

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2009 CURRENT EXPENSE BUDGET

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September 26, 2008

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 2009. The CEB was approved by the MWRA's Board of Directors at its June 25, 2008 meeting.

The rate revenue requirement for FY09 is \$540.8 million, an increase of 4.5% over FY08. At this time, the budget includes \$11.25 million of Debt Service Assistance.

Total expenses are \$590.5 million (before offsets), representing an increase of \$9.5 million or 1.6% over FY08 actual expenses. Approximately 56% or \$328.8 million of expenses is for debt service, and 44% or \$261.7 million is for direct and indirect operating expenses. The majority of the increase is attributable to direct and indirect operating expenses of \$16.6 million or 6.7% and relates to increased wages and salaries, higher utility and chemical prices, increased maintenance needs and higher Operating Reserve requirements. Also, \$6.6 million, originally budgeted for Other Post Employment Benefits (OPEB) was redirected to the Retirement Fund per the July 16, 2008 Board meeting.

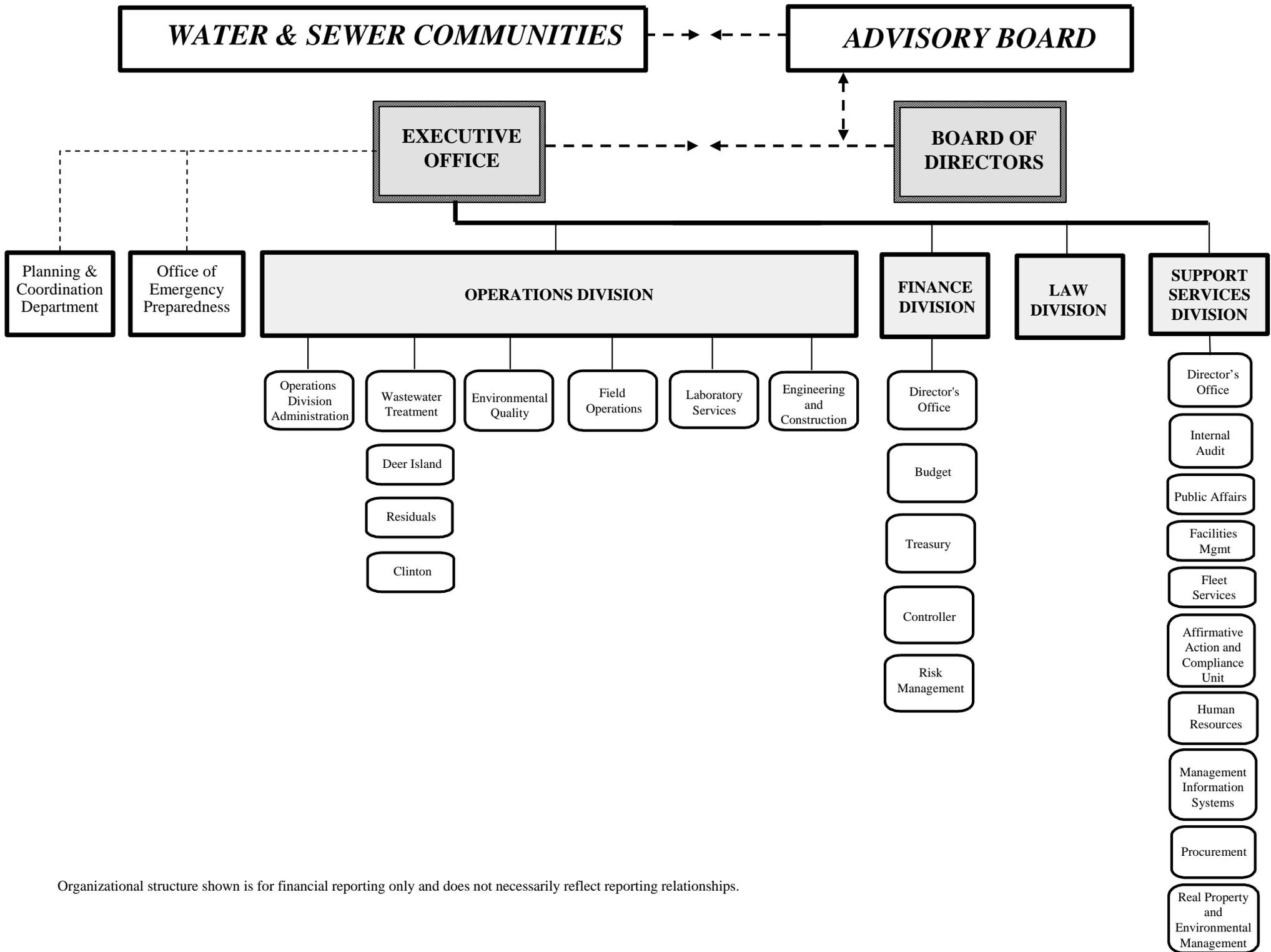
In FY08, the Authority closed on the largest financial transaction in its history, refinancing \$1.2 billion in variable rate securities, exiting the Auction Rate Security market, and eliminating all bond insurance. The refinancing released \$51.7 million in sinking funds which were reamortized to provide rate relief from FY09 through FY15. The Authority also defeased \$17.9 million in bonds with projected savings of \$5.3 million in FY09 and \$14.5 million thereafter. Today the \$1.2 billion variable rate debt obligations are backed solely by the Authority's strong credit ratings.

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, comments and recommendations to the Current Expense Budget.

Sincerely,

Frederick A. Laskey
Executive Director



Organizational structure shown is for financial reporting only and does not necessarily reflect reporting relationships.

TABLE OF CONTENTS

SECTION I: EXECUTIVE SUMMARY

MWRA Mission.....	I- 1
Community Profiles and Assessments.....	I-13
Revenue and Expenditure Trends.....	I-17
Capital Improvement Program.....	I-19
MWRA Organization and History.....	I-24
Statement of MWRA Financial Position.....	I-27

SECTION II: EXECUTIVE DIVISION

Executive Office Budget Summary.....	II - 1
Office of Emergency Preparedness.....	II - 3
Planning and Coordination Department.....	II - 6

SECTION III: OPERATIONS DIVISION

Operations Division Budget Summary.....	III- 1
Operations Administration.....	III- 9
Wastewater Treatment.....	III- 11
Deer Island.....	III- 12
Residuals.....	III- 16
Clinton.....	III- 18
Field Operations.....	III- 20
Laboratory Services.....	III- 23
Environmental Quality.....	III- 25
Engineering and Construction.....	III- 26

SECTION IV: LAW DIVISION

Law Division Budget Summary.....	IV- 1
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SECTION V: FINANCE DIVISION

Finance Division Budget Summary.....	V-1
Division Director's Office.....	V-3
Budget.....	V-4
Controller.....	V-5
Risk Management.....	V-6
Treasury.....	V-7

SECTION VI: SUPPORT SERVICES DIVISION

Support Services Division Budget Summary.....VI- 1
Division Director.....VI- 2
Internal AuditVI- 3
Public Affairs.....VI- 5
Facilities Management.....VI- 7
Fleet Services.....VI- 9
Affirmative Action and Compliance Unit.....VI-11
Human Resources.....VI-12
Management Information Systems.....VI-15
Procurement.....VI-18
Real Property and Environmental Management.....VI-20

APPENDICES

- A. Descriptions of Direct Expense Budget Line Items
- B. Budget Timetable
- C. Budget and Assessment Policies and Procedures
- D. Planning Estimates - Detail Presentation, FY09 - FY18
- E. Glossary of Terms
- F. Capital Financing by Debt Series



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 prepare projections for the year-end with a similar level of explanations. The performance indicator reports (quarterly in the Orange Notebook) 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 transmits its proposed budget to the Advisory Board in March. The Advisory Board then has sixty days to review, comment, and provide recommendations on the proposed budget. 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.

The Final FY09 Budget totals \$590.5 million before offsets of \$11.25 million in debt service assistance (DSA) for a net total expense of \$579.3 million. This budget is \$15.2 million or 2.7% above FY08 actuals. While capital financing costs remain the largest component of the CEB, other escalating expenses such as higher utility and chemical pricing, increased maintenance needs and higher operating reserve requirements continue to put pressure on the operating budget.

The Authority's operations are energy intensive and rising energy prices are contributing to increased chemical and utility costs. Utility expense accounts for 11.4% of operating costs, up from the 10.6% reported in FY08. Utility expense has increased 14.4% from FY08 actuals. If oil and other energy prices continue to rise, the budget could be adversely affected. The Deer Island Treatment Plant (DITP), Carroll Water Treatment Plant (CWTP) and other large Field Operations (FOD) facilities purchase blocks of power in the variable rate market. Approximately 77% of the Authority's energy requirement is purchased in the variable rate market. Some of this market risk is mitigated by the Authority's power

generating assets. Deer Island and the Carroll Plant have 52 MW and 8 MW of generating capacity, respectively. In FY08, Deer Island purchased approximately 79% of its electricity requirement in the real time energy market. The remaining 21% of the plant's electricity requirements were met through on-site generation. Of this amount, 81% was generated from the steam turbine generator (STG) through the burning of digester gas in the boilers, 16% was from the hydro-power facility, and 3% was from the combustion turbine generator (CTG), through a combination of exercise and load response. The Authority is also investigating alternative energy sources including wind and solar power opportunities at several facilities to promote additional self-generation.

The MWRA's Final FY09 Budget is \$579.3 million after offsets. The Final budget includes \$11.25 million of Debt Service Assistance from the Commonwealth.

Total expenses include \$328.8 million for capital financing costs, 55.7% of total costs, and \$261.7 million or 44.3% for operating expenses, of which \$215.9 million is for direct expenses and \$45.8 million is for indirect expenses. Total expenses increased by \$15.2 million over FY08 actuals, \$16.6 million for operating expenses which was partially offset by a \$1.4 million net reduction in capital financing expense.

The \$1.4 million reduction in capital financing expenses reflects a \$5.7 million reduction in debt service assistance offset by a \$7.1 million decline in debt service, reflecting revised interest rate assumptions for the variable rate debt and commercial paper used in the refunding. In addition to these reductions, the Authority also benefits from the impacts of the May 2007 and June 2008 defeasances of approximately \$41 million and \$18 million, respectively. These defeasances have decreased the FY09 through FY12 debt service requirement. Combined debt service savings are \$7.4 million in FY09, \$9.6 million in FY10, \$6.8 million in FY11, and \$45.2 million in FY12.

The \$16.6 million increase in operating expenses includes \$13.5 million for direct expenses and \$3.1 million for indirect expenses. The increase in direct expenses reflects increases in labor agreements, maintenance, utilities and chemicals. The increase in indirect expenses includes \$1.1 million in additional funding for the operating reserve and \$1.0 million increase in pension expense reflecting revised actuary assumptions.

The Final rate revenue requirement for FY09 is \$540.8 million, an increase of 4.45% over the FY08 rate revenue requirement.

The Final FY09 non-rate revenue totals \$38.5 million, a decrease of \$17.7 million from FY08 actuals. The change, primarily results from a \$13.1 million decrease in projected investment earnings due to a projected 250 basis point drop in investment rate assumptions as the fed funds rate has dropped 225 basis point since September 2007. It is important to note that \$5.1 million in rate stabilization funds are projected to be used in FY09. The Final FY09 non-rate revenue budget includes \$20.4 million for investment income, \$7.6 million in other user charges, \$2.0 million in permit fees and penalties, \$1.7 million from the sale of renewable energy portfolio credits and participation in energy load reduction programs, \$0.9 million from the Commonwealth for chemical rebates and \$0.8 for other miscellaneous revenue items.

Table I-1 on the following page shows MWRA's Final FY09 Budget for revenue and expenses by line item compared with FY08 and FY07 actual spending. Changes from FY08 to FY09 are described in the Revenue and Expense section of the Executive Summary and in the divisional sections of this document.

Table I-1

**Final FY09 Current Expense Budget
EXPENSES and REVENUES**

TOTAL MWRA	FY07 Actual	FY08 Actual	FY09 Final	Change FY09 Final to FY08 Actuals	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 83,034,216	\$ 86,452,409	\$ 90,676,105	\$ 4,223,696	4.9%
OVERTIME	3,832,439	3,770,660	3,906,671	136,011	3.6%
FRINGE BENEFITS	15,120,537	15,594,183	16,462,542	868,359	5.6%
WORKERS' COMPENSATION	1,235,814	1,159,464	1,325,000	165,536	14.3%
CHEMICALS	7,266,880	8,642,802	9,876,380	1,233,578	14.3%
ENERGY AND UTILITIES	24,228,522	25,975,019	29,724,532	3,749,513	14.4%
MAINTENANCE	25,914,704	26,408,816	28,089,126	1,680,310	6.4%
TRAINING AND MEETINGS	275,433	225,995	290,913	64,918	28.7%
PROFESSIONAL SERVICES	5,864,009	6,670,261	7,252,264	582,003	8.7%
OTHER MATERIALS	5,516,242	5,427,462	5,170,042	(257,420)	-4.7%
OTHER SERVICES	21,623,105	22,092,301	23,145,528	1,053,227	4.8%
TOTAL DIRECT EXPENSES	\$ 193,911,901	\$ 202,419,372	\$ 215,919,103	\$ 13,499,731	6.7%
INSURANCE	\$ 2,454,247	\$ 2,191,342	\$ 2,450,000	\$ 258,658	11.8%
WATERSHED/PILOT	20,900,539	23,216,874	23,083,385	(133,489)	-0.6%
HEEC PAYMENT	4,221,585	4,132,778	4,161,027	28,249	0.7%
MITIGATION	1,383,482	1,409,987	1,445,234	35,247	2.5%
ADDITIONS TO RESERVES	3,118,693	471,506	2,790,504	2,318,998	491.8%
RETIREMENT FUND	4,094,362	4,258,645	11,906,836	7,648,191	179.6%
POSTEMPLOYMENT BENEFITS	-	7,098,896	-	(7,098,896)	-100.0%
BUDGET RESERVE	-	-	-	-	-
TOTAL INDIRECT EXPENSES	\$ 36,172,908	\$ 42,780,028	\$ 45,836,987	\$ 3,056,959	7.1%
DEBT SERVICE (before offsets)	\$ 341,693,795	\$ 329,340,228	\$ 328,779,672	\$ (560,556)	-0.2%
VARIABLE RATE DEBT	(4,295,441)	6,522,527	-	(6,522,527)	-100.0%
BOND REDEMPTION	-	-	-	-	-
DEBT SERVICE ASSISTANCE	(18,937,082)	(16,980,026)	(11,250,000)	5,730,026	-33.7%
TOTAL DEBT SERVICE	\$ 318,461,272	\$ 318,882,729	\$ 317,529,672	\$ (1,353,057)	-0.4%
TOTAL EXPENSES	\$ 548,546,079	\$ 564,082,129	\$ 579,285,762	\$ 15,203,633	2.7%
REVENUE & INCOME					
RATE REVENUE	\$ 495,358,764	\$ 517,797,832	\$ 540,819,000	\$ 23,021,168	4.45%
OTHER USER CHARGES	8,870,839	14,796,257	7,576,979	(7,219,278)	-48.8%
OTHER REVENUE	6,245,992	7,815,283	5,389,393	(2,425,890)	-31.0%
RATE STABILIZATION	-	-	5,073,365	5,073,365	-
INVESTMENT INCOME	40,262,125	33,516,949	20,427,025	(13,089,924)	-39.1%
TOTAL REVENUE & INCOME	\$ 550,737,720	\$ 573,926,321	\$ 579,285,762	\$ 5,359,441	0.9%

FY08 Accomplishments

- Successfully refunded \$1.2 billion of Variable Rate Debt Bonds (VRDBs) and Auction Rate Securities (ARS), completely exiting the ARS market in the largest bond transaction in Authority history.
- Began trading variable rate debt obligations on the Authority's own strong credit rating for the first time.
- Commenced operation of the new Braintree-Weymouth Replacement Pump Station and discontinued operation of the Commercial Point and Fox Point CSO facilities in preparation for decommissioning in FY09.
- Implemented monitoring program throughout CWTP, made treatment plant process and physical modifications, and convened an expert panel to review MWRA's actions and augment recommendations for addressing water quality issues at the Carroll Water Treatment Plant (CWTP).
- Designed and installed a roof-mounted photovoltaic system at the Deer Island Treatment Plant. Procured flex fuel vehicles, hybrids, and bio-diesel vehicles. The Authority is rated as one of the largest bio-fuel users in the Commonwealth. Competitively bid Renewable Portfolio Standard certificates which resulted in FY08 revenue of \$1.6 million. Completed replacement of 500 CRT monitors with energy saving LCD monitors.
- Operated DITP without any NPDES Permit violations for FY08.
- Awarded the following major contracts in FY08: design and installation of a roof-mounted photovoltaic system at Deer Island; fast-track contracts for the removal of PCBs at Cosgrove Intake, Shaft A and Wachusett Dam; East Boston Branch Relief Sewer Construction; Wastewater Transport SCADA Phase II; JCWTP Ultra Violet Design Services.
- Reduced the terms of the North Dorchester Bay temporary easements at the Bayside Expo/Boston Teachers Union property from three years to one while maintaining contractor flexibility resulting in savings of approximately \$185,000 and certain East Boston Branch Sewer Relief Project temporary easements from 2 years to 6 months resulting in significant cost savings.
- Prepared PCB Abatement Plans for the Oakdale Transformer Yard and the CVA Intake Facility. EPA issued approvals for the plans on March 3, 2008 and May 13, 2008 respectively.

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 and minor reimbursements from the Commonwealth of Massachusetts. Table I-2 shows MWRA's sources and uses of funds for the Final FY09 Budget.

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$7.6	1.3%
Other Revenue	5.4	0.9%
Investment Income	20.4	3.5%
Rate Revenue	540.8	93.4%
Rate Stabilization	5.1	0.9%
TOTAL REVENUE	\$579.3	100.0%
<i>Uses of Funds</i>		
Total Expenses before		
Debt Service Offsets	\$590.5	
Less:		
Debt Service Assistance	(11.3)	
Bond Redemption	0.0	
Sub-Total Net Expenses	579.3	
Capital Financing	328.8	55.7%
Direct Expenses	215.9	36.6%
Indirect Expenses	45.8	7.8%
TOTAL EXPENSES	\$590.5	100.0%
TOTAL EXPENSES Less Offsets	\$579.3	
*May not add up due to rounding		

REVENUE

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 reserves levels.

In the Final FY09 Budget, 93.4% of revenue is derived from rate revenue. The remaining 6.6% 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), reimbursements from the Commonwealth, penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the Final FY09 Budget, MWRA will raise \$540.8 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$540.8 million, \$360.6 million will fund the sewerage system, an increase of 3.2% as compared to FY08; and \$180.2 million will fund the water system, an increase of 7.1% as compared to FY08.

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 Final FY09 Budget totals \$7.6 million and is composed of \$1.3 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation of the Deer Island, \$3.8 million paid by the Chicopee Valley Aqueduct communities, \$1.4 million in water revenue and \$0.5 million in sewer revenue to contract communities and others, and \$0.6 million in entrance fees paid by Stoughton and the Dedham-Westwood Water District.

Other Revenue

Other Revenue is budgeted at \$5.4 million. This includes permit fees, penalties, hydro-power revenues, Commonwealth reimbursements, and other miscellaneous revenues.

Permit Fees and Penalties

The Final FY09 Budget includes \$2.0 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.

Reimbursements from the Commonwealth of Massachusetts

The budget includes \$867,000 from the Commonwealth that MWRA is entitled to receive by statute as reimbursement for the cost of chemicals used in the wastewater treatment process.

Miscellaneous Revenue

The Final FY09 Budget includes \$2.5 million in miscellaneous revenues of which \$1.7 million pertains to Deer Island's energy programs for the sale of Renewable Portfolio Standard Credits and participation in the demand response program; \$226,000 is for hydro-power generation at the MWRA's Cosgrove Intake facility, and \$626,000 in other revenue.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The Final FY09 Budget includes \$20.4 million in investment income, a decrease of \$13.1 million from FY08 actual spending due to the 250 basis point drop in projected investment rates. The Final FY09 short-term interest rate is projected at 2.0% versus a 4.5% rate in the FY08 budget.

Non-Recurring Revenue

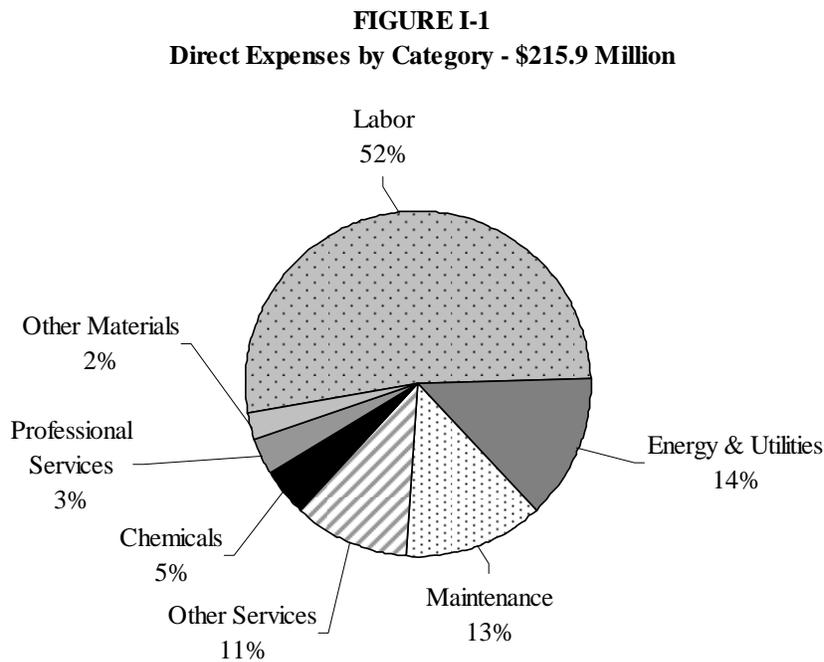
Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA may transfer the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce 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.

Direct Program Expenses

The Final FY09 direct program expense budget is \$215.9 million, an increase of \$13.5 million or 6.7% over FY08 actuals. The increase includes higher costs for wages and salaries, health insurance, energy and utilities, and chemicals. 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. Generally, the budget presents expenses by line item and program. The divisional sections of this document discuss program budget changes in greater detail.

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, and workers' compensation) are the largest component of the direct expense budget (52%), followed then by energy and utilities (14%), maintenance (13%), and other services (11%).



Within the labor cost category, wages and salaries account for \$90.7 million, 4.9% higher than FY08 actuals. Of the \$90.7 million, \$89.2 million is for regular pay. The Final budget assumes a staffing level of 1,255 for Fiscal Year 2009, which matches the FY08 budget. 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 from a peak of 1,775 in March 1997 to the target staffing level of 1,255 for FY09.

The Final budget for utility expenses is \$29.7 million, a \$3.7 million, or 14.4%, increase compared with FY08 actuals. The increase is primarily due to a \$2.1 million or 9.7% increase in electricity mainly due to higher pricing in FY09. These increases are offset by decreases for water at Deer Island due to revised needs assessment and a reduction of anticipated funding for Regional Greenhouse Gas Initiative (RGGI) credits to reflect the most current information about this emerging program.

