SUPPORT	7,364,414	7,235,436	7,803,765	8,216,071	412,306	5.3%
FOD ADMIN	4,153,051	4,146,094	4,218,273	4,743,203	524,930	12.4%
TOTAL	\$ 63,727,381	\$ 64,484,723	\$ 65,926,123	\$ 68,259,261	\$ 2,333,139	3.5%

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

The Toxic Reduction and Control (TRAC) Department operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA's EPA approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (approximately 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (approximately 400 annually). The program tracks more than 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, PIMS, to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed Headworks facilities; 12 fully automated pumping stations; and seven CSO facilities which are similarly un-staffed. The wastewater system is monitored and controlled from the operations control center (OCC) in Chelsea.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 207 mgd (three year average) of water from the Quabbin and Wachusett reservoirs to the community water systems. The

water system encompasses a service area from Chicopee in the western part of the state to Lynnfield, Wakefield, Marblehead, Norwood and Canton in the metropolitan area. This unit operates and maintains MWRA's western waterworks facilities, including the Carroll Water Treatment Plant, the MetroWest Tunnel, the Ware Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

Metropolitan Maintenance is responsible for maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintain pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintain a waterworks network of approximately 300 miles of water mains, 4,900 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, eleven distribution storage tanks; and a wastewater network of 240 miles of wastewater interceptors and appurtenances, 12 pump stations, four headworks, and five CSO facilities. In addition, this unit performs TV inspections of the wastewater interceptor system and leak detection.

Operations Support provides technical support to FOD in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinates all engineering issues related to the operation of the water and wastewater systems. The Quality Assurance Unit monitors water treatment effectiveness, identifies treatment issues, and develops recommendations for water treatment improvements. Data management activities include performance reporting on water quality, development and maintenance of water quality treatment and optimization models, and tracking and analyzing chemical and hydraulic flow data. The Metering and Monitoring unit maintains 179 revenue water meters, 26 master water meters, 187 revenue wastewater meters and 35 other wastewater monitoring sites. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and wastewater Supervisory Control and Data Acquisition (SCADA) systems.

FOD Administration provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

Budget Highlights:

- \$35.9 million or 53% of the FY11 Current Expense Budget (CEB) is for **Wages and Salaries** of which \$35.2 million or 98% is for regular pay to fund 512 positions. The budget also includes a .5% vacancy rate to reflect the impact of attrition. Of the remaining budget, \$322,000 is for stand-by pay to support operational and maintenance needs; \$109,000 for temporary employees including a temporary SCADA Tech, a Traffic Planner to assist with development of community traffic safety plans, and a MAXIMO technician, and \$33,000 for interns for water quality analysis, grounds maintenance, and engineering assistance to augment engineering staff;
- \$2.1 million or 3% of the FY11 CEB is for **Overtime**, which includes \$654,000 for operational coverage needs, \$826,000 for emergency related overtime, and \$578,000 for planned overtime for scheduled maintenance and training. The FY11 Overtime budget is less than FY10 spending primarily due to greater than budgeted emergency use in FY10 during the extensive spring storms.
- \$6.6 million or 9.6% of the FY11 Budget is for **Chemicals**, of which \$6.2 million is for water treatment and \$333,000 is for wastewater treatment. The budget includes \$3.1 million for soda ash for alkalinity control, \$938,000 for sodium hypochlorite and \$197,000 for aqua ammonia for disinfection, \$1.0 million for hydrofluosilicic acid for fluoridation, \$599,000 for liquid oxygen for the CWTP ozone generation, \$289,000 for carbon dioxide to control water pH, \$217,000 for sodium bisulfite for dechlorination, and \$159,000 for

Nitrazyme and VX-456 for Framingham Extension Relief Sewer odor and corrosion control. The FY11 Chemicals budget is \$471,000 or 7.7% more than FY10 spending primarily due to lower than expected water system flows in FY10 which resulted in less use of chemicals.

- \$9.7 million or 14.2% of the FY11 Budget is for **Utilities**, including \$7.1 million for electricity, \$1.5 million for diesel fuel, \$665,000 for natural gas, and \$353,000 for water. The FY11 utility budget is \$54,000 or .6% more than FY10 spending primarily due to expected increases in pricing for electricity, diesel fuel and natural gas offset by reduced usage estimates based on actual history of relatively new facilities and partial year benefits of energy conservation projects.
- \$9.4 million or 13.7% of the FY11 Final Budget is for **Maintenance**, including \$2.4 million in major projects, \$3.3 million in day-to-day projects, and \$3.3 million for services, and \$283,000 for energy initiatives. The FY11 Maintenance budget is \$809,000 or 9.4% due to higher than FY10 spending due mainly to a significant increase in planned maintenance projects and improved capacity to complete the work as a result of a reorganization of the Metro Maintenance Department. Some of the major projects planned for FY11 include rebuilding the CWTP ozone generator, \$500,000, replacing electrical breakers and transfer switches at Hayes, Caruso, and Prison Point, \$175,000, backup pump control panels at IPS, Squantum, and Quincy Pump Stations, \$125,000, and replacing surge valves at Lexington Street Pump Station, \$100,000. The budget also includes approximately \$283,000 for energy efficiency initiatives such as replacing pump station motors with variable frequency drives, and implementation of recommended HVAC and lighting efficiencies at various facilities.
- \$117,000 for **Training and Meetings** primarily to cover training required for job duties, health and safety compliance, and job-related licensures and certifications. The FY11 Budget is \$94,000 more than FY10 spending due to spill prevention training and also the inclusion of training on diagnostic equipment as part of FOD's continuing efforts to implement Facility Asset Management Programs (FAMP) in all facilities.
- \$487,000 or 0.7% of the FY11 Budget is for **Professional Services**, including \$448,000 for engineering, which is made up of \$280,000 for as-needed engineering services; \$40,000 for the NPDES related Local Limits Study expected to be underway in FY11; \$100,000 for dam inspection and engineering work related to dam repairs; and \$28,000 for spill prevention training evaluation. The budget also includes \$25,000 for the final phase of energy audits at metropolitan facilities; \$11,000 for lab and testing services related to water quality; and \$4,000 for the Dig Safe program. Professional Services decreases by \$131,000 or 21% from FY10 spending primarily due to the inclusion in FY10 of one-time costs associated with site remediation at the Cottage Farm Headworks.
- \$975,000 or 1.4% is for **Other Materials**, including \$330,000 for vehicle expenses for gas, mileage reimbursements and tolls; \$230,000 for health and safety supplies; \$190,000 for work clothes; and \$130,000 for lab and testing supplies.
- \$3.0 million or 4.3% is for **Other Services**, including \$1.6 million for annual lease payments for the Chelsea office building, \$554,000 for telephone and SCADA needs at various facilities, \$319,000 for police details, and \$319,000 for Other Services of which the majority support Invasives control. The FY11 Budget for Other Services is \$333,000 or 12.6% more than FY10 spending primarily due to increases in the Chelsea rent and taxes, the addition of a non-recurring \$125,000 for invasives species baseline monitoring at the water reservoirs, and \$100,000 for the implementation of a Global Positioning monitoring system.

LABORATORY SERVICES

Final FY11 Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 3,691,792	\$ 3,853,465	\$ 4,000,086	\$ 4,021,138	\$ 21,052	0.5%
OVERTIME	73,240	51,864	64,595	70,242	5,647	8.7%
FRINGE BENEFITS	808	387	423	1,200	777	183.7%
UTILITIES	20,444	20,329	16,834	23,184	6,350	37.7%
MAINTENANCE	200,812	209,999	222,466	313,295	90,829	40.8%
TRAINING & MEETINGS	4,381	832	989	2,000	1,011	102.2%
PROFESSIONAL SERVICES	181,003	112,729	118,528	96,670	(21,858)	-18.4%
OTHER MATERIALS	764,766	762,158	771,432	910,947	139,515	18.1%
OTHER SERVICES	103,211	82,440	76,705	92,334	15,629	20.4%
TOTAL	\$ 5,040,457	\$ 5,094,203	\$ 5,272,058	\$ 5,531,010	\$ 258,952	4.9%

The **Department of Laboratory Services (DLS)** goals are to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation (DCR) and the MWRA member water and wastewater communities. This includes timely and cost-effective laboratory tests to meet the strict testing guidelines required by all regulatory programs and permits, including the Safe Drinking Water Act (SDWA), Clean Water Act, and NPDES permits. The Department supports these functions at five locations: Chelsea, Southborough, Quabbin, the Central Laboratory at Deer Island, and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and Process Control at Deer Island and Clinton, NPDES compliance, Massachusetts Bay outfall monitoring, TRAC, and wastewater residuals. DLS also conducts the Boston Harbor monitoring program, which involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results for submission to the Environmental Protection Agency and the Massachusetts Department of Environmental Protection.

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity. In January 2004, MWRA brought most of the laboratory testing for the Harbor and Outfall Monitoring (HOM) in-house including the water column laboratory work and the monthly boat sampling of Massachusetts Bay to collect bacteria samples. In July 2004, MWRA brought laboratory testing of Quabbin and Wachusett Reservoirs and their tributaries for the Department of Conservation and Recreation in-house, including operation of the Quabbin Laboratory. MWRA anticipates additional significant changes to the Laboratory's work before the start of FY11 if regulators approve proposed reductions to the Harbor and Outfall Monitoring (HOM) program. Management assumes the reduced HOM program as proposed to EPA and DEP by MWRA will include no fish/shellfish samples, a limited number of benthic sediments samples, and fewer stations and test parameters in the water column task.

Budget Highlights:

- \$4.0 million or 73% of the FY11 Current Expense Budget (CEB) is for **Wages and Salaries**, of which \$3.8 million covers regular pay for 54 positions. The FY11 Budget also includes \$120,000 for up to three temporary employee positions primarily to cover peak workload and Harbor and Outfall Monitoring and Carroll Water Treatment Plant special testing.
- \$23,000 is for **Utilities**, which consists of gases and cryogenic liquids used for various lab instruments.

- \$313,000 is for **Maintenance** which includes \$192,000 for equipment service contracts, \$90,000 for Laboratory modifications, and \$9,350 for HVAC services to annually certify the fume hoods. No lab modifications took place in FY10.
- The **Professional Services** budget of \$97,000 covers lab and testing analysis services. The Lab contracts out a variety of complex and/or low volume tests. Outside labs are used for emergencies, “second opinions”, capacity constraints, and unavailability of specialized equipment or economic justification.
- \$911,000 is for **Other Materials** which includes \$564,000 for laboratory and testing supplies and \$295,000 for replacement of obsolete or older equipment. Funding in this line item increases by \$140,000 from FY10 spending to FY11 primarily because MWRA deferred purchase of Lab equipment replacements in FY09 and FY10 as part of cost containment efforts.
- The \$92,000 budget for **Other Services** primarily covers boat rental service on an as-needed basis, boat dockage for two boats, removing hazardous waste and courier service for shipping samples between laboratories.

ENVIRONMENTAL QUALITY

Final FY11 Current Expense Budget ENVIRONMENTAL QUALITY						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,328,722	\$ 1,371,796	\$ 1,451,658	\$ 1,418,188	\$ (33,470)	-2.3%
OVERTIME	3,044	2,400	1,233	2,633	1,400	113.5%
FRINGE BENEFITS	-	-	-	-	-	-
MAINTENANCE	23	951	390	-	(390)	-100.0%
TRAINING & MEETINGS	5,804	1,668	43	1,000	957	2225.6%
PROFESSIONAL SERVICES	2,692,210	2,418,808	2,354,958	1,560,000	(794,958)	-33.8%
OTHER MATERIALS	3,047	4,002	9,951	15,030	5,079	51.0%
OTHER SERVICES	119,450	6,293	3,860	4,200	340	8.8%
TOTAL	\$ 4,152,300	\$ 3,805,918	\$ 3,822,093	\$ 3,001,051	\$ (821,042)	-21.5%

The **Environmental Quality Department (ENQUAD)** reports on environmental findings that may be linked to MWRA operations and projects. The department's main activities are monitoring sewage influent and effluent quality; monitoring the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; managing data and entering quality data; and complying with the reporting requirements of MWRA's NPDES permits. MWRA submits these permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, MWRA posts many of these reports on its website. All technical reports and several reports on water quality in the harbor and the bay are also posted on the website.

Budget Highlights:

- \$1.4 million or 47% of the FY11 Current Expense Budget (CEB) is for **Wages and Salaries** for 17 positions.
- \$1.6 million or 52% of the FY11 CEB is for **Professional Services** for outside laboratory testing and analysis associated with the Harbor and Outfall Monitoring (HOM) Program. This includes \$1.3 million for the HOM6, HOM7, and HOM8 contracts, which will be completed by several vendors. The balance of the budget covers the following contracts, most of which are partially funded through cost-sharing arrangements with other organizations:
 - o National Oceanic and Atmospheric Administration's National Data Buoy Center for required continuous monitoring
 - o Northeast Regional Assoc. of Coastal Ocean Observing Systems for buoy off Cape Ann
 - o Algae monitoring off Cape Ann on buoy
 - o Cape Cod Bay water quality monitoring
 - o Bays Eutrophication Model
 - o Biototoxicity testing for Deer Island Treatment Plant, Clinton Treatment Plant, and CSO facilities.

The significant decrease from FY10 spending to the FY11 Budget reflects MWRA's proposal to regulators to reduce the scope of HOM monitoring based on the favorable findings of nine years of monitoring data. Regulatory approval is pending and if it is granted, MWRA will save approximately \$800,000 per year in monitoring costs due to the changes.

