

- Information Technology Strategic Plan (ITSP) – Quarterly Report for the period ending December 2006

## 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 December 2006. 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, appropriation and expenditure status for the ITSP programs through December 31, 2006.

**Attachment 2** provides a summary list of IT capital projects and their status.

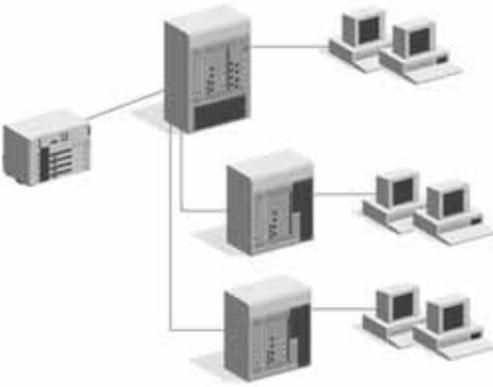
## Detailed Report

---

Below are highlights of progress and major milestones reached for IT projects / initiatives during the period of October 1<sup>st</sup> through December 31, 2006. The projects are categorized by business driver as follows:



IT STRATEGIC PLAN
<p><b>Enhanced Reliability</b> – enhance system reliability</p> <p><b>Improved Water Quality</b> – ensure water quality excellence</p> <p><b>Enhanced Cyber Security</b> – effectively manage and safeguard assets</p> <p><b>Productivity / Cost Efficiency</b> – improve process efficiency and effectiveness</p>

<p align="center"><b>Enhanced Reliability:</b></p>	<p align="center"><b>Fiscal Year 2006-07 to date</b>  <b>Budget: \$ 2.42 M      Expended: \$ 2.37 M</b></p>
<p><b>Key accomplishments included:</b></p> <p><b>Completed LAN upgrade at Union Station and all field sites</b></p> <ul style="list-style-type: none"> <li>■ The objective of Phase I of the IT Network Upgrade project is to increase the capacity of Metropolitan’s local area networks (LANs) and to replace end-of-life network equipment at Union Station and the field facilities.</li> <li>■ During this period, staff completed the network router and switch replacement portion of the project.</li> </ul> <p><b>Completed hardware installation for the Call Detail Recording system and performed Disaster Recovery Testing for new Voicemail system</b></p> <ul style="list-style-type: none"> <li>■ As part of the Phonemail Upgrade initiative, a new Call Detail Recording (CDR) system is being implemented. The new CDR system keeps a log of all telephone calls at Metropolitan locations and provides the capability to report on and analyze telephone usage.</li> <li>■ During the period, staff completed installation of hardware and software in preparation for system testing. Training for the CDR system is scheduled for January 2007 with deployment scheduled for the second quarter of 2007.</li> <li>■ In addition, staff successfully tested the disaster recovery procedures for the new Voicemail system that was deployed in the prior quarter. Disaster recovery testing of the Voicemail system was performed at multiple sites including Union Station, La Verne and Lake Mathews.</li> </ul>	 

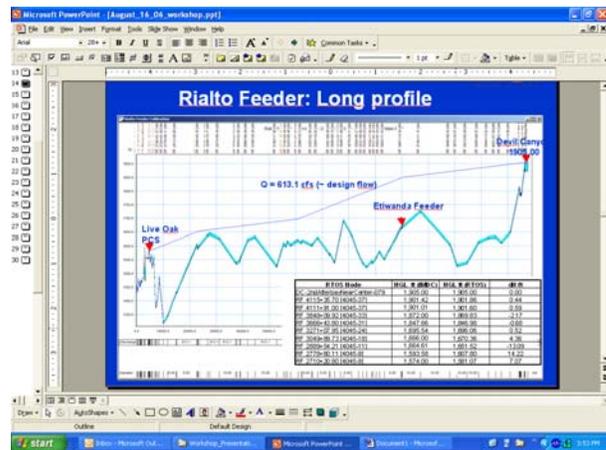
**Completed factory acceptance testing on Automated Meter Reading System (Pilot Phase)**

- The Automated Meter Reading (AMR) System is the primary source of data for water billing, providing information on the amount of water delivered to each member agency. There are approximately 480 water meters located throughout Metropolitan’s water distribution system. The current AMR system is based on outdated technology that needs to be upgraded to continue functioning properly.
- During the period, a pilot system (Phase I) of 31 units was successfully tested at the vendor’s facility. This system includes new Remote Terminal Units (RTUs – field computers used to capture and process water flow readings), communications, software and security. Subsequent to achieving this milestone, the project team began installing RTUs at field locations for live system testing.