The Final FY09 energy and utilities budget reflects the pricing outlook based on energy futures and on the latest bids for Deer Island, the Carroll Water Treatment Plant and other large FOD facilities. Seventy-seven percent (77%) of the Authority's power requirement is purchased on the variable rate market and therefore is exposed to the fluctuations of the market.

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 FY09 maintenance budget is \$28.1 million, an increase of \$1.7 million, or 6.4%, compared to FY08 actuals. The largest increase is at Deer Island and relates mostly to increased service contracts. The Deer Island FY09 maintenance budget \$14.6 million, a \$2.3 million, or 18.6% increase from FY08 actuals, and the Field Operations budget for FY09 is \$7.8 million, an increase of \$0.2 million or 2.5%, compared with FY08 actuals. The proposed funding also covers maintenance for computer systems, software licenses, security system maintenance, and fleet services.

The Final budget for other services is \$23.1 million. Major components of this cost category include \$14.4 million for MWRA’s residuals processing contract and \$3.0 million for lease payments, (consisting of \$1.6 million for the Charlestown Navy Yard and \$1.4 million for the Chelsea facility).

The Final budget includes \$9.9 million for chemicals, an increase of \$1.2 million or 14.3% from FY08 actuals. The majority of the variance is the result of price increases. Budget increases of \$270,000 and \$85,000 reflect higher prices for hydrofluosilicic acid and soda ash, respectively in Field Operations. The new regulatory requirement for enterococcus compliance at Deer Island resulted in usage increases for sodium bisulfite and sodium hypochlorite of \$380,000. Ferrous chloride usage increased \$129,000 to better control struvite formation 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 Final FY09 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 - \$215.9 Million

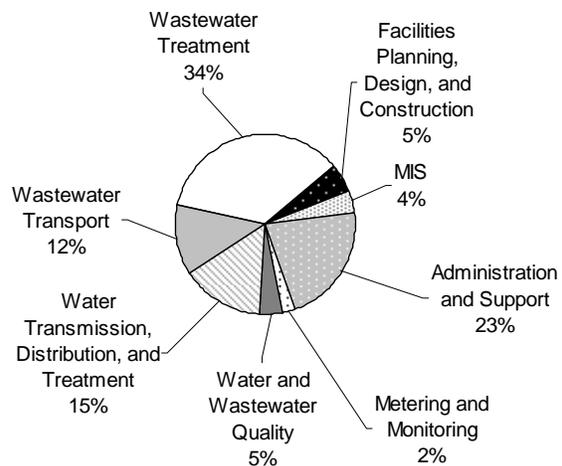
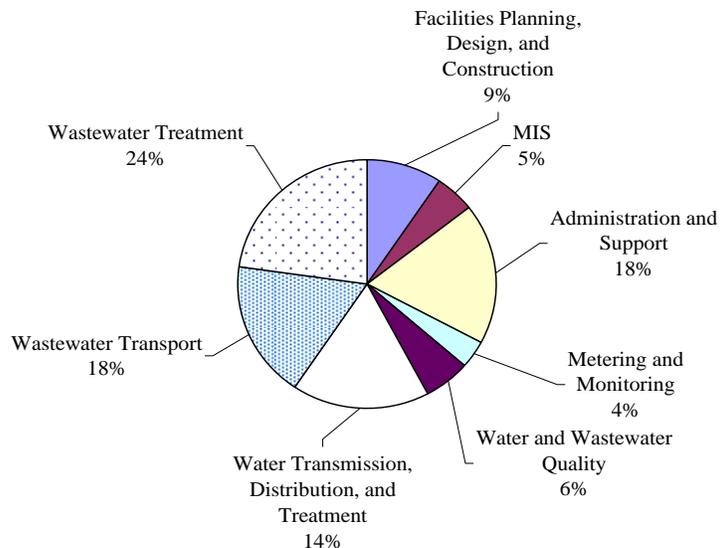


Figure I-3 below illustrates staffing by Functional Area as of June 2008 and shows that of 1,233 filled positions, 56% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions, and metering and monitoring, particularly Boston Harbor and Massachusetts Bay monitoring activities and industrial discharge and enforcement programs, account for 10% of all staff.

FIGURE I-3
Staffing by Functional Area



Capital Financing

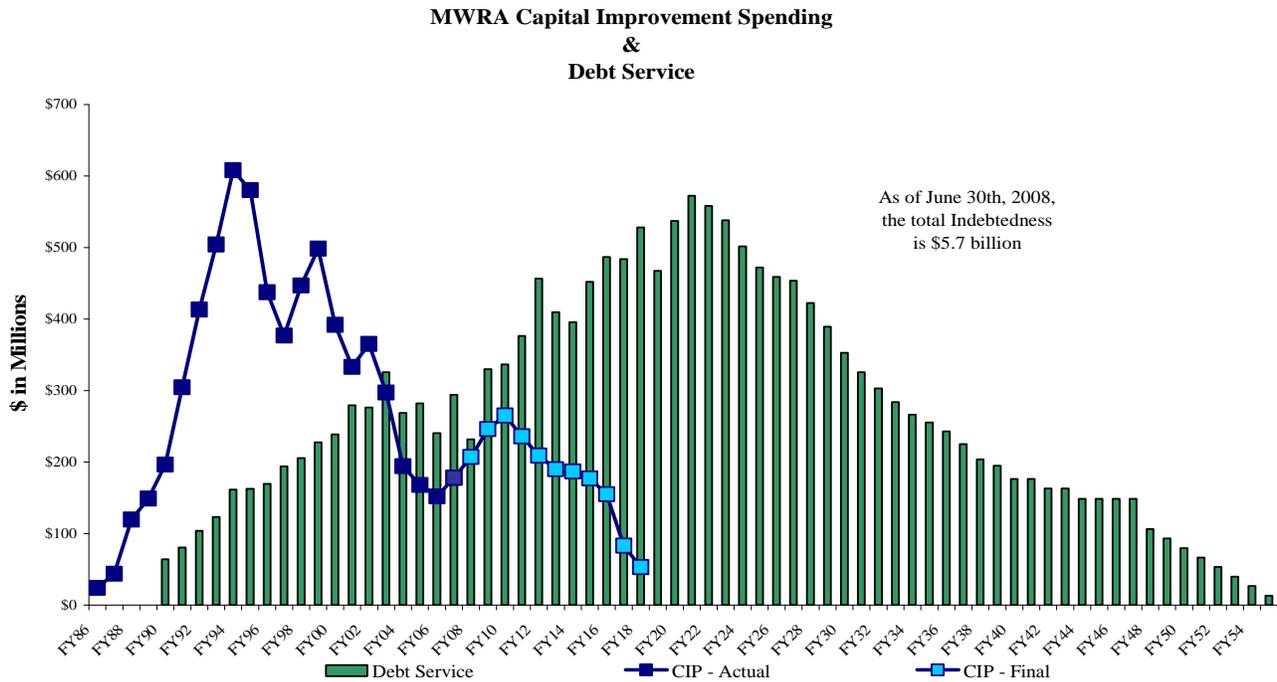
Outstanding Debt and Debt Management

The \$6.9 billion spent on MWRA's modernization efforts to date, has relied heavily on debt financing. Total debt as of June 2008 reached \$5.7 billion consisting of senior and subordinated revenue bonds, SRF debt, and tax-exempt commercial paper. The Authority is significantly leveraged with long-term debt representing 70.5% of total assets, but the stability and predictability of operating cash flows can support a leveraged capital structure. The MWRA enjoys strong unenhanced senior debt ratings of Aa2, AA, and AA from Moody's, S&P, and Fitch, respectively.

The Authority's debt service obligation as a percent of total expenses has increased from 36% in 1990 to 56% in the Final FY09 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.

The MWRA expects to finance the capital expenditures identified in the MWRA CIP through the issuance of its revenue bonds as provided in the MWRA Act, and from the proceeds of federal and state grants and operating revenues. As of June 30, 2008, the MWRA's indebtedness included \$3.1 billion of senior revenue bonds, approximately \$1.4 billion of subordinated revenue bonds, approximately \$997 million of loans with the SRF and \$191 million of tax-exempt commercial paper notes.

The following graph illustrates the relationship between the MWRA's Capital Improvement Program and outstanding debt as of June 2008.



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.

As a result of the disruption in the variable rate bond market caused by the credit downgrades to the bond insurers, the MWRA refunded all of its insured Variable Rate Demand Bonds (VRDB) and Auction Rate Securities (ARS). As part of the \$1.2 billion refunding, approximately \$34.6 million of subordinated debt service reserves were released to reduce outstanding principal. In addition to the reserve release, approximately \$51.7 million in sinking fund installments were re-amortized to provide budget relief between FY09 and FY15 in line with the long-term rates management strategy. This time period coincides with the projected adoption of amendments to Bond Resolution which will decrease reserve fund requirements.

On June 19, 2008, the Authority defeased \$17.9 million in bonds. The defeasance of these bonds will decrease the FY09 through FY12 debt service requirements. The savings in FY09 are approximately \$5.3 million, \$4.8 million in FY10 and FY11, and \$4.9 million in FY12. This defeasance was accomplished using debt service funds made available from the FY08 surplus, including the Town of Reading's entrance fee and Bond Redemption funds.

Fiscal Year 2009 capital financing costs total \$328.8 million (before offsets), which reflects the May 2008 Refunding. Debt service remains the largest portion of the MWRA's operating expenses, accounting for 55.7% of total expenses before debt service offsets. The FY09 budget includes \$11.25 million for Debt Service Assistance from the Commonwealth.

For FY09, the budget assumes a 4.0% interest rate for variable rate debt compared to 4.7% for FY08. If interest rates increase to levels higher than anticipated, offsetting adjustments will have to be achieved elsewhere in the budget. If interest rates during the year are lower, the savings will be used to reduce the Rate Revenue Requirement in future years.

Table I-3 provides detail on the Final FY09 capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Sixty-six percent of the FY09 capital financing costs (before debt service offsets) are for wastewater improvements. Current and future borrowing increasingly supports improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

	Amount Outstanding	Total	Sewer	Water
Total SRF ¹ Debt	\$996	\$54.2	\$44.0	\$10.2
Total Senior Debt	3,077	176.2	101.1	75.0
Total Subordinate Debt	1,395	87.5	60.1	27.4
Total SRF and Debt Service²	\$5,468	\$317.9	\$205.3	\$112.6
Water Pipeline Commercial Paper	191	3.2	0.0	3.2
Current Revenue/Capital ³		4.5	3.4	1.1
Capital Lease		3.2	2.2	1.1
Sub-Total	191	\$10.9	\$5.5	\$5.4
Total Capital Financing (before Debt Service Offsets)	\$5,659	\$328.8	\$210.8	\$118.0
Debt Service Offsets:				
Variable Rate Savings		0.0	0.0	0.0
Debt Service Assistance		(11.3)	(10.2)	(0.4)
Total Capital Financing	\$5,659	\$317.5	\$200.0	\$117.5

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. The amount is partly determined by MWRA's bond covenant requirements.

Indirect Expenses

The Final FY09 Budget includes \$45.8 million for indirect expenses, an increase of \$3.1 million or 7.1% over FY08 actual spending. The increase includes a \$2.3 million increase in the Operating Reserve.

Insurance

MWRA purchases property and casualty insurance from external insurance carriers and self-insures for the first \$2.5 million of property and general liability loss per occurrence. The Final FY09 Budget includes \$2.5 million for premiums and fees, \$0.3 million above FY08 actual spending. The budget includes \$1.8 million for premiums and \$0.7 million for the projected costs 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. No changes to the insurance reserve are planned for FY09.

Watershed Reimbursement/PILOT

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: payments 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 Final FY09 Budget includes \$5.9 million, \$12.2 million, and \$4.9 million respectively for these items. Collectively these represent an decrease of \$0.1 million over FY08 actuals.

Harbor Electric Energy Company (HEEC)

Harbor Electric Energy Company (HEEC), a subsidiary of NStar, installed the cross harbor power cable and built the power substation to supply electric power for construction and operation of the Deer Island Treatment Plant. MWRA is repaying HEEC's capital investment on a 25-year schedule. The budget includes \$4.2 million for the estimated FY09 payment, comprised of \$3.4 million for capacity charges and \$0.8 million for maintenance expenses.

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 Final FY09 Budget includes \$1.4 million for community compensation for impacts, including \$0.8 million for the City of Quincy and \$0.7 million for the Town of Winthrop, based on Memoranda of Agreement with the communities.

Retirement System Contribution

The Final FY09 Budget includes a contribution to MWRA's retirement fund of \$11.9 million, an increase of \$7.6 million compared to FY08 actual spending. During FY08, the Retirement Board voted to adopt a new methodology of assessing retirement liability that would be in line with other 105 Chapter 32 retirement systems in the Commonwealth. Under this new methodology, MWRA Employees' Retirement System funding level decreased from a fully funded level to 85% funding, resulting in an unfunded liability and a 17 year amortization schedule to achieve 100% funding. This methodology change

accounts for \$1.1 million of the \$7.6 million increase. The increase of \$6.5 million is due to redirecting the initial FY09 Other Postemployment Benefits (OPEB) funding to the pension fund. Continuing to pursue this course of action will shorten the unfunded pension amortization schedule. The future revenue freed by the lower required annual pension appropriation coupled with the prepayment funding levels already built into the rate base will enable the MWRA to redirect these available funds to the OPEB liability (please refer to GASB 45 Other Postemployment Benefits Other than Pensions section below), once the full funding of pension is achieved.

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

The Authority adopted GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions* in FY08, recognizing that this obligation represents a large future liability for the health insurance costs of retirees. However during FY08, the Authority opted to delay the establishment of an irrevocable trust for these postemployment benefits.

In July 2008, the MWRA's Board of Directors voted that funds appropriated for OPEB in the FY08 Final and FY09 Proposed budgets be used to shorten the amortization schedule for the unfunded pension liability resulting from a revised assessment methodology. The use of these funds to pay down the unfunded pension liability maximizes potential financial returns without establishing an irrevocable trust and preserves the Board's flexibility for future decisions regarding OPEB funding.

The MWRA has two large unfunded postemployment liabilities, the pension fund and the actuarially established OPEB liability, addressing the unfunded pension liability first is sensible because the yield on pension assets will be higher and the MWRA will keep its options open in the short-term until a long-term OPEB strategy is developed. This option demonstrates MWRA's fiscal responsibility and should be favorably received by rating agencies and investors.

Operating Reserves

Funding for the Operating Reserve for FY09 of \$1.7 million is in compliance with the requirement of the MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the Final FY09 CEB, the required balance is \$39.3 million at the end of FY09.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Forty-nine local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty communities purchase both. Approximately 2.6 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 Final FY09 Current Expense Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-16, lists MWRA communities, the services received, and the Final MWRA assessments for FY09.

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-15 presents the calculation of MWRA's Final FY09 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 Final FY09 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. Beginning in FY07, MWRA sewer assessments were allocated in part on flow data from the Authority's new wastewater metering system. MWRA began using flow data from the new metering system in April 2005.

Table I-4

Massachusetts Water Resources Authority
Final FY09 Water and Sewer Assessments
Includes \$11.25M in Debt Service Assistance

25-Jun-08

MWRA Fully Served Water and Sewer Customers	Final FY08 Water Assessment	Final FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Final FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Final FY09 Combined Assessment	Percent Change from FY08
ARLINGTON	\$3,635,597	\$3,798,111	4.5%	\$6,383,391	\$6,367,419	-0.3%	\$10,018,988	\$10,165,530	1.5%
BELMONT	1,820,717	2,232,215	22.6%	3,853,748	3,912,441	1.5%	5,674,465	6,144,656	8.3%
BOSTON (BWSC)	63,979,766	65,521,627	2.4%	98,687,572	103,137,432	4.5%	162,667,338	168,659,059	3.7%
BROOKLINE	4,843,966	5,198,049	7.3%	10,011,208	10,299,870	2.9%	14,855,174	15,497,919	4.3%
CHELSEA	2,622,102	2,750,255	4.9%	4,746,257	4,928,138	3.8%	7,368,359	7,678,393	4.2%
EVERETT	4,149,900	4,187,928	0.9%	6,103,714	6,187,367	1.4%	10,253,614	10,375,295	1.2%
FRAMINGHAM	6,135,546	6,525,095	6.3%	8,690,797	8,846,214	1.8%	14,826,343	15,371,309	3.7%
LEXINGTON	4,117,775	4,565,881	10.9%	5,630,863	5,855,209	4.0%	9,748,638	10,421,090	6.9%
MALDEN	5,197,166	5,465,015	5.2%	9,284,922	9,664,493	4.1%	14,482,088	15,129,508	4.5%
MEDFORD	4,637,124	4,737,121	2.2%	9,335,845	9,654,660	3.4%	13,972,969	14,391,781	3.0%
MELROSE	2,073,594	2,118,630	2.2%	4,638,409	4,814,755	3.8%	6,712,003	6,933,385	3.3%
MILTON	2,196,171	2,428,933	10.6%	4,368,070	4,353,853	-0.3%	6,564,241	6,782,786	3.3%
NEWTON	7,744,282	8,620,195	11.3%	16,011,280	16,260,200	1.6%	23,755,562	24,880,395	4.7%
NORWOOD	2,664,525	3,131,158	17.5%	5,416,848	5,402,950	-0.3%	8,081,373	8,534,108	5.6%
QUINCY	8,675,891	9,455,292	9.0%	15,225,088	15,857,588	4.2%	23,900,979	25,312,880	5.9%
READING ¹	1,536,924	1,636,165	6.5%	3,410,216	3,555,143	4.2%	4,947,140	5,191,308	4.9%
REVERE	3,711,064	3,890,130	4.8%	7,237,597	7,560,677	4.5%	10,948,661	11,450,807	4.6%
SOMERVILLE	5,416,384	5,860,187	8.2%	11,802,980	11,843,075	0.3%	17,219,364	17,703,262	2.8%
STONEHAM	2,570,311	2,783,131	8.3%	3,623,787	3,729,778	2.9%	6,194,098	6,512,909	5.1%
WALTHAM	6,518,480	7,131,291	9.4%	10,567,428	10,890,696	3.1%	17,085,908	18,021,987	5.5%
WATERTOWN	2,551,548	2,683,187	5.2%	4,627,713	4,748,683	2.6%	7,179,261	7,431,870	3.5%
WINTHROP	1,206,885	1,225,716	1.6%	2,454,240	2,569,630	4.7%	3,661,125	3,795,346	3.7%
TOTAL	\$148,005,718	\$155,945,312	5.4%	\$252,111,973	\$260,440,271	3.3%	\$400,117,691	\$416,385,583	4.1%

MWRA Sewer and Partial Water Customers	Final FY08 Water Assessment	Final FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Final FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Final FY09 Combined Assessment	Percent Change from FY08
CANTON	\$1,752,541	\$2,262,620	29.1%	\$3,342,320	\$3,242,180	-3.0%	\$5,094,861	\$5,504,800	8.0%
NEEDHAM	958,624	1,061,719	10.8%	4,911,005	4,893,374	-0.4%	5,869,629	5,955,093	1.5%
STOUGHTON	429,813	535,066	24.5%	3,620,218	3,735,159	3.2%	4,050,031	4,270,225	5.4%
WAKEFIELD	1,465,661	1,443,087	-1.5%	4,643,094	4,688,936	1.0%	6,108,755	6,132,023	0.4%
WELLESLEY	505,698	853,387	68.8%	4,453,740	4,568,401	2.6%	4,959,438	5,421,788	9.3%
WINCHESTER	692,181	895,066	29.3%	3,140,264	3,132,581	-0.2%	3,832,445	4,027,647	5.1%
WOBURN	1,979,251	2,960,077	49.6%	9,106,235	9,578,547	5.2%	11,085,486	12,538,624	13.1%
TOTAL	\$7,783,769	\$10,011,022	28.6%	\$33,216,876	\$33,839,178	1.9%	\$41,000,645	\$43,850,200	7.0%

MWRA Sewer-only Customers	Final FY08 Water Assessment	Final FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Final FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Final FY09 Combined Assessment	Percent Change from FY08
ASHLAND				\$1,651,164	\$1,721,023	4.2%	\$1,651,164	\$1,721,023	4.2%
BEDFORD				2,662,238	2,779,636	4.4%	2,662,238	2,779,636	4.4%
BRAINTREE				6,564,038	6,744,131	2.7%	6,564,038	6,744,131	2.7%
BURLINGTON				3,845,017	4,055,100	5.5%	3,845,017	4,055,100	5.5%
CAMBRIDGE				18,475,398	19,830,036	7.3%	18,475,398	19,830,036	7.3%
DEDHAM				4,682,605	4,650,140	-0.7%	4,682,605	4,650,140	-0.7%
HINGHAM SEWER DISTRICT				1,274,442	1,323,016	3.8%	1,274,442	1,323,016	3.8%
HOLBROOK				1,209,004	1,219,867	0.9%	1,209,004	1,219,867	0.9%
NATICK				3,993,641	3,941,631	-1.3%	3,993,641	3,941,631	-1.3%
RANDOLPH				4,482,219	4,601,421	2.7%	4,482,219	4,601,421	2.7%
WALPOLE				2,809,378	2,914,620	3.7%	2,809,378	2,914,620	3.7%
WESTWOOD				1,996,235	1,964,562	-1.6%	1,996,235	1,964,562	-1.6%
WELMOUTH				8,762,733	8,776,895	0.2%	8,762,733	8,776,895	0.2%
WYMLINGTON				1,768,169	1,768,207	0.0%	1,768,169	1,768,207	0.0%
TOTAL				\$64,176,281	\$66,290,285	3.3%	\$64,176,281	\$66,290,285	3.3%

MWRA Water-only Customers	Final FY08 Water Assessment	Final FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Final FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Final FY09 Combined Assessment	Percent Change from FY08
LYNNFIELD WATER DISTRICT	\$362,549	\$439,487	21.2%				\$362,549	\$439,487	21.2%
MARBLEHEAD	1,629,117	1,828,854	12.3%				1,629,117	1,828,854	12.3%
NAHANT	332,081	351,096	5.7%				332,081	351,096	5.7%
SAUGUS	2,715,030	2,851,597	5.0%				2,715,030	2,851,597	5.0%
SOUTHBOROUGH	602,437	751,303	24.7%				602,437	751,303	24.7%
SWAMPSCOTT	1,348,647	1,416,222	5.0%				1,348,647	1,416,222	5.0%
WESTON	1,281,195	1,646,079	28.5%				1,281,195	1,646,079	28.5%
TOTAL	\$8,271,056	\$9,284,638	12.3%				\$8,271,056	\$9,284,638	12.3%

MWRA Partial Water-only Customers	Final FY08 Water Assessment	Final FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Final FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Final FY09 Combined Assessment	Percent Change from FY08
DEDHAM-WESTWOOD WATER DISTRICT ¹	\$34	\$15,572	45700.0%				\$34	\$15,572	45700.0%
LYNN (LWSC)	219,006	220,195	0.5%				219,006	220,195	0.5%
MARLBOROUGH	2,738,567	3,392,651	23.9%				2,738,567	3,392,651	23.9%
NORTHBOROUGH	790,421	852,523	7.9%				790,421	852,523	7.9%
PEABODY	484,131	527,353	8.9%				484,131	527,353	8.9%
TOTAL	\$4,232,159	\$5,008,294	18.3%				\$4,232,159	\$5,008,294	18.3%
SYSTEMS TOTAL	\$168,292,702	\$180,249,266	7.1%	\$349,505,130	\$360,569,734	3.2%	\$517,797,832	\$540,819,000	4.45%

¹ The Dedham-Westwood Water District and the Town of Reading became partially served MWRA water communities in FY07. Reading became fully served in FY08.