ENGINEERING AND CONSTRUCTION

Final FY11 Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 7,915,000	\$ 7,840,735	\$ 7,991,274	\$ 7,879,227	\$ (112,047)	-1.4%
OVERTIME	128,337	77,998	112,912	63,000	(49,912)	-44.2%
FRINGE BENEFITS	721	193	479	500	21	4.4%
MAINTENANCE	8,515	12,583	8,039	10,468	2,429	30.2%
TRAINING & MEETINGS	31,778	13,110	745	8,400	7,655	1027.5%
PROFESSIONAL SERVICES	889	300	-	-	-	-
OTHER MATERIALS	124,318	127,861	178,514	118,316	(60,198)	-33.7%
OTHER SERVICES	40,147	24,961	31,656	27,740	(3,916)	-12.4%
TOTAL	\$ 8,249,705	\$ 8,097,741	\$ 8,323,619	\$ 8,107,651	\$ (215,968)	-2.6%

The **Engineering and Construction Department (ECD)** manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The Wastewater Engineering Unit manages all wastewater design and engineering projects including CSO engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) and services. The Water Engineering Unit manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The Construction Unit provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island.

Budget Highlights:

- \$7.9 million for **Wages and Salaries** represents 97% of the FY11 Budget and includes funding for 88 positions (includes vacancy adjustment).
- \$63,000 for **Overtime** to cover resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings, and meeting deadlines.
- \$10,000 for **Maintenance** which covers service contracts for the DISC Unit's specialized printers and plotters.
- \$118,000 for **Other Materials**, which includes \$99,000 for vehicle expense for staff traveling to construction sites, \$11,000 for office supplies, and \$5,000 for work clothes.
- \$28,000 for **Other Services** which includes \$6,000 for memberships and dues, \$10,000 for printing of in-house design plans and specifications, \$8,000 for telephone expenses, and \$1,500 for police details.



Law Division
Budget

LAW DIVISION

Final FY11 Current Expense Budget LAW DIVISION by Line Item							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 1,687,100	\$ 1,657,976	\$ 1,653,543	\$ 1,621,412	\$ (32,131)	-1.9%	
OVERTIME	1	-	-	-	-	-	
TRAINING & MEETINGS	2,344	570	221	2,000	1,779	805.0%	
PROFESSIONAL SERVICES	99,340	126,256	23,882	146,000	122,118	511.3%	
OTHER MATERIALS	9,021	7,952	4,301	9,314	5,013	116.6%	
OTHER SERVICES	26,334	22,294	26,042	29,147	3,105	11.9%	
TOTAL	\$ 1,824,140	\$ 1,815,048	\$ 1,707,989	\$ 1,807,873	\$ 99,884	5.8%	

The Law Division provides legal counsel to the Board of Directors, the Executive Director and staff on compliance with federal and state laws, regulations, court cases and administrative orders. Staff also handle and provide assistance with respect to litigation matters, real estate matters, labor/employment issues, and procurement and construction issues. The General Counsel interprets the MWRA Enabling Act and provides advice on conflict of interest and Code of Conduct issues. Division attorneys monitor the work of outside counsel when it is necessary to retain such services. The budget for the Division accounts for less than 1% of MWRA's FY11 Proposed Budget.

Law Division staff, though usually representing MWRA in a defensive posture, also work with Operations Division staff to effectuate cost recovery claims for design errors and omissions by MWRA design professionals. In addition, the Law Division assists in the early resolution of contractor and vendor claims prior to litigation so as to resolve them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

FY11 Goals:

- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- High quality legal services to support the business and operational needs of MWRA in the areas of real estate, labor and employment, regulatory compliance, litigation, construction and business law.
- Advocacy of MWRA interests in new and developing regulatory issues.
- Continues to exhaust all opportunities to shift cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.

FY10 Accomplishments:

- Implemented State Ethics Commission Reform Legislation: Oversaw non-employee portion of required distribution of summary of ethics law and on-line training exercise, including WSCAC, WAC, WSPT, Advisory Board staff, and MWRA Board members, outside legal consultants and experts, and consultants from all other MWRA divisions.
- Overdue Payments: Successful resolution of past due payment of O&M charges for MWRA work on Rutland-Holden sewer trunk lines.

- Bid Protests Denied/Resolved
 - Grove Construction
 - Methuen Construction

- Completed Litigation
 - Comfort Sit and Sleep d/b/a Chair Fair v. MWRA and P. Gioioso & Sons, Inc. – Summary Judgment in favor of MWRA was granted on all claims brought by furniture store located on VFW Parkway, West Roxbury, alleging that construction of MWRA’s Upper Neponset Valley Replacement Sewer caused loss of access by customers and employees to its store, loss of business and other damage. No appeal was taken by plaintiff.
 - Seaver Electric Company v. J.F. White, et al. – Summary Judgment was granted in favor of MWRA and other defendants on all claims brought by plaintiff, the filed electrical sub-bidder on the Braintree/Weymouth Intermediate Pumping Station project. Plaintiff alleged \$565,670.36 in direct contract damages, the loss of which Seaver alleged caused it to go out of business, for which it sought to recover additional damages estimated at \$5,000,000. Plaintiff has appealed this decision.
 - Chutehall Construction Co., Ltd v. MWRA: et al. – Both the Superior Court and the Massachusetts Appeals Court previously upheld MWRA’s adjudicatory claims hearing procedure for TRAC appeals against a claim of lack of due process, and upheld TRAC’s imposition of a \$10,000 penalty upon Chutehall for discharging ground and storm water from a construction site dewatering operation into a combined sewer without the required MWRA permit. This past year, both the Massachusetts Supreme Judicial Court and the U.S Supreme Court denied Chutehall’s requests for further appellate review. MWRA is pursuing collection of the penalty.

- Legislative Assistance
 - Lynn/Saugus Design Build – Route 107/Saugus River Bridge Project
 - CVA System Expansion
 - Tort Claims Act Protection
 - Quality-Based Selection Process for Procurement of Design Services

- Regulatory Assistance
 - Zebra Mussels/Invasives – MWRA/DCR Shared Jurisdiction
 - DEP 2 Year Extension for UV Disinfection (LT2SWTR)
 - EPA Mandate for TRAC Permittees’ Electronic Reporting (CROMERR)
 - Amended TRAC Regulations – Fee Revisions and Technical Changes
 - Prevailing Wage Issues – DITP Clarifiers Contract
 - City of Boston Fire Department – Hazardous Materials/Emergency Planning Updates (EPCRA)
 - Transport of Hazardous Materials: State Ban on Use of Tunnels

- Project Assistance
 - Low Service Storage Facility - Spot Pond: Provided support through negotiations and document drafting and review for the acquisition of parcel in Stoneham needed for the Northern Low Service Storage Facility.

- Memorandum Of Agreement (MOA): Drafted MOA to support the Arlington Water Main, Lynnfield/Saugus Pipeline, and Saugus Water Main projects.
- Hultman Aqueduct Interconnections Project: Negotiated an MOA with Mass. Turnpike Authority for permanent and temporary easements necessary for the Hultman Aqueduct Interconnection project.
- Deer Island/CWTP Solar Projects: Provided support in drafting the contract terms and conditions for twenty year Power Purchase Agreements.
- TRAC Decisions
 - Massachusetts General Hospital – upheld penalty imposed and clarified “negligence” standard in MWRA regulations.

Budget Highlights:

- \$1.6 million for **Wages and Salaries**, a decrease of \$32,000 or -1.9% from FY10 Actual.
- \$146,000 for **Professional Services**, an increase of \$122,000 from FY10 Actual spending. FY10 spending was lower than normal due to the settlement of cases before going to trial.
- \$29,147 for **Other Services**, an increase of \$3,100 or 11.9% from the FY10 Actual.



Administration & Finance Division
Budget

ADMINISTRATION AND FINANCE DIVISION

Final FY11 Current Expense Budget Administration and Finance by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 14,921,762	\$ 15,493,876	\$ 15,494,376	\$ 15,595,709	\$ 101,333	0.7%
OVERTIME	74,633	57,887	72,528	58,478	(14,050)	-19.4%
FRINGE BENEFITS	15,520,254	16,527,910	15,925,897	17,929,715	2,003,818	12.6%
WORKERS' COMPENSATION	1,159,464	1,841,638	2,226,080	1,870,000	(356,080)	-16.0%
UTILITIES	206,427	134,173	127,177	150,592	23,415	18.4%
MAINTENANCE	4,226,525	3,993,104	2,573,184	3,720,390	1,147,206	44.6%
TRAINING & MEETINGS	38,396	34,641	33,728	40,855	7,127	21.1%
PROFESSIONAL SERVICES	989,040	778,629	922,605	1,189,778	267,173	29.0%
OTHER MATERIALS	1,180,900	1,095,752	1,310,988	1,196,717	(114,271)	-8.7%
OTHER SERVICES	2,722,045	2,937,757	2,859,423	3,037,072	177,649	6.2%
TOTAL	\$ 41,039,446	\$ 42,895,367	\$ 41,545,986	\$ 44,789,306	\$ 3,243,320	7.8%

Final FY11 Current Expense Budget Administration and Finance by Department						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
DIR OFFICE (FINANCE)	\$ 195,349	\$ 204,016	\$ 233,549	\$ 332,091	\$ 98,542	42.2%
BUDGET	658,073	698,082	746,583	744,216	(2,367)	-0.3%
TREASURY	1,040,754	986,388	1,099,772	939,981	(159,791)	-14.5%
CONTROLLER	1,425,457	1,488,219	1,533,605	1,542,811	9,206	0.6%
RISK MANAGEMENT	303,003	344,036	395,661	388,570	(7,091)	-1.8%
DIVISION DIR (SUPP SER)	230,558	238,307	174,139	-	(174,139)	-100.0%
HUMAN RESOURCES	18,678,844	20,372,111	20,142,550	22,077,649	1,935,099	9.6%
MIS	8,940,974	9,059,021	8,810,394	9,694,376	883,982	10.0%
FACILITIES MANAGEMENT	2,279,898	2,514,224	2,438,927	2,684,390	245,463	10.1%
FLEET SERVICES	1,918,209	1,883,705	1,770,528	1,948,107	177,579	10.0%
PROCUREMENT	4,621,381	4,415,886	3,435,590	3,800,189	364,599	10.6%
REAL PROPERTY / ENVIRONMENTAL MGMT	746,946	691,372	764,688	636,926	(127,762)	-16.7%
TOTAL	\$ 41,039,446	\$ 42,895,367	\$ 41,545,986	\$ 44,789,306	\$ 3,243,320	7.8%

The **Administration and Finance Division** is responsible for managing the finance and support service functions of the Authority.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division performs a multitude of functions that support the daily operations and ensure the implementation of the Authority's long term goals and strategies.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

FY11 Goals:

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- Ensure uniform contract language, standard safeguards, and competitive bids for the MWRA.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide upgrades and enhancements to the integrated management information systems to ensure efficiency.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility.

FY11 Initiatives

- Continue implementation of new computer application to support the Capital Improvement Program.
- Continue close monitoring of financial markets to better position the Authority to take advantage of any opportunities to maximize investment income and reduce debt financing obligations.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Continue to streamline administrative and payroll related processes.
- Commence an agency wide staffing study that will provide an independent review of how MWRA staffing levels and trends compare to comparable water and/or wastewater utilities; to provide MWRA with an approach for evaluating staffing levels; and to recommend a multi-year level targets.
- Initiate the development of a detailed Strategic Information Technology Plan to assess the MWRA's current business environment, system architecture, and strategic direction.

FY10 Accomplishments

- Continued to manage through historically low yields on investments particularly short-term money market positions.
- Continued to hold high credit ratings from Standard and Poor's, Moody's Investor Service and Fitch Ratings.
- Continued providing more up-to-date, streamlined financial information to the Board of Directors and external constituencies on both the Current Expense Budget and Capital Improvement Program.
- Continued to manage FY10 budgetary spending to allow for an estimated \$54.6 million defeasance reducing future Rate Revenue Requirements.

- In recognition of the unprecedented budgetary challenges facing MWRA's member communities under the prevailing weak economy, MWRA evaluated a variety of options to provide the lowest responsible rate increase in FY11 and moderate predictable rate increases through FY13. In February, the FY11 Proposed Current Expense Budget was released with a 1.49% rate increase for FY11 - the lowest rate increase in 15 years.
- The Authority aggressively pursued stimulus funding opportunities and obtained \$33 million of Federal stimulus funding for water and wastewater initiatives.
- Successfully supported Authority's efforts in defending itself in several personnel arbitration hearings.
- Performed the training, design, testing and data conversion activities needed to implement a new module in the Lawson System which allowed for a reduction in customization.
- Implemented the State Ethics Commission On-line Training program Authority-wide.
- Successfully completed Lawson Upgrade migration, testing, and revisions to nearly all MWRA customized objects and Lawson Absence Management Module, which enhances Payroll accruals.
- Developed and implemented various web applications such as Employee Acknowledgement Application for Conflict of Interest Law and Employee Availability Tracking for pandemic occurrence.
- Awarded the following major CIP contracts in FY10: WASM3 (CP-5); Hultman Aqueduct Interconnections (CP-6A); Section 28 Brattle Court; Immediate Dam Repairs Design; North Dorchester Bay CSO Ventilation Building; Quabbin/Winsor Power Station Upgrade Design; Oakdale Electrical Upgrade Design; Financial Advisor; Southern Spine Distribution (Sec. 107); Loring Road Hydroelectric; Harbor & Outfall Monitoring; DeLauri Pump Station Wind Turbine; CWTP Solar; CWTP UV Equipment Pre-selection; DITP Lighting Efficiency; Spot Pond Owner's Representative; Alewife Brook Pump Station Rehab Design; Remote Headworks Design; DITP Solar Power Purchase; Security Equipment Maintenance; Audit Services; Investment Banking Services; Braintree-Weymouth Pipeline Rehabilitation Sec. 624; Melrose Sections 50-51 Sewer Connection; DITP Roof Replacements; DITP STG Design Build; Emergency Repair of Shaft 5 Water Pipe; and numerous current expense contracts for maintenance, Energy Audit Services for FOD and Chelsea; and Purchase of Electricity for Interval Accounts, etc.
- The Purchasing Unit, working with the Materials Management Unit, created a bid package combining 190 safety supply items resulting in a fixed price contract with no cost increases over the next three years.

ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE

Final FY11 Current Expense Budget						
ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 194,163	\$ 203,243	\$ 229,685	\$ 322,712	\$ 93,027	40.5%
TRAINING & MEETINGS	785	75	2,227	2,344	117	5.3%
OTHER MATERIALS	201	465	1,204	5,500	4,296	356.8%
OTHER SERVICES	201	233	433	1,535	1,102	254.5%
TOTAL	\$ 195,350	\$ 204,016	\$ 233,549	\$ 332,091	\$ 98,542	42.2%

The **Administration and Finance (A&F) Division Director's Office** oversees a multitude of functions that support the daily operations and ensure the implementation of the Authority's long-term goals and strategies.

The Director's Office is responsible for the centralized financial functions of rates development, revenue collection, budgeting, capital financing, debt and investment management, accounting, payroll processing, and risk management as well as the support functions of procurement, human resources, management information systems, fleet services, facilities management, and real property and environmental management. Additionally, the Director's Office ensures that transactions comply with all rules, regulations, Authority policies and procedures, and contract terms. The Director's Office manages the development and implementation of policies to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all administrative and financial issues.

The division's continuing challenge in FY11 will be maintaining agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services.

FY11 Goals:

- Manage and coordinate the Authority's finance and support service functions.
- Guide and coordinate division activities to support MWRA's goals and objectives.
- Continuously improve processes and performance for greater efficiency.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.

Budget Highlights:

- FY11 Final Budget includes \$322,000 for **Wages and Salaries**, an increase of \$93,000 from FY10 Actual spending due to the promotion of the Director of Finance to the Director of Administration and Finance as well as the transfer-in of the Deputy Director of Administration and Finance from Real Property. The final budget funds three positions.

BUDGET

Final FY11 Current Expense Budget BUDGET by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 639,818	\$ 690,966	\$ 744,737	\$ 741,916	\$ (2,821)	-0.4%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	3,563	-	-	-	-	-
OTHER MATERIALS	923	589	447	400	(47)	-10.5%
OTHER SERVICES	13,768	6,527	1,400	1,900	500	35.7%
TOTAL	\$ 658,072	\$ 698,082	\$ 746,584	\$ 744,216	\$ (2,368)	-0.3%

The **Budget Department** provides the financial analysis that allows MWRA to translate its goals, and legal and financial commitments into cost-effective annual and multi-year programs and budgets. Department staff works closely with divisional staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to projected schedules and budgeted spending. Staff also coordinates development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to budget throughout the year. The Budget Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and develops planning estimates of future rate projections.

FY11 Goals:

- Continually enhance processes and the management of resources to deliver the final CIP and CEB timely and accurately.
- Adhere to all MWRA policies, procedures and administrative practices as well as all relevant statutory and regulatory authority and accounting and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.

FY11 Initiatives:

- Continue to develop staff skills for cross functionality between CIP and CEB.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.

FY10 Accomplishments:

- Implemented the lowest responsible rate increase to our member communities in fifteen years, in the FY11 Budget.
- Developed more refined planning estimates in the FY11 Final Budget.
- First phase implementation of a new computer system application to support the CIP.

- Realized savings due to limited hard copy distribution of the CIP and CEB documents and production in-house versus outside printing.
- Realized savings by using available construction cost indexes on the Internet versus using outside services.
- In line with the Division's paperless initiative, switched to PDF file distribution for monthly variance reports and Advisory Board briefing materials.

Budget Highlights:

- FY11 Final Budget includes \$742,000 for **Wages and Salaries**, a decrease of \$3,000 or 0.38% from FY10 Actual spending. The final budget funds eight positions.
- \$1,900 is for **Other Services**, an increase of \$500 from FY10 Actual spending.

TREASURY

Final FY11 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 692,696	\$ 748,751	\$ 725,927	\$ 731,106	\$ 5,179	0.7%
OVERTIME	38	197	122	-	(122)	-100.0%
MAINTENANCE	85	-	-	-	-	-
TRAINING & MEETINGS	128	33	-	-	-	-
PROFESSIONAL SERVICES	326,450	228,793	366,400	199,413	(166,987)	-45.6%
OTHER MATERIALS	4,813	2,175	614	300	(314)	-51.1%
OTHER SERVICES	16,544	6,439	6,709	9,162	2,453	36.6%
TOTAL	\$ 1,040,754	\$ 986,388	\$ 1,099,772	\$ 939,981	\$ (159,791)	-14.5%

The **Treasury Department** secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collects revenue, disburses funds, and manages grant and loan programs in addition to debt issuance and investments.

FY11 Goals:

- Manage MWRA's debt portfolio to achieve sustainable and predictable rate increases.
- Maximize investment return while maintaining compliance with the General Revenue Bond Resolution, security and liquidity.

FY10 Accomplishments:

- Treasury has managed through historically low yields on investments particularly short-term money market positions. In response, Treasury has identified those funds that can be invested longer-term without disrupting liquidity needs and rebate-arbitrage considerations. Investing longer has curtailed the loss of investment income due to these extraordinary low interest rates.
- The Finance Division applied for and received approval of Federal Stimulus funding of \$33 million. Treasury will continue to comply with the newly established procedures for receipt of funds and the forgiveness of repayment including specific reporting requirements.
- Successfully concluded the sale of \$283.6 million of new money and refunding bonds. The sale was met with strong demand from all investors, particularly retail which resulted in an All-in True Interest Cost (TIC) 4.14%. This All-in TIC is the lowest MWRA has ever achieved on any of its fixed rate debt issuances. The refunding for savings netted \$6.4 million in present value savings or 5.01%, which is well above the traditional threshold of 4%.
- Maintained MWRA's strong credit ratings from Standard & Poors, Moody's Investors Service and Fitch Ratings. By maintaining its ratings with Moody's and Fitch, MWRA was able to benefit from both firms' global ratings recalibration resulting in upgrades to Aa1 from Aa2 and AA+ from AA from Moody's and Fitch respectively. MWRA's credit ratings from all three major agencies are now only one ratings step below the highest rating of AAA.

Budget Highlights:

- \$731,000 for **Wages and Salaries**, an increase of \$5,000 or 0.71% from FY10 Actual spending. The final budget funds ten positions.
- \$199,000 for **Professional Services**, a decrease of \$167,000 or 45.6% from FY10 Actual spending due to lower projected legal and financial advisory services.

CONTROLLER

Final FY11 Current Expense Budget CONTROLLER by Line Item							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 1,227,866	\$ 1,285,844	\$ 1,343,518	\$ 1,351,661	\$ 8,143	0.6%	
OVERTIME	-	-	-	-	-	-	
ONGOING MAINTENANCE	-	14	-	-	-	-	
TRAINING & MEETINGS	-	350	10	-	(10)	-100.0%	
PROFESSIONAL SERVICES	195,500	198,124	189,211	189,000	(211)	-0.1%	
OTHER MATERIALS	596	2,809	79	300	221	279.7%	
OTHER SERVICES	1,495	1,078	787	1,850	1,063	135.1%	
TOTAL	\$ 1,425,457	\$ 1,488,219	\$ 1,533,605	\$ 1,542,811	\$ 9,206	0.6%	

The **Controller Department** consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA's assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

FY11 Goals:

- Implement process efficiencies in all department units.
- Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.

FY11 Initiatives:

- Implement electronic timesheet approval to continue paperless initiative.
- Replace manually prepared employee leave calendar with automated product.

FY10 Accomplishments:

- Supported implementation of Lawson Absence Management software enhancement for employee leave tracking and reporting.
- Developed new Fixed Asset Capitalization Form to better capture new asset components and asset retirements.

Budget Highlights:

- \$1.4 million for **Wages and Salaries**, an increase of \$8,000 or 0.61% from FY10 Actual spending mostly due to step increases. The final budget funds 19 positions which is level funded from the FY10 Budget.
- \$189,000 for **Professional Services**, a decrease of \$200 or 0.11% from FY10 Actual spending. The final FY11 Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

RISK MANAGEMENT

Final FY11 Current Expense Budget RISK MANAGEMENT by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 277,312	\$ 315,369	\$ 338,558	\$ 358,120	\$ 19,562	5.8%
OVERTIME	-	-	147	-	(147)	-100.0%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	25,178	28,145	56,032	30,000	(26,032)	-46.5%
OTHER MATERIALS	63	53	21	-	(21)	-100.0%
OTHER SERVICES	450	469	903	450	(453)	-50.2%
TOTAL	\$ 303,003	\$ 344,036	\$ 395,661	\$ 388,570	\$ (7,091)	-1.8%

The **Risk Management Department** is responsible for all MWRA insurance and risk management functions. Department staff manages all administrative functions relating to the initial reporting, processing and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff is responsible for annual procurement, renewals and maintenance of all Authority-wide insurance policies and programs and also for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serves as a liaison to insurance industry participants including brokers, insurers, insurance consultants, attorneys and all MWRA departments.

FY11 Goals:

- Process self-insured automobile, general liability, property damage and construction contract claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by establishing insurance requirements and monitoring compliance.

Budget Highlights:

- FY11 Final Budget is \$389,000 of which \$358,000 is for **Wages & Salaries**. The final budget funds four positions.
- \$30,000 for **Professional Services** includes funds for an insurance consultant, a decrease of \$26,000 or 46.5% from FY10 Actual spending. FY10 actual spending included funding of \$15,000 for the insurance reserve audit which is performed very third year.

HUMAN RESOURCES

Final FY11 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,521,409	\$ 1,640,764	\$ 1,654,665	\$ 1,667,388	\$ 12,723	0.8%
OVERTIME	607	298	-	-	-	-
FRINGE BENEFITS	15,518,599	16,526,977	15,924,991	17,928,715	2,003,724	12.6%
WORKERS' COMPENSATION	1,159,464	1,841,638	2,226,080	1,870,000	(356,080)	-16.0%
MAINTENANCE	6	-	-	-	-	-
TRAINING & MEETINGS	3,972	4,886	2,692	3,963	1,271	47.2%
PROFESSIONAL SERVICES	438,349	323,568	310,962	570,865	259,903	83.6%
OTHER MATERIALS	16,922	13,802	14,489	15,420	931	6.4%
OTHER SERVICES	19,516	20,179	8,670	21,298	12,628	145.7%
TOTAL	\$ 18,678,844	\$ 20,372,112	\$ 20,142,549	\$ 22,077,649	\$ 1,935,100	9.6%

Final FY11 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
EMPLOYEE/COMP/BEN	\$ 599,015	\$ 593,013	\$ 628,993	\$ 806,055	\$ 177,062	28.2%
LABOR RELATIONS	899,147	992,591	995,472	1,010,728	15,256	1.5%
TRAINING	469,511	389,848	329,468	423,106	93,638	28.4%
CENTRALIZED FRINGE BENEFITS	16,711,171	18,396,660	18,188,616	19,837,760	1,649,144	9.1%
TOTAL	\$ 18,678,844	\$ 20,372,112	\$ 20,142,549	\$ 22,077,649	\$ 1,935,100	9.6%

The **Human Resources Department** is comprised of the following three units:

The Employment, Compensation, Benefits and HRIS Unit coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers and promotions to meet the business needs of MWRA; develops and coordinates MWRA compensation and benefits strategies and programs; and ensures the proper processing and recording of personnel actions. The compensation function also ensures that all MWRA employees possess the necessary licenses and certifications required by their positions. The Labor Relations Unit is responsible for fulfilling MWRA's collective bargaining and contract administration obligations under Massachusetts' public sector collective bargaining law, its workers' compensation responsibilities, and its responsibilities for employee occupational safety and health. The Training Unit develops, coordinates, delivers, and evaluates MWRA technical and professional development training programs and other programs designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for oversight and tracking of MWRA performance evaluation programs, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the Centralized Fringe Benefits cost center, which includes the budget for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

FY11 Goals:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by employees

who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

FY11 Initiatives:

- Manage the process for negotiating and implementing successor collective bargaining agreements with all five unions.
- Support the collective bargaining negotiation process with data analysis, costing analysis, and wage and benefit survey data collection and analysis.
- Upon Board ratification, implement collective bargaining agreements.
- Support the procurement, selection, and execution of the consultant contract for an agency-wide staffing assessment study.
- Provide additional training for Unit 3 Supervisory, Administrative Certificate Program (ACP), and Productivity Improvement Program (PIP) training.
- Continue to develop a certification training program for Medium Voltage Electrical staff.
- Continue to automate and streamline human resources processes including recruitment and hiring processes.
- Renew the International Association for Continuing Education and Training (IACET) certification for continued authorization to offer official Continuing Education Units (CEU's).

