

- Information Technology Strategic Plan (ITSP) - Quarterly Report for the period ending June 2008

Summary

This report provides a quarterly update of the Information Technology Strategic Plan (ITSP) and information technology (IT) activities in general for the period ending June 30, 2008. There were a number of important milestones achieved during the period that are summarized in this report.

The ITSP provides a roadmap to guide the investment and deployment of information technology at Metropolitan over the next three to five years. The plan is updated periodically in light of changing business needs and technologies. The goal of the plan is to leverage information technology investments to increase long-term reliability, while improving Metropolitan's overall efficiency and effectiveness. Oversight of IT investments is provided by the IT Guidance Committee consisting of senior management and the Capital Investment Plan (CIP) Evaluation Team as part of the annual CIP planning process.

Attachments

Attachment 1 provides a summary of Board actions and the appropriations for the ITSP programs through June 30, 2008.

Attachment 2 provides a summary of the appropriations and expenditures through June 30, 2008.

Attachment 3 provides a summary list of IT capital projects and their status.

Detailed Report

Below are highlights of progress and major milestones reached for IT projects / initiatives during the period of April 1st through June 30, 2008. The projects are categorized by business driver as follows:



IT STRATEGIC PLAN

Enhanced Reliability – Enhance system reliability

Improved Water Quality – Ensure water quality excellence

Enhanced Cyber Security – Effectively manage and safeguard assets



Productivity / Cost Efficiency – Improve process efficiency and effectiveness

Initiated Deployment of Servers for Phase One of the Information Technology Infrastructure Upgrade

- Phase One of the Information Technology Infrastructure Upgrade will improve reliability and avoid future capital expenditures by implementing special “virtualization” software that allows separate servers to be consolidated into a single physical server.
- During the period, staff completed detailed planning for the consolidation of servers and began data center upgrades. To date, seven “virtual” servers have been created on existing hardware using virtualization software and were used to run new applications. The result was a cost avoidance of approximately \$105,000 by eliminating the need to purchase additional physical servers. Consolidation of existing servers is scheduled to begin the first quarter of fiscal 2008/2009.

Expenditures in the Productivity/Cost Efficiency category were slightly higher than projected for fiscal year 2007/08. The fiscal year variance is due to selected project activities being ahead of schedule.



Enhanced Reliability:	Fiscal Year 2007-08 to date Budget: \$ 12.67 M Expended: \$ 7.28 M
<p>Key accomplishments included:</p> <p>Completed Phase One of the IT Network Upgrade - Local Area Network (LAN)</p> <ul style="list-style-type: none">■ As part of a comprehensive effort to ensure continued reliability of the Information Technology infrastructure used to run the core business applications that support Metropolitan’s water and business operations, the IT Strategic Plan recommended necessary replacements and upgrades for key infrastructure components.■ The objective of Phase One of the IT Network Upgrade project is to increase the capacity of Metropolitan’s local area network and to replace end-of-service-life network equipment at field facilities and Union Station Headquarters. The network equipment controls the flow of data throughout the buildings at all Metropolitan facilities for water operation-related systems such as SCADA, maintenance management, water billing and the security cameras.■ During the period, the project was successfully completed by replacing end-of-life LAN equipment at field facilities and Union Station Headquarters. The new equipment (e.g. routers, switches) provides increased reliability, performance, and greater capacity to handle local data traffic used to support Metropolitan’s core business. <p>Conducted Disaster Recovery Exercises for Key Metropolitan Applications</p> <ul style="list-style-type: none">■ As part of ongoing effort to refine Metropolitan’s ability to recover critical IT systems in the event of a disaster, staff continued on-going training and disaster recovery (DR) exercises. During the period, staff conducted exercises to recover the new version of the PeopleSoft Payroll / HR system at Metropolitan’s disaster recovery facility and updated the DR procedures accordingly.	 