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;
- 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 FY09 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$160,456	\$55,463	\$215,919
Allocated Indirect Expenses	\$17,865	\$27,972	\$45,837
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$194,492	\$112,115	\$306,608
Current Revenue for Capital	\$3,375	\$1,125	\$4,500
Other Capital Expenses	\$2,182	\$4,240	\$6,422
PLUS			
Non-Rate Revenue:			
Investment Income	-\$12,545	-\$7,882	-\$20,427
Fees and Other Revenue	-\$5,255	-\$7,711	-\$12,966
Rate Stabilization	0	-\$5,073	-\$5,073
EQUALS			
Rate Revenue Requirement	\$360,570	\$180,249	\$540,819

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 FY09, community assessments will represent 93.3% of total revenue.

MWRA regularly updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These planning estimates provide a context for budget discussions and a planning tool for MWRA and those affected by its rate revenue requirements and also allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget decisions.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY09 through FY18.

Rates & Budget Projections - Based on \$11.25M of Debt Service Assistance										
Final FY09 CEB	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Total Rate Revenue (\$ in Mil)	\$ 540,819	\$ 571,473	\$ 603,909	\$ 638,123	\$ 674,242	\$ 712,466	\$ 751,273	\$ 787,565	\$ 852,820	\$ 822,363
Rate Revenue Change from Prior Year (\$000)	\$ 23,021	\$ 30,654	\$ 32,435	\$ 34,214	\$ 36,120	\$ 38,223	\$ 38,807	\$ 36,292	\$ 65,255	\$ (30,457)
Rate Revenue Increase	4.45%	5.7%	5.7%	5.7%	5.7%	5.7%	5.4%	4.8%	8.3%	-3.6%
Use of Reserves (\$ in Mil)	\$ 5,073	\$ 11,449	\$ 29,618	\$ 2,984	\$ 19,319	\$ 6,203	\$ -	\$ -	\$ -	\$ -

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 recent financing strategies (i.e. restructuring debt to defer the repayment of principal) will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. 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 \$94.9 million increase in direct expenses from FY09 to FY18 is primarily the result of an assumed inflation rate of 4.0% annually. In addition, in order to account for anticipated increases in expenses for FY09, labor is projected to grow by 3.2%, while chemicals and maintenance are forecast to rise by 8.8% and by 9.2%, respectively. Also, over the next ten years there will be an increase in direct expenses as a result of capital improvement projects. The largest increases will be for operation of new facilities.

Completion of the North Dorchester Bay CSO project will have incremental impacts beginning in FY12. Also, \$1.4 million inflated in additional costs projected in FY14 for the Carroll Plant for ultraviolet technology licensing fees.

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:

- Debt Service Assistance projected to be level funded at \$15.0 million;
- Direct expense inflation rate of 4.0%;
- 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 6% interest rates (4.5% in FY09);
- Variable rate interest projected at 4.00% in FY09 and beyond;

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;
- 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 6%;
- Debt refinancing opportunities;
- Capital spending;
- Growth in direct expenses, greater than current assumptions of 4.0% is an area of increased concern. Increases in utilities, chemicals, maintenance and health care are reflected in the Final FY09 Budget. 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.

Final FY09 Capital Improvement Program

Overview

MWRA was created by the Massachusetts legislature in 1985 and since that time has invested over \$6.9 billion to modernize and improve the wastewater and waterworks systems serving its member communities. Of the total expenditures to date, nearly three-fourths have supported improvements to the wastewater treatment, interceptor, pumping, and combined sewer overflow systems. The remaining fourth has supported waterworks treatment, transmission, distribution, and water supply protection improvements. The Final FY09 CIP budget totals \$4.9 billion, of which \$2.9 billion has been expended, and \$2.0 billion remains. FY09 spending is projected to be \$230.0 million.

MWRA's sewage treatment system has undergone a nearly complete transformation under the federally mandated, \$3.8 billion Boston Harbor Project. Now complete, the project included: a new Deer Island Treatment Plant with primary and secondary treatment capabilities; a new 5-mile Inter-Island Tunnel that combined two separate sewer systems into one; a sludge-to-fertilizer facility; and a 9.5-mile Effluent Outfall Tunnel to discharge treated wastewater away from shallow Boston Harbor into deeper waters and the stronger currents of Massachusetts Bay.

MWRA's Integrated Water Supply Improvement program is a \$1.7 billion series of projects that consists of aggressive watershed protection, modernized water treatment facilities and distribution system improvements including construction of covered storage facilities and pipeline rehabilitation projects. This program is nearly complete and includes the \$431.0 million John J. Carroll Water Treatment Plant, a state-of-the-art ozonation facility with capacity to treat 405 mgd of drinking water, which was completed in 2005 pursuant to the Safe Drinking Water Act (SDWA). The plant treats water delivered from the Wachusett Reservoir with ozonation and chloramination. The plan also includes the 17.6-mile MetroWest Supply Tunnel which was placed in service in November 2004. The new tunnel greatly enhances the security, capacity and reliability of MWRA's entire water transmission system. Prior to 2004, the MWRA relied on a single 1940's-era surface aqueduct, the Hultman Aqueduct, to serve all of metropolitan Boston. With its leaks and aging valves, the Hultman has been taken off-line for major repairs. Before the MetroWest Tunnel, failure of the Hultman could have caused nearly complete interruption of Boston's water supply. This would have been a disaster for the region's public health, safety and economy.

In 1987, MWRA entered a stipulation in the Federal District Court Order in the Boston Harbor Case by which it accepted responsibility for developing and implementing a long-term CSO control plan for all combined sewer overflows hydraulically connected to MWRA's system, including the outfalls owned and operated by the communities of Boston, Cambridge, Chelsea, Somerville, and a small section of Brookline. Since then, MWRA has conducted site-specific and watershed-based planning to meet short-term control requirements pursuant to federal regulations and develop a long-term control plan to bring the Boston area CSOs into compliance with the Federal Clean Water Act and State Water Quality Standards.

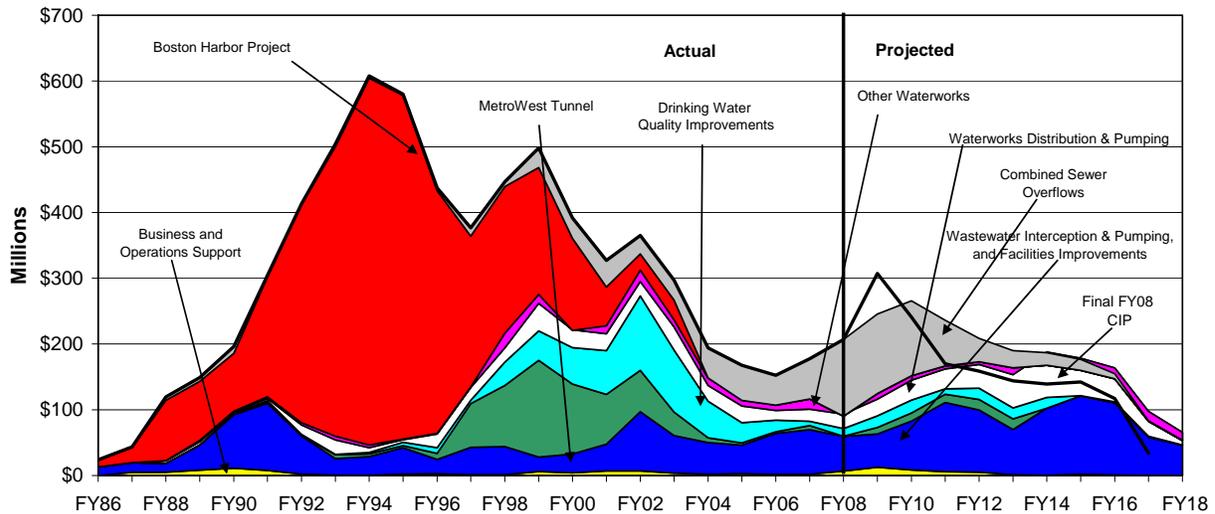
With the completion of the Deer Island facilities and the winding down of the Water Supply Improvement program, the MWRA now spends a proportionately large part of its CIP budget on the Combined Sewer Overflow ("CSO") projects mandated by state and federal agencies. The CSO program encompasses 35 projects with a total budget of \$924.6 million with projected spending of \$528.4 million through FY08 and a remaining balance of \$396.2 million. Twenty-three (23) of the 35 projects contained in the

MWRA's CSO Control Plan are complete, and four additional projects are in construction. In July 2006, the MWRA awarded the first of two construction contracts comprising the North Dorchester Bay CSO Storage Tunnel and Related Facilities. This \$148.9 million contract, is the single largest component of the MWRA's CSO Control Plan and involves constructing a 2.1-mile long soft-ground tunnel to capture CSO and stormwater flows which currently discharge along the swimming beaches of South Boston. Of the remaining eight projects, five are currently in design and design of the final three projects are scheduled to commence in 2008.

As the MWRA matures as an agency, a greater proportion of its capital budget will be designated for Asset Protection and Maintenance initiatives, absent new regulatory mandates, to preserve these operating assets. The design of this long-term strategy for capital work is identified in the Authority's Master Plan.

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

MWRA CAPITAL PROGRAM FY86-18



**Final FY09 CAPITAL IMPROVEMENT PROGRAM
Actual and Projected Expenditures**

Expended To-Date	Projected Expenditures Beyond FY08
\$6.9 billion	\$2.0 billion

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 biosolids, self-generation of approximately 25% of Deer's Island power needs, and maximizing revenue through hydropower – MWRA continues to work aggressively to use its resources efficiently, respond appropriately to climate change, and reduce the environmental impacts of its daily operations. 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 FY09 include the following:

- A comprehensive “green energy” initiative that is expected to bring solar, wind and hydroelectric power either alone or in combination to a number of MWRA facilities.
- Design build RFP to upgrade Deer Island STG for an additional 5.5 MW of power from digester gas to be released by early 2009.
- 100 kw solar panels at Deer Island began generating power in May FY08.
- FAA approval for 2 - 250kw wind turbines at Deer Island with funding budgeted in the FY09 CIP.
- Retrofitting of diesel-powered vehicles and equipment and continued purchase of alternative fuel vehicles.
- Comprehensive energy audits at the John Carroll Water Treatment Plant, the Chelsea Facility, and Deer Island Treatment Plant facilities.
- The MWRA is currently exploring wind energy initiatives at Nut Island, Carroll Water Treatment Plant and the Maintenance Facility in Southboro. Additionally, we are also pursuing new hydropower opportunities at Loring Road Covered Storage Facility and Wachusett Dam.

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.

FINAL FY09 CIP

As shown in Table 6 on the following page, the MWRA's total capital budget is \$4.9 billion with an estimated \$2.9 billion spent through FY08 and \$2.0 billion remaining to be expended. Wastewater System Improvements represent 59.4% or \$1.2 billion of remaining spending. Budgeted spending for FY09 is \$230.0 million.

Table 6

(\$ in millions)	Total Contract Amount	Projected Pmts Thr. FY08	Remaining Balance 6/30/08	FY09	FY10	FY11	FY12	FY13	FY09-13 Expenditures	Expenditures Beyond FY13
Wastewater System Improvements	\$2,409.4	\$1,225.5	\$1,183.9	\$150.3	\$172.2	\$154.6	\$109.1	\$78.1	\$664.4	\$519.6
Interception & Pumping	702.6	489.9	212.8	10.8	8.8	20.5	28.8	27.6	96.5	116.3
Treatment	482.9	51.4	431.5	28.0	54.8	66.7	42.4	21.9	213.7	217.8
Residuals	212.4	63.8	148.6	0.9	0.9	1.4	2.1	1.3	6.6	142.0
CSO	924.6	528.4	396.2	113.0	109.3	67.7	35.5	26.2	351.7	44.5
Other Wastewater	86.9	92.0	-5.2	-2.3	-1.6	-1.6	0.3	1.1	-4.1	-1.1
Waterworks System Improvements	2,378.6	1,602.6	776.0	67.9	71.6	64.1	82.8	99.4	385.8	390.3
Drinking Water Quality Improvements	641.1	508.6	132.5	16.5	18.4	7.7	16.0	15.6	74.3	58.2
Transmission	989.6	675.6	313.9	19.1	18.3	23.7	29.1	25.9	116.1	197.8
Distribution & Pumping	717.2	302.7	414.5	23.9	28.1	28.5	33.7	47.4	161.6	252.9
Other Waterworks	30.7	115.6	-84.9	8.3	6.8	4.2	4.0	10.4	33.7	-118.6
Business & Operating Systems	79.7	45.4	34.2	11.9	7.9	5.5	4.7	1.2	31.3	3.0
Total MWRA w/o Contingency	4,867.7	2,873.5	1,994.2	230.0	251.7	224.3	196.7	178.7	1,081.4	912.8

FY09 Capital Highlights

The Final FY09 CIP is \$1,081.4 million for fiscal years 2009-2013, and net projected spending of \$912.8 million for fiscal years 2014 and beyond which is primarily driven by spending on new projects from the Master Plan. The FY14-18 spending estimate will grow in future budget cycles as additional Master Plan projects are incorporated. The Final FY09 CIP includes 78 projects/subphases from the Master Plan with the highest priority ratings totaling \$986.2 million.

Highlights of Project Changes from the Final FY08 CIP to the Final FY09 CIP

The Final FY09 CIP represents updated spending and schedules for projects contained in the FY08 CIP and new spending on 18 new water and wastewater projects and subphases totaling \$36.7 million. These additional projects and subphases represent those capital initiatives outside of the FY08 CIP that staff recommend as most essential to assure reliable service to MWRA’s customers.

The Final FY09 CIP approved by the Board of Directors increased \$311.4 million above the Final FY08 CIP of which \$149.9 million is in the FY09-13 timeframe. The Wastewater System Improvements budget increased \$199.8 million with most of the increased expenditures falling in the FY09-13 timeframe. The CSO program continues to drive wastewater spending with an overall budget increase of \$113.2 million, of which \$73.8 million is in the FY09-13 timeframe. This federally mandated program is to be completed by December 2015 followed by a performance report due December 2020. The Waterworks System Improvements capital budget increased \$100.3 million fueled by increased spending in Distribution and Pumping of \$87.1 million with most of this spending beyond FY13.

Table 7

MWRA Capital Program \$ in Millions	Final FY08 CIP	Final FY09 CIP	\$ Chge.	% Chge.	FY09-13 \$ Chge.	Beyond FY13 \$ Chge.
Wastewater System Improvements	\$2,209.6	\$2,409.4	\$199.8	9.0%	\$153.6	\$17.4
Waterworks System Improvements	2,278.3	2,378.6	100.3	4.4%	(17.5)	146.5
Business & Operations Support	68.4	79.7	11.3	16.5%	13.7	(0.6)
Total MWRA	4,556.3	4,867.7	311.4	6.8%	149.9	163.3

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 expenditures outlays. The total contingency budget for the ten-year CIP (09-18) is \$113.3 million with \$64.8 million available in the FY09-13 time frame.

	Total Budget	FY09	FY10	FY11	FY12	FY13	FY09-13	Beyond FY13
Contingency Budget	\$113.3	\$15.6	\$13.8	\$12.0	\$12.1	\$11.4	\$64.8	\$48.5

The Final FY09 contingency budget is \$45.7 million or 28.7% under the Final FY08 level reflecting revised contingency assumptions in light of projected spending levels and reduction of contingency on non-tunnel related expenditures from 10% to 7% (contingency factor applied to tunnel expenditures remains unchanged at 15%). Underspensing throughout the capital improvement program has resulted in no net usage of contingency funds over the FY04-08 period.

CIP Impact on the Current Expense Budget

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. Improved systems will increase annual operating costs by over \$2.3 million by FY18 with increase of \$123,000, \$149,000, and \$227,000, in FY10, FY11 and FY14, respectively for Laboratory Information and Management System (LIMS) replacement, Geographic Information System (GIS), and Operations Management System (OMS). North Dorchester Bay is expected to go on-line in FY12 and increase annual operating costs by \$422,000. The largest increase over the next five year period results from the licensing fee for the Ultra Violet treatment at the Carroll Water Treatment Plant beginning in FY14 for \$1.4 million. Energy saving initiatives at Deer Island including upgrade of the digester gas fueled steam turbine generation (STG) system will reduce operating costs by nearly \$1.0 million by FY14. The following table summarizes projected CIP impact by project over the next 10 years.

Table 8

FISCAL YEAR	Impacts of CIP Projects (000's)									
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
Deer Island Energy	\$0	\$0	-\$56	-\$877	\$0	\$0	\$0	\$0	\$0	-\$934
FERS Biofilter	0	0	0	0	-158	0	0	0	0	-158
North Dorchester Bay CSO	0	0	422	0	0	0	0	0	0	422
Charles River CSO Controls	5	0	0	0	0	0	0	0	0	5
TOTAL WASTEWATER (inflated)	\$5	\$0	\$366	-\$877	-\$158	\$0	\$0	\$0	\$0	-\$665
John J. Carroll Water Treatment Plant	\$104	\$0	\$0	\$0	\$1,399	\$0	\$0	\$0	\$0	\$1,503
Quabbin Water Treatment Plant	0	0	0	193	32	0	0	0	0	225
Wachusett Algae Treatment Facility	0	0	0	0	0	25	26	0	0	52
Water Storage Tanks	208	0	0	0	0	0	0	0	0	208
TOTAL WATER (inflated)	\$312	\$0	\$0	\$193	\$1,431	\$25	\$26	\$0	\$0	\$1,987
Phase II: TRAC Replacement	\$0	\$162	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$162
Phase II: SAN & CPU's for TRAC and LIMS	0	97	0	0	0	0	0	0	0	97
Phase V: LIMS Replacement, GIS & OMS	123	149	0	0	227	0	0	0	0	499
Phase VI: Lawson, MS Licensing & Carroll Water Treatment Plant	0	67	0	0	0	0	0	0	0	67
SAN II	0	0	0	0	0	127	0	0	0	127
NET 2020	0	0	0	0	61	0	0	0	0	61
TOTAL BUSINESS AND OPERATIONS SUPPORT (inflated)	\$123	\$476	\$0	\$0	\$288	\$127	\$0	\$0	\$0	\$1,013
TOTAL MWRA	\$440	\$476	\$366	-\$684	\$1,560	\$152	\$26	\$0	\$0	\$2,336

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. However since FY03, the MWRA has received only \$4.9 million in capital grants. The Authority will continue to pursue grant funding, but does not expect future receipts to be a significant source of capital funding.

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 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 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. This allocation increased over the next two fiscal years, rising to \$10 million in FY06, \$18.75 million in FY07, and \$17.25 million in FY08. At this time, the Authority's budgets includes \$11.25 million in Debt Service Assistance in FY09 and subsequent years.

Planning estimates for FY10 through 2018 forecast rate revenue requirement increases of 5.7% annually for the next five years, 5.4%, 4.8%, 8.3%, and -3.6% in 2015, 2016, 2017, and 2018, respectively. With the prospect of higher rate increases in the future, the MWRA, the Advisory Board, and its member

communities have aggressively pursued rate relief in the form of larger debt service assistance payments from the State Legislature and will continue this effort to secure future rate relief.

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.

MWRA must ensure that its operating and capital costs are kept to a minimum, and that every dollar adds to the value of water and sewer services. MWRA has taken several steps toward this end.

- MWRA continues to limit increases in ongoing operating costs. The Final FY09 direct expense budget is only \$32.9 million more than spending in FY00. This represents annual increases of 1.9%, well below inflation. When adjusted for inflation, direct expenses have declined by more than \$40 million since FY00. Costs to operate new facilities, higher utility costs, healthcare costs and increased maintenance have been offset by reduction in the workforce, controlling and optimizing chemical use, and other materials.
- MWRA seeks to maximize savings in the deregulated electricity market, and now competitively procures most of its power needs.
- MWRA is working to reduce labor costs wherever appropriate. The budget assumes a staffing level of 1,255 for Fiscal Year 2009. This staffing level represents a decrease of more than 500 filled positions (over 29%) from peak staffing levels in 1997.
- MWRA uses a variety of financing tools including variable rate debt, tax-exempt commercial paper, interest rate swaps, refundings, and tender offers to take advantage of particular market conditions and appropriate maturity schedules to reduce annual debt service costs.
- MWRA continues to aggressively seek additional SRF assistance.
- Finally, MWRA uses rate stabilization funds and bond redemption funds in the context of its longer-term rate smoothing strategy.

In addition to carefully managing operating costs, MWRA will continue to explore additional financing strategies to manage assessment increases in a fiscally responsible manner.

MWRA Organization

MWRA has five divisions. 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 **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 **Finance Division** is responsible for budgeting, rate setting, accounting, grants management, risk management, treasury activities, securing financing to support the capital improvement program.

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.

The **Support Services Division** oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials warehousing, occupational health and safety, internal audit, fleet services, computer system development and management, library and records management, and mail and employee shuttle services.

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, 2007 and 2006 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Final FY09 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 366,704	\$ 376,563	\$ 388,759	\$ 397,976	\$ 9,217	2.4%
OVERTIME	31	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	129	985	1,110	125	12.7%
PROFESSIONAL SERVICES	162,172	160,597	163,537	173,647	10,110	6.2%
OTHER MATERIALS	2,625	2,354	3,546	1,385	(2,161)	-60.9%
OTHER SERVICES	428,876	436,934	436,813	456,751	19,938	4.6%
TOTAL	\$ 960,408	\$ 976,577	\$ 993,639	\$ 1,030,869	\$ 37,229	3.7%

Final FY09 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 372,349	\$ 382,213	\$ 396,195	\$ 403,496	\$ 7,301	1.8%
ADVISORY BOARD / OTHER COMMITTEES	588,059	594,364	597,445	627,374	29,929	5.0%
TOTAL	\$ 960,408	\$ 976,577	\$ 993,639	\$ 1,030,869	\$ 37,230	3.7%

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 includes the Office of Emergency Preparedness and Planning and Coordination Department, and has direct oversight of the Internal Audit, Public Affairs and AACU Department, which are funded as part of the Support Services budget.

The goals of the Executive Office are to:

- 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.
- Foster regional economic development through the maintenance and upgrading of the area's water and sewer systems.

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, holds 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 Final FY09 direct expense budget.