FY10 Accomplishments:

- Successfully supported the Authority's efforts in defending itself in several arbitration hearings.
- Communicated and administered the Healthcare Contribution Program which resulted in several retirements and a corresponding reduction in Authority headcount.
- Performed the training, design, testing and data conversion activities needed to implement a new module in the Lawson System which allowed for a reduction in customization.
- Implemented mid-year changes to the Health Insurance rates.
- Negotiated a one year extension of the MWRA Dental Program.
- Worked with Procurement in procuring and selecting a vendor for workers' compensation third-party administration.
- Implemented the State Ethics Commission On-line Training program Authority-wide.
- Conducted Authority-wide Harassment Prevention Training.
- Delivered Administrative Certification Program (ACP) training and Productivity Improvement Program (PIP) training.

- Successfully implemented changes to State's Healthcare Saving Account Flex spending program.
- Worked with MIS to develop an electronic process for employees to provide a required acknowledgement of the State Ethics Commission's Summary of the Conflict of Interest Law.

Budget Highlights:

- \$1.7 million for **Wages and Salaries**, an increase of \$12,000 or 0.7% from FY10 actual spending. Funding supports 21 positions.
- \$17.9 million for **Fringe Benefits**, an increase of \$2.0 million or 12.6% as compared to FY10 actual spending. The budget includes \$15.6 million for health insurance costs, \$1.2 million for Medicare taxes, \$995,000 for dental insurance costs and union health and welfare fund contributions, \$150,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.
- In FY11 the Authority saw significant price increases in Health and Dental Insurance costs. Health Insurance alone rose 14.2% over FY10 actual spending mainly due to Group Insurance Commission (GIC) increases particularly for the Tufts and Harvard Pilgrim plans.
- \$1.9 million for **Workers' Compensation** budget reflects a decrease of \$356,000 or -16.0% as compared to FY10 actual spending due to the severity of medical claims and higher than prior year's average Accidental Disability Retirement (ADR) cases. The Human Resource Department is responsible for the management of this program as well as coordination with the third-party administrator.
- \$571,000 for **Professional Services**, an increase of \$260,000 as compared to FY10 actual spending. The FY11 Budget includes \$180,000 for professional development and technical training, \$175,000 for MWRA's staffing study, as requested by the Board of Directors, \$98,000 for workers' compensation claims administration and legal services, \$55,000 for arbitrators and arbitration expenses, \$39,000 for medical evaluation services, \$12,000 for the Employee Assistance Program, and \$12,000 for Specialized Investigation Services.

MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY11 Current Expense Budget MANAGEMENT INFORMATION SYSTEMS						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 5,112,092	\$ 5,072,951	\$ 5,052,192	\$ 5,192,676	\$ 140,484	2.8%
OVERTIME	2,207	2,704	4,968	2,678	(2,290)	-46.1%
FRINGE BENEFITS	-	-	6	-	(6)	(1)
MAINTENANCE	2,536,201	2,736,556	2,201,339	2,915,240	713,901	32.4%
TRAINING & MEETINGS	29,046	19,403	24,348	23,823	(525)	-2.2%
PROFESSIONAL SERVICES	-	-	-	200,000	200,000	-
OTHER MATERIALS	386,998	395,277	687,062	512,484	(174,578)	-25.4%
OTHER SERVICES	874,429	832,130	840,478	847,476	6,998	0.8%
TOTAL	\$ 8,940,973	\$ 9,059,021	\$ 8,810,393	\$ 9,694,377	\$ 883,984	10.0%

The **MIS Department** provides MWRA with the information processing capacity necessary to carry out its mission. Applications in use range from financial to operational, and enhance MWRA’s ability to access data and improve internal controls, reporting, and management performance. In addition to computing systems, the department also provides library and records management services.

FY11 Goals:

The goal of MIS is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard (CNY), Chelsea, Deer Island, Southboro, Carroll Water Treatment Plant and other remote sites, by ensuring that:

- Existing applications, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced.
- Information system development efforts are consistent with the MWRA Master Plan, reflecting management priorities.
- System security and integrity are maintained.
- Flexible tools and system capabilities are provided consistent with industry standards and norms.

FY11 Initiatives:

- Continue to explore and implement new technologies for security of desktop and mobile devices; network infrastructure, operating systems and cyber security
- Implement Lawson Mobile Supply Chain Module (MSCM). MSCM will be used by warehouse personnel to scan inventory items when they are received into and issued out of the warehouse, increasing staff efficiency.
- Implement “green computing” initiatives including server consolidations through server virtualization and Storage Area Network (SAN) technology.
- Explore new technologies and evaluate for future implementation including new networking technologies for upcoming network upgrade, Web platforms for business and information services and Voice Over IP (VOIP) for communications.

- Implement upgrades for existing applications including Contract Management System, Data Resource Management and Pre-treatment Information Management System (PIMS).
- Replace InfoStar Legacy System with state of the art document management system.
- Upgrade PC's to Microsoft Office 2007.

FY10 Accomplishments:

- **Infrastructure:**
 - Special ruggedized laptops for the FOD group were configured for enhanced security protection and equipped with the ability to allow user access to GIS Data such as pipe and valve information.
 - In FY10, MIS replaced all 7+ year old PCs with energy efficient rated PCs contributing to the green computing model.
 - Completed Phase I of the server consolidation project.
 - Enhanced telephone setup to support staff absentee calls during a pandemic emergency.
 - Nextel/Sprint completed an installation of Bi-directional amplifiers (BDA's) at the Deer Island Treatment Plant. This enhancement will provide more reliable cellular, direct connect and e-mail communications.
- **Applications:**
 - Completed Lawson Upgrade and implemented Lawson Absence Management Module, which enhances the Payroll accrual process.
 - MIS and Budget completed the move of our current CIP budget users from Oracle Financial Analyzer (OFA) to Hyperion Pillar (Oracle's replacement application).
 - Developed and implemented various web applications such as Employee Acknowledgement Application for Conflict of Interest Law and Employee Availability Tracking for pandemic occurrence.
 - GIS/PIMS integration enables TRAC to perform GIS inquiries from PIMS showing upstream and downstream contaminant monitoring and results; the project is nearing completion.
 - TRAC completed their Annual Report to EPA for the Industrial Pretreatment Program using the PIMS application; also completed generation of annual fees & submitted permits to industries.

Budget Highlights:

- The FY11 Final Budget of \$9.7 million reflects an increase of \$884,000 or 10% as compared to FY10 actual spending.
- \$5.2 million for **Wages and Salaries** an increase of \$140,000 or 2.8% as compared to FY10 actual spending. The FY11 Final Budget includes funds for 60 positions, one position higher than year-end actual.
- \$2.9 million for **Ongoing Maintenance** an increase of \$714,000 or 32.4% as compared to FY10 actual spending. Maintenance spending is for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff. The increase is mainly due to new computer software and licenses to support MS Exchange 2007 implementation, GIS and OMS replacements, SAN CPU's, and MS Server 2008.
- \$24,000 for **Training and Meetings** is level funded with FY10.

- \$200,000 is budgeted for **Professional Services** for development of an MIS Strategic Plan. This is a new item and was requested by the Board of Directors.
- \$512,000 for **Other Materials** a decrease of \$175,000 or 25.4% as compared to FY10 actual spending primarily due to reduction of PC replacements which were accelerated into FY10.
- \$850,000 for **Other Services** includes an increase of \$7,000 or 0.8% as compared to FY10 actual spending.

FACILITIES MANAGEMENT

Final FY11 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 393,292	\$ 391,067	\$ 426,137	\$ 517,348	\$ 91,211	21.4%
OVERTIME	25,262	21,347	20,268	23,000	2,732	13.5%
FRINGE BENEFITS	303	301	162	-	(162)	-100.0%
UTILITIES	203,714	132,126	125,725	147,592	21,867	17.4%
MAINTENANCE	25,602	15,549	23,377	39,400	16,023	68.5%
TRAINING & MEETINGS	-	67	-	-	-	-
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	135,569	108,177	118,851	113,933	(4,918)	-4.1%
OTHER SERVICES	1,496,157	1,845,590	1,724,406	1,843,117	118,711	6.9%
TOTAL	\$ 2,279,899	\$ 2,514,224	\$ 2,438,926	\$ 2,684,390	\$ 245,464	10.1%

Final FY11 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
FRSA	\$ 70,618	\$ -	\$ -	\$ -	\$ -	-
FACILITIES MANAGEMENT	1,792,100	2,097,649	1,992,825	2,141,934	149,109	7.5%
ADMINISTRATIVE SERVICES	417,181	416,575	446,101	542,456	96,355	21.6%
TOTAL	\$ 2,279,899	\$ 2,514,224	\$ 2,438,926	\$ 2,684,390	\$ 245,464	10.1%

The **Facilities Management Department** provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. Staff institute maintenance procedures, respond to facilities requests from building occupants, coordinate workspace planning, provide office furnishings, and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

In addition, staff provides administrative and office support services that facilitate efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, general office equipment repairs, transportation, mail, and courier services. Staff coordinates MWRA parking programs and corporate MBTA pass programs.

FY11 Goals:

- Complete implementation of energy efficiency improvements at CNY headquarters resulting from NSTAR energy audit recommendations.
- Provide a safe and well-maintained working environment for all MWRA staff at CNY and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the CNY facilities to prevent loss or deterioration of MWRA assets.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.

- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.
- Manage the lease for the Records Center and Warehouse space in Marlboro. The Records Center provides records storage and record management services agency wide. The Warehouse space supports the Carroll Water Treatment Plant (CWTP) facility.

FY10 Accomplishments:

- Worked with Procurement to establish a contract to implement energy efficiency improvements at CNY Headquarters with work scheduled to be completed during FY11.
- Continued work with the landlord to implement facility improvements as provided in our lease contract. Improvements in FY10 included bathroom and kitchen updates.
- Worked with departments to implement savings in our mail program by utilizing the most efficient shipping methods for large mailings in order to offset rising postal and shipping rates.
- Continued work with MIS and equipment providers to implement multi-function technology for copiers and printers which are due for replacement. By utilizing this technology it is possible to replace up to four individual units (printer, copier, scanner and fax) with one piece of equipment that performs all of these functions providing savings in floor space, power, equipment maintenance, and production costs (cost per page).

Budget Highlights:

- The FY11 Budget of \$2.7 million reflects an increase of \$245,000 or 10% as compared to FY10 actual spending.
- \$520,000 for **Wages and Salaries** reflects an increase of \$91,000 or 21.0% as compared to FY10 actual spending due to staffing reassignments and inclusion of funding for temporary employees. The budget supports eight positions.
- \$23,000 for **Overtime** for coverage of facility maintenance and support services reflects an increase of \$3,000 or 13.5% as compared to FY10 actual spending.
- \$148,000 for **Utilities** reflects an increase of \$22,000 or 17.4% as compared to FY10 actual spending for electricity price increases.
- \$39,000 for **Ongoing Maintenance** reflects an increase of \$16,000 as compared to FY10 actual spending. This line item includes funding for facility and equipment maintenance and services including HVAC, plumbing and electrical services.
- \$114,000 for **Other Materials** reflects a decrease of \$5,000 or 4.1% as compared to FY10 actual spending. This line item includes funding for postage, supplies, furniture and equipment required to respond to Americans with Disabilities Act (ADA) requests and other medically required accommodations.
- \$1.8 million for **Other Services** reflects an increase of \$119,000 or 6.9%, as compared to FY10 actual spending. This item includes funding for rental and operating costs for CNY headquarters facility and the Marlboro Records Center and Warehouse space.

FLEET SERVICES

Final FY11 Current Expense Budget							
FLEET SERVICES							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 658,619	\$ 682,909	\$ 692,150	\$ 694,216	\$ 2,066	0.3%	
OVERTIME	18,773	19,718	14,321	17,800	3,479	24.3%	
FRINGE BENEFITS	911	401	136	1,000	864	635.3%	
UTILITIES	2,316	1,857	1,337	3,000	1,663	124.4%	
MAINTENANCE	703,892	724,540	687,044	765,750	78,706	11.5%	
TRAINING & MEETINGS	-	-	-	-	-	-	
OTHER MATERIALS	530,164	451,210	374,876	461,802	86,926	23.19%	
OTHER SERVICES	3,534	3,069	664	4,539	3,875	583.6%	
TOTAL	\$ 1,918,209	\$ 1,883,704	\$ 1,770,528	\$ 1,948,107	\$ 177,579	10.0%	

The **Fleet Services Department** manages and maintains MWRA's motor vehicle and equipment fleet. The goal of the Fleet Services Department is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets. Fleet Services also manages the Chelsea fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

FY11 Goals:

- Continue to cost effectively maintain Authority fleet of vehicles or pieces of equipment.

FY10 Accomplishments:

- Developed specifications for 26 new replacement vehicles or pieces of equipment. Twelve (12) of these units are alternative fuel or hybrid models, consistent with the Authority's goal of purchasing environmentally friendly products. One emergency service vehicle was outfitted with equipment as part of a grant from the Department of Homeland Security.
- As part of the Authority's environmental goals, eight large diesel powered units were retrofitted with Diesel Oxidation Catalyst (DOC) devices which reduce greenhouse gas emissions.
- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC). The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel.
- Prepared the documentation for the surplus sale of 65 vehicles and pieces of equipment and worked with the Procurement Department for the auction and disposal of the vehicles.
- Worked with MIS staff on the implementation of a Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Developed and implemented Federal Communications Commission (FCC) mandated frequency re-banding project with Motorola and Nextel.

