



- ITSP Quarterly Report - Written Report (period ending Jun. 2015)

Report

Business Technology Group

Summary

This report provides a quarterly update on progress to implement Metropolitan’s Information Technology Strategic Plan (ITSP) and on information technology (IT) activities for the period ending June 30, 2015. 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 was refreshed in 2010 and is currently being updated based on 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 CIP planning process.

There were a number of important milestones achieved during this period that are summarized in the report. Selected accomplishments include: accepted the implementation phase staging test of the Emergency Radio System project; completed the construction bid to provide additional electrical power, air-conditioning, and Uninterruptible Power Supplies to the network closets for Metropolitan’s Headquarters Building; deployed over 150 of network devices throughout Metropolitan’s field sites as part of the Network Reliability Upgrades project; conducted design engineering workshops to develop a fault tolerant Telephone Replacement project; and successfully completed the annual power outage testing in May.

Key milestones for the upcoming quarter ending September 30, 2015 include: deploying additional network devices as part of the Network Reliability Upgrades project; starting the implementation phase of the Emergency Radio System project, and continuing the development of comprehensive design for the new Telephone Replacement project.

Purpose



Administrative Code 2700; Article 2 Quarterly Reports; Section 2720 General Manager’s Quarterly Reports; (e) To the Organization, Personnel and Technology Committee, the status of all information technology projects throughout the organization.

Detailed Report

Attached are highlights of progress and major milestones reached on IT projects / initiatives during the period of April 1, 2015 through June 30, 2015. 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 style="text-align: center;">Enhanced Reliability:</p>	<p style="text-align: center;">Through 4th Quarter FY Budget: \$15.93M FY Expended: \$10.26M</p>
<p>Key Accomplishments Included:</p> <p>Network Reliability Upgrades Project</p> <p>Background: Metropolitan’s network connects workstations, servers, and computer equipment via communication lines that extend throughout the distribution system and to the Colorado River Aqueduct (CRA) pumping plants. A majority of Metropolitan’s communication network devices have been in continuous operation between 7 and 12 years. Recent inspections have identified network hardware components showing signs of wear and requiring increasingly frequent repairs. Metropolitan depends on this communication network to transmit data, voice, video, and command signals to operate its distribution and business systems.</p> <ul style="list-style-type: none"> ▪ During this period, the project team received approximately \$2.6 million of network equipment for replacing end-of-life communications infrastructure. To date, staff deployed over 150 out of 386 network devices throughout the field sites. ▪ In April, the Electrical Engineering staff reviewed the construction bid to provide additional electrical power, air-conditioning, and Uninterruptible Power Supplies (UPS) to Metropolitan’s Headquarters Building network closets. Design changes were incorporated to the construction bid and it was released to Planet Bid in June. <p>Next step: The project team will deploy additional network devices and prepare a Board Letter to award a contract for upgrading the network rooms at Metropolitan’s Headquarters Building.</p> <p>Voice over Internet Protocol (VOIP) Project</p> <p>Background: The new Telephone Replacement project will replace the existing telephone system that has reached the end of its useful life. This system has been in continuous operation for over 22 years. The upgrade to a VOIP-based technology will create the infrastructure foundation to enable future convergence of communications technologies such as messaging (e-mail, instant messaging, text messaging, fax, and voice mail) and conferencing (audio, video, and web).</p>	<div style="text-align: center;">  </div> <div style="text-align: center; margin-top: 20px;">  </div>

- During this period, design engineering workshops were conducted to develop a fault tolerant telephone system. Specifically, both Headquarters and Lake Mathews sites will be able to handle all the telephone traffic at Metropolitan simultaneously and should either site's system fails, the other site would automatically handle all telephone traffic.
- In addition, an internal website of the project was developed to inform users on project progress and is currently being deployed.