**Completed testing hydraulic modeling pilot system for the Rialto Area**

- The SMART Operations (Ops) project, formerly named the Real Time Operating System (RTOS), will develop and implement a hydraulic model that simulates the behavior of Metropolitan’s water distribution system, including the Colorado River Aqueduct (CRA). SMART Ops will be used for planning the re-routing of water during shutdowns and analyzing distribution system control options.
- The pilot phase serves as a “proof of concept” by developing a working hydraulic model that simulates water grade, flow and levels for the Rialto Feeder portion of Metropolitan’s distribution system.
- During the period, staff successfully completed testing of the hydraulic model for the Rialto Feeder region and initiated rollout of the pilot system to users. Staff anticipates the pilot phase will be completed in the third quarter of 2007.



**Successfully Conducted Additional IT Disaster Recovery Exercises**

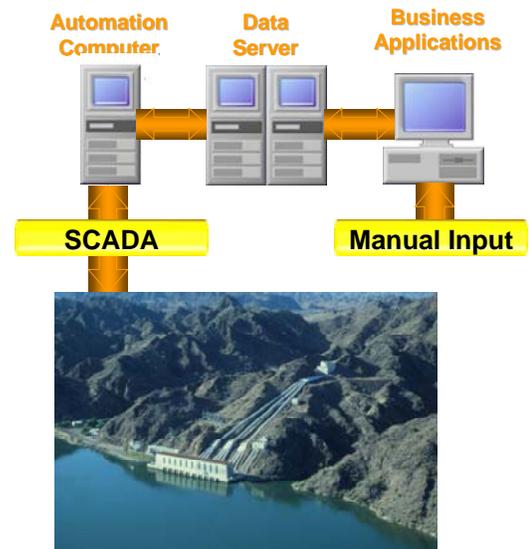
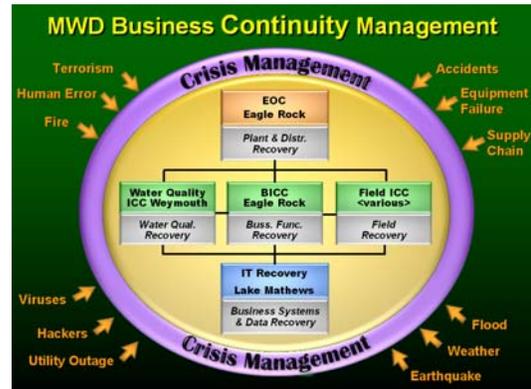
- During the period, staff conducted and completed an information technology disaster recovery exercise as part of ongoing efforts to regularly test and exercise IT recovery procedures. The scope of this exercise focused on key business systems such as Metropolitan’s financial (Oracle), human resources (PeopleSoft), and timekeeping (WorkTech) systems.

**Released Phase II (CRA) of the Energy Management System (EMS) for User Testing**

- Phase I of the Energy Management System was previously implemented and is currently used for managing the hydroelectric plant energy generation operation. Phase II focuses on the CRA and provides software to help with scheduling, contracting, execution, tracking and auditing of energy purchases totaling nearly \$40 to \$50 million per year in transactions. Previously, this work was performed using a collection of spreadsheets and manual methods.
- The Energy Management System for CRA energy consumption was installed and configured for Metropolitan’s use. It is now being tested.

**Continued PC Replacement Initiative**

- A project is underway to replace the desktop and laptop PCs for board members and Metropolitan employees. The current equipment is more than five years old.
- During this period, developed an enterprise agreement with Microsoft that entitles Metropolitan to upgrade Microsoft software products over the next three years as new versions are released. This is projected to save Metropolitan approximately \$900,000 over purchasing software license upgrades. The project team continued testing existing applications with Microsoft’s new Vista Operating System and Office 2007.