Budget Highlights:

- Total Final FY09 Budget of \$1.0 million, an increase of \$37,000 or 3.7% over FY08 Actual, primarily due to planned wage and salary increases.
- \$398,000 for **Wages and Salaries** represents 39% of the Executive Office budget. The Final budget includes funding for four positions.
- \$452,000 or 44% of the Executive Office final budget is for the MWRA Advisory Board staff. The Final budget which supports its operating expenses, including wages and salaries, space rental and general administrative office materials and supplies rose by \$19,000.
- \$174,000 or 17% 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 FY09 Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 200,328	\$ 298,277	\$ 240,963	\$ 335,763	\$ 94,800	39.3%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	185,006	216,872	461,633	244,761	112.9%
TRAINING & MEETINGS	-	5,371	(1,177)	2,200	3,377	-286.9%
PROFESSIONAL SERVICES	-	-	1,812,091	1,935,899	123,808	0
OTHER MATERIALS	-	2,165	191,274	48,716	(142,558)	-74.5%
OTHER SERVICES	-	1,452	8,232	22,548	14,316	173.9%
TOTAL	\$ 200,328	\$ 492,271	\$ 2,468,255	\$ 2,806,759	\$ 338,504	13.7%

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 and the Managing Director. During FY09, it is envisioned that one position will transfer to this Office and report to the Director of Emergency Preparedness. 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.

The goals of the Office of Emergency Preparedness Department are to:

- Develop and implement policies and programs to ensure facility and water/wastewater system security, public health and staff safety.

Highlights of FY09 Initiatives

- Integrate security alarm services for the MWRA’s wastewater facilities into the Authority-wide security-monitoring program.
- Integrate and maintain the DITP security technology infrastructure.
- Move Emergency Service Unit (ESU) assets to the Weston Reservoir and continue to expand the training program for the ESU’s boom deployment capability.
- Acquire and build a new mobile emergency lab.
- Implement Authority-wide security systems maintenance service contracts, including programming and systems integrations and installation of new security equipment.

- Maintain Authority-wide consolidated security guard services contract (year-two) to include Deer Island Treatment Plant (DITP), Chelsea Facility, the Carroll Water Treatment Plant (CWTP), Charlestown Navy Yard Office (CNY), and various wastewater and water facilities.
- Manage the physical security and technology components during construction and/or rehabilitation of five water pump stations, the Chelsea Screen House, the IPS and the Blue Hills Covered Storage Project.
- Manage the Tank Intrusion project and related upgrades to the Chelsea Security Center.
- Manage and coordinate the construction of a new security gate at DITP and plan for a new gate at CWTP.

Budget Highlights:

- Total final FY09 Budget of \$2.8 million, is an increase of \$339,000 or 13.7% over FY08 Actual, primarily due to increase in maintenance and professional services lines. This is the second year the OEP department will be managing the centralization of security functions and security-related expenses such as guard services contracts for facilities, security camera maintenance, and intrusion alarm services.
- \$336,000 is for **Wages and Salaries**, an increase of \$95,000 or 39.0% over FY08 Actual, primarily due to inclusion of an additional staff member and planned increase in wages and salaries. The final budget includes funding for four positions.
- \$462,000 is for **Ongoing Maintenance**, an increase of \$245,000 over FY08 Actual, primarily due to less than expected spending in FY08, and a slight contractual increase in MWRA-wide Intrusion Alarm monitoring services. The final budget includes level-funding of \$250,000 to cover the MWRA-wide security systems maintenance service contracts, programming and systems integrations services; \$50,000 for replacements of existing equipment such as head-end systems, multi-plex routers, digital recorders and security monitors. \$50,000 for purchase and installations of additional equipment such as cameras, intrusion detections, card access, motion sensors and cables. \$75,000 for maintenance and support of DITP security technology infrastructure, including intrusion detection and enhanced video monitoring capability at Deer Island' North Main and South System Pump Stations and the Main Switchgear; and \$15,000 for fencing supplies and locks for the water and wastewater facilities.
- \$1.9 million is for **Professional Services**, an increase of \$124,000 over FY08 Actual, primarily due to less than expected spending in FY08. The final FY09 Budget includes \$509,000 for security services contract for Chelsea facility, \$820,000 for DITP facility, \$323,000 for the Carroll Water Treatment Plant, \$116,000 for the CNY facility, \$83,000 for the Account Manager, and \$38,000 for one additional Roving Guard to provide security services at various facilities during emergencies and construction projects. The final budget also includes \$47,000 for the purchase/lease of patrol vehicles with other equipment for guards' site and area monitoring and patrols of the four MWRA facilities. These vehicles will be turned over to MWRA at the end of the three-year service contracts.
- \$49,000 is for **Other Materials**, a decrease of \$143,000 over FY08 actual, primarily due to purchase of unbudgeted grant equipment for mobile emergency lab. The final budget includes \$38,000 for the replenishment of safety materials and supplies after each use by the Emergency Service Unit Team (ESU).
- \$23,000 is for **Other Services**, an increase of \$14,000 over FY08 actual. The final budget includes \$20,000 for the mandatory testing, inspections and programming of the self-contained breathing apparatus (SCBA) units by the Intermediate Pump Station (IPS) Company, for the ESU Team.

FY08 Accomplishments:

- Secured a \$100,000 grant toward the Deer Island gate under the Buffer Zone Protection Program
- Secured \$275,000 in Homeland Security Grants for (1) building an Emergency Mobile Lab and (2) to purchase three SCAN units
- Implemented and awarded the \$811,000 Tank Intrusion contract
- Coordinated the sensor replacement component of the Norumbega Covered Storage hatch inspection project
- Established a new boom deployment capability, including a boat, trailers and a new support truck, for the Emergency Service Unit/Metro Ops boom deployment teams
- Managed the transition of contract security services to a new provider

PLANNING AND COORDINATION DEPARTMENT

Final FY09 Current Expense Budget PLANNING DIVISION by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 1,822,172	\$ 1,880,699	\$ 1,927,749	\$ 1,982,593	\$ 54,844	2.8%
OVERTIME	66	393	601	-	(601)	-100.0%
FRINGE BENEFITS	-	12	6	-	(6)	-100.0%
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	11,192	18,113	10,812	23,156	12,344	114.2%
PROFESSIONAL SERVICES	10,412	7,109	600	16,600	16,000	2666.7%
OTHER MATERIALS	130,921	129,290	136,269	146,875	10,606	7.8%
OTHER SERVICES	147,597	141,195	169,474	163,319	(6,155)	-3.6%
TOTAL	\$ 2,122,359	\$ 2,176,811	\$ 2,245,510	\$ 2,332,543	\$ 87,032	3.9%

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 analytic 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 maintain 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. Provide demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, perform drought forecasting and planning; evaluate system expansion requests; and develop and maintain 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 review and process system expansion requests, water supply agreements, and emergency connection 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.

Highlights of FY09 Initiatives

- Advance MWRA-wide energy and sustainability initiatives and continue long-term research related to climate change.
- Continue advocacy-related research and analysis in support of MWRA water system expansion.
- Implement new community rebate program for toilet retrofits in public buildings.
- Manage the agency-wide environmental/regulatory review process.
- Advance concept planning and design for capital projects in conjunction with Engineering and Operations staff, and
- Effectively communicate water quality information to customers and health officials.

Budget Highlights:

- \$2.0 million is for **Wages and Salaries**, an increase of \$55,000 or 2.8% over FY08 Actual, primarily due to planned increase in wages and salaries. The Final FY09 Budget includes funding for 24 positions.
- \$23,000 is for **Training and Meetings**, an increase of \$12,300 over FY08 Actual, reflecting the assumption of national organization leadership posts by the department's two senior managers, increases in travel costs, and lower spending than budgeted in FY08.
- \$17,000 is for **Professional Services**, an increase of \$16,000 over FY08 Actual. The Final FY09 Budget includes \$10,000 in matching funds for a DEP water conservation grant.
- \$147,000 is for **Other Materials**, an increase of \$10,600 or 8.0% over FY08 Actual, primarily due to costs associated with the Consumer Confidence Report. The Final FY09 Budget includes \$119,000 for postage and mailing of the Consumer Confidence Report (CCR), \$15,000 for water conservation kits, and \$10,000 for mapping supplies.
- \$163,000 is for **Other Services**, a decrease of \$6,000 or 3.6% from FY08 Actual, primarily due to lower CCR printing costs. The Final FY09 Budget includes \$138,000 for printing the CCR, \$10,000 for printing lead in tap water brochures, and \$10,000 for reprinting water conservation bill stuffers.

FY08 Accomplishments:

- Prepared and submitted for MWRA Board of Directors review an updated Business Plan for FY2009-2013.
- Secured \$80,000 in DEP grant funding for expanded water conservation-related activities for member communities and \$10,000 in national funding through the Boston Public Health Commission for fluoridation system improvements.

- Identified opportunities in the water supply system for development of additional hydroelectric power generation and obtained over \$400,000 in grant funding to advance facility development.
- Represented MWRA and member community interests in response to proposed changes to EPA drinking water rules and in the Commonwealth's renewal of MWRA's Water Management Act Registration.
- Worked with Engineering and Operations staff to advance planning to address failure risks in the MWRA water distribution and transmission system, and initiated a comprehensive analysis of fifteen climate change models to advance understanding of potential impacts on the MWRA water system.



Operations Division
Budget

OPERATIONS DIVISION

Final FY09 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 61,728,182	\$ 62,236,989	\$ 64,939,674	\$ 68,117,228	\$ 3,177,554	4.9%
OVERTIME	3,437,562	3,738,312	3,695,290	3,833,556	138,266	3.7%
FRINGE BENEFITS	68,256	76,965	73,923	76,991	3,068	4.2%
WORKERS' COMPENSATION	-	-	-	-	-	-
CHEMICALS	6,878,847	7,266,880	8,642,802	9,876,380	1,233,578	14.3%
UTILITIES	27,494,449	23,877,201	25,768,591	29,496,920	3,728,329	14.5%
ONGOING MAINTENANCE	16,116,685	22,206,984	21,965,418	24,339,934	2,374,516	10.8%
TRAINING & MEETINGS	107,264	190,922	159,750	174,079	14,329	9.0%
PROFESSIONAL SERVICES	5,076,587	5,066,978	3,604,540	4,067,555	463,015	12.8%
OTHER MATERIALS	3,300,461	4,175,795	3,875,200	3,588,092	(287,108)	-7.4%
OTHER SERVICES	16,175,850	18,185,623	18,692,193	19,419,726	727,533	3.9%
TOTAL	\$ 140,384,143	\$ 147,022,649	\$ 151,417,381	\$ 162,990,461	\$ 11,573,080	7.6%

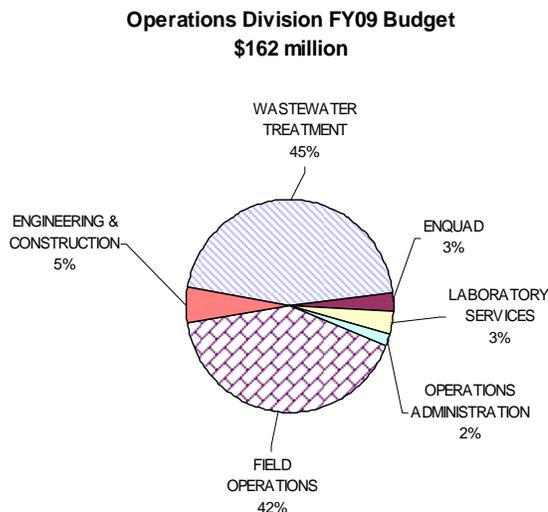
Final FY09 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
OPERATIONS ADMINISTRATION	\$ 3,315,765	\$ 3,911,975	\$ 3,508,179	\$ 3,099,348	\$ (408,831)	-11.7%
CSO PROGRAMS/ENERGY	380,828	(887)	(802)	-	802	-100.0%
WASTEWATER TREATMENT	64,302,817	65,900,649	66,740,245	73,910,370	7,170,125	10.7%
FIELD OPERATIONS	55,194,617	60,031,796	63,727,381	67,641,528	3,914,147	6.1%
LABORATORY SERVICES	4,824,455	5,244,555	5,040,457	5,585,450	544,993	10.8%
ENQUAD	4,755,486	4,084,769	4,152,301	4,350,579	198,278	4.8%
ENGINEERING & CONSTRUCTION	6,673,887	7,849,791	8,249,706	8,403,187	153,481	1.9%
CAPITAL ENG & CONSTR.	936,286	-	(85)	-	85	(1)
TOTAL	\$ 140,384,143	\$ 147,022,649	\$ 151,417,381	\$ 162,990,461	\$ 11,573,080	7.6%

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 FY09 Current Expense Budget 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 45% 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**, which accounts for 42% 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, 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.

The Operations Division's goals are to:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment and delivery and wastewater transport and treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the 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 FY08 Accomplishments

Operations, Energy, and New Facilities Start-ups:

- Operated the start-up phase of the new Union Park CSO Detention Treatment Facility (start-up in Q3 FY07) in conjunction with BWSC and successfully operated the BOS019 CSO facility (start-up in FY07).
- In Q4, commenced operation of the new Braintree-Weymouth Replacement Pump Station and discontinued operation of the Commercial Point and Fox Point CSO facilities in preparation for decommissioning in FY09.
- Implemented an extensive monitoring program throughout CWTP, made treatment plant process and physical modifications, and convened an expert panel to review MWRA's actions and augment recommendations for addressing water quality issues at the Carroll Water Treatment Plant (CWTP).
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals including oxygen, aqua ammonia, hydrofluosilicic acid, and sodium bisulfite at the CWTP; and ferrous and ferric chloride at the DITP.

- Continued conducting black-start testing at both the DITP and CWTP to ensure power reliability during shutdowns and power failures.
- Generated \$1.1 million in revenue at the Oakdale Station hydroelectric plant.
- Deer Island continued to leverage its 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 \$2.3 million through FY08. Deer Island also self-generated 21% of the plant's total required power during this time period.
- Designed and installed a roof-mounted photovoltaic system at the Deer Island Treatment Plant.
- Awarded contract to retrofit existing lighting equipment and controls at Deer Island to reduce power usage.
- Processed at the Pelletization Plant an average of 103 tons per day of sludge during FY08.

Maintenance:

- The Operations Division spent \$22 million on maintenance of which \$10.9 million was for materials and \$11 million for services.
- Completed numerous major maintenance projects including the following:
 - Cleaned and repaired storage tanks at the CWTP.
 - Repaired the Bridge Crane and replaced the heating system in Shaft 8 in the water system.
 - Coil replacement at the Columbus and Ward Street facilities.
 - Replaced air dampener at the Nut Island headworks facility.
 - Roof replacement on several buildings at the Deer Island facilities.
 - Significant progress on facility painting and coating repair at Deer Island.
 - Changed the raw wastewater pumps to mechanical seals in the North Main Pump Stations and Winthrop Terminal facilities of the Deer Island Treatment Plant.
 - Procured and implemented numerous service contracts such as electrical testing for Field Operations facilities.
 - Oakdale Power Station repairs.
 - Water main leak repairs in Medford.
- In the water system, exercised 883 and replaced 20 mainline valves; exercised 517 and replaced 12 blow-off valves; and surveyed 271 miles of water mains for leaks.
- In the wastewater system, inspected 34 miles and cleaned 20 miles of pipeline. Also inspected 684 structures and rehabilitated 64 manholes.

Engineering, Construction, and Planning:

- Water System accomplishments include:
 - Professional Services Award: Lynnfield /Saugus Pipeline Design, Technical Assistance Consulting Services for CWTP, UV Disinfection Facilities Design CS/RI
 - Construction Contract Awards: Walnut Street Pipeline Rehabilitation, Cosgrove Intake and Shaft A PCB Removal, Wachusett Dam PCB Removal, CWTP Storage Tank Cleaning and Pipe Extension, University

Avenue Water Main, Water Tank Intrusion Alarms, Northern High Service Revere, Malden Pipeline Improvements Sections 53-Revere, and Southern Spine Section 107 Phase 1

- o Construction Contract Substantial Completions: Lynnfield/Saugus Interim Connection, Chicopee Valley Aqueduct Redundancy, Spot Pond Supply Mains – Rehab South, CWTP Ancillary Mods Construction 1, and Heath Hill Road Section 52
- Wastewater System major achievements include:
 - o Professional Services Award: Prison Point HVAC Upgrades Design, Charles River CSO Interceptor Optimization Evaluation, Remote Headworks Concept Design, East Boston Branch Relief Sewer, Remote Headworks Concept Design, and Brookline Connection/Cottage Farm Overflow Construction Inspection Services
 - o Construction Contract Awards: Wastewater Transport SCADA Implementation Phase II, Cottage Farm Brookline Connection and Inflows Controls, and East Boston Branch Sewer Relief
 - o Construction Contract Substantial Completions: Section 113 Siphon Modifications, South Dorchester Bay Sewer Separation Commercial Point, Braintree-Weymouth Replacement Pump Station, Upper Neponset Valley Sewer System Sections 685-687, Wastewater Meter System Replacement, and Millbrook Valley Sewer Rehab Sections 80 & 83
 - o Completion of 100% designs for East Boston Branch Relief Sewer Sections 225 and 256 and North Dorchester Bay CSO Facilities
- Developed cost-sharing agreement with Town of Saugus for design of a water pipeline on Route 1.
- Deer Island’s achievements include:
 - o Awarded contracts for Electrical Upgrade 3 construction, Hypochlorite Tanks No. 2 and 4 Relining, and Replacement of Two Grit Air Handler Units.
 - o Substantially completed the Ancillary Modification Construction 2-2 (South System Pump Station VFDs), Sodium Hypochlorite Tanks 1&3 Relining projects
- At the Clinton Wastewater Treatment Plant, substantially completed installation of the Permanent Standby Generator project.
- In compliance with MWRA’s CSO Plan, BWSC (with MWRA oversight) substantially completed the South Dorchester Bay Sewer Separation Project.
- In conjunction with MWRA’s Planning Department, updated the Board of Directors on the on-going and proposed studies and capital projects that address MWRA’s water transmission and lack of redundancy.

Environmental:

- Currently implementing TRAC department’s new information systems (TRAC-IS).
- The TRAC department completed the following EPA-required work for significant industrial users: 250 inspections, 188 monitoring events, and 538 sampling of connections. This department also issued or renewed 363 permits including significant industrial users (SIU), non-SIU, and municipal permits.
- The TRAC department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY07.
- Awarded two contracts for phase 6 of the Harbor and Outfall Monitoring Program to provide environmental monitoring of outfall effects as required by MWRA’s discharge permit for DI. Also awarded Massachusetts Bay Modeling Services contract.

- Operated DITP without any NPDES Permit violations for FY08.
- The Lab provided routine laboratory services and analysis for approximately 267,000 tests and also provided as-needed analytical support for numerous projects on topics such as the harbor and outfall monitoring e-coli verification procedures, ozone contractors solids materials, and profiling testing at the CWTP
- EnQuad carried out required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish, and CSO receiving water quality, finalizing 24 technical reports to date in FY07-FY08 and presenting results to the Outfall Monitoring Science Advisory Panel (OMSAP) and public.

FY09 Operations Division Budget Highlights:

- The total FY09 Budget for the Operations Division is \$163 million, which is \$11.6 million or 7.6% more than FY08 spending.
- New facilities-related increases include approximately \$350,000 for utilities, and maintenance for operation of the Braintree-Weymouth Replacement Pump Station offset by (\$150,000) due to the decommissioning of the Fox Point and Commercial Point CSO facilities.
- Other significant increases from FY08 spending include:
 - Net increase of \$2.4 million for **Maintenance** primarily due to new service contracts (i.e. equipment, meters), increases in the price and/or scope of several contracts to be re-bid before or during FY09 (i.e. grounds maintenance, DI painting , DI roof replacement), and additional projects required to rehabilitate aging facilities.
 - **Wages and Salaries** increases primarily due to collective bargaining agreements (+\$2.0 million) and the expectation of more filled positions during FY09 than in FY08 due to the recent implementation of several reorganizations. The Operations Division's FY09 Budget continues to fund 965 positions consistent with the FY08 budget.
 - **Utilities** (+\$3.4 million excluding new facilities impacts) primarily due to higher price projections for FY09 for electricity, diesel fuel, and water. Also, DI's FY09 budget includes +\$1.4 million as compared to FY08 spending for diesel fuel purchases. DI used significantly less fuel in FY08 than expected for wet weather events and therefore did not need to replenish inventory as planned.
 - **Chemicals** (+\$1.2 million) primarily due to price increases for wastewater treatment chemicals and usage increases at Deer Island for struvite control and enterococcus treatment when the new permit becomes effective (assuming April 2009 in FY09 Budget).
 - **Other Services** +\$728,000 primarily for quantity increases and inflation adjustments per the residuals processing contract (net +\$198,000) as compared to FY08 levels. The FY09 Budget is based on an average of 106 tons per day (TPD) based on historical trends vs. 103 TPD processed in FY08.
 - Net increase to **Professional Services** (+\$463,000) primarily due to the inclusion of \$375,000 for use of as-needed design services to support CEB maintenance projects at DI. As of FY09, DI will more appropriately reflect the on-going cost of asset management by charging the expenditures associated with maintenance-related work to the CEB vs the CIP as in the past.
 - Net increase to **Overtime** (+\$138,000) primarily because overtime for weather related emergencies is budgeted in FY09 based on historical trends whereas emergency related overtime was significantly less than expected in FY08 due to milder weather.
- The FY09 Budget is also subject to risk in the following areas: timing of the implementation of Deer Island's new NPDES permit (FY09 Budget assumes start-up in April 2009), chemical and utility usage and prices,

potential impacts of the Deer Island cable relocation project, and more than expected emergency-related maintenance and overtime needs.

Highlights of FY09 Initiatives

Operations, Energy, and New Facilities Start-ups:

- Continue with the start-up and first year operations of the Braintree-Weymouth Replacement Pump Station (start-up in Q4 FY08).
- During the second year of operations, identify and implement optimization opportunities at the new Union Park CSO Detention Treatment Facility and BOS019 CSO facility (both commenced operations in FY07).
- Continue struvite remediation and prevention efforts at Deer Island by monitoring and controlling ortho-phosphate levels in the waste-stream through the usage of ferrous chloride and/or ferric chloride.
- Competitively procure electricity for the Deer Island Treatment Plant when the existing contract expires in FY09.
- 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 feasibility study, implementation, and the use of wind-power at MWRA facilities. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Provide 23% of Deer Island's power requirements through self-generation.
- Continue optimization of energy and chemical usage at the CWTP based on the recommendations from the energy audit and water quality expert panel.