Budget Highlights:

- The FY11 Budget of \$1.9 million reflects an increase of \$178,000 or 10.0% as compared to FY10 actual spending.
- \$694,000 for **Wages & Salaries**, an increase of \$2,000 or 0.3% as compared to FY10 actual spending, which supports 11 positions.
- **Ongoing Maintenance** budget of \$766,000 reflects an increase of \$79,000 or 11.5% as compared to FY10 actual spending. The budget includes funds for automotive materials and services to maintain MWRA's vehicle fleet. The increase supports costs of maintaining specialty equipment delayed during FY10 and increased support required for emergency response vehicles and equipment.
- \$462,000 for **Other Materials** an increase of \$87,000 or 23.2% as compared to FY10 actual spending. The FY11 Final Budget includes funds for vehicle/equipment fueling which is based on FY08, FY09, and FY10 fuel usage and recent fuel costs. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives.

PROCUREMENT

Final FY11 Current Expense Budget						
PROCUREMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 3,450,924	\$ 3,695,123	\$ 3,563,732	\$ 3,619,486	\$ 55,754	1.6%
OVERTIME	27,347	13,597	32,689	15,000	(17,689)	-54.1%
FRINGE BENEFITS	441	231	602	-	(602)	-100.0%
UTILITIES	398	189	116	-	(116)	-100.0%
MAINTENANCE	960,738	516,446	(338,576)	-	338,576	-100.0%
TRAINING & MEETINGS	3,096	7,184	3,066	7,725	4,659	152.0%
OTHER MATERIALS	103,050	118,932	112,590	84,608	(27,982)	-24.9%
OTHER SERVICES	75,387	64,184	61,373	73,370	11,997	19.5%
TOTAL	\$ 4,621,381	\$ 4,415,886	\$ 3,435,592	\$ 3,800,189	\$ 364,597	10.6%

The **Procurement Department** includes three units. The Purchasing Unit operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The Contract Management Unit reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff directs the bid, review, and selection process, and maintains a contracts database. The Materials Management Unit manages an Authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit manages three regional warehouses/distribution centers that support all MWRA activities.

FY11 Goals:

- Procure materials, equipment, supplies, construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA policies and procedures, including those related to meeting affirmative action goals.
- Maintain centralized, efficient, cost-effective management of spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.

FY10 Accomplishments

- Competitively bid CY09 Renewable Portfolio Standard certificates which resulted in FY10 revenue of \$523,579.
- Awarded the following major contracts in FY10 to date: WASM3 (CP-5); Hultman Aqueduct Interconnections (CP-6A); Section 28 Brattle Court; Immediate Dam Repairs Design; North Dorchester Bay CSO Ventilation Building; Quabbin/Winsor Power Station Upgrade Design; Oakdale Electrical Upgrade Design; Financial Advisor; Southern Spine Distribution (Sec. 107); Loring Road Hydroelectric; Harbor & Outfall Monitoring; DeLauri Pump Station Wind Turbine; CWTP Solar; CWTP UV Equipment Pre-selection; DITP Lighting Efficiency; Spot Pond Owner's Representative; Alewife Brook Pump Station Rehab Design; Remote Headworks Design; DITP Solar Power Purchase; Security Equipment Maintenance; Audit Services; Investment Banking Services; Braintree-Weymouth Pipeline Rehabilitation Sec. 624; Melrose Sections 50-51 Sewer

Connection; DITP Roof Replacements; DITP STG Design Build; Emergency Repair of Shaft 5 Water Pipe; Energy Audit Services for FOD and Chelsea; and Purchase of Electricity for Interval Accounts.

- Advertised or received bids/proposals for the following: Residuals Technology Options; DITP Thermal Power Plant Dump Condenser; Site Work and Excavation Shaft 5; and Prison Point CSO HVAC and Odor Control.
- Revised Authority's standard contractual terms which are included in construction contracts.
- Worked across divisions to implement federal stimulus compliance, including obtaining waivers.
- Began posting professional service and energy procurement opportunities on Comm-PASS, the state's internet-based procurement system. In addition, all bids for goods and services are posted on Comm-PASS. These changes have largely contributed to a reduction in mailing expenses of \$53,000 during FY10 as compared with FY09.
- Procured Authority's vehicle purchases at the beginning of Fiscal Year 2010, allowing for ample production and on-time delivery of vehicles.
- The Purchasing Unit, working with the Materials Management Unit, created a bid package combining 190 safety supply items resulting in a fixed price contract with no cost increases over the next three years.
- The Purchasing Unit, along with Internal Audit staff worked with both the new safety supply vendor and the office supply vendor to set up the vendor's computerized invoicing system to accurately reflect discounted contract pricing.
- Encouraged vendors to offer Prompt Payment Discounts (PPD), has inserted PPD language into all Purchasing bids, including a form for the vendor to enter the PPD.
- Purchasing staff worked with Accounts Payable staff to encourage the use of Electronics Funds Transfer (EFT). EFT language is now located in the header section of all purchase orders.
- Bid the annual copy paper contract and received a more favorable cost than that listed on the State Blanket contract.
- Competitively bid the supply of bituminous concrete after the expiration of the State Blanket contract. Previously, MWRA had been paying an average of \$66.00 per ton for bituminous concrete under the State contract. The new MWRA contract price of \$57.89 per ton is a decrease of \$8.11 per ton (with a projected savings over the term of the contract of \$16,220). It can be noted that Mass DOT is currently paying a per-ton price ranging from a high of \$74.00 per ton to a low of \$66.00 per ton, depending on location for bituminous concrete. The new contract also includes a prompt payment discount.
- The Materials Management and Purchasing units worked with the Office of Emergency Preparedness (OEP) to update the Authority's Emergency Plan as it pertains to a possible H1N1 outbreak to ensure that materials will be on hand and available in case of an emergency event.
- Working with the Recycling committee, Purchasing staff continues to seek out environmentally friendly products, among them recycled toners, batteries, copy paper, hybrid vehicles and bio-fuels.
- Recycled 81 tons of papers, 198 tons of scrap metal and 9,000 gallons of waste oil, generating \$42,000 in revenues.

Budget Highlights:

- The FY11 Budget of \$3.8 million reflects a \$366,000 or 10.7% increase as compared to FY10 actual spending.
- **Wages and Salaries** funding includes \$3.6 million an increase of \$56,000 or 1.6% as compared to FY10 actual spending. The funding support 48 positions.
- **Other Materials** budget of \$85,000 reflects a decrease of \$28,000 or 24.9% as compared to FY10 actual spending. This funding mainly supports centralized office supply purchases.
- **Other Services** budget of \$73,000 reflects an increase of \$12,000 or 19.6% as compared to FY10 actual spending. This funding supports Advertising and Printing/Duplicating for contract documents and specifications.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Final FY11 Current Expense Budget						
REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 523,474	\$ 529,345	\$ 549,584	\$ 399,080	\$ (150,504)	-27.4%
OVERTIME	399	26	13	-	(13)	-100.0%
TRAINING & MEETINGS	1,370	2,643	1,385	3,000	1,615	116.6%
PROFESSIONAL SERVICES	-	-	-	500	500	-
OTHER MATERIALS	1,534	2,264	691	1,970	1,279	185.1%
OTHER SERVICES	220,169	157,094	213,014	232,376	19,362	9.1%
TOTAL	\$ 746,946	\$ 691,372	\$ 764,687	\$ 636,926	\$ (127,761)	-16.7%

The **Real Property and Environmental Management Department** negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participate in site selection, and negotiate acquisitions or easements. In addition, staff has developed and is maintaining the Real Property database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manages environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, and air emission permits negotiation and preparation and submittal of quarterly/annual monitoring reports.

FY11 Goals:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Manage the centralized environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects; monitor and provide assistance in maintaining environmental regulatory compliance at MWRA facilities.

FY11 Initiatives

- Establish data collection procedures for greenhouse gas emissions and prepare and submit greenhouse gas emissions reports for DITP and the Biosolids Processing Facility in accordance with 310 CMR 7.71.
- Complete updates of spill prevention, control and countermeasure plans for eight MWRA facilities and conduct associated training.
- Coordinate with DITP staff and DEP to complete the permit renewal process for the DITP Clean Air Act Operating Permit.

FY10 Accomplishments

- Staff acquired land and easements for the Northern Low Service Storage near Spot Pond.
- Managed nine (9) permit agreements (three at Turkey Hill and six at Walnut Hill) including executing a new agreement with Clear Wireless, LLC and an amendment with Verizon, coordinating with the Town of Arlington, and improving invoicing system for maintenance reimbursements. Total revenue for the eight agreements is \$462,000 of which MWRA and the host community each receive half.
- Managing fee assessment for 8M permits on MWRA fee controlled land. Currently collecting approximately \$35,000 per year.
- Staff acquired easements and negotiated licenses to support projects such as the North Dorchester Bay, Rehabilitation of Braintree-Weymouth Interceptor, Lynnfield-Saugus Pipeline, and Southern Spine Distribution System.
- Provided real estate support services including deed research and coordination with GIS to develop comprehensive property maps for the Cochituate, Sudbury and Weston Aqueducts.
- Continued to provide technical support, including regulatory liaison, for the remediation of PCBs at the Wachusett Dam. The Dam Face and Soil Remediation contract was awarded January 14, 2009. Remediation is complete and closeout documentation was submitted to EPA on June 24, 2010.
- A successor contract to the MWRA Underground Storage Tank Maintenance and Inspection contract was awarded on December 1, 2009 , with the addition of third party inspections in accordance with 527 CMR 9.00.
- Submitted emergency generator certifications for new units at Brattle Court Pump Station (PS), Blue Hills Covered Storage, Chelsea Screen House, Spring Street PS, and Hyde Park PS.
- Submitted Notices of Intent for the Cosgrove Power Station and Oakdale Power Station under the Hydroelectric Generating Facilities General Permit to discharge wastewater. Prepared and submitted Carroll WTP surface water discharge permit application.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various design and construction projects, including Stoneham Low Service Covered Storage, DeLauri Pump Station Wind Turbine, Water Pump Station and Remote Headworks Rehabilitation, East Boston Branch Sewer, North Dorchester Bay CSO Tunnel and Section 53 and 97A Water Main Replacement projects, Deer Island Wind Turbines, Southern Spine Distribution Mains, West Roxbury Tunnel, Northern Intermediate High Short Term Improvements, DITP Underground Storage Tank (UST) Removals, Oakdale Power Station Electrical Upgrade, DITP Heat Loop Project, East Boston Branch Sewer, Phase VII Valve Replacements, Lynnfield/Saugus Pipeline, Sudbury Aqueduct Short Term Repairs, Cosgrove Transformer Replacement, Asbestos Abatement at Shaft 9 Somerville and Hingham Pumping Station Isolation Gate, and Cottage Farm Oil Spill Remediation.
- Completed air emissions source testing on Deer Island West Odor Control facility. Received approval from Department of Environmental Protection (DEP) on December 8, 2009 for an increase in sludge processing rate at the Biosolids Processing Facility. Completed Source Registration/Emission Statement reporting to DEP for 11 MWRA facilities and completed Greenhouse Gas Emission Reports to DEP for Deer Island and the Biosolids Processing Facility.

Budget Highlights:

- The FY11 Final Budget of \$637,000 represents a decrease of \$128,000 or 16.7% as compared to FY10 actual spending.
- **Wages and Salaries** of \$399,000 includes funding for five positions, a decrease of \$150,000 or 27.3% as compared to FY10 actual spending due to the transfer of the Deputy Director of Administration and Finance position to the Administration and Finance Division Director's Office.
- \$232,000 for **Other Services** is an increase of \$19,000 or 9.0% as compared to FY10 actual spending. This increase is due to a decrease in FY10 spending as a result of a delay in installation of FRSA monitoring and oil recovery wells. This work will be completed in FY11.



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEM DESCRIPTIONS

Introduction

MWRA's direct expense budget funds the annual expenses of its operating and support divisions. Though the direct expense budget constitutes less than half of MWRA's total budget, it is these expenses which directly support the provision of water and sewer services to MWRA's customers. The direct expense budget includes the annual costs of operating the water and sewer systems, and funds the policy direction, administrative, financial, and legal support services for MWRA's ongoing operations. The direct expense budget also includes the personnel costs for management and oversight of MWRA's extensive capital programs.

There are 11 line items in the division budgets. The line items are:

Wages and Salaries - This line item includes funds for regular pay, shift differential, holiday pay, and standby pay for MWRA staff, as well as funds for interns and temporary staff.

Overtime - This line item includes funds for overtime related to operations, maintenance, emergencies, and training.

Fringe Benefits - This line item includes funds for health and dental insurance, unemployment compensation, Medicare, and overtime meals.

Workers' Compensation - This line item includes funds for compensation payments, medical payments, and settlements of compensation claims.

Chemicals - This line item includes funds for the chemicals used in water and wastewater treatment, such as chlorine, sodium hypochlorite, soda ash, sodium bisulfite, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, diesel fuel, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

Maintenance - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

Training and Meetings - This line item covers the costs of staff training, meetings, and professional seminars.