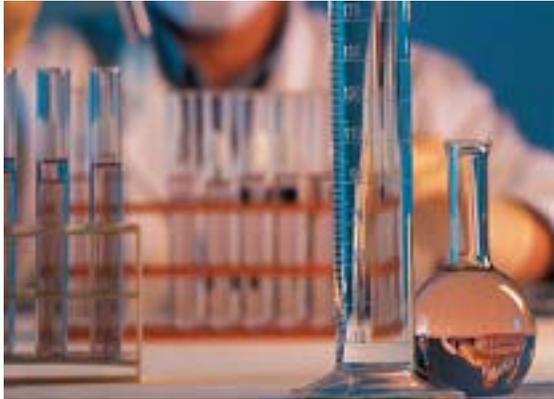


**Successfully Performed Control Transfer from  
Operational Control Center to Mills**

- During the period, IT staff worked closely with WSO to successfully test the transfer of control of the water distribution system from Eagle Rock’s Operational Control Center (OCC) to the Mills Treatment plant. The primary purpose of the test was to ensure that the water distribution system could be controlled using SCADA even if the Eagle Rock facility were out of service during an emergency. This test was successfully completed in November 2006.

Expenditures in the Enhanced Reliability category are on target for the second quarter and are expected to be within budget for the fiscal year.



<p align="center"><b>Improved Water Quality:</b></p>	<p align="center"><b>Fiscal Year 2006-07 to date</b>  <b>Budget: \$0.04 M    Expended: \$0.01 M</b></p>
<p><b>Key accomplishments included:</b></p> <p><b>Oxidation Retrofit Programs</b></p> <ul style="list-style-type: none"> <li>■ The Skinner, Weymouth and Diemer Oxidation Retrofit Programs (ORP) are capital programs to add ozonation to Metropolitan’s treatment plants. A major component of these programs include design, programming, and installation of hardware and software to control the ozone process.</li> <li>■ For the Skinner ORP, IT staff continued to review contractor submittals for compliance with Metropolitan construction specifications, and provided construction support.</li> <li>■ For the Weymouth ORP, IT staff began review of the 99% consultant design documents for SCADA controls and instrumentation.</li> <li>■ For the Diemer ORP, IT staff continued to review the preliminary consultant design documents for SCADA controls and instrumentation.</li> </ul> <p><b>Continued IT Support for Other Water Quality Related Initiatives</b></p> <ul style="list-style-type: none"> <li>■ During the period, IT staff reviewed and approved the contractor submittals for the fiber optic cable system which will be used for communications related to SCADA, security, fire alarm and the business LAN. This initiative is a part of the Skinner Treatment Plant Expansion No. 4 Program.</li> <li>■ During the period, IT staff continued 99% design documentation review for the Weymouth Chemical System Upgrade project.</li> <li>■ In support of Metropolitan’s initiative to add fluoridation at the five treatment plants, IT staff is in the process of developing fluoride process graphic screens for the Jensen, Weymouth and Diemer facilities.</li> </ul> <p>Expenditures in the Improved Water Quality category were lower than projected for the second quarter of fiscal year 2006-07. A variance in this category is expected to remain until the Electronic System Log (ELS) project is initiated. The ESL project was delayed because internal resources were working on higher priority projects.</p>	 

<p align="center"><b>Enhanced Cyber Security:</b></p>	<p align="center"><b>Fiscal Year 2006-07 to date</b>  <b>Budget: \$0.15 M      Expended: \$0.11 M</b></p>
<p><b>Key accomplishments included:</b></p> <p><b>Deployed IT Security Administration Software</b></p> <ul style="list-style-type: none"> <li>■ During the period, a new software product was successfully deployed that is used by IT security personnel to create, delete, enable, disable, and modify users' access rights for selected computer applications. The objective of this new security software is to provide an improved means for ensuring that all computer users have the appropriate level of access to the network and applications needed to perform their jobs.</li> </ul> <p><b>Continued Cyber Security Enhancements</b></p> <ul style="list-style-type: none"> <li>■ During the period, IT staff continued to implement recommendations to strengthen Metropolitan's cyber security based on an assessment by the consulting firm KEMA.                             <ul style="list-style-type: none"> <li>▪ During the period, a new SCADA Firewall was installed and configured in preparation for testing.</li> <li>▪ Staff completed the deployment of enhanced security software for all IT laptop users. This software product ensures that computers have the latest security patches, and updated virus protection before allowing them to attach to Metropolitan's network.</li> <li>▪ The information security team also initiated the development of a formal detailed project plan and schedules for Phase II of the Information Security Remediation project, which was approved by the Board in October 2006. Phase II will implement the remaining recommendation from the KEMA assessment and will provide upgrades and enhancements to Metropolitan's IT Information Security infrastructure.</li> </ul> </li> </ul>	    

Board Report (Information Technology Strategic Plan (ITSP) – Quarterly Report for the period ending December 2006)

**Other key accomplishments during the period:**

- As part of the on-going security awareness effort, staff published monthly cyber security tips on Metropolitan’s internal website. In addition, a special communication was sent to warn Metropolitan users to take increased security precautions before opening email such as electronic greeting cards during the holiday season as they can contain viruses.
- During this period, staff continued to provide IT security orientation for all Metropolitan new hires.

