

- Information Technology Strategic Plan (ITSP) - Quarterly Report for period ending March 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 March 31, 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 March 31, 2008.

Attachment 2 provides a summary of the appropriations and expenditures through March 31, 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 January 1st through March 31, 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

<p align="center">Productivity / Cost Efficiency:</p>	<p align="center">Fiscal Year 2007-08 to date Budget: \$ 2.64 M Expended: \$ 1.99 M</p>
<p>Key accomplishments Included:</p> <p>Completed Design for Phase One of the Information Technology Infrastructure Upgrade</p> <ul style="list-style-type: none"> ■ As part of ongoing benchmarking efforts to ensure that Metropolitan’s Information Technology (IT) resources are managed efficiently and effectively, staff retained a specialized consulting firm, Gartner, Inc., to analyze approaches to optimize use of IT computer servers and disk storage devices. Computer servers and disk storage devices are used to run computer applications (e.g. payroll, maintenance management, laboratory information management, etc.). ■ Phase One of the Information Technology Infrastructure Upgrade provides for cost avoidance and improvements in reliability by implementing technology that allows separate servers to be consolidated into a single physical server using special “virtualization” software. ■ The anticipated cost avoidance benefits include: <ul style="list-style-type: none"> ▪ Metropolitan will reduce the forecasted number of servers to be purchased over the next five years from approximately 210 to 86, thus reducing the operating expenditure for servers and associated disk drives. ▪ Facility upgrades of at least \$500,000 will be avoided that would have otherwise been needed to accommodate the increased number of servers. ▪ Electrical power and cooling costs will be reduced based on the lower number of physical servers. ■ During the period, staff completed the design phase of this project. Preliminary analysis indicates that the anticipated cost savings achieved by this initiative will meet or exceed the targets of the original business case. Two virtual servers have been deployed for development and evaluation use within IT. Rollout of “virtual” servers is scheduled to begin in the fourth quarter of fiscal year 2007/08. 	 

Completed Prototypes of the new Integrated Budget Management System




- The Integrated Budget Management System (IBMS) project is developing a single integrated system to replace five separate, existing budgeting systems. Once fully implemented, the IBMS will ensure complete and consistent budget development, analysis, and reporting.
- Staff anticipates that the payback period for IBMS will be approximately five years through increased staff productivity. After the first year, the estimated savings are \$900,000 annually.
- Recently, IT staff demonstrated a prototype of the new system and key Metropolitan users have provided input to ensure that it meets Metropolitan's requirements for O&M, capital and operating equipment budgeting.
- IBMS is scheduled for deployment in the fall of 2008, for use in the upcoming fiscal year 2009/10 budgeting process.

Initiated Procurement of Hardware for Materials Interface and Mobile Technology Project

- The Materials Interface and Mobile Technology (MIMT) project will accomplish two goals: 1) Implement an interface between the Maximo Maintenance Management System and Oracle inventory module to automate the requisitioning of maintenance materials needed for completing work orders; and 2) Implement mobile devices to support collection of timekeeping and work order data, and information about field-based assets by WSO craft employees directly from the field without requiring them to drive back to their home office to enter the data. This process improvement is expected to save maintenance staff up to 15 minutes per day per employee. This translates to a savings of up to \$360,000 per year, with a payback period of approximately five years.
- During the period, staff issued a Request for Bids (RFB) to acquire mobile hardware. The MIMT project is expected to be complete by the third quarter of fiscal year 2008/09.

Expenditures in the Productivity/Cost Efficiency category were lower than projected through the third quarter of fiscal year 2007/08. A portion of this variance is expected to remain, as the Oracle Accounts Payable Imaging was deferred to focus available resources on higher priority efforts.