Other key accomplishments during the period:

- During the period, three Programmable Logic Controllers (PLCs) that had reached the end of their useful life were replaced with new units at the Jensen Treatment Plant. These PLC units are used to control the traveling bridges, which are mechanical carriage devices that scour the bottom of the sedimentation basins. PLCs are industrial process control devices that are tied into Metropolitan’s SCADA system to control and monitor a variety of important water system-related processes.
- Staff continued final deployment preparations for the Automatic Meter Reading (AMR) project. This project involves upgrading the AMR meter sites that support Metropolitan’s billing and monitoring of water delivery through service connections to member agencies. The current AMR system is based on outdated technology that is no longer supported by the telecommunications industry and must be replaced to continue functioning properly. There are approximately 480 water meters located throughout Metropolitan’s distribution system.
- During the period, staff completed replacements of uninterruptable power supply (UPS) units at the Eagle Mountain and Hinds pumping plants. The UPS devices provide backup power to vital communication equipment (e.g., telephone system, routers) in the event of a power outage. Reliability of Metropolitan’s communication infrastructure has been enhanced by the replacement of the UPS units.
- During the period, staff concluded the Request for Proposal (RFP) evaluation phase as part of the Union Station Headquarters Technology Upgrade project. Staff conducted site visits; received best-and-final-offers; and completed a recommendation to award. A board action is scheduled for July 2008 to authorize an agreement based on a competitive RFP process.

Expenditures in the Enhanced Reliability category were lower than projected for fiscal year 2007/08. The fiscal year variance is due to a combination of factors. The Water Planning Application and Electronic System Register projects were deferred to focus available resources on high priority efforts already in progress. Also, expenditures were less than projected for the Union Station Headquarters Technology and Automatic Meter Reading System projects.



<p style="text-align: center;">Enhanced Cyber Security:</p>	<p style="text-align: center;">Fiscal Year 2007-08 to date Budget: \$ 0.64 M Expended: \$ 0.97 M</p>
<p>Key accomplishments included:</p> <p>Continued Phase II of the Information Security Remediation Initiative</p> <ul style="list-style-type: none"> ■ As part of Phase II of the Information Security Remediation initiative, staff continued efforts to enhance and upgrade Metropolitan’s IT security infrastructure. Activities included proactively implementing measures to secure the computing environment against cyber threats associated with newly evolving technologies. This included installing new software and hardware to ensure that Metropolitan’s computing environment remains secure. Accomplishments during the period include: <ul style="list-style-type: none"> ■ A network-based vulnerability assessment system was placed into operation. This will allow Metropolitan staff to perform Security Assessments of our computer systems and network infrastructure. ■ Evaluation of disk encryption software products commenced in an effort to strengthen laptop data security. ■ The evaluation and recommendation for a Database Security System were completed. This system will provide vulnerability assessment and real-time network traffic monitoring for critical databases. ■ The Information Security Remediation project is proceeding according to plan and is scheduled to be completed in fiscal year 2008/09. <p>Other key accomplishments during the period:</p> <ul style="list-style-type: none"> ■ Staff continued to take a leadership role in the national effort to strengthen cyber security among water and wastewater utilities, focusing primarily on protecting supervisory control and data acquisition (SCADA) systems. To that end, staff helped organize a regional workshop in Florida held in May 2008 and gave presentations at both the regional workshop and American Water Works Associations Annual Conference on SCADA cyber security. 	<div data-bbox="868 451 1437 829" data-label="Image"> </div> <div data-bbox="860 1060 1453 1459" data-label="Image"> </div>

- As part of the on-going security awareness effort, staff published monthly cyber security tips on Metropolitan’s internal website and continued to provide IT security orientation for all Metropolitan new hires.

Overall expenditures in the Enhanced Cyber Security category were above budget for fiscal year 2007/08. The variance relate to selected activities being slightly ahead of schedule. Overall, Phase II of the Information Security Remediation Initiative is proceeding according to plan and is scheduled to be completed within budget in fiscal year 2008/09.



Improved Water Quality:

Fiscal Year 2007-08 to date
Budget: \$ 0.03 M Expended: \$ 0.06 M

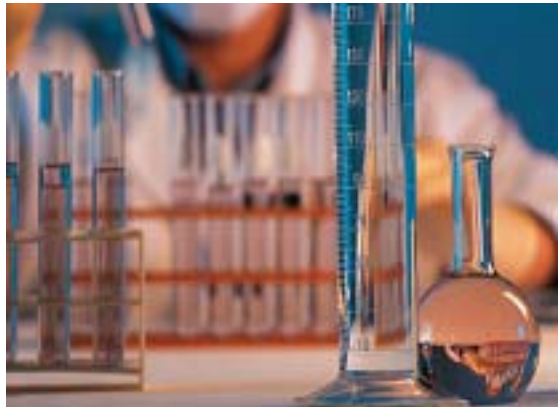
Key accomplishments included:

IT-Related Skinner Oxidation Retrofit Program

- During the period, staff supported the construction effort at the Skinner plant, by responding to technical questions and requests for information; and ensured compliance with Metropolitan specifications related to the design, programming, and installation of hardware and software to control the ozone treatment processes at the Skinner facility.