Engineering & Construction:

- Award numerous contracts for the Wastewater System including the following:
 - o Wastewater Central Monitoring Construction 3
 - o Interceptor Renewal #7 Study
 - o Deer Island: Ancillary Modifications Design 4, Fire Alarm System replacement Design, Digester Module Pipe Replacements, Centrifuge Backdrive Replacement, Digester Sludge Pump Replacement, South System Pump Station Lube System Replacement, Transformer Replacement, Low Voltage Lighting Replacement, Primary and Secondary Clarifier Construction
 - o Central Lab Fume Hood Replacement
 - o Residuals Plant Condition Assessment and Facilities Plan and the Fore River Service Area Pier Rehabilitation Design
 - o CSO Program: North Dorchester Bay CSO Facilities Control Construction, East Boston Branch Sewer Relief Sections 255 & 256 Construction, East Boston Branch Sewer Relief 38 & 207 Replacement Construction, Brookline Sewer Separation Construction (managed by Town of Brookline) and Bullfinch Triangle Sewer Separation Construction (managed by BWSC).
 - o West Roxbury Tunnel Design CS/RI and Hingham Pump Station Isolation Gate
- Award numerous contracts for the Water System including the following:
 - o Winsor Power Station Chapman Valve Repair
 - o Lower Hultman Rehab Construction and Chlorine Building Demolition Contracts

- o Wachusett Reservoir Spillway Improvement PCB Material Remediation Phase 2 Construction
 - o WASM 3, Section 28 Construction, Section 36 Design
 - o Southern Spine Distribution Mains Section 107 Phase 2 Construction
 - o New Connecting Mains Shaft 7 to WASM 3: Northeast Segment Construction
 - o Water Transmission Redundancy Study
 - o Section 97A Construction
 - o CWTP Closed Loop Cooling Water System Construction
 - o Quabbin UV Design/CA/RI
 - o Northern High Service Pipeline Improvements Section 53 Construction
- Complete the following Capital Improvement Program design and construction phases:
 - o Wastewater System - Wastewater Central Monitoring Construction 2, Interceptors Rehab Section 160, DI Study/Conceptual Design Concrete Repair, DI Hypochlorite Tanks 2&4 Relining, Clinton Soda Ash System Replacement, Central Lab Metals Lab Modification Construction, CSO Cottage Farm Brookline Connection Inflow Controls Construction, and CSO Morrissey Boulevard Drain Construction.
 - o Water System - Wachusett Reservoir Spillway Improvements and Winsor Spillway and Drain Repairs, Wachusett Dam Crest and Cosgrove/Shaft A PCB Removal, Valve Replacement Construction 6, Walnut Street and Fisher Hill Pipeline Rehabilitation Construction Phase 1, Southern Spine Distribution Mains Section 107 Construction Phase 1, NIH Redundancy and Covered Storage Concept Plan, Spot Pond Supply Mains Design, University Ave Pipeline Construction and CVA Redundancy Pipeline Design.

Maintenance:

- Continue work on numerous major projects in FOD including procurement and implementation of service contracts for wastewater meter upkeep/repair, grounds maintenance, and Chestnut Hill Nuisance Weed Dredging.
- Continue with repairs to the Rutland-Holden sewer line using both in-house and contractor services.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, building roof replacement, elevator controller replacement, and HVAC unit replacements.
- 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.
- Procure and implement two year project to inspect and clean two digesters at the Clinton Wastewater Treatment Plant.

Environmental:

- Advocate with regulators for the adoption of a reduced scope of the harbor and outfall monitoring plan to account for seven years of post-outfall data.
- Carry out the required outfall harbor and river monitoring, continue improving in-house data management, 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.

- Implement the first full year of use of the new TRAC-IS. For the Laboratory Information Management System (LIMS), continue to implement the new system in conjunction with MIS.
- Plan for the start-up in early FY10 of 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 DITP NPDES permit (assumed as of April 2009).

OPERATIONS ADMINISTRATION

Final FY09 Current Expense Budget OPERATIONS ADMINISTRATION							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09		
WAGES & SALARIES	\$ 2,301,551	\$ 1,912,784	\$ 1,842,292	\$ 1,599,596	\$ (242,696)		-13.2%
OVERTIME	268	16	277	-	(277)		-100.0%
FRINGE BENEFITS	-	-	-	-	-		-
WORKERS' COMPENSATION	-	-	-	-	-		-
CHEMICALS	-	-	-	-	-		-
UTILITIES	-	-	-	-	-		-
ONGOING MAINTENANCE	22,786	(231)	-	-	-		-
TRAINING & MEETINGS	523	625	1,814	3,529	1,715		94.5%
PROFESSIONAL SERVICES	-	-	-	75,000	75,000		-
OTHER MATERIALS	730,465	1,855,134	1,386,091	1,161,400	(224,691)		-16.2%
OTHER SERVICES	260,171	143,647	277,705	259,824	(17,881)		-6.4%
TOTAL	\$ 3,315,765	\$ 3,911,975	\$ 3,508,179	\$ 3,099,348	\$ (408,831)		-11.7%

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:

- \$1.6 million for **Wages and Salaries**, which represents 52% of the FY09 CEB. The budget includes funding for 26 positions, which is three less than were funded in the FY08 budget. The budget also includes a vacancy rate adjustment of (\$250,000) to account for attrition within the division during the year.
- **Professional Services** includes \$50,000 for energy audits of the division’s facilities and as-needed professional assistance with the procurement of electricity contracts. The budget also includes \$25,000 to cover electrical inspections of the Division’s facilities as required by the Massachusetts Department of Public Safety.
- \$1.2 million for **Other Materials**, a decrease of \$225,000 compared to FY08 spending primarily due to fewer vehicle replacements planned for FY09 versus purchased in FY07 and FY08. Actual spending for vehicle purchases for FY02-FY08 is as follows:

FY02:	\$ 622,000
FY03:	\$ 120,000
FY04:	\$1,580,000
FY05:	\$1,237,289
FY06:	\$ 717,381
FY07:	\$1,846,396
FY08:	\$1,425,758
FY09 CEB:	\$1,150,000

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. Analysis as of FY07 year-end indicated that approximately half of MWRA’s active, operable fleet will be seven years or older during FY08.

- \$260,000 is for **Other Services** of which \$259,000 is for Authority-wide memberships including the American Waterworks Research Foundation and the National Association of Clean Water Agencies. Membership funding for the Water Environment Research Foundation shifted to the Environmental Quality Department in the FY08 Budget.

WASTEWATER TREATMENT

Final FY09 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 15,893,391	\$ 16,132,014	\$ 16,764,551	\$ 17,759,500	\$ 994,949	5.9%
OVERTIME	1,134,334	1,177,058	1,214,864	1,177,330	(37,534)	-3.1%
FRINGE BENEFITS	22,643	25,282	27,028	24,787	(2,241)	-8.3%
CHEMICALS	2,135,041	2,353,539	2,828,939	3,229,443	400,504	14.2%
UTILITIES	18,747,498	14,959,308	15,531,352	18,329,795	2,798,443	18.0%
ONGOING MAINTENANCE	10,307,277	14,542,271	14,118,592	16,178,443	2,059,851	14.6%
TRAINING & MEETINGS	53,157	84,074	39,674	71,100	31,426	79.2%
PROFESSIONAL SERVICES	915,251	981,675	104,988	537,188	432,200	411.7%
OTHER MATERIALS	553,653	423,512	665,675	453,894	(211,781)	-31.8%
OTHER SERVICES	14,540,572	15,221,916	15,444,582	16,148,890	704,308	4.6%
TOTAL	\$ 64,302,817	\$ 65,900,649	\$ 66,740,245	\$ 73,910,370	\$ 7,170,125	10.7%

Final FY09 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
DEER ISLAND	\$ 48,178,045	\$ 48,202,995	\$ 48,776,728	\$ 55,459,671	\$ 6,682,943	13.7%
RESIDUALS	15,094,148	16,460,289	16,494,002	16,875,448	381,446	2.3%
CLINTON	1,030,625	1,237,365	1,469,514	1,575,251	105,737	7.2%
TOTAL	\$ 64,302,817	\$ 65,900,649	\$ 66,740,245	\$ 73,910,370	\$ 7,170,125	10.7%

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 45% of the Operations Division's FY09 Budget and 34% of MWRA's FY09 direct expense budget.

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 was barged (through March 2004) and pumped through the Braintree-Weymouth tunnel (starting April 2005) 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 FY09 Current Expense Budget DEER ISLAND							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09		
WAGES & SALARIES	\$ 15,354,260	\$ 15,585,586	\$ 16,135,014	\$ 17,105,137	\$ 970,123	6.0%	
OVERTIME	1,087,636	1,123,069	1,136,768	1,118,343	(18,425)	-1.6%	
FRINGE BENEFITS	21,925	24,474	25,951	23,962	(1,989)	-7.7%	
CHEMICALS	2,007,219	2,187,772	2,618,952	3,031,560	412,608	15.8%	
UTILITIES	18,495,331	14,705,747	15,245,426	17,995,978	2,750,552	18.0%	
ONGOING MAINTENANCE	9,202,941	12,629,991	12,280,634	14,559,850	2,279,216	18.6%	
TRAINING & MEETINGS	53,457	84,074	37,527	68,000	30,473	81.2%	
PROFESSIONAL SERVICES	913,583	966,959	100,942	515,500	414,558	410.7%	
OTHER MATERIALS	525,545	376,989	535,205	381,356	(153,849)	-28.7%	
OTHER SERVICES	516,148	518,335	660,310	659,985	(325)	0.0%	
TOTAL	\$ 48,178,045	\$ 48,202,995	\$ 48,776,728	\$ 55,459,671	\$ 6,682,943	13.7%	

Program Description and Goals:

The **Deer Island Treatment Plant** budget accounts for 34% of the Operations Division's FY09 Budget. 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.

After pumping, north system flows pass through grit chambers that remove grit for disposal in an off-island landfill. South system flows are pre-treated for grit at the remote headworks on Nut Island. 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 that 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 that 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 FY09 Budget assumes treatment of an average flow of 365.4 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 FY09 Budget accounts for the impact of self-generation of electricity from the steam turbine generator, combustion turbine generators, and the hydroelectric facility. In total, use of these assets will meet approximately 23% of the total energy requirements resulting in an avoided cost savings of approximately \$4.6 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 FY09 Budget assumes the new permit will go into effect as of April 2009 at which time the 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 \$970,000 or 6.0% increase from FY08 spending primarily due to contractual increases and more positions filled in FY09 than on average in FY08 (239 positions). The FY09 Budget includes 244 funded positions, one less position than funded in the FY08 Budget.
- \$1.1 million for **Overtime** for operational coverage, critical maintenance projects, regulatory requirements (i.e. inspections), and emergencies.
- \$3.0 million for **Chemicals**, a \$413,000 or 15.8% increase from FY08 spending primarily due to the inclusion of \$380,000 for enterococcus treatment which will be required when the new NPDES permit goes into effect. This will result in increased sodium hypochlorite and sodium bisulfite usage. The remainder of the increase is the net effect of price increases offset by net quantity adjustments based on multi-year historical usage.
- \$18.0 million for **Utilities**, a \$2.75 million or 18% increase from FY08 spending. The FY09 Budget includes \$15.2 million for electricity and \$1.45 million for diesel fuel. Electricity increases by \$1.4 million or 10% primarily due to price increases. The FY09 Budget assumes a full year of electricity unit pricing under a spot market contract. Diesel fuel increases by \$1.4 million due to price increases and more purchases in FY09 than in FY08. DI used significantly less fuel in FY08 than expected for wet weather coverage and therefore did not need to replenish inventory as planned. In addition, the FY09 Budget includes \$1.3 million for water which is a \$45,000 or 3% decrease from FY08 spending primarily due significantly less projected usage offset by increases to MWRA's wholesale water price. DI's usage has recently dropped by approximately 30% due to the change over to mechanical seals in NMPS, SSPS and Winthrop facilities and leak repairs.
- \$14.6 million for **Maintenance** including \$4.7 million for materials and \$9.9 million for services. The budget is \$2.3 million or 18.6% greater than FY08 spending primarily due to increased maintenance needs (i.e. painting and coating repair, equipment retrofitting) associated with an aging facility. Also, the budget includes expected price increases for service contracts that will be rebid in FY09.

- \$516,000 for **Professional Services**, a \$415,000 increase from FY08 spending due to the inclusion of \$375,000 for use of as-needed design services to support CEB maintenance projects. As of FY09, DI will more appropriately reflect the on-going cost of asset management by charging the expenditures associated with maintenance-related work to the CEB vs the CIP as in the past.
- \$381,000 for **Other Materials**, a \$154,000 or 29% decrease from FY08 spending primarily because DI replaced electric vehicles and some safety equipment in FY08 and will not need to incur those expenditures again in FY09.
- \$660,000 for **Other Services** primarily for the ambulance service contract \$397,000, permit fees \$105,000, telephones \$40,000, and freight charges \$20,000.

RESIDUALS MANAGEMENT

Final FY09 Current Expense Budget						
RESIDUALS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 97,494	\$ 100,796	\$ 102,663	\$ 105,535	\$ 2,872	2.8%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	990,575	1,660,085	1,633,243	1,296,549	(336,694)	-20.6%
TRAINING & MEETINGS	(300)	-	2,147	3,000	853	39.7%
PROFESSIONAL SERVICES	-	13,028	1,459	-	(1,459)	-100.0%
OTHER MATERIALS	-	318	250	300	50	20.0%
OTHER SERVICES	14,006,379	14,686,062	14,754,241	15,470,064	715,823	4.9%
TOTAL	\$ 15,094,148	\$ 16,460,289	\$ 16,494,002	\$ 16,875,448	\$ 381,446	2.3%

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. 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.

- The average dry tons per day (TSS) is budgeted at 106 tons per day vs. an average of 103 TPD processed in FY08.
- 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. The current two year contract with the vendor started in May 2007.
- Historically MWRA had a long term (30 year) contract required by law to provide reserve landfill capacity for disposal of sludge as a back-up in the event of any problems with the primary disposal methods. During FY06 MWRA applied for and was granted permission by the Federal District Court to terminate this contract effective March 31, 2006 on the basis of demonstrated reliability of its primary residuals program. This resulted in an \$817,000 annual savings for the Authority. NEFCo remains contractually obligated to provide back-up disposal capability, and will meet this obligation by maintaining a list of disposal sites.

Budget Highlights:

- \$106,000 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.
- \$1.3 million or 8% of the FY09 Budget 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 FY09 Budget is \$337,000 or 21% less than the FY08 spending because NEFCo's contract includes a decrease in maintenance spending for calendar year 2009, of which six months fall within fiscal year 2009.
- \$14.4 million or 85% of the FY09 Budget is for **Sludge Pelletization**. The \$682,000 or 5.0% increase from FY08 spending is the net effect of inflationary adjustments per NEFCo's contract (inflation linked to current indexes) and quantity increases as compared to FY08 levels. The FY09 Budget is based on an average of 106 tons per day (TPD) based on historical trends vs. 103 TPD processed in FY08.
- \$987,000 or 6% of the FY09 Budget is for **Grit and Screenings** disposal, an increase of \$3,000 from the FY08 spending. The increase is the net effect of projected price increases when the current contract expires (Q4) offset by lower quantities assumed in FY09 (5,400 tons, based on historical averages) than actually processed in FY08 (5,746 tons).
- \$40,000 of the FY09 Budget is for **Permit Fees**, an increase of \$38,000 from the FY08 spending. The FY09 Budget includes \$37,500 for sludge dryer stack testing of two trains required by DEP to be performed every two years.

CLINTON WASTEWATER TREATMENT PLANT

Final FY09 Current Expense Budget CLINTON							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09		
WAGES & SALARIES	\$ 441,637	\$ 445,633	\$ 526,875	\$ 548,827	\$ 21,952	4.2%	
OVERTIME	46,698	53,988	78,096	58,987	(19,109)	-24.5%	
FRINGE BENEFITS	718	808	1,077	825	(252)	-23.4%	
CHEMICALS	127,823	165,767	209,987	197,883	(12,104)	-5.8%	
UTILITIES	252,166	253,562	285,925	333,817	47,892	16.7%	
ONGOING MAINTENANCE	113,761	252,196	204,715	322,044	117,329	57.3%	
TRAINING & MEETINGS	-	-	-	100	100	-	
PROFESSIONAL SERVICES	1,668	1,688	2,588	21,688	19,100	738.0%	
OTHER MATERIALS	28,108	46,205	130,220	72,238	(57,982)	-44.5%	
OTHER SERVICES	18,046	17,519	30,031	18,841	(11,190)	-37.3%	
TOTAL	\$ 1,030,625	\$ 1,237,365	\$ 1,469,514	\$ 1,575,251	\$ 105,737	7.2%	

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:

- \$549,000 for **Wages and Salaries** represents 35% of the FY09 Budget. This funds seven positions and one part-time temporary contract clerical position.
- \$59,000 for **Overtime**, a \$19,000 or 24% decrease compared to FY08 actuals. FY08 spending was greater than budgeted due to a process upset that required additional monitoring to ensure permit compliance. Overtime is used to meet the 24 hour, 7 day per week emergency coverage requirement and to provide increased maintenance resulting from an aging facility.
- \$198,000 for **Chemicals** represents 13% of the FY09 Budget. This is a \$12,000 or 6% decrease from FY08 spending primarily due to additional chemicals required in FY08 to address a process upset. Clinton's FY09 budget includes price increases for several chemicals and also quantity increases for soda ash to maintain a higher alkalinity. A new NPDES permit is expected in FY09 and may require additional chemical expenditures.
- \$334,000 for **Utilities** represents 21% of the FY09 Budget. This is \$48,000 or 17% more than FY08 spending primarily due to expected electricity price increases.

- \$322,000 for **Maintenance** represents 20% of the FY09 Budget. This is a \$117,000 or 57% increase from FY08 spending primarily due to the inclusion of \$86,000 for the first phase of inspecting and cleaning Clinton's two digesters.
- \$22,000 for **Professional Services**, an increase of \$19,000 from FY08 spending. The FY09 Budget includes \$20,000 for design support for landfill and digester cleaning projects.
- \$72,000 for **Other Materials**, including \$59,000 for clean fill for the landfill operation. The FY09 Budget is \$58,000, or 44%, less than FY08 spending due to the acceleration of purchases in FY08 to provide inventory for use in FY09. Based on a regulatory review, Clinton has suspended the sludge reuse program at the landfill and is now only using new fill for mixing and covering.

FIELD OPERATIONS

Final FY09 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 31,122,959	\$ 31,787,874	\$ 33,397,317	\$ 35,213,588	\$ 1,816,271	5.4%
OVERTIME	2,195,710	2,441,917	2,275,528	2,501,391	225,863	9.9%
FRINGE BENEFITS	44,758	50,685	45,366	50,500	5,134	11.3%
CHEMICALS	4,743,805	4,913,341	5,813,864	6,646,937	833,073	14.3%
UTILITIES	8,620,737	8,765,861	10,216,796	11,139,200	922,404	9.0%
ONGOING MAINTENANCE	5,401,063	7,222,109	7,637,475	7,825,597	188,122	2.5%
TRAINING & MEETINGS	39,700	90,698	76,299	70,000	(6,299)	-8.3%
PROFESSIONAL SERVICES	601,686	1,166,442	625,450	500,560	(124,890)	-20.0%
OTHER MATERIALS	1,163,076	902,493	932,189	966,700	34,511	3.7%
OTHER SERVICES	1,261,123	2,690,376	2,707,097	2,727,055	19,958	0.7%
TOTAL	\$ 55,194,617	\$ 60,031,796	\$ 63,727,381	\$ 67,641,528	\$ 3,914,147	6.1%

Final FY09 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
TRAC	\$ 3,124,184	\$ 3,180,877	\$ 3,381,274	\$ 3,530,272	\$ 148,998	4.4%
WASTEWATER OPERATIONS	10,914,643	10,408,746	11,439,765	12,725,588	1,285,823	11.2%
WATER OPERATIONS & MAINT	17,998,459	19,389,090	20,669,390	21,756,851	1,087,461	5.3%
METRO MAINTENANCE	14,555,866	15,480,625	16,719,487	17,470,691	751,204	4.5%
OPERATIONS SUPPORT	7,142,829	7,108,356	7,364,414	7,804,126	439,712	6.0%
FOD ADMIN	1,458,635	4,464,103	4,153,051	4,354,000	200,949	4.8%
TOTAL	\$ 55,194,617	\$ 60,031,796	\$ 63,727,381	\$ 67,641,528	\$ 3,914,147	6.1%

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 (about 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (about 400 annually). The program tracks over 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, TRAC-IS, to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements. A replacement system is under development and should be fully functional during FY08.

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 unstaffed. During FY08 the new Braintree-Weymouth Replacement Pump Station came on line and the Commercial Point and Fox Point CSO facilities were taken off line and will be decommissioned during FY09.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 220 mgd 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. Additionally, this unit maintains MWRA's western waterworks facilities, including the Ware Water Treatment Plant, the Cosgrove Intake Facility, and the Norumbega Reservoir. This unit also oversees covered storage facilities and operates the MetroWest Tunnel and Carroll Water Treatment Plant (CWTP). 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 maintains pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintains a waterworks network of approximately 300 miles of water mains, 4,800 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, ten distribution storage tanks and reservoirs, and 240 miles of wastewater interceptors and appurtenances, 12 pump stations, four headworks, and seven 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 160 community water meters, 16 contract community water meters, 14 master water meters, and 237 wastewater meters. 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 future 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:

- \$35.2 million or 52% of the FY09 Budget is for **Wages and Salaries** of which \$34.5 million or 98% is for regular pay to fund 521 positions, two more positions than funded in FY08. The budget also includes \$353,000 for stand-by pay to support operational and maintenance needs, \$20,000 for interns primarily for quality assurance support in Waterworks, and \$70,000 for temporary employees for Maximo (maintenance software) implementation and TRAC document coordination. The wages and salaries line item is \$1.8 million more than FY08 spending primarily due to contractual increases for wages, standby pay, and more filled positions on average projected for FY09 than in FY08.
- The FY09 Budget funds \$2.5 million for **Overtime**, including \$885,000 for operational coverage needs, \$889,000 for emergency related overtime, \$687,000 for planned overtime for scheduled maintenance, and \$18,000 for planned training. Overtime is \$226,000, or 10%, more than FY08 spending primarily due to the net effect of reductions in coverage related overtime in Wastewater Operations offset by wage increases and increases in overtime for Western Operations maintenance and department-wide weather related emergencies. Emergency related overtime was significantly less than expected in FY08 due to milder weather.

- \$6.6 million or 9.8% of the FY09 Budget is for **Chemicals**, of which \$5.8 million is for water treatment and \$582,000 is for wastewater treatment. The budget includes \$2.9 million for soda ash, \$1.2 million for sodium hypochlorite, \$840,000 for hydrofluosilicic acid, \$566,000 for liquid oxygen for the CWTP ozone generation, \$298,000 for carbon dioxide to control the water pH, and \$253,000 for nitrazyme for Framingham Extension Relief Sewer odor and corrosion control. Chemicals increase by \$833,000 or 14% from FY08 spending primarily due to price increases for sodium hypochlorite (+\$286,000), soda ash (+\$198,000), and hydrofluosilicic acid (+\$172,000).
- \$11.1 million or 16% of the FY09 Budget is for **Utilities**, including \$7.7 million for electricity, \$2.2 million for diesel fuel, \$861,000 for natural gas, and \$296,000 for water. Utilities increase \$922,000, or 9%, compared with FY08 spending. Of the increase, approximately \$328,000 reflects the full year operation of the new Braintree Weymouth Replacement Pump Station, which came on line in April, 2008 (FY08). This includes \$223,000 for electricity and \$101,000 for diesel fuel. The remaining change of \$594,000 is largely attributable to increases for electricity and diesel fuel prices based on analysis of market indicators.
- \$7.8 million or 12% of the FY09 Budget is for **Maintenance**, including \$3.0 million for materials and \$4.8 million for services. Maintenance increases by \$188,000, or 2%, compared to FY08 spending due to new initiatives including a preventive maintenance service contract, Wastewater metering system service contract of \$150,000, and \$50,000 for maintenance associated with the new Braintree Weymouth Replacement Pump Station.
- \$501,000 of the FY09 Budget is for **Professional Services**, including \$430,000 for engineering, \$11,000 for lab and testing, \$50,000 to fund an energy assessment within FOD, and \$10,000 for a pilot Dig Safe program. Professional Services decreases \$125,000, or 2%, compared with FY08 spending because services required for several unplanned initiatives in FY08 are not included in the FY09 budget.
- \$967,000 is for **Other Materials**, including \$311,000 for vehicle expenses for gas, mileage reimbursements and tolls, \$218,000 for work clothes, \$188,000 for health and safety supplies, and \$125,000 for lab and testing supplies. Other Materials increases by \$34,000, or 4%, from FY08 spending mainly due to the inclusion of \$56,000 for laptop computers for field staff to enter maintenance data into the Maximo system.
- \$2.7 million is for **Other Services**, including \$1.4 million for Chelsea annual lease payments, \$566,000 for telephone and SCADA needs at various facilities, \$441,000 for required police details, and \$43,000 for permit fees.