<p align="center">Enhanced Reliability:</p>	<p align="center">Fiscal Year 2007-08 to date Budget: \$ 9.38 M Expended: \$ 5.31 M</p>
<p>Key accomplishments Included:</p> <p>Deployed Phase II of the Energy Management System (EMS)</p> <ul style="list-style-type: none"> ■ Phase II of the Energy Management System will improve the recording of energy transactions for the Colorado River Aqueduct (CRA) by automating the billing and payment approval process, improving transaction settlement processing with counter parties, and providing the ability for trading information to be easily reviewed by operations, financial and audit personnel. ■ This project increases reliability as power scheduling, trading, and settlement processes are much more involved for the CRA energy purchase transactions than they are for transactions associated with Metropolitan’s power generation operation. ■ Key project drivers include: <ul style="list-style-type: none"> ▪ New regulatory changes have made the rules regarding managing and administering energy more complex ▪ Energy transactions now require electronic tagging and faster settlement processing ▪ Increasing regulatory requirements ■ Benefits of Phase II of the Energy Management System project include enhanced reliability and elimination of manual records, thus allowing staff to work on higher value tasks. ■ During the period, user acceptance testing was successfully completed and the database was moved into production. With the transition into production use, staff has begun a final enhancement cycle with the product vendor that will be completed in the first quarter of fiscal year 2008/09. 	<div style="text-align: center;">  <p>Colorado River Aqueduct</p> </div> <div style="text-align: center; margin-top: 20px;">  </div> <div style="text-align: center; margin-top: 20px;">  </div>

PC Replacement Initiative

- Metropolitan substantially completed the deployment of Windows Vista and Office 2007, upgrading PCs at Union Station Headquarters and all field locations. The PC replacement program provides enhanced reliability and augments workforce productivity. Benefits of this project include:
 - Enhanced reliability by replacing outdated desktops and laptops more than five years old.
 - Improved security with the new Vista Operating System.
 - An Enterprise agreement that entitles Metropolitan to upgrade Microsoft software products over three years as new versions are released. This is projected to save Metropolitan approximately \$900,000 over purchasing software license upgrades.
- The PC Replacement Program is 99 percent complete.
- During the period, staff resolved a majority of the remaining issues relating to software that have special requirements (e.g. custom configuration, greater memory capacity, virtual PC). IT is working with Microsoft to resolve remaining technical issues.

Conducted IT Disaster Recovery Joint Exercise

- In March, as part of IT's continuing effort to regularly test and exercise IT recovery procedures, staff participated in a joint exercise comprised of IT Disaster Recovery Teams and Business Continuity Teams. The exercise simulated a natural disaster triggering the activation of the disaster recovery facility. This is an on-going effort to refine Metropolitan's ability to recover critical IT systems in the event of a disaster.
- IT's Incident Management Team also started the process of complying with FEMA's requirements to train employees to use the National Incident Management System (NIMS) by completing online classes.



- In addition, there is on-going training for IT staff on their roles, emergency communication procedures, and protocol in the event of an emergency. IT has begun planning for “Golden Guardian”, a statewide disaster recovery exercise scheduled for September 2008.

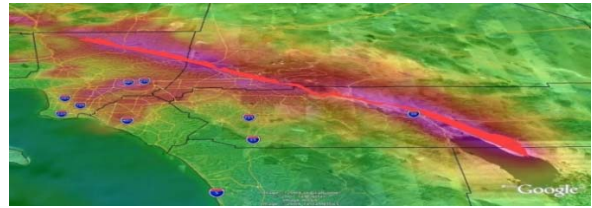
Evaluated Proposals for Union Station Technology Upgrade

- The Union Station Headquarters Technology Upgrade project will upgrade audio, video and information technology – related equipment in the main boardroom and all committee rooms in Metropolitan’s headquarters building at Union Station.
- During the period, staff reviewed the received proposals, short-listed three vendors, and conducted initial interviews. In addition, staff briefed the Board’s Ad Hoc Committee and is proceeding per the direction received from the committee.




Completed Installation of Digital Modems as part of the Automatic Meter Reading Project

- This project involves upgrading the Automatic Meter Reading (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 needs to be upgraded to continue functioning properly. There are approximately 480 water meters located throughout Metropolitan’s distribution system.
- During this period, staff replaced the analog modems with digital modems which are used to transmit meter reading data. This replacement is necessary as the older analog communication technology is being phased out by the cellular telephone service providers. The new digital modem hardware will enhance reliability to a critical aspect of Metropolitan’s billing process.
- The AMR project is scheduled to be completed in the first half of fiscal year 2008/09.

Expenditures in the Enhanced Reliability category were lower than projected through the third quarter of fiscal year 2007/08. This variance is due to: the Water Planning Application and Electronic System Log projects were deferred to focus available resources on higher priority efforts; and expenditures that were less than projected for the Union Station Headquarters Technology and Automatic Meter Reading System projects.