Professional Services - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

Other Materials - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

Other Services - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – V present summaries of the MWRA’s budgets with a detailed description of program budgets and highlights within each divisional section. Based on the October 2009 Board approval, a new division was formed called Administration and Finance which includes the Finance units, Human Resources, MIS and the majority of the Support Division. This organization change is reflected in the FY11 Final CEB.

APPENDIX B

BUDGET PROCESS AND TIMETABLE

MWRA operates on a fiscal year that starts July 1. The Current Expense Budget development process begins in September and, as described below, continues through a series of interactive reviews and revisions until June, when the Board of Directors approves the final budget. Throughout the formal budget process, MWRA staff maintain an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

MONTH	ACTIVITY
September	Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA's interactive budgeting system.
December	After the divisions return their budget requests, the Rates and Budget Department consolidates the authority-wide budgets, develops briefing materials for senior management, and identifies major budget issues.
January	The Executive Director determines proposed funding levels required to meet operational and financial objectives. Staff may seek appropriate policy direction from the Board.
February	MWRA transmits the Proposed Current Expense Budget to the Advisory Board for a 60-day review, during which time MWRA staff meet with Advisory Board staff, respond to questions, and provide updated information on plans and prices.
March – May	MWRA hosts public hearings to solicit comments on the proposed budget and community assessments from citizens in its service area. The Advisory Board reviews the proposed budget and transmits comments and recommendations to the MWRA.
June	The Board of Directors holds a hearing on the proposed budget and the Advisory Board's comments and recommendations. The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

APPENDIX C

MASSACHUSETTS WATER RESOURCES AUTHORITY BUDGET AND ASSESSMENT POLICIES AND PROCEDURES

**(Revised August 2003 to incorporate changes to capital budget section of Management
Policies adopted by the Board of Directors June 11, 2003)**

These policies and procedures govern certain budget, assessment, and rates management practices at the Massachusetts Water Resources Authority (MWRA). Policies and procedures may be amended from time to time, provided that changes in provisions governing reporting to or approvals by the Board of Directors or the Advisory Board must be approved by the Board of Directors. If any sections of these policies and procedures are at variance with requirements of MWRA's financing agreements, the latter shall govern.

ASSESSMENT POLICIES AND PROCEDURES

Basis of MWRA Assessments

MWRA is required by its Enabling Act to establish assessments which, with other revenues, provide sufficient funds each year to pay all current expenses, debt service, and obligations to the Commonwealth; to pay all costs of maintenance, replacement, improvements, extension, and enlargement of the sewer and waterworks systems; to create and maintain reserve funds; and to provide amounts required by financing agreements. These assessments are adopted by MWRA based on the rate revenue requirements set forth in the Current Expense Budget.

Costs Recovered

MWRA capitalizes certain of its asset costs in accordance with its capitalization policy. Capital expenditures are planned as set forth in the Capital Improvement Program and are recovered through assessments in accordance with MWRA financing agreements. The Current Expense Budget provides detailed information on capital and debt costs, additions to reserves, and all operations and maintenance costs to be recovered with current revenue.

Sources of Current Revenue

MWRA recovers most of its current expenses from users of the services it provides. In addition to rate revenue requirements, budgeted current revenue includes anticipated fines, fees, investment income on certain fund balances, and payments for contracted services. MWRA is committed to seeking additional sources of current revenue.

Coverage Requirements

MWRA's financing agreements include coverage requirements which provide that each year revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds. The primary bond coverage requirement is that net revenue must be 120 percent of required debt service fund deposits for bonds outstanding excluding subordinated bonds. The secondary coverage requirement is that net revenue must be 110 percent of required debt service fund deposits for all bonds outstanding, including subordinated bonds. Revenue must be raised annually to meet the primary and secondary bond coverage requirements and may be used for additions to reserves or for payment of obligations to the Commonwealth. Amounts remaining after these uses are used to pay capital costs in order to reduce the need for future borrowing or to reduce current debt service costs. In addition, MWRA has a supplemental bond coverage requirement that amounts contained in its Community Obligation and Revenue Enhancement (CORE) Fund shall equal 10 percent of required debt service fund deposits for bonds outstanding, excluding subordinated bonds. Amounts required to be on deposit in the CORE Fund are recovered through assessments as necessary.

Budget Surpluses

In any year in which current revenue exceeds both current expenses on a budget basis and amounts required to meet bond coverage tests, the amount of over-recovery is deposited first to reserve funds, if any, which are below the level specified in any financing agreements, and second into MWRA's rate stabilization fund or bond redemption fund. Amounts deposited in these funds are used to offset rate requirements in subsequent years and such, to provide rate relief for our communities. MWRA consults with the Advisory Board regarding the yearly use of these funds.

Budgeting and Assessment Objectives

MWRA intends to follow prudent budgeting practices, and has the following objectives in developing budgets and community assessments:

1. To minimize total costs, consistent with MWRA's statutory responsibilities to provide effective, environmentally sound wholesale water delivery and wastewater collection and treatment services;
2. To minimize the cost of debt;
3. To avoid single year assessment spikes by prudent management of cost and assessment increases, and
4. To support inter-generational equity by avoiding unfair assessment burdens on either current or future ratepayers.

Allocation of Costs and Revenue to Systems

Most of MWRA's current expenses are directly attributable to either water or sewerage service costs or to investment in either the water or sewerage systems. Expenses which support both systems (indirect system costs) are allocated to the water or sewer system based on generally accepted cost allocation principles. Investment, contract, and other income offsets water and sewerage expenses on either a direct or allocated, indirect basis. The resulting net cost of water and sewerage services is the amount to be recovered through water and sewer assessments.

Allocation of Rate Revenue Requirements to User Assessments

Users of MWRA wholesale water and sewerage services are assessed for those services according to MWRA's water and sewer assessment methodologies. Assessments for water services are computed by MWRA based on metered water use for the immediately preceding calendar year. The total assessment is allocated based on each community's share of water delivered in the immediately preceding calendar year.

Assessments for sewer services are computed on the basis of a combination of metered wastewater flow and loads, and population.

- O&M costs are allocated based on total annual metered wastewater flow, and total annual average strength, septage, and high strength flow loads.
- Capital (or debt service) costs are allocated based on a combination of metered wastewater flow and loads, and population. One-quarter of capital costs are allocated based on maximum month flow, and total annual average strength, septage, and high strength flow loads. The remaining three-quarters of capital costs are allocated based on population. Half of the population allocation is based on census population and half is based on contributing population.

Schedule and Procedure for Adoption of Assessments

During the preparation of the proposed Current Expense Budget, required water and sewer rate revenue is determined, and a preliminary calculation of the allocation of costs to user-specific assessments is made. This information is provided to MWRA customers to assist them in their own fiscal planning. As provided in the Enabling Act, the proposed Current Expense Budget and preliminary assessments undergo statutory review, including public hearings and review by MWRA's Advisory Board. Further refinements of projected expenses and revenues also occur during this period. If review and analysis of the proposed Current Expense Budget results in lower projected expenses or higher projected revenue, some or all of such savings from preliminary estimates of assessments can be included in the adopted budget as additions to the rate stabilization fund and used to reduce rate revenue requirements in subsequent years. Alternatively, some or all of such savings can be used to reduce final assessments to customers below preliminary estimates.

The Current Expense Budget and final water and sewer assessments are adopted in June for the fiscal year beginning in July. The budget adopted in June may differ from the proposed budget as a result of review and further refinement of the proposed budget, although final assessments adopted by MWRA must be sufficient to recover water and sewer rate revenue requirements specified in the adopted budget. Final water and sewer rate requirements and their allocation to users may thus change from preliminary estimates. In addition, any individual community's final assessment may be higher or lower than the preliminary estimate, both because of changes in the factors which affect the allocation of assessments among wholesale customers, and because of differences between MWRA's proposed and final budgets as approved by the Board of Directors.

Review and Dispute Resolution Process

MWRA annually determines preliminary and final assessments for water and sewer services in February and June prior to the beginning of the new fiscal year. These assessments must satisfy the requirement that MWRA fully recover its water and sewer costs by apportioning total costs as assessments among its wholesale water and sewer customers pursuant to its water and sewer rate methodologies and to certain specified data including:

- Calendar year metered water volume and metered wastewater flow obtained from MWRA's water and wastewater metering systems;
- Federal and state community census statistics, and sewer population estimates and other information supplied on Customer Service Update forms and Municipal Discharge Permits; and
- High strength user monitoring data and estimates of community septage volumes as obtained by MWRA's Toxic Reduction and Control Department.

The review and dispute resolution process provides MWRA's wholesale customers with the opportunity to review and comment on the reasonableness of the data used to calculate preliminary water and sewer assessments. During the year, MWRA provides its customers with monthly summaries of water and wastewater flow data distributed, at a minimum, on a bimonthly basis. Because annual metered water and wastewater flows are major components for establishing water and sewer charges for each community, customers are strongly encouraged to review this data closely upon receipt and raise questions with MWRA staff concerning the data. MWRA expects that prompt customer review and comment on meter data will result in the resolution of most water and wastewater metering questions and assure the most consistency between preliminary assessments in February and final assessments announced in June. Community contributions of high strength flow and septage, and population data are made available with the release of preliminary assessments in February.

If after an initial review a community believes that specific data used to calculate assessments should be reevaluated, a community may submit a written objection to the Executive Director with a copy to the Rates Manager or their designee. The objection must be signed by the local

official on record with MWRA as responsible for water or sewer services in the city, town, or district. The objection should state the community's concern with the data used to calculate community assessments, and should also include information and technical data to support the community's objection.

In order for any data adjustments to be incorporated into the allocation of final fiscal year assessments, all objections to data used to calculate preliminary assessments must be received no later than the date of the final public hearing on the proposed budget and preliminary assessments, held pursuant to Section 10 of the MWRA Enabling Act. MWRA staff will review and evaluate the merits of all written objections. Customers are notified in writing of the results of this review prior to the release of final assessments.

Adjustments to preliminary data, if any, are not retroactive beyond the applicable calendar year for proposed assessments. Final fiscal year assessments are calculated incorporating adjustments, if any, resulting from the review and objection process, and final rate revenue requirements as adopted by the Board of Directors.

Written objection(s) may also be submitted following the adoption of final fiscal year assessments, but no later than the end of the fiscal year for which the assessments are applicable. Objections submitted in this manner must also be directed to the Executive Director with a copy to the Rates Manager or their designee.

Following MWRA staff review, adjustments to assessments resulting from the challenge of rate basis data that are submitted following the adoption of final fiscal year assessments will be applied to the subsequent year's assessments. Customers are notified in writing of the results of this review and any assessment adjustments prior to the release of the subsequent year's assessments.

Water and Sewer Assessment Payment Schedule

MWRA adopts a schedule of assessments and a schedule of payments annually. Any adjustments for prior years resulting from the review and objection process are apportioned to each of the scheduled payment amounts. No interest is paid or billed by MWRA for previous year's adjustments.

Assessments are payable to MWRA in ten equal installments due on the first day of August, September, October, November, December, February, March, April, May, and June.

Interest Charge on Delinquent Payments

For payments received after a payment due date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 30 days after the bills are mailed to MWRA's customer communities. Interest charges are added to subsequent regular billings.

Retail Rates

MWRA assessments are for MWRA's provision of wholesale services. Local bodies which receive wholesale services in turn provide retail services to their users at the local level.

MWRA encourages its customers to establish retail rates which:

1. Recover the full cost of providing local water and/or sewerage services, including both direct costs and an allocation or estimate of indirect costs,
2. Charge users of local water and/or sewerage services in a manner which demonstrates to customers that increased use of services results in increased user costs,
3. Comply with MWRA policies directed to conservation of water; elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment, and disposal system; and removal or pretreatment of industrial wastes, and
4. To the extent consistent with #1 and #2, provide assistance to low income users through lifeline rates.

CAPITALIZATION POLICY

It is the policy of MWRA that capitalization of expenditures conform with generally accepted accounting principles. Under such guidelines, MWRA has adopted the provisions of the Financial Accounting Standards Board's Statement No. 71, "Accounting for the Effects of Certain Types of Regulation," which is intended to assure that utility revenues are appropriately matched with incurred costs. Capital expenditures create assets or extend their useful lives. Assets are valued at their cost and provide benefits over an extended period of time. Sources of funds for capital expenditures include grants, proceeds of MWRA borrowing, loans, and current revenue.

Asset value created by MWRA is of two kinds. One is the value of tangible assets either created or increased through MWRA capital investments. Such assets include land, buildings, plant, equipment, and the system infrastructure for water and wastewater. The cost of such fixed asset investment includes not only purchase, rehabilitation, and construction cost, but also ancillary expenses necessary to make productive use of the asset. Ancillary costs can include, but are not limited to, costs for planning studies, professional fees, transportation charges, site preparation expenditures, and legal fees and claims directly attributable to the asset.

The second kind of asset value created by MWRA investment is the value of intangible assets. While such investment does not result in tangible MWRA assets, it does create a benefit to MWRA and its users over several years. Such assets include the cost of MWRA efforts to establish base-line leak detection information for the water systems of MWRA customers. The cost of providing water consumption-limiting devices to households is another example.

Expenditures for tangible assets are included in the Capital Improvement Program and Budget if the expected cost of the individual asset or capital project is \$100,000 or more and if the expected useful life is more than one year. Expenditures for intangible assets are capitalized if the expected cost is \$100,000 or more and if the expected benefit period is three years or more. Annually recurring costs and expenditures for maintenance of assets are not capitalized, even though their cost may exceed \$100,000. Examples of such maintenance expenditures include replacement of vehicles or computers, replacement of inoperable valves or other equipment before the anticipated useful life has been reached, and pipeline or interceptor repairs that do not add significant life to the underlying asset.