Expenditures in the Enhanced Cyber Security area were slightly lower than projected for the second quarter of fiscal year 2006-07. The variance is expected to decrease as a result of ongoing security initiatives including Phase 2 of the Information Security Assessment / Remediation initiative that was approved this period.



<p align="center"><b>Productivity / Cost Efficiency:</b></p>	<p align="center"><b>Fiscal Year 2006-07 to date</b>  <b>Budget: \$ 2.70 M      Expended: \$ 1.61 M</b></p>
<p><b>Key accomplishments included:</b></p> <p><b>Implemented Timekeeping System Upgrade</b></p> <ul style="list-style-type: none"> <li>■ During the period, the timekeeping system (WorkTech) used by all Metropolitan employees was successfully upgraded from version 2.4 to 3. WorkTech is a software product used for entering and approving employee time information, which is then passed electronically to the payroll system (PeopleSoft).</li> <li>■ Time information entered into WorkTech for maintenance craft employees is also passed on to the maintenance management system (Maximo) and used to record the amount of labor charged to each maintenance work order. This upgrade to the WorkTech system brought Metropolitan up to the current version software and provided additional features to streamline the time entry and review processes.</li> </ul> <p><b>Initiated Integrated Budget Management System project and Completed Procurement of Cognos</b></p> <ul style="list-style-type: none"> <li>■ In October, the Board appropriated \$4.44 million and authorized an agreement with CBH Consultants, Inc. to implement an Integrated Budget Management System (IBMS). The project will replace four standalone custom-developed budgeting systems with an integrated system that will handle both the capital and O&amp;M budgets.</li> <li>■ During the period, staff negotiated an enterprise licensing agreement, which allowed Metropolitan to procure the Cognos software at a 79% discount. This translated to a \$500,000 cost savings over the 42% discount initially offered by Cognos. In addition, staff negotiated a discount of approximately \$90,000 per year in future annual maintenance costs for the Cognos software.</li> <li>■ For the consultant services, staff continued contract negotiations with CBH Consultants Inc. Negotiations are expected to conclude shortly. Based on the tentative agreement, the IBMS will be implemented and available for use in the preparation of the fiscal year 2009/10 budget process.</li> </ul>	<div data-bbox="842 384 1450 898" data-label="Image"> </div> <div data-bbox="940 1062 1360 1617" data-label="Image"> </div>

Board Report (Information Technology Strategic Plan (ITSP) –  
Quarterly Report for the period ending December 2006)

<p>Expenditures in the Productivity / Cost Efficiency area were lower than projected for the second quarter of fiscal year 2006-07. This variance results from projects starting later than planned. The variance for this category is expected to decrease as the Water Billing System Upgrade project and Integrated Budget Management System projects are now underway. In addition, more expenditure are expected to occur in the second half of the fiscal year as other smaller projects in this category are approved and launched.</p>	
--	--

Board Report (Information Technology Strategic Plan (ITSP) – Quarterly Report for the period ending December 2006)

**Attachment 1**

**Summary of Board actions:**

The following table provides a summary of ITSP Board appropriations through December 31, 2006