LABORATORY SERVICES

Final FY09 Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 3,479,699	\$ 3,573,983	\$ 3,691,792	\$ 3,958,127	\$ 266,335	7.2%
OVERTIME	58,628	52,746	73,240	87,125	13,885	19.0%
FRINGE BENEFITS	469	486	808	1,200	392	48.5%
CHEMICALS	-	-	-	-	-	-
UTILITIES	126,214	152,032	20,444	27,925	7,481	36.6%
ONGOING MAINTENANCE	276,001	435,303	200,812	325,414	124,602	62.0%
TRAINING & MEETINGS	460	1,029	4,381	6,500	2,119	48.4%
PROFESSIONAL SERVICES	57,508	79,639	181,003	184,231	3,228	1.8%
OTHER MATERIALS	740,980	866,336	764,766	884,468	119,702	15.7%
OTHER SERVICES	84,497	83,002	103,211	110,459	7,248	7.0%
TOTAL	\$ 4,824,455	\$ 5,244,555	\$ 5,040,457	\$ 5,585,450	\$ 544,993	10.8%

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 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 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 and regularly prepare compliance reports 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.

Budget Highlights:

- \$4.0 million or 71% of the FY09 Budget is for **Wages and Salaries**, of which \$3.8 million is regular pay for the funding of 55 positions. The budget includes one more funded position than in the FY08 CEB to cover the need for additional staff for water quality analysis. The FY09 Budget also includes \$156,000 for up to five temporary employee positions to cover work during peak periods and to ensure adequate staffing for routine work when permanent employees are on vacation, leave, or completing special projects. The temporary employees will also help cover workload during implementation of the Laboratory Information Management System (LIMS) in FY09.
- \$28,000 is for **Utilities**, which consists of gases and cryogenic liquids used for various lab instruments. As of FY08, the budget for the Laboratory's diesel fuel and electricity is included in the DITP's budget versus in the Laboratory budget because the Lab shares a building with the Deer Island Plant.

- \$325,000 is for **Maintenance** which includes \$90,000 for Laboratory modifications, \$214,000 for equipment service contracts and \$10,000 for HVAC services to annually certify the fume hoods. The \$125,000 increase from FY08 spending is due to increases for service contracts primarily for additional instruments being purchased in FY08 and the slippage of some Lab modification projects from FY08 to FY09.
- The **Professional Services** budget of \$184,000 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.
- \$884,000 is for **Other Materials** including \$575,000 for laboratory supplies and \$260,000 for equipment replacement.. The increase of \$120,000 over FY08 actuals is due to planned FY08 equipment purchases that are carried over to FY09.
- \$110,000 for **Other Services** primarily covers boat rental service on an as-needed basis, boat dockage for two boats, and courier service for shipping samples between laboratories and removing hazardous waste.

ENVIRONMENTAL QUALITY

Final FY09 Current Expense Budget ENVIRONMENTAL QUALITY						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 1,234,453	\$ 1,233,001	\$ 1,328,722	\$ 1,425,446	\$ 96,724	7.3%
OVERTIME	2,567	3,281	3,044	4,879	1,835	60.3%
FRINGE BENEFITS	6	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	3,751	1,639	23	-	(23)	-100.0%
TRAINING & MEETINGS	2,480	2,585	5,804	7,050	1,246	21.5%
PROFESSIONAL SERVICES	3,499,485	2,840,422	2,692,210	2,770,576	78,366	2.9%
OTHER MATERIALS	3,240	977	3,047	6,030	2,983	97.9%
OTHER SERVICES	9,505	2,864	119,450	136,598	17,148	14.4%
TOTAL	\$ 4,755,486	\$ 4,084,769	\$ 4,152,301	\$ 4,350,579	\$ 198,278	4.8%

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 web site. All technical reports and several reports on water quality in the harbor and the bay are also posted on the web site. The department also periodically produces the printed State of Boston Harbor Report.

Budget Highlights:

- \$1.4 million or 33% of the FY09 Budget is for **Wages and Salaries** for 17 positions plus one contractor to assist with water quality data management and the State of Boston Harbor report.
- \$2.8 million or 64% of the FY09 Budget is for **Professional Services** for outside laboratory testing and analysis. The budget provides total funding of \$2.6 million for the Harbor and Outfall Monitoring (HOM) Program including \$354,000 for the remainder of the HOM5 contract and \$2.2 million for HOM6, which will be completed through contracts with two vendors (Battelle and ENSR Marine and Coastal Center). The balance of the funds covers the following:
 - o follow-on cost-sharing contract with the National Oceanic and Atmospheric Administration's National Data Buoy Center for required continuous monitoring
 - o MA Bay Eutrophication Model
 - o chlorophyll monitoring
 - o membership in the Gulf of Maine Ocean Observation System monitoring program and
 - o biotoxicity testing for Clinton WWTP, CSO facilities, and the Deer Island Treatment Plant.
- \$137,000 for **Other Services** of which \$118,000 is for an Authority-wide membership in the Water Environment Research Foundation. The FY09 Budget also funds the permit fees for MWRA's NPDES Permit renewal process.

ENGINEERING AND CONSTRUCTION

Final FY09 Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 6,496,401	\$ 7,597,332	\$ 7,915,000	\$ 8,160,972	\$ 245,972	3.1%
OVERTIME	45,969	63,295	128,337	62,831	(65,506)	-51.0%
FRINGE BENEFITS	380	512	721	504	(217)	-30.1%
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	31,010	5,893	8,515	10,480	1,965	23.1%
TRAINING & MEETINGS	2,777	11,911	31,778	15,900	(15,878)	-50.0%
PROFESSIONAL SERVICES	1,421	(750)	889	-	(889)	-100.0%
OTHER MATERIALS	84,810	127,780	124,318	115,600	(8,718)	-7.0%
OTHER SERVICES	11,119	43,817	40,147	36,900	(3,247)	-8.1%
TOTAL	\$ 6,673,887	\$ 7,849,791	\$ 8,249,706	\$ 8,403,187	\$ 153,481	1.9%

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:

- \$8.2 million for **Wages and Salaries** represents 97% of the FY09 Budget and includes funding for 94 positions. The increase from FY08 is due to wage increases.
- \$63,000 for **Overtime**, mainly 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.
- \$116,000 for **Other Materials**, which includes \$93,000 for vehicle expense for staff traveling to construction sites, \$15,000 for office supplies and \$5,000 for work clothes.
- \$37,000 for **Other Services** which includes \$10,000 for memberships and dues, \$15,000 for printing of in-house design plans and specifications, \$6,000 for cell phones, and \$3,000 for police details.



Law Division
Budget

LAW DIVISION

Final FY09 Current Expense Budget LAW DIVISION by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 1,679,360	\$ 1,649,990	\$ 1,687,100	\$ 1,745,599	\$ 58,499	3.5%
OVERTIME	2,850	40	1	-	(1)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	4,543	2,788	2,344	3,748	1,404	59.9%
PROFESSIONAL SERVICES	94,374	150,409	99,340	126,000	26,660	26.8%
OTHER MATERIALS	3,645	7,347	9,021	5,539	(3,482)	-38.6%
OTHER SERVICES	31,663	29,779	26,334	34,500	8,166	31.0%
TOTAL	\$ 1,816,435	\$ 1,840,353	\$ 1,824,142	\$ 1,915,386	\$ 91,244	5.0%

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 FY09 direct expense 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.

Law Division goals include:

- 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.

Budget Highlights:

- \$1.7 million for **Wages and Salaries**, an increase of \$59,000 or 3.5% over FY08 actual spending due to contractual increases.
- \$126,000 for **Professional Services**, a decrease of \$27,000 or 26.9% from FY08 actual spending based upon revised needs assessment.

- The Law Division continues to exhaust all opportunities to shift the cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.



Finance Division
Budget

FINANCE DIVISION

Final FY09 Current Expense Budget FINANCE DIVISION by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 2,739,596	\$ 2,920,430	\$ 3,031,855	\$ 3,339,071	\$ 307,216	10.1%
OVERTIME	5,939	486	38	-	(38)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	85	-	(85)	-100.0%
TRAINING & MEETINGS	2,572	2,650	912	7,795	6,883	754.7%
PROFESSIONAL SERVICES	455,495	129,631	550,691	452,300	(98,391)	-17.9%
OTHER MATERIALS	7,442	8,547	6,597	10,127	3,530	53.5%
OTHER SERVICES	8,860	17,768	32,458	25,081	(7,377)	-22.7%
TOTAL	\$ 3,219,903	\$ 3,079,513	\$ 3,622,636	\$ 3,834,374	\$ 211,738	5.8%

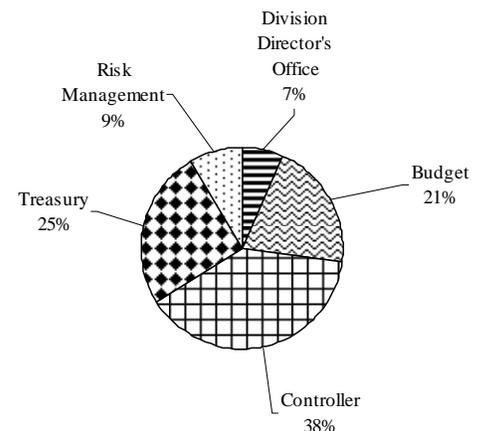
FY09 Current Expense Budget FINANCE DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
DIVISION DIRECTOR'S OFFICE	\$ 218,682	\$ 213,438	\$ 195,349	\$ 254,357	\$ 59,008	30.2%
PLANNING/COORDINATION	193	110	-	-	-	-
BUDGET	375,379	680,218	658,073	792,862	134,789	20.5%
TREASURY	1,078,168	502,744	1,040,754	965,615	(75,139)	-7.2%
CONTROLLER	1,412,624	1,393,264	1,425,457	1,487,613	62,156	4.4%
RISK MANAGEMENT	134,857	289,739	303,003	333,927	30,924	10.2%
TOTAL	\$ 3,219,903	\$ 3,079,513	\$ 3,622,636	\$ 3,834,374	\$ 211,738	5.8%

The **Finance Division** is responsible for overseeing rates and revenue management, budgeting, capital financing, accounting, disbursements, investments, grant and loan management and the processing and resolution of insurance claims. The Finance Division is comprised of four independent but related functions. These are Budget, Controller, Risk Management, and Treasury. The Finance Division performs critical financial support functions that ensure the daily operations of the Authority and improvements to its capital assets, including: timely and accurate processing of payments for goods and services, annual issuance of debt to fund essential capital projects, weekly distribution of payroll, and regular reporting on expenditures to MWRA management, the Advisory Board, and the Board of Directors. The Finance Division is also responsible for developing and implementing forward thinking, long-range investment and budget strategies that ensure adequate funding for capital projects and on-going operations while mitigating financial impact to ratepayers and ensuring the Authority's strong bond rating.

The Final FY09 Budget for the Finance division accounts for less than 2% of MWRA's direct expense budget.

Finance Division 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.
- Maintain favorable credit ratings for MWRA's revenue bonds.



- Provide financial planning, control, and accountability for MWRA.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.

FY08 Accomplishments

- Due to the global market disruption, municipal issuers including MWRA, experienced escalating interest rates on variable and auction rate securities. As a result, the Finance Department:
 - Successfully refunded \$1.2 billion of Variable Rate Debt Bonds (VRDBs) and auction rate securities, the largest bond transaction in Authority history, removing bond insurance on all series.
 - Began trading on the Authority's own strong credit rating for the first time.
 - Lowered interest rates from as high as 11% to approximately 2%.

DIVISION DIRECTOR'S OFFICE

Final FY09 Current Expense Budget							
FINANCE DIVISION DIRECTOR'S OFFICE by Line Item							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09		
WAGES & SALARIES	\$ 216,676	\$ 210,528	\$ 194,163	\$ 249,862	\$ 55,699		28.7%
OVERTIME	-	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-	-
TRAINING & MEETINGS	1,306	2,288	784	2,345	1,561		199.1%
PROFESSIONAL SERVICES	-	-	-	-	-	-	-
OTHER MATERIALS	179	171	201	415	214		106.5%
OTHER SERVICES	520	451	201	1,735	1,534		763.2%
TOTAL	\$ 218,682	\$ 213,438	\$ 195,349	\$ 254,357	\$ 59,008		30.2%

The **Division Director's Office** oversees the centralized financial functions of rates development, revenue collection, budgeting, capital financing, accounting, disbursement and payroll processing, debt and investment management, grant and loan management, and risk management. The Director's Office ensures that all financial transactions are conducted in compliance with the Authority's policies, procedures and contract terms and that the investment of all funds are consistent with the bond resolutions and regulations. The Director's Office manages the development and implementation of financial policy 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 financial issues.

The division's continuing challenge in FY09 will be maintaining agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services. This challenge is heightened by a significant reduction in the amount of state debt service assistance received by the MWRA since 2002, from \$50 million to \$15 million.

Goals:

- Guide and coordinate division activities to support MWRA and Finance Division objectives.
- Provide central and administrative support to the division's departments.

Budget Highlights:

- Final FY09 Budget of \$250,000 for **Wages and Salaries**, an increase of \$56,000 or 29% from FY08 actual spending is due to wage increases and salary adjustments. The final budget funds three positions.

BUDGET

Final FY09 Current Expense Budget RATES & BUDGET by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 374,813	\$ 669,306	\$ 639,818	\$ 781,711	\$ 141,893	22.2%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	125	-	-	450	450	-
PROFESSIONAL SERVICES	-	-	3,563	-	(3,563)	(1)
OTHER MATERIALS	440	5,409	923	570	(353)	-38.2%
OTHER SERVICES	-	5,503	13,768	10,131	(3,637)	-26.4%
TOTAL	\$ 375,379	\$ 680,218	\$ 658,073	\$ 792,862	\$ 134,789	20.5%

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 divisions' staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to schedule and budget. Staff also coordinates development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to budget throughout the year.

Goals:

- Continually enhance processes and the management of resources to deliver the proposed and final Capital Improvement Program and Current Expense Budgets 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 management and staff as well as the MWRA Advisory Board.

Budget Highlights:

- Final FY09 Budget of \$782,000 for **Wages and Salaries**, an increase of \$142,000 or 22% from FY08 actual spending is mostly due to wage increases, one part-time position being funded at the full-time level, and position upgrades. The final budget funds nine positions.
- \$10,000 is for **Other Services**, a decrease of \$4,000 or (26.4%) from FY08 actual spending. The other services Final FY09 Budget includes \$3,000 for forecasting services from Global Insight for inflation projections and \$6,000 to cover the costs of printing a limited number of budget documents and reports.

Initiatives:

- Reorganize department to realize cross functionality of the CIP and CEB programs.
- Training initiatives to enhance system skills.

CONTROLLER

Final FY09 Current Expense Budget CONTROLLER by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 1,305,300	\$ 1,176,542	\$ 1,227,866	\$ 1,290,326	\$ 62,460	5.1%
OVERTIME	4,992	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	500	313	-	500	500	-
PROFESSIONAL SERVICES	99,000	215,500	195,500	189,000	(6,500)	-3.3%
OTHER MATERIALS	2,493	629	596	4,242	3,646	611.7%
OTHER SERVICES	339	280	1,495	3,545	2,050	137.1%
TOTAL	\$ 1,412,624	\$ 1,393,264	\$ 1,425,457	\$ 1,487,613	\$ 62,156	4.4%

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.

Goals:

- Produce accurate and timely financial reports.
- Process invoices within terms and conditions.

Budget Highlights:

- \$1.3 million for **Wages and Salaries**, an increase of \$62,000 or 5% from FY08 actual spending is due to wage increases offset by division-wide vacancy adjustment. The final budget funds 19 positions.
- \$189,000 for **Professional Services**, a decrease of \$7,000 or (3.3%) from FY08 actual spending. The Final FY09 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 FY09 Current Expense Budget RISK MANAGEMENT by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 134,857	\$ 266,119	\$ 277,312	\$ 286,502	\$ 9,190	3.3%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	1,500	1,500	-
PROFESSIONAL SERVICES	-	23,261	25,178	45,000	19,822	78.7%
OTHER MATERIALS	-	59	63	-	(63)	-100.0%
OTHER SERVICES	-	300	450	925	475	105.6%
TOTAL	\$ 134,857	\$ 289,739	\$ 303,003	\$ 333,927	\$ 30,924	10.2%

The **Risk Management Department** formerly included in Treasury was established as a stand alone department during FY06.

The department is responsible for all MWRA insurance and risk management functions and reports to the Finance Division Director. 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 are 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.

Goals:

- Process 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:

- Final FY09 Budget is \$334,000 of which \$287,000 is for **Wages & Salaries**. The final budget funds three positions.
- \$45,000 for **Professional Services** includes funds for an insurance consultant, an increase of \$20,000 from the FY08 actual spending.

TREASURY

Final FY09 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 707,948	\$ 597,935	\$ 692,696	\$ 730,670	\$ 37,974	5.5%
OVERTIME	947	486	38	-	(38)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	85	-	(85)	-100.0%
TRAINING & MEETINGS	641	50	128	3,000	2,872	2243.8%
PROFESSIONAL SERVICES	356,495	(109,130)	326,450	218,300	(108,150)	-33.1%
OTHER MATERIALS	4,136	2,170	4,813	4,900	87	1.8%
OTHER SERVICES	8,001	11,234	16,544	8,745	(7,799)	-47.1%
TOTAL	\$ 1,078,168	\$ 502,744	\$ 1,040,754	\$ 965,615	\$ (75,139)	-7.2%

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. The Treasury Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and planning estimates of future rate projections.

Goals:

- Manage MWRA's debt portfolio to achieve sustainable and predictable rate increases.

Budget Highlights:

- \$731,000 for **Wages and Salaries**, an increase of \$38,000 or 5.5% from FY08 actual spending is mostly due to wage increases. The final budget funds nine positions.
- \$218,000 for **Professional Services**, a decrease of \$108,000 or (33.1%) from FY08 actual spending. The Final FY09 budget includes funds for trustee services and arbitrage consulting services.



Support Services Division
Budget

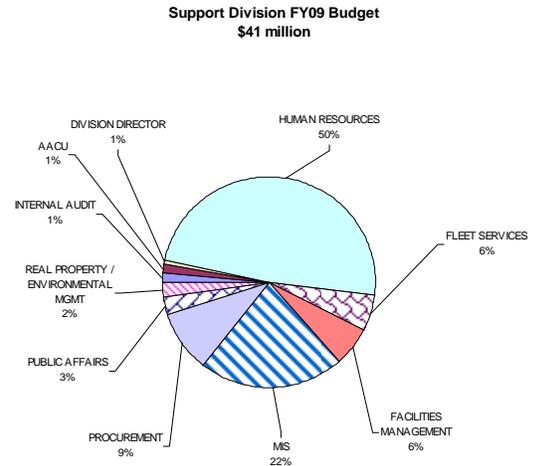
SUPPORT SERVICES DIVISION

Final FY09 Current Expense Budget SUPPORT DIVISION by Line Item						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 13,599,492	\$ 13,671,269	\$ 14,236,309	\$ 14,757,877	\$ 521,568	3.7%
OVERTIME	65,014	93,209	74,730	73,115	(1,615)	-2.2%
FRINGE BENEFITS	14,125,296	15,043,560	15,520,254	16,385,531	865,277	5.6%
WORKERS' COMPENSATION	1,823,355	1,235,814	1,159,464	1,325,000	165,536	14.3%
CHEMICALS	-	-	-	-	-	-
UTILITIES	1,161,558	351,321	206,427	227,611	21,184	10.3%
ONGOING MAINTENANCE	3,368,100	3,522,714	4,226,440	3,287,560	(938,880)	-22.2%
TRAINING & MEETINGS	37,301	55,459	52,369	78,825	26,456	50.5%
PROFESSIONAL SERVICES	804,911	349,285	439,462	480,263	40,801	9.3%
OTHER MATERIALS	758,865	1,190,744	1,205,556	1,369,307	163,751	13.6%
OTHER SERVICES	5,218,892	2,810,354	2,726,711	3,023,603	296,892	10.9%
TOTAL	\$ 40,962,783	\$ 38,323,728	\$ 39,847,721	\$ 41,008,692	\$ 1,160,970	2.9%

Final FY09 Current Expense Budget SUPPORT DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
DIVISION DIRECTOR	\$ 548,601	\$ 223,882	\$ 230,558	\$ 237,418	\$ 6,860	3.0%
INTERNAL AUDIT	532,497	550,914	583,630	592,287	8,657	1.5%
PUBLIC AFFAIRS	1,305,266	1,219,402	1,272,501	1,213,812	(58,689)	-4.6%
FACILITIES MANAGEMENT	6,711,567	2,835,484	2,279,898	2,488,854	208,956	9.2%
FLEET SERVICES	1,675,339	1,596,619	1,918,209	2,287,479	369,270	19.3%
AACU	514,664	555,273	574,779	592,031	17,252	3.0%
HUMAN RESOURCES	17,596,470	18,143,092	18,678,844	19,848,507	1,169,663	6.3%
MIS	7,970,819	8,727,086	8,940,974	9,005,021	64,047	0.7%
PROCUREMENT	3,505,265	3,841,264	4,621,381	3,874,272	(747,109)	-16.2%
REAL PROPERTY / ENVIRONMENTAL MGMT	602,296	630,711	746,946	869,010	122,064	16.3%
TOTAL	\$ 40,962,783	\$ 38,323,728	\$ 39,847,721	\$ 41,008,692	\$ 1,160,970	2.9%

The **Support Services Division** oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials warehousing, occupational health and safety, internal audit, fleet services, computer system development and management, library and records management, and mail and employee shuttle services. The division also manages the Charlestown Navy Yard headquarters.

The division budget includes ten departments: Division Director, Internal Audit, Public Affairs, Facilities Management, Fleet Services, Affirmative Action and Compliance Unit (AACU), Human Resources, Management Information Systems (MIS), Procurement, and Real Property and Environmental Management (RPEM). Internal Audit, Public Affairs, and AACU, funded as part of the Support Services budget, report to the MWRA's Executive Director. The \$41 million FY09 Budget accounts for 19.0% of MWRA's direct expense budget. The division budget includes \$16.4 million for fringe benefits for all MWRA personnel; \$1.6 million for lease, taxes insurance, and operating and maintenance costs for the Charlestown Navy Yard (CNY) headquarters; and \$1.3 million for workers' compensation claims and medical expenses. Net of these agency-wide expenses, the Support Services Division budget accounts for 10% of direct expenses.