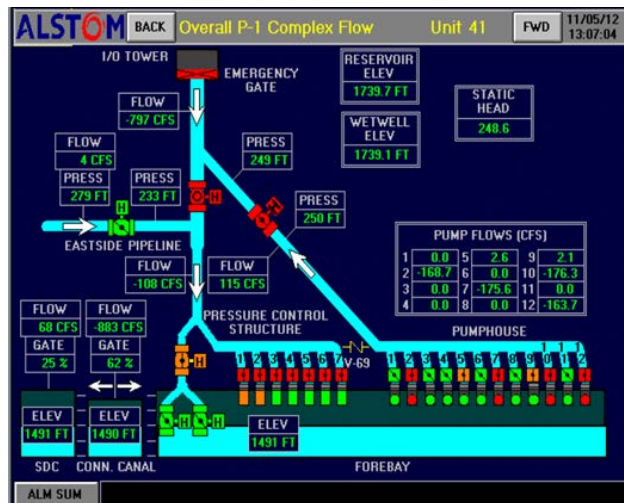
Next step: Staff and consultants will continue to assemble a comprehensive design document of how the system would be built and configured. Furthermore, a Project Pilot is planned for the second quarter in Metropolitan's Headquarters Building.

Hiram Wadsworth Pumping Plant Project

Background: The Board authorized the final design to replace the control and electrical protection systems for the Hiram W. Wadsworth Pumping Plant at Diamond Valley Lake (DVL). These systems automatically operate and protect the pump/turbine units, enabling the facility to control flows between DVL, the Inland Feeder, and the San Diego Canal. These systems have reached the end of their service life and individual components have begun to fail. The pumping plant's control and electrical protection systems are failing due to their length of time in service, while spare parts are no longer available. The upgrades are needed to maintain full operational control and reliability of the facility.

- During this period, the project team completed the review and acceptance of the proposed design and configuration of the Unit Programmable Logic Controller (PLC). The PLC is an industrial-grade computer that runs the software which operates equipment.
- Completed shop drawing for Unit Load Commutated Inverter Drive (LCI). LCI is a specific design/type used for large drives which connect a controller to a Unit (such as pump or generator).
- In addition, the project team completed the test plans for all components included in the Factory Acceptance Testing.

Next step: Staff plans to perform Factory Acceptance Testing and finalize the installation of the communication network components.



Hydraulic Modeling Project

Background: The Hydraulic model will provide staff with the capability to evaluate alternatives for maintaining deliveries to member agency service connections during and after rehabilitation of the Second Lower Feeder, which delivers treated water from the Robert B. Diemer Water Treatment Plant in Yorba Linda to the Palos Verdes Reservoir in Rolling Hills Estates. The services planned include completing the system-wide model to include features such as feeders, reservoirs, hydroelectric power plants, pressure control facilities, pressure relief structures, pump stations, and member agency service connections. The Real Time Control (RTC) and Automatic Process Control (APC) models will be tested and verified for accuracy using actual flow measurements recorded under varying operating scenarios.

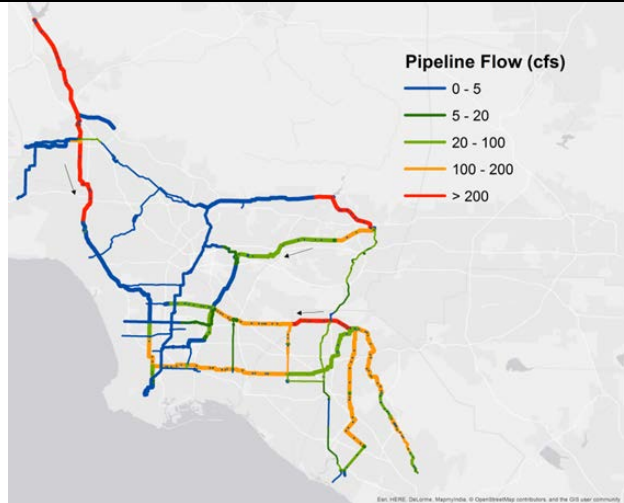
- During this period, the project team completed the configuration of the hydraulic model for last (fourth) of the four areas of the RTC model
- Currently, staff is verifying the RTC model for the last remaining system area.

Next step: Staff plans to perform system wide calibration, which compares flow and pressure of simulated values versus actual values.

Emergency Radio System (Two Way Radio) Project

Background: Metropolitan staff relies on handheld, vehicle-mounted, and fixed-station radios for both emergency response and day-to-day operational communications. The existing radio configuration uses a combination of three different localized systems which were deployed over a period of three decades. The systems lack reliability, capacity, and coverage to meet disaster recovery needs, and are difficult to use. During recent disaster recovery exercises, the radio systems could not provide an effective means of communication. This project will replace the existing three systems with a single system of sufficient capacity, usability, and coverage to communicate across Metropolitan's entire service area.