RESERVES FUNDED FROM CURRENT REVENUE

Operating Reserve

The operating reserve has been established to provide a source of funds to be used to pay operating expenses of the sewer or water systems should there not be sufficient funds otherwise available for that purpose. Bond agreements specify that the fund level shall not be less than one-sixth of MWRA's annual operating expenses.

Insurance Reserve

The insurance reserve has been established to provide funds to restore, replace, or reconstruct lost or damaged property or facilities of the water or sewer system. It provides funds reserved against risks for which MWRA does not currently maintain insurance. This self-insurance reduces the cost MWRA might otherwise incur for purchased insurance policies. MWRA periodically evaluates the level of its insurance reserve and every three years a consulting engineer or an insurance consultant recommends an appropriate insurance reserve fund requirement. Between FY2005 and FY2007, the budget included an increase of \$1 million to increase the reserve to \$19 million. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside insurance consultant. The next Insurance Reserve Fund review is expected to be done in February 2011.

Renewal and Replacement Reserve

The renewal and replacement reserve has been established to fund a required capital improvement which is not provided for by moneys otherwise available. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied and its estimated cost and estimated completion date. It must also certify that such expenditure is reasonably required for the continued operation of the systems or for maintenance of revenues and that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. During FY2000, based on the recommendation of its consulting engineer, MWRA reduced the size of the renewal and replacement reserve to \$35 million from \$50 million. The most recent review by the consulting engineer was prepared in December 2005. The recommended reserve remained at \$35 million.

CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

A. Budget Allocations

Budget Contingency Holdbacks

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not to be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

Monthly Allocation of the Annual Current Expense Budget

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

B. Budget Variance Monitoring and Analysis

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare planned to actual revenues and expenses.

Variance Analysis

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepare forecasts of year-end expenditures and revenue. Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA's budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

C. Budget Amendments

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration and Finance Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES

General Guidelines

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

Capital Budget Contingency

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

Capital Budget Monitoring and Reporting

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five-year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

Capital Budget Spending Cap

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may, with Board approval, vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period. The Board established the second five-year cap for the FY09-13 period at its June 2008 meeting.

Expenditures in Excess of the Spending Cap

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.

APPENDIX D

MWRA Planning Estimates FY2011 to FY2020

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
COMBINED UTILITIES										
EXPENSES										
Direct Expenses	\$209,613	\$215,608	\$223,019	\$232,273	\$241,471	\$250,823	\$261,320	\$271,773	\$282,813	\$293,956
Indirect Expenses	37,959	39,744	45,957	48,374	48,590	47,910	51,706	51,170	53,254	55,844
Capital Financing (before offsets)	<u>354,327</u>	<u>369,808</u>	<u>380,961</u>	<u>453,072</u>	<u>484,838</u>	<u>508,406</u>	<u>556,473</u>	<u>509,024</u>	<u>576,539</u>	<u>640,583</u>
Sub-Total Expenses	\$601,898	\$625,160	\$649,936	\$733,718	\$774,899	\$807,138	\$869,499	\$831,968	\$912,606	\$990,383
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(24,883)	(7,971)	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenses	\$601,898	\$625,160	\$649,936	\$708,836	\$766,929	\$807,138	\$869,499	\$831,968	\$912,606	\$990,383
REVENUE & INCOME										
Non-Member and Other Revenue	\$11,759	\$12,872	\$13,234	\$13,525	\$13,943	\$14,442	\$14,702	\$15,046	\$15,503	\$15,990
Interest Income	15,310	16,428	20,578	26,722	27,286	28,126	29,312	29,464	30,734	32,149
Rate Stabilization	<u>5,030</u>	<u>3,703</u>	<u>730</u>	<u>4,602</u>	<u>9,312</u>	<u>508</u>	<u>10,573</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$32,098	\$33,004	\$34,542	\$44,849	\$50,541	\$43,076	\$54,587	\$44,510	\$46,237	\$48,139
Total Rate Revenue	\$569,800	\$592,156	\$615,395	\$663,987	\$716,388	\$764,062	\$814,913	\$787,457	\$866,369	\$942,244
Rate Revenue Increase	1.49%	3.9%	3.9%	7.9%	7.9%	6.7%	6.7%	-3.4%	10.0%	8.8%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$839	\$876	\$917	\$971	\$1,034	\$1,100	\$1,156	\$1,182	\$1,268	\$1,357
Based on water use of 90k gpy (weighted)	\$1,238	\$1,293	\$1,353	\$1,433	\$1,526	\$1,624	\$1,706	\$1,744	\$1,872	\$2,002
WASTEWATER UTILITY										
EXPENSES										
Direct Expenses	\$147,005	\$151,310	\$156,177	\$162,602	\$168,893	\$175,479	\$182,930	\$190,247	\$197,970	\$205,722
Indirect Expenses	9,779	11,585	15,618	16,478	15,964	14,567	17,554	15,195	16,411	18,126
Capital Financing (before offsets)	<u>247,128</u>	<u>258,812</u>	<u>265,652</u>	<u>308,311</u>	<u>327,726</u>	<u>338,802</u>	<u>381,162</u>	<u>330,294</u>	<u>368,562</u>	<u>399,024</u>
Sub-Total Wastewater Expenses	\$403,912	\$421,708	\$437,447	\$487,391	\$512,583	\$528,848	\$581,646	\$535,736	\$582,943	\$622,872
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(5,783)	0	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Wastewater Expenses	\$403,912	\$421,708	\$437,447	\$481,609	\$512,583	\$528,848	\$581,646	\$535,736	\$582,943	\$622,872
REVENUE & INCOME										
Non-Member and Other Revenue	\$4,409	\$4,513	\$4,616	\$4,748	\$4,875	\$4,994	\$5,149	\$5,222	\$5,383	\$5,543
Interest Income	9,922	9,981	12,557	16,119	16,679	17,250	18,082	17,829	18,294	18,959
Rate Stabilization	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$14,332	\$14,493	\$17,173	\$20,867	\$21,554	\$22,243	\$23,231	\$23,051	\$23,678	\$24,502
Wastewater Rate Revenue	\$389,580	\$407,215	\$420,274	\$460,742	\$491,029	\$506,605	\$558,415	\$512,685	\$559,266	\$598,371
Rate Revenue Increase	1.89%	4.5%	3.2%	9.6%	6.6%	3.2%	10.2%	-8.2%	9.1%	7.0%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$502	\$526	\$549	\$586	\$619	\$645	\$691	\$689	\$733	\$776
Based on water use of 90k gpy (weighted)	\$740	\$776	\$810	\$864	\$913	\$952	\$1,019	\$1,016	\$1,082	\$1,144
WATER UTILITY										
EXPENSES										
Direct Expenses	\$62,608	\$64,297	\$66,841	\$69,671	\$72,578	\$75,344	\$78,390	\$81,526	\$84,843	\$88,234
Indirect Expenses	28,180	28,158	30,339	31,895	32,626	33,342	34,152	35,976	36,843	37,718
Capital Financing (before offsets)	<u>107,199</u>	<u>110,996</u>	<u>115,309</u>	<u>144,761</u>	<u>157,112</u>	<u>169,604</u>	<u>175,311</u>	<u>178,730</u>	<u>207,977</u>	<u>241,559</u>
Sub-Total Water Expenses	\$197,986	\$203,452	\$212,489	\$246,327	\$262,316	\$278,290	\$287,853	\$296,232	\$329,663	\$367,511
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(19,100)	(7,971)	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Water Expenses	\$197,986	\$203,452	\$212,489	\$227,227	\$254,346	\$278,290	\$287,853	\$296,232	\$329,663	\$367,511
REVENUE & INCOME										
Non-Member and Other Revenue	\$7,349	\$8,360	\$8,618	\$8,777	\$9,068	\$9,448	\$9,552	\$9,824	\$10,120	\$10,447
Interest Income	5,388	6,448	8,021	10,603	10,607	10,876	11,230	11,635	12,440	13,190
Rate Stabilization	<u>5,030</u>	<u>3,703</u>	<u>730</u>	<u>4,602</u>	<u>9,312</u>	<u>508</u>	<u>10,573</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$17,767	\$18,511	\$17,369	\$23,982	\$28,987	\$20,833	\$31,355	\$21,459	\$22,559	\$23,637
Water Rate Revenue	\$180,220	\$184,941	\$195,121	\$203,245	\$225,359	\$257,458	\$256,498	\$274,772	\$307,103	\$343,874
Rate Revenue Increase	0.63%	2.6%	5.5%	4.2%	10.9%	14.2%	-0.4%	7.1%	11.8%	12.0%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$337	\$350	\$369	\$386	\$416	\$455	\$465	\$494	\$535	\$581
Based on water use of 90k gpy (weighted)	\$498	\$517	\$544	\$569	\$613	\$672	\$687	\$728	\$790	\$857

** Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey dated December 2009.

APPENDIX E

GLOSSARY OF FINANCIAL AND OPERATING TERMS

8M permit: Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

Accrued Costs: Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

Activated Sludge: The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

Advanced Waste Treatment: Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

Advisory Board: The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

Aerobic: In the presence of free oxygen.

Anaerobic: Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of free oxygen.

AOOC: Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

ARRA: American Recovery and Reinvestment Act of 2009 – principal forgiveness loans distributed based on the Department of Environmental Protection's Intended Use Plan.

Ash: The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

Bacteria: One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens, or helpful and perform a variety of biological treatment processes.

BDOC: Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

BGD: Billion gallons per day.

Biofilm: Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

Blow-off valves: Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

BOD: Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

Board of Directors: The 11-member governing board of MWRA.

Bond Resolution: A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

Boston Harbor Project: An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

Business Systems Plan (BSP): The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

BWSC: Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

CADD: Computer aided drafting and design.

Capital Improvement Program (CIP): A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

Capital Investment: Development of a facility or other asset that adds to the long-term value of an organization.

CDF: Cosgrove Disinfection Facility

Cathodic Protection: A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

Centrifuge: A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

CFM: Cubic Feet per Minute - A measure of the quantity of a material flowing through a pipe.

Chloramination: The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

Chloramine: A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

Chlorination: The process of adding chlorine to drinking water to inactivate pathogens.

Chlorine: A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

Clarifiers: Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

Clean Water Act: A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

Cleaning and Lining: Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

CMMS (Computerized Maintenance Management System): *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long term maintenance strategy to ensure proper maintenance and replacement of plant assets.

Coliform bacteria: A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

Comminutor - A machine or process that pulverizes and reduces solids to minute particles.

Commonwealth Debt Service Assistance (DSA): Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

Commonwealth Reimbursements: Income received from the Commonwealth of Massachusetts as reimbursement for certain chemical and operational costs in accordance with prevailing legislation.

Community Obligation and Revenue Enhancement (CORE) Fund: A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

Composting: The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

Corrosion Control: Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, other metals, or form hydrogen sulfide. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates or oxidizers.

Coverage Requirement: Requirement of MWRA's bond resolution which provides that each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

CP (Construction Package): Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will group areas of work into individual construction contracts.

Cross-Connection: A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

Cryogenic oxygen plant: MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.

Cryptosporidium: A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. Cryptosporidia exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

CSO: Combined Sewer Overflow – An overflow point in a combined sewer system that collects both sewage and storm water runoff for wastewater treatment. During rainstorms, systems can become overloaded, with the excess discharged directly into surface waters from CSO pipes. In the metropolitan Boston area there are approximately 57 CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has five facilities that intercept the flow from CSO pipes and provide wastewater treatment and/or storage prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

CT: Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and

the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

CTG (Combustion Turbine Generator): CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

Current Expense Budget: A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

C-Value: The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6 to 16-inches in diameter, and 130 and 140 for larger diameter mains.

DAF: Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

DBP: Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

D/DBP Stage 1: Disinfectants/Disinfection By-products, Stage 1 Rule – Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

D/DBP Stage 2: Disinfectants/Disinfection By-products Stage 2 Rule-. The rule further regulates the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

Debt Service: In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

DEP: Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

Department: A sub-unit of an MWRA division.

Department of Conservation and Recreation (DCR): Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

De-watering: The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

Diffusers: A system of shafts, rising from the end of MWRA’s effluent outfall tunnel to the seabed, which disperses treated wastewater over a large area. Technically, the diffusers are the “sprinkler heads” mounted on top of the riser shafts that lead from the outfall tunnel and disperse wastewater into Massachusetts Bay.

Digesters: Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

Direct Program Expenses: Costs directly associated with providing services or performing activities.

Disinfection, Primary: The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

Disinfection, Residual: The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

Dissolved Oxygen (DO): A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

Division: A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

DLS (Department of Laboratory Services): Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

DMR (Discharge Monitoring Report): Monthly reports submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

E.coli: A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

Effluent: Treated wastewater discharged from a treatment plant.

EIR: Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.

EIS: Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

Enabling Act: Legislation (Chapter 372 of the Acts of 1984) that established MWRA and define its purpose and authority as of January 1, 1985.

ENF: Environmental Notification Form - The first step in the MEPA process.

EOC: Emergency Operations Center

EOEA: Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environmental agencies.

EPA: Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

ESWTR: Enhanced Surface Water Treatment Rule - A federal rule is being promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: further tightens the standards for the operation of filtration plants and add requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

Eutrophication: Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

Expenditures: Payments for goods and services received.