DIVISION DIRECTOR

Final FY09 Current Expense Budget DIVISION DIRECTOR						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 268,740	\$ 222,590	\$ 230,097	\$ 236,064	\$ 5,967	2.6%
OVERTIME	54	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	267,543	221	-	-	-	-
TRAINING & MEETINGS	659	-	-	-	-	-
OTHER MATERIALS	9,990	368	67	450	383	571.6%
OTHER SERVICES	1,615	703	394	904	510	129.4%
TOTAL	\$ 548,601	\$ 223,882	\$ 230,558	\$ 237,418	\$ 6,860	3.0%

The **Division Director Department** consists of management and administrative staff.

The goals of the Division Director's Department are to:

- Provide comprehensive administrative, professional and technical support services to all divisions to create a cooperative framework within which MWRA can operate effectively.
- Ensure proper and effective communication between MWRA and the communities served, other agencies, and state and local officials.

Budget Highlights:

- The Final FY09 Budget of \$237,000 is an increase of \$7,000 or 2.6% as compared to the FY08 actual spending. The majority of the increase is for **Wages and Salaries** due to contractual increases. This budget includes funding for two positions.

INTERNAL AUDIT

Final FY09 Current Expense Budget INTERNAL AUDIT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 525,051	\$ 539,094	\$ 569,213	\$ 579,039	\$ 9,826	1.7%
OVERTIME	0	0	7	0	-7	-100.0%
FRINGE BENEFITS	0	0	0	0	0	-
CHEMICALS	0	0	0	0	0	-
UTILITIES	0	0	0	0	0	-
ONGOING MAINTENANCE	0	0	0	0	0	-
TRAINING & MEETINGS	3,887	9,118	10,092	9,738	-354	-3.5%
PROFESSIONAL SERVICES	0	0	0	0	0	-
OTHER MATERIALS	2,208	2,217	2,501	2,400	-101	-4.0%
OTHER SERVICES	1,350	485	1,818	1,110	-708	-38.9%
TOTAL	\$ 532,497	\$ 550,914	\$ 583,630	\$ 592,287	\$ 8,656	1.5%

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 coordinating 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 audits. Internal Audit reports to the MWRA's Executive Director.

The Internal Audit Department's goals are to:

- 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.

Budget Highlights:

- Total Final FY09 Budget of \$592,000, an increase of \$8,700 or 1.5% over FY08 Actual.
- \$579,000 for **Wages and Salaries**, an increase of \$9,800 or 1.7% over FY08 Actual, for staff to perform internal audits, management advisory services, preliminary review and incurred cost audits, and consultant disclosure statement reviews. The final budget supports eight positions.
- \$9,700 for **Training and Meetings**, of which 46% is for travel to consultant offices to perform incurred cost audits of billings for design and engineering services.

FY08 Accomplishments:

- Identified \$2,203,212 in savings related to incurred cost audits (\$55,901), construction labor burden reviews (\$89,934), construction claims (\$1,537,734) and other contractor and vendor assignments (\$519,643).
- Completed nine incurred cost assignments, fourteen preliminary construction reviews, a vendor audit, the total cost review of a construction claim, three prevailing wage reviews, a true-up of 2006 and 2007 billings by Harbor Energy Electric Company (HEEC), and issued a report on the New England Fertilizer Company's (NEFCO's) compliance with the provisions of the Pellet Plant Operating and Maintenance contract.

PUBLIC AFFAIRS

Final FY09 Current Expense Budget PUBLIC AFFAIRS							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09		
WAGES & SALARIES	\$ 1,230,576	\$ 1,148,137	\$ 1,207,344	\$ 1,111,549	\$ (95,795)	-7.9%	
OVERTIME	1,070	-	128	-	(128)	(1)	
FRINGE BENEFITS	-	-	-	-	-	-	
CHEMICALS	-	-	-	-	-	-	
UTILITIES	-	-	-	-	-	-	
TRAINING & MEETINGS	-	-	-	-	-	-	
ONGOING MAINTENANCE	2,875	1,045	2,409	3,665	1,256	1	
PROFESSIONAL SERVICES	1,934	1,683	1,113	1,050	(63)	-5.7%	
OTHER MATERIALS	22,414	15,432	26,672	17,850	(8,822)	-33.1%	
OTHER SERVICES	46,396	53,105	34,834	79,698	44,864	128.8%	
TOTAL	\$ 1,305,266	\$ 1,219,402	\$ 1,272,501	\$ 1,213,812	\$ (58,688)	-4.6%	

The **Public Affairs Department** is the institutional link to all MWRA constituencies. 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 the Massachusetts Environmental Policy Act (MEPA), the Massachusetts Historical Commission (MHC), Department of Environmental Protection (DEP), local conservation commissions, and the Boston Landmarks Commission (BLC). 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 to all grade levels school education materials on water quality, water conservation, wastewater topics, and environmental issues. 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. Public Affairs reports to the Executive Director.

The goals of the Public Affairs Department are to:

- Enhance overall public understanding of MWRA's mission, goals, and benefits to the public through aggressive 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, progress, and effective management.
- 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 in a cost-effective and efficient manner, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

Budget Highlights:

- Total Final FY09 Budget of \$1.2 million, a decrease of \$59,000 or 4.6% from FY08 Actual.
- \$1.1 million for **Wages and Salaries**, a decrease of \$96,000 or 8.0% from FY08 Actual, primarily due to the elimination of the Deputy Director, Community Relations position. The final budget supports 15 positions.
- \$98,000 for **Other Materials** and **Other Services** includes \$65,000 to fund services associated with the publication and distribution of MWRA's Annual Report, as well as production of materials to inform the public about MWRA activities and to educate school children, teachers and environmental organizations about Boston Harbor and other environmental matters.

FACILITIES MANAGEMENT

Final FY09 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 628,221	\$ 370,907	\$ 393,292	\$ 400,169	\$ 6,877	1.7%
OVERTIME	20,011	30,320	25,261	25,000	(261)	-1.0%
FRINGE BENEFITS	521	126	303	-	(303)	-100.0%
CHEMICALS	-	-	-	-	-	-
UTILITIES	1,153,669	349,873	203,714	226,111	22,397	11.0%
ONGOING MAINTENANCE	302,472	86,715	25,602	39,400	13,798	53.9%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	538,687	(1)	-	-	-	-
OTHER MATERIALS	23,800	87,935	135,569	121,233	(14,336)	-10.6%
OTHER SERVICES	4,044,186	1,909,608	1,496,157	1,676,941	180,784	12.1%
TOTAL	\$ 6,711,567	\$ 2,835,484	\$ 2,279,898	\$ 2,488,854	\$ 208,956	9.2%

Final FY09 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
FRSA	\$ 281,636	\$ 217,333	\$ 70,618	\$ -	\$ (70,618)	-100.0%
FACILITIES MANAGEMENT	5,780,804	2,216,599	1,792,100	2,060,577	268,477	15.0%
ADMINISTRATIVE SERVICES	649,127	401,552	417,181	428,277	11,096	2.7%
TOTAL	\$ 6,711,567	\$ 2,835,484	\$ 2,279,898	\$ 2,488,854	\$ 208,956	9.2%

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, copying and printing services, general office equipment repairs, transportation, mail and courier services, and receptionist coverage at CNY.

The goals of the Facilities Management Department are to:

- 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.

Budget Highlights:

- The Final FY09 Budget of \$2.5 million, an increase of \$209,000 or 9.2% as compared to FY08 actual spending.
- \$400,000 for **Wages and Salaries**, an increase of \$6,800 or 1.7% from FY08 actual spending mainly due to contractual increases. The budget supports eight positions.
- \$25,000 for **Overtime** for coverage of facility maintenance and support services, a decrease of \$261 or 1.0% as compared to the FY08 actual spending.
- \$226,000 for **Utilities**, an increase of \$22,000 or 11.0% as compared to FY08 actual spending. The increase reflects actual rates under current utility contracts.
- \$39,000 for **Ongoing Maintenance** includes an increase of \$13,800 as compared to FY08 actual spending. This line item includes funding for facility and equipment maintenance and services and reflects increased costs to support aging infrastructure for HVAC, plumbing and electrical services.
- \$121,000 for **Other Materials**, a decrease of \$14,000 or 10.6% as compared to FY08 actual spending.
- \$1.7 million for **Other Services**, an increase of \$181,000 or 12.1%, as compared to FY08 actual spending. The increase is primarily due to the contractual increase in rental and operating costs for CNY headquarters facility.

FY08 Accomplishments

- Continue to support energy reduction efforts by installing devices such as timers and motion sensors for lighting in shared areas.
- Support enhanced recycling program at CNY.

FLEET SERVICES

Final FY09 Current Expense Budget							
FLEET SERVICES							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09		
WAGES & SALARIES	\$ 633,183	\$ 650,257	\$ 658,619	\$ 733,189	\$ 74,570	11.3%	
OVERTIME	18,172	13,774	18,773	30,000	11,227	59.8%	
FRINGE BENEFITS	537	598	911	1,800	889	97.6%	
CHEMICALS	-	-	-	-			
UTILITIES	1,306	1,331	2,316	1,500	(816)	-35.2%	
ONGOING MAINTENANCE	585,215	666,280	703,892	747,250	43,358	6.2%	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	-	-	-	-	-	-	
OTHER MATERIALS	435,076	462,616	530,164	769,202	239,038	45.1%	
OTHER SERVICES	1,850	(198,238)	3,534	4,538	1,004	28.4%	
TOTAL	\$ 1,675,339	\$ 1,596,619	\$ 1,918,209	\$ 2,287,479	\$ 369,270	19.3%	

Fleet Services 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.

Budget Highlights:

- The Final FY09 Budget of \$2.3 million reflects an increase of \$369,000 or 19.3% as compared to FY08 actual spending.
- \$733,000 for **Wages & Salaries**, an increase of \$74,500 or 11.3% as compared to FY08 actual spending. Funds support 12 positions. The increase is attributed to contractual increases, promotions and salary corrections.
- **Ongoing Maintenance** budget of \$747,000, an increase of \$43,000 or 6.2% as compared to FY08 actual spending. The budget includes funds for automotive materials & services to maintain MWRA's vehicle fleet.
- \$769,000 for **Other Materials** is an increase of \$239,000 as compared to FY08 actual spending. The Final FY09 Budget includes funds for vehicle/equipment fueling which are based on FY07 and FY08 fuel usage and recent fuel costs. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives.

FY08 Accomplishments

- Developed specifications for 40 new / replacement vehicles / equipment. Twenty (20) of these units are alternative fuel or hybrid models, consistent with the Authority's goal of purchasing environmentally friendly products. One emergency service unit was purchased with a grant from the Department of Homeland Security.
- As part of the Authority's environmental goals, 20 large diesel powered units were retrofitted with Diesel Oxidation Catalyst (DOC) devices which reduce greenhouse gas emissions.

- Fleet Services completed the upgrade of Deer Island's vehicle/equipment fueling system as part of an effort to standardize fuel management systems (Gasboy) agency-wide.
- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition. The Authority continues to fuel diesel powered vehicle/equipment with bio-diesel.
- Prepared the documentation for the surplus sale of 89 vehicles and equipment.
- Continued to work with MIS staff on the design and implementation of a Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Development and implementation of Federal Communications Commission (FCC) mandated frequency re-banding project with Motorola and Nextel is underway.

AFFIRMATIVE ACTION and COMPLIANCE

Final FY09 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 513,217	\$ 552,953	\$ 569,845	\$ 586,439	\$ 16,594	2.9%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	3	1	2,384	3,360	976	40.9%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	944	2,119	2,079	1,800	(279)	-13.4%
OTHER SERVICES	500	200	471	432	(39)	-8.3%
TOTAL	\$ 514,664	\$ 555,273	\$ 574,779	\$ 592,031	\$ 17,252	3.0%

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.

The goals of the Affirmative Action and Compliance Unit are to:

- 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.

Budget Highlights:

- Total Final FY09 Budget of \$592,000, an increase of \$17,000 or 3.0% over FY08 Actual, primarily due to contractual regular pay increases. The final budget supports eight positions.

HUMAN RESOURCES

Final FY09 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 1,335,022	\$ 1,484,995	\$ 1,521,409	\$ 1,588,286	\$ 66,877	4.4%
OVERTIME	1,092	69	607	437	(170)	-28.0%
FRINGE BENEFITS	14,123,974	15,042,497	15,518,599	16,383,731	865,132	5.6%
WORKERS' COMPENSATION	1,823,355	1,235,814	1,159,464	1,325,000	165,536	14.3%
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	807	28	6	900	894	14900.0%
TRAINING & MEETINGS	3,146	3,820	3,972	7,514	3,542	89.2%
PROFESSIONAL SERVICES	262,552	347,875	438,349	478,713	40,364	9.2%
OTHER MATERIALS	16,672	25,156	16,922	27,560	10,638	62.9%
OTHER SERVICES	29,851	2,839	19,516	36,366	16,850	86.3%
TOTAL	\$ 17,596,470	\$ 18,143,092	\$ 18,678,844	\$ 19,848,507	\$ 1,169,663	6.3%

Final FY09 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
EMPLOYEE/COMP/BEN	\$ 611,509	\$ 564,472	\$ 599,015	\$ 664,481	\$ 65,466	10.9%
LABOR RELATIONS	676,213	862,639	899,147	961,848	62,701	7.0%
TRAINING	325,880	387,848	469,511	475,114	5,603	1.2%
CENTRALIZED FRINGE BENEFITS	15,982,866	16,325,133	16,711,171	17,747,064	1,035,893	6.2%
TOTAL	\$ 17,596,470	\$ 18,140,092	\$ 18,678,844	\$ 19,848,507	\$ 1,169,663	6.3%

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 budgets for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

The goals of the Human Resources Department are to:

- 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.

Budget Highlights:

- \$1.6 million for **Wages and Salaries**, an increase of \$67,000 or 4.4% over FY08 actual spending, includes funding for 20 positions.
- \$16.4 million for **Fringe Benefits**, an increase of \$865,000 or 5.6% over FY08 actual spending. The budget includes \$14.2 million for MWRA's share of health insurance costs, \$1.2 million for MWRA's share of Medicare taxes, \$903,000 for MWRA's share of dental insurance costs and union health and welfare fund contributions, \$60,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.
- **Health insurance** budget increased 5.5% over FY08 actual spending. Dental insurance is 7.2% higher than the FY08 actual due to less than expected spending in FY08. Medicare is 7.9% higher than FY08 actual to reflect estimated expenses of contractual salary increases in FY09. Unemployment insurance decreased 29.6% from FY08 actual spending due to unexpected new claims in fourth quarter.
- \$1.3 million for **Workers' Compensation**, an increase of \$166,000 or 14.3%, primarily due to less than expected spending in FY08. Human Resources is responsible for the management of this program as well as coordination with the third-party administrator.
- \$479,000 for **Professional Services**, an increase of \$40,000 or 9.2% over the FY08 actual spending. The Final FY09 Budget includes \$219,320 for professional development and technical training, \$21,260 for the Employee Assistance Program, \$63,133 for medical evaluation services, specialized investigation services, unemployment claims administration and salary surveys, \$120,000 for workers' compensation claims administration and \$55,000 for arbitration expenses.

FY08 Accomplishments

In FY08, the accomplishments of the Human Resources Department included:

- Successfully implemented labor contract increases for five collective bargaining units.
- Successfully concluded negotiations for successor collective bargaining agreements with Units 1, 3, 6 and 9.
- Successfully implemented with MIS an upgrade to HRIS software.
- Provided supervisory development training for recently promoted/hired supervisors.
- Provided training, guidance and management reporting for managers to improve leave of absence management.
- Reviewed employment processes and developed improvements in paper flow and procedures and expanded recruitment sources used to find qualified applicants.
- Developed drug and alcohol recognition training for supervisors of Commercial Drivers License (CDL) drivers.
- Implemented mechanical certification training for M & O Specialists.
- Procured a new three-year contract for Medical Services for pre-placement medical evaluations, medical monitoring and alcohol and controlled substance testing.
- Procured a new contract for Employee Assistance Program.

FY09 Goals and Initiatives

- Implement a new voluntary life insurance program.
- Perform the training, testing, and data conversion activities needed to implement an upgrade to the Lawson System.
- Initiate the procurement for the MWRA Dental Program and manage the implementation of the program.
- Document HRIS procedures for key compensation and benefits actions.
- Perform a job description audit to update and organize job descriptions.
- Continue to automate and streamline human resources processes including recruitment and hiring processes.
- Review and analyze the process for (CDL) testing and recommend and implement any needed changes.
- Implement the second round of Mechanical Certification Training.
- Research and develop a training course for medium voltage electrical certification.
- Procure and implement harassment prevention training for MWRA employees.
- Develop and conduct supervisory training modules for labor relations and employment topics.
- Formulate bargaining strategy for FY10 collective bargaining negotiations for the five bargaining units.
- Expand recruitment sources to increase the applicant pool for MWRA positions.

MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY09 Current Expense Budget MANAGEMENT INFORMATION SYSTEMS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 4,923,033	\$ 4,983,333	\$ 5,112,092	\$ 5,277,708	\$ 165,616	3.2%
OVERTIME	2,937	1,112	2,207	2,678	471	21.3%
FRINGE BENEFITS	10	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	1,955,248	2,392,647	2,536,201	2,500,010	(36,191)	-1.4%
TRAINING & MEETINGS	18,092	34,522	29,046	43,823	14,777	50.9%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	152,584	489,177	386,998	340,234	(46,764)	-12.1%
OTHER SERVICES	918,915	826,296	874,429	840,568	(33,861)	-3.9%
TOTAL	\$ 7,970,819	\$ 8,727,086	\$ 8,940,974	\$ 9,005,021	\$ 64,048	0.7%

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.

In FY09 MIS will continue to provide three categories of services:

- Operational services are day-to-day routine activities required for applications and systems to work, including preventive maintenance; replacement programs; minicomputer, server, network, and voice equipment availability; back-up and recovery; accounts payable and payroll generation; period closings; and scheduled report productions. Up-time goals based on industry norms have been established, as well as schedules for annual replacement programs. Cyber Security will continue to be a major work item in FY09.
- Responsive services are provided as a result of calls for assistance, training, troubleshooting, repair of systems or requests for materials, research, and records. A variety of performance measures have been adopted based on business impact and problem type. For example, the target response rate to close any of the aforementioned types of calls is 90% within three days, except for calls regarding system outages, the target for which is 100% within one business day. Staff also tracks backlogs, average closure rates, and rolling averages to ensure responsiveness.
- Developmental services respond to requests for new or enhanced products, services, reports, and applications. These requests are generally turned into projects with plans, defined deliverables, and agreed upon schedules. MIS-generated projects based on infrastructure limitations, changing technology, and expiration of leased equipment may also be included. All activities seek to balance business demands with costs and the desire to be neither leading nor lagging in the use of technology. Measurement is based on timely completion of milestones and a +/- 10% of budget and schedule target is established for all major projects. In addition, for projects with large capital or budget requirements, a customization cap is established and reported on.

The goal of MIS is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard,

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.

Highlights of FY09 Goals:

During FY09 the MIS Department will focus on the following areas:

- Look at new technologies for continuous improvements in security of desktop and mobile devices;
- Explore various options for Cyber Security Assessment of the MWRA Network;
- Explore Lawson Application new security architecture, which is expected to be implemented during FY09; and look into additional security measures to address the Lawson HP/UX System;
- Research two new Lawson modules: Absent Management System and LBI (Lawson Business Intelligence). The modules will provide electronic distribution of reports and e-mail notifications, process flow for work-flow management;
- Examine new opportunities for “green computing” alternatives in the area of servers, printers and other peripheral devices;
- Review additional Web platforms to provide infrastructure services, information, applications and business processes through Web based “cloud computing” environments;
- Voice Over IP (VOIP): Explore the concept of Unified Communications – PBX migration to IP communications.

Budget Highlights:

- The Final FY09 Budget of \$9.0 million reflects an increase \$64,000 or 0.7% as compared to FY08 actual spending, primarily due to changes in **Wages and Salaries, Ongoing Maintenance, Training and Meetings** and **Other Materials** as described below.
- The Final FY09 Budget includes funding for 63 positions resulting in a 3.2% increase in **Wages and Salaries** as compared to FY08 actual spending.
- \$2.5 million for **Ongoing Maintenance** for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff. This represents a decrease of \$36,000 or 1.4% as compared to FY08 actual spending.
- \$44,000 for **Training and Meetings** reflects an increase of \$14,000 or 50.9% as compared to FY08 actual spending due to major infrastructure and platform changes.

- \$340,000 for **Other Materials** reflects a decrease of \$47,000 or -12.1% as compared to FY08 actual spending primarily due to adjustments to PCs, hardware and peripheral items deferred for later purchase to better meet budgeting goals.
- \$841,000 for **Other Services** remains level funded, even though FY08 actual spending is 3.9% higher than the FY09 CEB.

FY08 Accomplishments

- Network Redesign - WAN: Agreement has been signed with Verizon Business to develop a new network design that will phase out the current SONET and Frame Relay Technology and replace it with Multiple Protocol Layer System (MPLS). The new technology will improve redundancy, provide higher availability and generate costs savings.
- Cyber Security: Awarded a 3-year Cyber Security Monitoring Contract; upgraded existing hardware and software; expanded security program and increased monitoring services. No unplanned downtime was experienced. Updates to MWRA spam filters continue to catch a significant majority of all spam email (accounting for less than 1% of all incoming email messages), including "phishing" scams. Staff pushed out monthly security updates/fixes to PCs/servers, alerted users to current SOPs and responded immediately to several critical bulletins throughout the year.
- PICS (Process Information Control System): Integrated numerous tags into PI (Process Information) for management trending/reporting; Added PI tags to monitor power from the two turbines at CWTP; and transport tags to monitor Flows, Levels, Pumps, and Gate Position for the following stations: Alewife, Delauri, Hayes, Houghs Neck, New Neponset, and Prison Point.
- MAXIMO, LIMS, TRAC and ENQUAD: Customization for the PIMS application has been installed on the development system. PIMS implementation and server replacements are underway; awarded LIMS replacement contract; completed ENQUAD HOML database project; Mass DEP Reports (LIMS) Modification is underway; and Chlorine Contact Time Reports Phase I has been completed for Southboro Water Quality.
- A&F applications: Developed new applications and completed numerous reports, application enhancements, and ongoing support and maintenance for over 60 applications. Highlights include: developing web and blackberry front end for Chelsea weather data, new modules for tracking MIS application configurations to support audit requirements, New Hire IT Services Request workflow database; Providing technical assistance with, W2 and 1099 production; union contract settlements, web usage reports and analysis, and new deferred compensation interface program transfer benefits to Great West. LAWSON: Hardware/OS installations (Tier 1 of 3) implementation began in December additional servers for DI test and disaster recovery systems were received and installations began in mid January. The Lawson Application Environment installation (tier 2 of 3) for the Chelsea servers also started in January. Lawson Environment Upgrade from 8.0.3 to 9.0.1 was completed. Application upgrade from 8X to 9X started during FY08 rather than the scheduled milestone in FY09.
- Infrastructure: The SAN (Storage Area Network) hardware procurement was completed. Installation and configuration of SAN switches, the management server and the EVA (Enterprise Virtual Array) in Chelsea Data center have been completed. Two servers including one of the mail servers, has been successfully transitioned to utilize SAN storage. Completed replacement of 500 CRT monitors with energy saving LCD monitors; and addressed approximately 10,000 user calls within benchmark and completed a variety of server, switching and network improvements.