<p align="center">Enhanced Cyber Security:</p>	<p align="center">Fiscal Year 2007-08 to date Budget: \$ 0.56 M Expended: \$ 0.77 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 new software and hardware to ensure that Metropolitan’s computing environment remains secure. ■ To date, staff has completed redesigning and modifying six applications that process SCADA data to strengthen the security of Metropolitan’s SCADA network. ■ During the period, the Security Information Management (SIM) system was placed into operation. The Security Information Management software allows staff to proactively monitor critical security events and network activity in real-time to identify any suspicious activity and facilitate appropriate action to safeguard Metropolitan’s network and computer systems. This Information Security Remediation project is scheduled to be completed in second quarter of fiscal year 2008/09. <p>Other key accomplishments during the period:</p> <ul style="list-style-type: none"> ■ Staff continued to monitor the status of industry-wide security issues and lead Metropolitan’s efforts to prevent damage to our computer systems from viruses and other prevalent threats. ■ 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. <p>Expenditures in the Enhanced Cyber Security category were above budgeted levels through the third quarter of fiscal year 2007/08. A variance in this category is expected to remain as some activities are slightly ahead of schedule.</p>	<div data-bbox="1003 352 1295 783" data-label="Image"> </div> <div data-bbox="894 884 1425 982" data-label="Section-Header"> <p align="center">Information Security</p> </div> <div data-bbox="964 1003 1338 1377" data-label="Image"> </div> <div data-bbox="876 1444 1425 1801" data-label="Image"> </div>

<p align="center">Improved Water Quality:</p>	<p align="center">Fiscal Year 2007-08 to date Budget: \$ 0.03 M Expended: \$ 0.04 M</p>
<p>Key accomplishments included:</p> <p>Oxidation Retrofit Program</p> <ul style="list-style-type: none"> ■ The Oxidation Retrofit Program (ORP) involves design, programming, and installation of hardware and software to control the ozone treatment process at the Skinner, Weymouth and Diemer facilities. ■ During the period: <ul style="list-style-type: none"> ▪ Staff continued to support construction at the Skinner plant, responding to technical questions that arose during construction. ▪ Staff prepared labor and SCADA equipment estimates for upcoming construction of the Diemer ORP. <p>Other key accomplishments during the period:</p> <ul style="list-style-type: none"> ■ IT continued to provide design; programming, information security and SCADA - related support for a variety of water quality programs and projects at Metropolitan. Some of the activities during the period include: <ul style="list-style-type: none"> ▪ Copper Basin Sodium Hypochlorite Feed: Staff participated in factory acceptance testing. ▪ Chlorination Facility Upgrades (Jensen, Mills): IT staff worked with Jensen plant staff on the rerouting of control wiring for the existing chlorine systems. Staff reviewed point-to-point drawings for the chlorine facility and updated the SCADA database. ▪ Inland Feeder Opal Avenue Structure: Staff reviewed SCADA requirements, configured SCADA points in the database, and developed the required graphic screens. ▪ Mills Module 1 & 2 Refurbishment: Staff reviewed the 90% design documents. ▪ Lake Mathews Sodium Hypochlorite Feed: Staff reviewed final design documents for replacement of truck delivery by tank storage. Sodium hypochlorite is in use at Lake Mathews and at Copper Basin as an interim measure to help control quagga mussels. <p>Expenditures in the Improved Water Quality category were slightly higher than projected through the third</p>	  

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quarter of fiscal year 2007/08.	
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Attachment 1

Summary of Board Actions:

The following table provides a sequential listing of ITSP Board appropriations through March 31, 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	Fleet 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 January 7, 2008, staff presented to the E&CP Committee an informational item on communication technology.

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- On February 12, 2008, the Board appropriated \$10.2 million; and authorized replacement of Metropolitan’s telephone system (Approp. 15376).
- On March 10, 2008, staff provided quarterly updates on the Information Technology Strategic Plan (ITSP), and information technology (IT) activities in general, for the period ending December 2007.

Attachment 2

Summary of Board Actions:

The following table provides a summary of ITSP Board appropriations and expenditures through March 31, 2008:

Appropriation No.	Program Description	Total Amount Appropriated	Expenditures (Through March 31, 2008)
15397	Control System Enhancement Program (CSEP)	\$ 17,533,000	\$ 9,193,852
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	\$ 10,798,520
15376	Information Technology Infrastructure Program	\$ 33,871,000	\$ 16,333,796
15378	Information Technology Security Program	\$ 4,436,000	\$ 2,926,161
		\$ 76,009,230	\$ 40,760,081

Attachment 3

Summary list of IT capital projects:

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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	In Progress
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 I)	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 (*)
Enhanced Distribution System Control	On Hold (*)
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
Fleet 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

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Footnote*

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