Expenses: Costs associated with the operating activities of a period, including expenditures and accrued costs.

Facility Information System (FIS): The management information system at the Deer Island Treatment Plant.

Fecal coliform bacteria: A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

Filtration: A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

Fiscal Year: The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

Flash coat: A light coat of shotcrete used to cover minor blemishes on a concrete surface.

FOD (Field Operations Department): Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

Force Main: A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

FRSA (Fore River Staging Area): The site of the Sludge Pelletization Plant.

Giardia: A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

Goal: A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

Graphitization: A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

Grit: Sand-like materials that quickly settle out of wastewater.

Groundwater: A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

HAA: Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

Harbor Electric Energy Company (HEEC): A subsidiary of NStar which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

Head House: A structure containing the control gates to a conduit such as a sewer pipeline.

Headworks: A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

Heavy Metals: Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

HOM (Harbor and Outfall Monitoring): A comprehensive program to provide environmental data that helps to predict and measure the effect of Deer Island outfall discharge on the marine ecosystem.

Incentives and Other Charges: A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

Indirect Expenses: Costs not directly associated with providing services or performing activities.

Infiltration/Inflow (I/I): The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

Influent: The flow of water that enters the wastewater treatment process.

Insurance Reserve: A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

Interceptors: The large pipes that convey wastewater from collection systems to treatment plants.

Investment Income: Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

ISO - NE (Independent System Operator of New England): Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island and Carroll Water Treatment Plant remove themselves from the grid. Both plants participate in load response programs offered by ISO-NE which pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. MWRA constantly evaluates the options and participates in the most advantageous program.

Carroll Water Treatment Plant (CWTP): Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant.

Labor Costs: Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

Land Application: The use of wastewater treatment residuals on land for agricultural benefits.

Landfilling: The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

LCR: Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

Leachate: Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

Limnology: The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

LIMS: Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project-specific parameters.

LOX (Liquid Oxygen): Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

Mapping Protocols: Sets of specifications defining the content and format of data to be collected.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Massachusetts Environmental Policy Act (MEPA) Unit: A unit of the Commonwealth's Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

Methane: A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

MGD: Million gallons per day.

MIS: Management Information Systems

Mission: A description of the fundamental purposes and major activities of an operating unit or program.

Mitigation: Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

Molybdenum (Mo): A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism. The concentration of molybdenum in sludge products is strictly regulated.

NACWA (Nation Association of Clean Water Agencies): NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

NHS (Northern High Service): Project that involves a series of water system pipeline improvements in the MWRA's Northern High Service Area.

Nitrification: An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

OCC: Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

OEP (Office of Emergency Preparedness): The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

OMS (Operations Management Systems): OMS correlates PICS data with laboratory analysis to track and analyze DITP's process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

Operating Reserve: A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of the its annual operating expenses.

Organic Matter: Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

Other User Charges: Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

Outfall: The pipe or structure where effluent is discharged into receiving waters.

Ozonation: The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. The Carroll Water Treatment Plant (CWTP) employs the ozonation process to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

Ozone: A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

Pathogens: Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

Payments in Lieu of Taxes (PILOT): Amounts which MWRA pays each fiscal year to cities and towns for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

Penalty Revenue: Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

Performance Measure: An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

Performance Objective: A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

PICS (Process Instrumentation and Control System): PICS provides real-time operations data from systems throughout Deer Island (including system status, flow, etc.).

Plume: The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

Preliminary Treatment: The process of removing large solid objects, sticks, gravel, and grit from wastewater.

Pretreatment: The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

Primacy: Primary enforcement authority for Federal Safe Drinking Water Act regulations delegated to a state by the Environmental Protection Agency (EPA).

Primary Treatment: A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

Program: An organized group of activities and the resources to carry them out, aimed at achieving one or more related objectives.

Rate Revenue: Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

Rate Stabilization Reserve: A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

RCM (Reliability Centered Maintenance): A maintenance strategy adopted at Deer Island in FY00 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

Relief Sewer: A sewer built to carry flows in excess of the capacity of an existing sewer.

RGGI: The Regional Greenhouse Gas Initiative is a mandatory, market-based program in the United States to reduce greenhouse gas emissions. The program involves selling emission allowances through auctions and investing the proceeds in demand-side management and clean energy technology projects.

Remote Headworks: The initial structures and devices of a treatment plant set apart by some distance from the plant site.

Renewal and Replacement Reserve: A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

Residuals: The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

Revenue Bonds: Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

RPS (Renewable Portfolio Standards): State policies which mandate a state to generate a percent of its electricity from renewable resources. The MWRA enrolled the steam turbine generator (STG) in the Massachusetts RPS program. The electricity produced is derived from digester gas burned in the boilers. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a water supply source during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

SAMS: Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

Sanitary Sewers: In a separate system, pipes that carry only domestic wastewater.

SCADA: Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

SCBA: Self-contained breathing apparatus.

Screenings: Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.

Scum: Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

SDWA: Safe Drinking Water Act - A Federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

Secondary Treatment: Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

Sedimentation Tanks: Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

Seeding: The initial filling of sludge into digesters.

Sensitive user: A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

Septic Tanks: Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

Shotcrete: Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

Siphon: A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

Slip Lining: Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

Sludge: Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

Sodium Hypochlorite (NaOCl): A liquid form of chlorine that MWRA uses in the disinfection and/or odor processes at the Deer Island Treatment Plant, various other Wastewater facilities, and the Carroll Water Treatment Plant (CWTP).

Storm Sewers: Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

Surcharging: Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

Suspended Solids: The particulate matter contained in wastewater.

SWTR: Surface Water Treatment Rule – A Federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

Telemetry: Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

TCR: Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

TOC: Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

Transition: A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

TTHM: Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

TRAC: Toxic Reduction and Control – The department responsible for MWRA's industrial pretreatment program.

TSS (Total Suspended Solids): A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

United States Geological Survey (USGS): The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

Vector Jet Truck: A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

VMM: Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA's vehicles and heavy equipment.

WASM (Weston Aqueduct Supply Mains): Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry potable water to MWRA's service area. When complete, they will transmit about one-third of the water to MWRA's service area and the City tunnel will carry the remaining two-thirds.

Wastewater: The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment. Wastewater is any water that has been adversely affected in quality by anthropogenic influence. It comprises liquid waste discharged by domestic residences, commercial properties, and/or agricultural and can encompass a wide range of potential contaminants and concentrations.

Wastewater Treatment Plant (WTP): A facility containing a series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

Watershed Reimbursement: An amount that MWRA pays to the Department of Conservation and Recreation (DCR) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

Wholesale Water and Sewer Services: Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

WOCC: Western Operations Control Center, located at the Carroll Water Treatment Plant.

APPENDIX F
FY11 Final Current Expense Budget - Capital Financing Detail (as of 6/30/2010)

	Outstanding as of 6/30/10	Total	Sewer	Water
SRF¹				
Unrefunded (93A, 93D, 95A,98C)	\$ 13,115,000	\$ 30,001	\$ 30,001	
1999E Sewer	15,140,141	\$ 384,520	384,520	-
1999E Water		\$ 572,085	-	572,085
1999F	306,800,000	\$ 15,250,219	15,250,219	-
2000E Sewer	68,452,108	\$ 2,845,247	2,845,247	-
2000E Water		\$ 570,301	-	570,301
2001C Water	3,956,831	\$ 251,431	-	251,431
2001D Sewer	5,581,743	\$ 377,758	377,758	-
2001D Water		\$ 81,139	-	81,139
2002H Sewer	101,175,000	\$ 3,108,232	3,108,232	-
2002H Water		\$ 1,534,201	-	1,534,201
2002I Sewer	2,216,803	\$ 104,715	104,715	-
2002I Water		\$ 1,503	-	1,503
2003A	1,095,636	\$ 71,344	-	71,344
2003B	3,098,355	\$ 225,686	-	225,686
2003C Sewer	44,035,638	\$ 1,491,749	1,491,749	-
2003C Water		\$ 965,362	-	965,362
2004C Sewer	10,711,849	\$ 542,235	542,235	-
2004C Water		\$ 92,375	-	92,375
2004D Sewer	65,614,045	\$ 3,840,372	3,840,372	-
2004D Water		\$ 642,724	-	642,724
2005C Sewer	7,281,780	\$ 420,043	420,043	-
2005C Water		\$ 69,382	-	69,382
2005D Sewer	71,730,278	\$ 3,396,042	3,396,042	-
2005D Water		\$ 808,032	-	808,032
2005E Sewer	398,196	\$ 24,961	24,961	-
2005E Water		\$ 5,479	-	5,479
2006C Sewer	7,913,323	\$ 489,067	489,067	-
2006D Sewer	86,057,575	\$ 3,747,168	3,747,168	-
2006D Water		\$ 1,620,269	-	1,620,269
2006E Sewer	473,977	\$ 22,883	22,883	-
2006E Water		\$ 10,281	-	10,281
2007C Sewer	6,668,045	\$ 312,297	312,297	-
2007C Water		\$ 197,935	-	197,935
2007D Sewer	22,387,065	\$ 1,153,047	1,153,047	-
2007E Sewer	75,644,312	\$ 3,303,093	3,303,093	-
2007E Water		\$ 1,267,061	-	1,267,061
2008G Sewer	6,719,278	\$ 408,859	408,859	-
2008G Water		\$ 82,602	-	82,602
2009C Sewer	116,852,780	\$ 5,771,560	5,771,560	-
2009C Water		\$ 1,895,870	-	1,895,870
2009D Sewer	12,266,005	\$ 651,418	651,418	-
2009D Water		\$ 86,114	-	86,114
2010 D Sewer		\$ 2,228,814	2,228,814	-
2010 D Water		\$ 2,344,392	-	2,344,392
2011 SRF (FY11) Sewer		\$ 4,205,034	4,205,034	-
2011 SRF (FY11) Water		\$ 1,435,000	-	1,435,000
Total SRF Debt²	\$ 1,055,385,763	\$ 68,939,902	\$ 54,109,334	\$ 14,830,568

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	Outstanding as of 6/30/10	Total	Sewer	Water
MWRA Senior Debt				
1993C New/Refunding	36,095,000	5,538,679	4,846,344	692,335
1997D Refunding	7,310,000	438,600	412,284	26,316
1998B Refunding	24,240,000	1,063,150	1,020,624	42,526
2002J Refunding	329,295,000	41,521,263	37,369,136	4,152,126
2002J New	200,000,000	10,000,000	5,000,000	5,000,000
2003D New	113,340,000	5,510,288	1,836,579	3,673,709
2004A New	104,870,000	5,249,419	393,706	4,855,712
2004B Refunding	49,390,000	2,469,500	2,160,813	308,688
2005A Refunding	380,350,000	19,088,488	8,589,819	10,498,668
2005B Refunding	80,290,000	4,014,500	1,338,033	2,676,467
2006A New	200,000,000	9,376,800	-	9,376,800
2006B Refunding	264,945,000	12,755,300	9,566,475	3,188,825
2007A New	200,000,000	9,033,188	1,535,642	7,497,546
2007B Refunding	647,950,000	34,017,375	28,574,595	5,442,780
2009A New	98,000,000	7,647,150	5,735,363	1,911,788
2009B Refunding	285,200,000	16,175,194	11,646,140	4,529,054
2010A	100,000,000	4,790,200	3,353,140	1,437,060
2010B	183,570,000	9,178,500	5,323,530	3,854,970
FY11 New Money (May 2011)		1,825,000	912,500	912,500
Total Senior	\$ 3,304,845,000	\$ 199,692,592	\$ 129,614,722	\$ 70,077,869
Subordinate Debt				
1999B (variable)	72,600,000	2,252,250	1,351,350	900,900
2002C Refunding (variable)	70,575,000	2,293,688	764,486	1,529,202
2002D Refunding (variable)	56,450,000	2,832,766	2,832,766	-
2008A Refunding	337,675,000	14,701,446	12,937,272	1,764,174
2008B Refunding	123,130,000	4,001,725	840,362	3,161,363
2008C Refunding	189,200,000	15,196,114	14,588,269	607,845
2008D Refunding	12,240,000	12,925,685	12,925,685	-
2008E Refunding	210,670,000	11,628,109	10,697,860	930,249
2008F Refunding	184,910,000	6,009,575	540,862	5,468,713
Total Subordinate Debt	\$ 1,257,450,000	\$ 71,841,357	\$ 57,478,913	\$ 14,362,445
Total SRF & MWRA Debt Service³	\$ 5,617,680,763	\$ 340,473,852	\$ 241,202,969	\$ 99,270,882
Water Pipeline Payment		\$ 3,435,765	\$ -	\$ 3,435,765
Current Revenue/Capital ⁴		\$ 7,200,000	3,917,224	3,282,776
Capital Lease		\$ 3,217,060	2,007,386	1,209,674
Sub-Total	\$ -	\$ 13,852,825	\$ 5,924,610	\$ 7,928,215
Commercial Paper	\$ 194,000,000	\$ -	\$ -	\$ -
Total Capital Financing (before Debt Service Offsets)	\$ 5,811,680,763	\$ 354,326,677	\$ 247,127,579	\$ 107,199,097
Debt Service Offsets				
Debt Service Assistance		-	-	-
Total Capital Financing	\$ 5,811,680,763	\$ 354,326,677	\$ 247,127,579	\$ 107,199,097

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² SRF total outstanding does not include 2010D par amount of \$49.4 million issued in July 2010 and \$33 million of ARRA funding

³ Numbers may not add due to rounding.

⁴ Current Revenue/Capital is revenue used to fund ongoing capital projects.