PROCUREMENT

Final FY09 Current Expense Budget PROCUREMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 3,052,874	\$ 3,210,896	\$ 3,450,924	\$ 3,683,569	\$ 232,645	6.7%
OVERTIME	19,543	47,422	27,347	15,000	(12,347)	-45.1%
FRINGE BENEFITS	254	339	441	-	(441)	-100.0%
CHEMICALS	-	-	-	-	-	-
UTILITIES	6,582	117	398	-	(398)	-100.0%
ONGOING MAINTENANCE	256,816	376,824	960,738	-	(960,738)	-100.0%
TRAINING & MEETINGS	7,375	5,635	3,096	7,725	4,629	149.5%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	94,117	103,596	103,050	86,608	(16,442)	-16.0%
OTHER SERVICES	67,704	96,435	75,387	81,370	5,983	7.9%
TOTAL	\$ 3,505,265	\$ 3,841,264	\$ 4,621,381	\$ 3,874,272	\$ (747,109)	-16.2%

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.

The goals of the Procurement Department are to:

- Procure materials, equipment, supplies, and 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.

Budget Highlights:

- The Final FY09 Budget of \$3.9 million represents a 6.0% increase over FY08 approved budget excluding the ongoing maintenance line items; includes \$3.7 million to support **Wages and Salaries** for 53 positions.
- **Ongoing Maintenance:** The actual spending under the ongoing maintenance line item captures the balance of the warehouse inventory items which were not charged out to the user divisions in the current fiscal year. The budget established for these items is included in the user divisions.

- **Other materials** budget of \$87,000 represents a decrease of 16% as compared to FY08 actual spending due primarily to a decrease in the amount budgeted for work clothes for Materials Management staff.
- **Other Services** budget of \$81,000 represents an increase of \$6,000 or 7.9% as compared to FY08 actual spending. This change is due to an increase in advertising based on actual spending which is partially offset by a decrease in freight which was reallocated to Operations.

FY08 Accomplishments

- Competitively bid Renewable Portfolio Standard certificates which resulted in FY08 revenue of \$1.6 million.
- Awarded the following major contracts in the first half of FY08: design and installation of a roof-mounted photovoltaic system at Deer Island; fast-track contracts for the removal of PCBs at Cosgrove Intake, Shaft A and Wachusett Dam; electric power for small Field Operations Department facilities and Facility Management profile accounts; Pretreatment Information Management System.
- Awarded the following major contracts in the second half of FY08: East Boston Branch Relief Sewer Construction; Wastewater Transport SCADA Phase II; JCWTP Ultra Violet Design Services; FY09 Insurance Program.
- Advertised or received proposals for the following: Ware Ultra Violet Design Services; West Roxbury Tunnel Design Services; DITP Primary and Secondary Clarifier Rehabilitation; Purchase of Back Pressure Steam Turbine Engine for DITP; Sale of DITP Enterprise Engines. FY09 initiatives include award of these contracts as well as the advertisement and award of the following: DITP Wind Turbine Installation; DITP Back Pressure Steam Turbine Engine Design/Build; North Dorchester Bay Pumping Station and Force Main/Gravity Sewer; Hultman Aqueduct Interconnections, Loring Road Hydroelectric Design Services.
- Implemented the second phase of our asset management program, which includes control of surplus automobiles, computers, tools and scrap metal in conjunction with the MWRA recycling program.
- Procured a number of vehicles including 4 E85 Flex Fuel vehicles, 3 Hybrid vehicles and 17 Diesel powered vehicles which are fueled with B20 Bio-Diesel.
- Procured a new three year office supply contract utilizing Lawson generated stock and non-stock annual reports to accurately reflect the Authority's office supply item purchases resulting in a better, more accurate and trackable discount on each item. Contract procured was a better value than offered on State-wide Contract.
- Increased the recycled content required under the copier paper contract to 30%, up from 10% in previous contracts, reflecting the MWRA's commitment to green purchasing.
- Recycled 92.47 tons of paper, 223.98 tons of scrap metal, and 11,308 gallons of waste oil, resulting in revenues of \$49,500. Rechargeable batteries (3,078 lbs.) and lead acid batteries (9,403 lbs.) were recycled at no cost to MWRA.

FY09 Goals and Initiatives

- Procure Authority's vehicle purchases at the beginning of Fiscal Year 2009.
- Utilize Lawson's reporting capabilities to create blanket contracts for recurring purchases.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Final FY09 Current Expense Budget						
REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Actual	FY09 Final	Change FY08 to FY09	
WAGES & SALARIES	\$ 489,576	\$ 508,106	\$ 523,474	\$ 561,864	\$ 38,390	7.3%
OVERTIME	2,135	511	399	-	(399)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
CHEMICALS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	1,263	1,318	1,370	3,000	1,630	119.0%
PROFESSIONAL SERVICES	1,739	(272)	-	500	500	-
OTHER MATERIALS	1,060	2,128	1,534	1,970	436	28.4%
OTHER SERVICES	106,524	118,921	220,169	301,676	81,507	37.0%
TOTAL	\$ 602,296	\$ 630,711	\$ 746,946	\$ 869,010	\$ 122,064	16.3%

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 have developed and are 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.

The goals of the Real Property and Environmental Management Department are to:

- 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.

Budget Highlights:

- The FY09 Budget of \$869,000 represents an increase of \$122,000 or 16.3% as compared to FY08 actual spending.
- **Wages and Salaries** budget of \$562,000 includes funding for six positions. The increase of \$38,000 or 7.3% is primarily due to contractual wage increases.
- \$302,000 for **Other Services** is an increase of \$82,000 or 37.0% as compared to FY08 actual spending. This increase is due primarily to the additional funds required for the CVA Intake PCB Remediation, a project which was initially funded in Western Operations in the investigation phase but has been transferred to RPEM for ongoing project management.

FY08 Accomplishments

- Prepared PCB Abatement Plans for the Oakdale Transformer Yard and the CVA Intake Facility. EPA issued approvals for the plans on March 3, 2008 and May 13, 2008 respectively.
- Worked with Engineering and Construction to reduce the term of the North Dorchester Bay temporary easements at the Bayside Expo/Boston Teachers Union property from three years to one while maintaining contractor flexibility resulting in savings of approximately \$185,000. Further, reduced the term of certain East Boston Branch Sewer Relief Project temporary easements from 2 years to 6 months resulting in significant cost savings.
- Renegotiated three permit agreements with communications companies for use of space at MWRA water tanks at Turkey Hill (Arlington) and Walnut Hill (Lexington) raising annual rate from \$30,000 each to \$50,000 each increasing the total annual revenue \$230,000. Collected all outstanding permit arrears.
- Managing fee assessment for 8M permits on MWRA fee controlled land. Currently collecting approximately \$35,000 per year.
- Acquired property rights for portions of the Hultman Interconnections Project and East Boston Branch Relief Sewer.
- Staff acquired property rights to support projects such as the Hultman Interconnections and East Boston Branch Sewer Relief Project during FY08. Staff anticipate acquiring additional necessary easements for these projects during FY09.
- Continued to provide technical support, including regulatory liaison, for the ongoing remediation of PCBs at the Wachusett Dam and Cosgrove Intake Facility. Completed a risk assessment for MWRA and DCR staff working at the Dam and Cosgrove Facility. The approval for the abatement plan for both facilities was issued by EPA on August 29, 2007.
- Completed an update to the DITP boilers Continuous Emissions Monitors QA/QC Plan following installation of new data handling hardware and software.
- Provided training to staff regarding the regulatory requirements for the new Clinton Wastewater Treatment Plant Emergency Generator. Submitted certification documents to DEP.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various construction projects, including North Dorchester Bay CSO Tunnel and Section 53 and 97A Water Main Replacement projects.
- Procured Contract S460, Environmental Compliance Assistance for the Deer Island Treatment Plant and the Biosolids Processing Facility, Notice to Proceed dated June 26, 2008.

FY09 Initiatives

- Submit a CO2 Budget Emission Control Application to DEP for the Deer Island Treatment Plant combustion turbines in accordance with the Regional Greenhouse Gas Initiative (RGGI).



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEMS

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 – VI present summaries of the MWRA's five division budgets with a detailed description of program budgets and highlights within each division section.

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 – November	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, Rates and Budget Department staff begin the financial management process by consolidating the authority-wide budgets, developing briefing materials for senior management and identifying major budget issues.
January	The Executive Director, supported by senior management, determines proposed funding levels required to meet service priorities. 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. Use of rate stabilization and bond redemption fund amounts is carried out in furtherance of MWRA's budgeting objectives and in accordance with its financing agreements. MWRA consults with the Advisory Board concerning use of amounts in the 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.

Beginning in FY2001, 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 45 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.

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 will establish 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 FY2009 to FY2018										
	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
EXPENSES										
Direct Expenses	\$215,919	\$224,996	\$234,472	\$244,216	\$253,300	\$264,993	\$275,744	\$286,800	\$298,272	\$310,203
Indirect Expenses	45,837	45,196	50,167	50,600	52,294	52,628	53,083	56,553	57,473	58,845
Capital Financing (before offsets)	<u>328,780</u>	<u>365,220</u>	<u>401,042</u>	<u>399,424</u>	<u>442,099</u>	<u>456,334</u>	<u>479,096</u>	<u>502,312</u>	<u>556,901</u>	<u>513,858</u>
Sub-Total Expenses	\$590,536	\$635,411	\$685,680	\$694,240	\$747,693	\$773,954	\$807,923	\$845,665	\$912,647	\$882,907
Debt Service Assistance	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)
Bond Redemption Savings	0	0	(16,114)	(1,900)	(12,896)	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$579,286	\$624,161	\$658,316	\$681,090	\$723,548	\$762,704	\$796,673	\$834,415	\$901,397	\$871,657
REVENUE & INCOME										
Non-Member and Other Revenue	\$12,966	\$13,095	\$13,416	\$13,963	\$14,040	\$14,413	\$14,709	\$14,991	\$15,215	\$15,415
Interest Income	20,427	28,144	27,488	27,921	28,843	29,622	30,690	31,859	33,362	33,879
Rate Stabilization	<u>5,073</u>	<u>11,449</u>	<u>13,504</u>	<u>1,084</u>	<u>6,423</u>	<u>6,203</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$38,467	\$52,688	\$54,408	\$42,968	\$49,305	\$50,239	\$45,400	\$46,850	\$48,577	\$49,294
Total Rate Revenue	\$540,819	\$571,473	\$603,909	\$638,123	\$674,242	\$712,466	\$751,273	\$787,565	\$852,820	\$822,363
Rate Revenue Increase	4.4%	5.7%	5.7%	5.7%	5.7%	5.7%	5.4%	4.8%	8.3%	-3.6%
Estimated Annual Household Charge **										
Charge based on 61,000 gpy (weighted)	\$763	\$797	\$835	\$885	\$927	\$984	\$1,039	\$1,093	\$1,159	\$1,180
Charge based on 90,000 gpy (weighted)	\$1,125	\$1,177	\$1,232	\$1,305	\$1,368	\$1,452	\$1,533	\$1,613	\$1,710	\$1,741
WASTEWATER										
EXPENSES										
Direct Expenses	\$160,456	\$166,963	\$173,970	\$181,289	\$187,677	\$195,227	\$203,123	\$211,248	\$219,698	\$228,486
Indirect Expenses	17,865	16,864	18,500	18,268	19,254	18,676	18,675	18,983	19,187	19,700
Capital Financing (before offsets)	<u>210,822</u>	<u>251,322</u>	<u>285,137</u>	<u>274,920</u>	<u>302,417</u>	<u>302,988</u>	<u>313,299</u>	<u>322,660</u>	<u>369,307</u>	<u>319,665</u>
Sub-Total Wastewater Expenses	\$389,142	\$435,149	\$477,608	\$474,478	\$509,348	\$516,890	\$535,097	\$552,891	\$608,192	\$567,851
Debt Service Assistance	(10,773)	(10,787)	(10,827)	(10,779)	(10,794)	(10,771)	(10,768)	(10,776)	(10,834)	(10,783)
Bond Redemption Savings	0	0	(6,089)	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$378,370	\$424,362	\$460,692	\$463,699	\$498,554	\$506,120	\$524,329	\$542,115	\$597,359	\$557,068
REVENUE & INCOME										
Non-Member and Other Revenue	\$5,255	\$5,262	\$5,269	\$5,271	\$5,278	\$5,280	\$5,284	\$5,287	\$5,298	\$5,290
Interest Income	12,545	17,718	17,997	18,219	18,819	19,134	19,562	19,988	20,841	20,803
Rate Stabilization	0	<u>6,706</u>	<u>8,943</u>	<u>671</u>	<u>276</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$17,800	\$29,686	\$32,210	\$24,162	\$24,374	\$24,414	\$24,845	\$25,275	\$26,139	\$26,094
Wastewater Rate Revenue	\$360,570	\$394,677	\$428,482	\$439,537	\$474,180	\$481,706	\$499,484	\$516,840	\$571,219	\$530,975
Rate Revenue Increase	3.2%	9.5%	8.6%	2.6%	7.9%	1.6%	3.7%	3.5%	10.5%	-7.0%
Estimated Annual Household Sewer Charge **										
Charge based on 61,000 gpy (weighted)	\$448	\$478	\$509	\$529	\$562	\$582	\$608	\$635	\$681	\$682
Charge based on 90,000 gpy (weighted)	\$661	\$706	\$751	\$781	\$829	\$859	\$898	\$937	\$1,004	\$1,006
WATER										
EXPENSES										
Direct Expenses	\$55,463	\$58,033	\$60,501	\$62,927	\$65,624	\$69,766	\$72,621	\$75,552	\$78,574	\$81,717
Indirect Expenses	27,972	28,331	31,667	32,332	33,039	33,952	34,408	37,570	38,286	39,145
Capital Financing (before offsets)	<u>117,958</u>	<u>113,898</u>	<u>115,905</u>	<u>124,503</u>	<u>139,682</u>	<u>153,346</u>	<u>165,797</u>	<u>179,652</u>	<u>187,594</u>	<u>194,193</u>
Sub-Total Water Expenses	\$201,393	\$200,262	\$208,072	\$219,762	\$238,345	\$257,064	\$272,826	\$292,774	\$304,454	\$315,056
Debt Service Assistance	(477)	(463)	(423)	(471)	(456)	(479)	(482)	(474)	(416)	(467)
Bond Redemption Savings	0	0	(10,025)	(1,900)	(12,896)	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$200,916	\$199,799	\$197,624	\$217,391	\$224,994	\$256,585	\$272,344	\$292,300	\$304,038	\$314,588
REVENUE & INCOME										
Non-Member and Other Revenue	\$7,711	\$7,833	\$8,147	\$8,691	\$8,761	\$9,133	\$9,426	\$9,704	\$9,917	\$10,125
Interest Income	7,882	10,426	9,490	9,702	10,023	10,489	11,129	11,871	12,521	13,076
Rate Stabilization	<u>5,073</u>	<u>4,743</u>	<u>4,560</u>	<u>412</u>	<u>6,147</u>	<u>6,203</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$20,667	\$23,002	\$22,198	\$18,806	\$24,932	\$25,825	\$20,555	\$21,575	\$22,437	\$23,200
Water Rate Revenue	\$180,249	\$176,797	\$175,426	\$198,585	\$200,062	\$230,760	\$251,789	\$270,725	\$281,601	\$291,388
Rate Revenue Increase	7.1%	-1.9%	-0.8%	13.2%	0.7%	15.3%	9.1%	7.5%	4.0%	3.5%
Estimated Annual Household Water Charge **										
Charge based on 61,000 gpy (weighted)	\$315	\$319	\$326	\$355	\$365	\$402	\$431	\$458	\$478	\$498
Charge based on 90,000 gpy (weighted)	\$464	\$471	\$481	\$524	\$539	\$593	\$635	\$676	\$706	\$735

**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 November 2007.

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 oxygen.

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

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.

CAC: Citizens' Advisory Committee.

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 liquid 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, or other metals. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates.

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 package individual construction contracts for particular areas of work.

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 63 CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has six facilities that intercept the flow from CSO pipes and provide wastewater treatment 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, that disperses treated wastewater over a large area.

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.

Division of Watershed Management (DWM): A division of the Metropolitan District Commission (MDC) responsible for watershed management activity. MWRA reimburses the Commonwealth for the cost of DWM's operations.

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 environment 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-Fertilizer 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 Outfall Monitoring): A comprehensive program to provide pre-discharge data that helps to predict and then to measure the effect of Deer Island outfall discharge on the marine ecosystem.

ICC: Interim Corrosion Control Facility - A facility located in Marlborough near Walnut Hill, where MWRA adjusts pH and alkalinity to reduce the leaching of lead from home plumbing.

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 removes itself from the grid. Deer Island participates in the Load Response Program offered by ISO-NE which is a program that 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. Deer Island 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.

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 pipeline improvements in the 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 plant 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 place 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 new 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 the plant (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 in 2000 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: Regional Greenhouse Gas Initiative

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 source of supply 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 as the primary chemical in the disinfection and odor processes at the Deer Island Treatment Plant, and as the disinfectant at the Cosgrove and Ware water disinfection facilities. MWRA currently uses sodium hypochlorite at the Carroll Water Treatment Plant (CWTP) and other wastewater Field Operations facilities.

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 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 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.

WERF (Water Environment Research Foundation): WERF is a not for profit organization that seeks to promote the development and application of sound science to water quality issues. WERF subscribers include municipal and regional water and wastewater utilities, industrial corporations, and environmental engineering firms that share a commitment to cost-effective water quality solutions.

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.

APPENDIX F
Final FY09 Current Expense Budget - Capital Financing Detail (as of 6/30/08)

	Amount Outstanding (\$ millions) as of 6/30/08	Total	Sewer	Water
SRF¹				
Unrefunded	\$ 20	\$ 33,018	\$ 33,018	\$ -
1999E Sewer	7	389,241	389,241	-
1999E Water	10	575,747	-	575,747
1999F	330	15,738,828	15,738,828	-
2000E Sewer	61	2,734,010	2,734,010	-
2000E Water	12	558,461	-	558,461
2001C Water	4	249,711	-	249,711
2001D Sewer	6	381,359	381,359	-
2001D Water	1	81,296	-	81,296
2002H Sewer	73	3,125,047	3,125,047	-
2002H Water	36	1,545,070	-	1,545,070
2002I Sewer	2	100,568	100,568	-
2002I Water	0	1,455	-	1,455
2003A	1	71,269	-	71,269
2003B	4	223,504	-	223,504
2003C Sewer	28	1,352,221	1,352,221	-
2003C Water	20	974,670	-	974,670
2004C Sewer	10	539,251	539,251	-
2004C Water	2	92,245	-	92,245
2004D Sewer	61	3,842,590	3,842,590	-
2004D Water	10	642,794	-	642,794
2005C Sewer	7	418,475	418,475	-
2005C Water	1	69,479	-	69,479
2005D Sewer	62	3,400,799	3,400,799	-
2005D Water	15	810,134	-	810,134
2005E Sewer	0.4	24,872	24,872	-
2005E Water	0.1	5,569	-	5,569
2006C Sewer	8	488,016	488,016	-
2006D Sewer	65	3,752,770	3,752,770	-
2006D Water	28	1,624,463	-	1,624,463
2006E Sewer	0.4	22,883	22,883	-
2006E Water	0.1	10,284	-	10,284
2007C Sewer	5	373,859	373,859	-
2007C Water	3	203,799	-	203,799
2007D Sewer	23	1,149,461	1,149,461	-
2007 E Sewer	59	3,333,909	3,333,909	-
2007 E Water	23	1,277,463	-	1,277,463
2008 SRF Sewer		2,789,094	2,789,094	-
2008 SRF Water		1,170,000	-	1,170,000
Total SRF Debt	\$ 996	\$ 54,177,684	\$ 43,990,272	\$ 10,187,412
MWRA Senior Debt				
1993C Refunding/New (fixed)	51	5,974,883	5,228,023	746,860
1997D Refunding (fixed)	123	6,242,850	6,117,993	124,857
1998A (fixed)	100	4,766,863	3,177,924	1,588,938
1998B Refunding (fixed)	103	4,924,550	4,727,568	196,982
2002B (fixed)	74	3,809,031	380,903	3,428,128
2002J Refunding (fixed)	353	18,574,613	16,717,151	1,857,461
2002J New (fixed)	200	10,000,000	5,000,000	5,000,000
2003D New	113	5,510,288	1,836,579	3,673,709
2004A New	105	5,249,419	393,706	4,855,712
2004B Refunding	49	2,469,500	2,160,813	308,688
2005A Refunding	411	30,500,562	9,912,683	20,587,879
2005B Refunding	80	4,014,500	1,338,033	2,676,467
2006A New	200	9,376,800	-	9,376,800
2006B Refunding	265	12,755,300	9,566,475	3,188,825
2007A New	200	9,033,188	1,535,642	7,497,546
2007B Refunding	648	34,017,375	28,574,595	5,442,780
FY09 New Money (October 2008)		8,945,000	4,472,500	4,472,500
Total Senior	\$ 3,077	\$ 176,164,720	\$ 101,140,588	\$ 75,024,133

APPENDIX F
Final FY09 Current Expense Budget - Capital Financing Detail (as of 6/30/08)

	Amount Outstanding (\$ millions) as of 6/30/08	Total	Sewer	Water
1999B	86	2,904,000	1,742,400	1,161,600
2002C Refunding	71	2,823,000	940,906	1,882,094
2002D Refunding	76	12,911,839	12,911,839	-
2008A Refunding	338	15,828,658	13,929,219	1,899,439
2008B Refunding	125	6,448,800	1,354,248	5,094,552
2008C Refunding	199	14,206,812	13,638,540	568,272
2008D Refunding	84	3,847,962	3,847,962	-
2008E Refunding	225	10,577,531	9,731,329	846,202
2008F Refunding	192	14,463,200	1,301,688	13,161,512
Refunding Commercial Paper	-	3,503,406	735,715	2,767,691
Total Subordinate Debt	\$ 1,395	\$ 87,515,208	\$ 60,133,845	\$ 27,381,363
Total SRF & MWRA Debt Service²	\$ 5,468	\$ 317,857,612	\$ 205,264,704	\$ 112,592,908
Water Pipeline Commercial Paper	\$ 191	\$ 3,205,000	\$ -	\$ 3,205,000
Current Revenue/Capital ³		4,500,000	3,375,000	1,125,000
Capital Lease		3,217,060	2,156,074	1,060,986
Sub-Total	\$ 191	\$ 10,922,060	\$ 5,531,074	\$ 5,390,986
Total Capital Financing (before Debt Service Offsets)	\$ 5,659	\$ 328,779,672	\$ 210,795,778	\$ 117,983,894
Debt Service Offsets				
Variable Rate Savings		\$ -	\$ -	\$ -
Debt Service Assistance		(11,250,000)	(10,772,530)	(477,470)
Total Capital Financing	\$ 5,659	\$ 317,529,672	\$ 200,023,249	\$ 117,506,425

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. The amount is partly determined by MWRA's bond covenant requirements.