Board Action Date	Appropriation No.	Description	Amount Appropriated	Expenditures (Through December 31, 2006)
September-01	15376	Telecommunication Infrastructure Program	\$ 1,334,000	\$ 1,249,600
November-01	15378	IT Security Related Improvements	\$ 879,000	\$ 796,867
September-02	15378	Peoplesoft Upgrade	\$ 472,000	\$ 445,536
October-02	15397	Control System Enhancement Program (CSEP)	\$ 11,000,000	\$ 5,087,239
February-03	15406	Laboratory Information Management System (LIMS)	\$ 1,175,000	\$ 1,013,956
May-03	15408	Maintenance Management System (MMS) Upgrade	\$ 605,000	\$ 493,798
July-03	15411	Oracle E-Business Suite & Grants Management	\$ 4,038,230	\$ 3,579,384
September-03	15376	Enterprise GIS Project	\$ 4,377,000	\$ 4,081,055
October-03	15411	Peoplesoft Self Service Modules	\$ 1,850,000	\$ 1,615,772
April-04	15376	IT Infrastructure Program	\$ 5,603,000	\$ 5,498,159
July-04	15378	IT Security Program	\$ 925,000	\$ 784,324
February-06	15376	IT Network Upgrade - Phase I	\$ 3,340,000	\$ 1,907,064
February-06	15397	Energy Management System (EMS) - Phase II	\$ 963,000	\$ 433,839
March-06	15397	Programmable Logic Controller (PLC) - Phase II	\$ 1,160,000	\$ 178,735
July-06	15411	Water Billing System Upgrade	\$ 3,480,000	\$ 171,148
July-06	15376	Two Way Radio - Phase I	\$ 557,000	\$ 136,931
October-06	15378	IT Security Remediation Initiative	\$ 2,160,000	\$ -
October-06	15411	Integrated Budget Management System	\$ 4,440,000	\$ 1,134,098
November-06	15376	IT Network Upgrade - Phase II	\$ 3,950,000	\$ -
			<b>\$ 52,308,230</b>	<b>\$ 28,607,503</b>

**Details of Board Actions during this period:**

- On October 10, 2006, the Board appropriated \$2.16 million and authorized Phase 2 of the Information Security Assessment / Remediation initiative (Appropriation 15378)
- On October 10, 2006, the Board appropriated \$4.44 million and authorized an agreement with CBH Consultants, Inc. to implement an Integrated Budget Management System in an amount not to exceed \$1.757 million; and procurement of a software package from Cognos in an amount not to exceed \$1.175 million (Appropriation 15411)
- On November 14, 2006, the Board appropriated \$3.95 million and authorized the Wide Area Network for facility communications as part of the IT Network Upgrade initiative (Appropriation 15376)

Board Report (Information Technology Strategic Plan (ITSP) – Quarterly Report for the period ending December 2006)

**Attachment 2**

**Summary list of IT capital projects:**

<b>Enhanced Reliability</b>	
Email System Upgrade	Completed
IT Business Systems / Data Recovery	Completed
Energy Management System (Phase I)	Completed
Programmable Logic Controller Standardization (Phase 1)	Completed
Maintenance Management System Software Version Upgrade	Completed
Control System Data Storage and Reporting	Completed
Telecommunication Infrastructure Upgrade Program	Completed
Automatic Meter Reading / Remote Terminal Unit Upgrade	In Progress
SMART Operations - formerly Real Time Operating System (RTOS)	In Progress
Control System Enhancement Program Implementation	In Progress
Energy Management System (Phase II)	In Progress
Programmable Logic Controller - Lifecycle Replacement (Phase II)	In Progress
IT Network Upgrade (Phase I)	In Progress
IT Network Upgrade (Phase II)	In Progress
Field Emergency Generator Upgrade	In Progress
Phonemail Replacement	In Progress
Two Way Radio Upgrade	In Progress
Enhanced Distribution System Control	On Hold *1
Colorado River Aqueduct (CRA) Control Integration	On Hold *1
Control Communications	On Hold *2
<b>Improved Water Quality</b>	
Oxidation Demonstration Plant (ODP) Control System Replacement	Completed
Laboratory Information Management System Upgrade	Completed
Plant Influent Flow Metering Upgrade	In Progress
<b>Enhanced Cyber Security</b>	
Information Security Administration Software	Completed
SCADA Operator Authentication	Completed
IT Security Monitoring Improvement	Completed
SCADA Security Improvements	Completed
Information Security Assessment/Remediation (Phase I)	In Progress
Information Security Assessment/Remediation (Phase II)	In Progress
<b>Productivity / Cost Efficiency</b>	
Peoplesoft Software Version Upgrade (from 7.5 to 8.3)	Completed
E-Business Suite	Completed
Project Accounting and Grants Management	Completed
Human Resources (Peoplesoft) Improvement Plan (Phase I)	In Progress
Water Billing System Upgrade	In Progress
Integrated Corporate Budgeting System	In Progress
Enterprise Geographic Information System (Phase I)	In Progress
Strategic Operations and Maintenance Management System (SOMMS)	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.
2. Currently a wireless steering committee is meeting to develop standards and specifications for Metropolitan's wireless networks. Once these are released, the Control (SCADA) Communications project will proceed. The Control Communications project will be combined with Phase Two of the IT Network Upgrade and address the SCADA wireless network upgrade needs for the desert region.