Other key accomplishments during the period:

- IT continued to provide SCADA related support such as design reviews and programming for a variety of water quality programs and projects at Metropolitan. Some of the activities during the period include:
 - Copper Basin Sodium Hypochlorite Feed:** In support of the Interim Sodium Hypochlorite Feed at Copper Basin to control quagga mussels, IT staff conducted site visits to assist in the start-up, troubleshooting and training of field staff (e.g. operators, technicians).



- **Weymouth Water Quality Pilot Plant**
During the period, staff continued review of the 100% design documents.

Other key accomplishments during the period:

- The purpose of the Plant Inlet Flow Metering Upgrade project is to ensure WSO operators and the SCADA system receives accurate inlet flow readings. Accurate influent flow readings are critical for determining proper chemical feed dosages. This project involves modifying SCADA Automated Process Control (APC) programs to calculate plant inlet flow using multiple methods to help ensure the influent flow figures provided to the WSO treatment plant operators are correct even when one of the meters is not providing accurate readings.
- To date, redundant flow metering calculations have been rolled-out for the Mills and Weymouth Treatment Plants. During the period, programming for the Jensen Treatment plant was completed and is currently in the testing phase. The target completion is in the second quarter of fiscal year 2008/09.

Overall, expenditures in the Improved Water Quality category were higher than planned for fiscal year 2007/08. The fiscal year variance is due to selected activities in the Plant Inlet Flow Metering Upgrade project being ahead of the cash flow projection for the fiscal year.



Board Report (Information Technology Strategic Plan (ITSP) -
Quarterly Report for the period ending June 2008)

Attachment 1

Summary of Board Actions:

The following table provides a sequential listing of ITSP Board appropriations through June 30, 2008:

Board Action Date	Appropriation No.	Description	Amount Appropriated
September-01	15376	Telecommunication Infrastructure Program	\$ 1,334,000
November-01	15378	IT Security Related Improvements	\$ 879,000
September-02	15378	Peoplesoft Upgrade	\$ 472,000
October-02	15397	Control System Enhancement Program (CSEP)	\$ 11,000,000
February-03	15406	Laboratory Information Management System (LIMS)	\$ 1,175,000
May-03	15408	Maintenance Management System (MMS) Upgrade	\$ 605,000
July-03	15411	Oracle E-Business Suite & Grants Management	\$ 4,038,230
September-03	15376	Enterprise GIS Project	\$ 4,377,000
October-03	15411	Peoplesoft Self Service Modules	\$ 1,850,000
April-04	15376	IT Infrastructure Program	\$ 5,603,000
July-04	15378	IT Security Program	\$ 925,000
February-06	15376	IT Network Upgrade - Phase I	\$ 3,340,000
February-06	15397	Energy Management System (EMS) - Phase II	\$ 963,000
March-06	15397	Programmable Logic Controller (PLC) - Phase II	\$ 1,160,000
July-06	15411	Water Billing System Upgrade	\$ 3,480,000
July-06	15376	Two Way Radio - Phase I	\$ 557,000
October-06	15411	Integrated Budget Management System	\$ 4,440,000
October-06	15378	IT Security Remediation Initiative	\$ 2,160,000
November-06	15376	IT Network Upgrade - Phase II	\$ 3,950,000
March-07	15411	Human Resources Improvement - Phase II	\$ 2,500,000
March-07	15376	Union Station Headquarters Technology Upgrade	\$ 1,910,000
April-07	15397	Phase II of the Automatic Meter Reading Upgrade Project	\$ 4,410,000
June-07	15411	Transportation Management System	\$ 846,000
June-07	15376	Phase One of the Information Technology Infrastructure Upgrade	\$ 1,590,000
August-07	15411	Inventory Bar-Coding System	\$ 1,235,000
September-07	15376	IT Disaster Recovery Facility Upgrades	\$ 1,010,000
February-08	15376	Telephone System Replacement	\$ 10,200,000
			\$ 76,009,230

Details of Board Items during this period:

- On May 12, 2008, staff provided a project update on the Union Station Headquarters Technology Upgrade.
- On June 9, 2008, staff provided quarterly updates on the Information Technology Strategic Plan (ITSP), and information technology (IT) activities in general, for the period ending March 31, 2008.

Board Report (Information Technology Strategic Plan (ITSP) -
Quarterly Report for the period ending June 2008)

Attachment 2

Summary of Board Actions:

The following table provides a summary of ITSP Board appropriations and expenditures through June 30, 2008:

Appropriation No.	Program Description	Total Amount Appropriated	Expenditures (Through June 30, 2008)
15397	Control System Enhancement Program (CSEP)	\$ 17,533,000	\$ 10,485,760
15406	Laboratory Information Management System (LIMS) Program	\$ 1,175,000	\$ 1,013,956
15408	Maintenance Management System (MMS) Upgrade Program	\$ 605,000	\$ 493,798
15411	Business, Finance & Human Resource (BF&HR) Program	\$ 18,389,230	\$ 12,239,055
15376	Information Technology Infrastructure Program	\$ 33,871,000	\$ 16,887,372
15378	Information Technology Security Program	\$ 4,436,000	\$ 3,127,087
		\$ 76,009,230	\$ 44,247,027

Board Report (Information Technology Strategic Plan (ITSP) -
Quarterly Report for the period ending June 2008)

Attachment 3

Summary list of IT capital projects:

Enhanced Reliability	
Control System Data Storage and Reporting	Completed
Email System Upgrade	Completed
Energy Management System (Phase I)	Completed
IT Business Systems / Data Recovery	Completed
Maintenance Management System Software Version Upgrade	Completed
Peoplesoft Software Version Upgrade (from 7.5 to 8.3)	Completed
Peoplesoft Software Version Upgrade (v8.9) as part of HMRS Phase II	Completed
Programmable Logic Controller Standardization (Phase 1)	Completed
Telecommunication Infrastructure Upgrade Program	Completed
Phonemail Replacement	Completed
Field Emergency Generator Upgrade	Completed
IT Network Upgrade (Phase I)	Completed
Control System Enhancement Program Implementation	In Progress
Automatic Meter Reading / Remote Terminal Unit Upgrade	In Progress
Control Systems Communications Upgrade	In Progress
Employee Relations Module and Learning Management Module Implementation	In Progress
Energy Management System (Phase II)	In Progress
Inventory Bar-Coding System	In Progress
IT Disaster Recovery Facility Upgrades	In Progress
IT Network Upgrade (Phase II)	In Progress
Programmable Logic Controller - Lifecycle Replacement (Phase II)	In Progress
SMART Operations - formerly Real Time Operating System (RTOS)	In Progress
Telephone System Replacement	In Progress
Two Way Radio Upgrade (Phase I)	In Progress
Union Station Headquarters Technology Upgrade	In Progress
Water Billing System Upgrade	In Progress
Colorado River Aqueduct (CRA) Control Integration	On Hold (*1)
Enhanced Distribution System Control	On Hold (*1)
Improved Water Quality	
Laboratory Information Management System Upgrade	Completed
Oxidation Demonstration Plant (ODP) Control System Replacement	Completed
Plant Influent Flow Metering Upgrade	In Progress
Enhanced Cyber Security	
Information Security Administration Software	Completed
Information Security Assessment/Remediation (Phase I)	Completed
IT Security Monitoring Improvement	Completed
SCADA Operator Authentication	Completed
SCADA Security Improvements	Completed
Information Security Assessment/Remediation (Phase II)	In Progress
Productivity / Cost Efficiency	
E-Business Suite	Completed
Enterprise Geographic Information System (Phase I)	Completed
Human Resources (Peoplesoft) Improvement Plan (Phase I)	Completed
Project Accounting and Grants Management	Completed
Transportation Management System	In Progress
Fuel Management System	In Progress
Integrated Budgeting Management System	In Progress
IT Infrastructure Upgrade (Phase I)	In Progress
IT Testing Tools	In Progress
Mobile Technology and Materials Interface	In Progress

Footnote*

(1.) The Enhanced Distribution System Control and Colorado River Aqueduct (CRA) Control Integration projects are on-hold pending completion of predecessor projects.