- During this period, the Board appropriated funds for the installation/construction work of the Emergency Radio Communications System. Equipment has been ordered and the Factory Acceptance Test has been completed.
- The project team completed the implementation



staging test, and selected a Public Work contractor to perform the installation and other tasks which are classified as public work.

Next step: Staff will continue the installation with the goal of completing this phase by end of the second quarter of next fiscal year. The subsequent phases will include system commissioning and full system field testing.

Oracle Release 12 (R12) Upgrade Project

Background: The Oracle Financial application supports Metropolitan's core business functions. In order to maintain vendor support and provide new functionality, the application requires an upgrade to the current version. There has not been a major upgrade to the Oracle Applications since 2002, when the Project and Grants Accounting module was deployed. Additionally, the existing Travel Expense Reimbursement system is based on older technology that is no longer supported. This project will replace the existing Travel Expense Reporting system with an integrated Oracle module, iExpenses

During this period, staff completed:

- Assessment Report which details recommendations, key findings, and new features.
- Conference Room Pilot which included configuration of the technical environment and a demonstration of the system's functionality

Next step: Staff will customize and test the system to accommodate Metropolitan's business process.

Enterprise UNIX Server Upgrade


Background: UNIX servers located in Metropolitan's Data Center house the Districts enterprise applications such as the Financial and Human Resource Management systems.



- During this period, the project team configured and deployed servers to support Oracle Financials, PeopleSoft and Oracle Database Upgrade projects.
- To date, staff purchased and implemented all seven servers.

Next step: Staff will start the process of project closure.

The expenditure in this category is less than budgeted. The variance is expected to decrease as the projects move into subsequent phases.



<p align="center">Enhanced Cyber Security:</p>	<p align="center">Through 4th Quarter FY Budget: \$0.45 M FY Expended: \$0.22 M</p>
<p>Key Accomplishments Included: Supervisory Control and Data Acquisition Cyber Security Upgrades Project:</p> <p>Background: The mission of enhanced cyber security program is to secure system and network resources, protect application systems, safeguard the confidentiality of employee and district information, and educate employees about operating policies, procedures and best practices.</p> <p>Cyber security is a high priority and key component of Metropolitan’s Information Technology Strategic Plan (ITSP). Maintaining a secure computing environment requires regular enhancements and upgrades to Metropolitan’s IT information security infrastructure to ensure protection against continually evolving cyber threats. The SCADA Cyber Security project is substantially complete. Staff is currently performing the final steps, which includes an independent review and assessment by a third party specialized in this field.</p> <p>Other Key Activities and Accomplishments</p> <ul style="list-style-type: none"> ▪ Staff reviewed the California AB 1172 as a part of the “Cyber Security Task Force” which consists of both appointed and volunteer members headed by the Chief Information Security Officer of the State of California. Participants include first responders, appointed law enforcement personnel, and staff from other agencies. ▪ Staff is creating a webcast presentation to educate employees on the use of mobile applications at Metropolitan <p>Expenditures in the Enhanced Cyber Security category were within plan for the fourth quarter. All projects are projected to complete within Board approved budgets.</p>	
<p align="center">Improved Water Quality:</p>	<p align="center">Through 4th Quarter FY Budget: \$0.00 M FY Expended: \$0.00 M</p>
<p>Key Activities and Accomplishments</p> <p>Background: The Filtration Plant Laboratory Sheet (Labsheet) is used by Metropolitan to log specific</p>	

<p>water quality values resulting from the laboratory tests. This information is then incorporated into Treatment Plant Compliance reports.</p> <ul style="list-style-type: none"> During this period, staff enhanced the system by adding detection valve positions to assist users to determine which chamber is in-service. In addition, due to changes in the minimum average residual requirement, staff modified the formulas for calculating the average residuals per chamber. <p>No capital funds were budgeted in the Water Quality category for the fourth quarter. All activities in this category reflect work being done as part of the fiscal year 2014-2015 O&M budget.</p>	
<p>Productivity / Cost Efficiency:</p>	<p style="text-align: center;">Through 4th Quarter FY Budget: \$0.69 M FY Expended: \$0.90 M</p>
<p>Key Accomplishments Included: PeopleSoft Human Capital Management (HCM) Upgrade 9.2</p> <p>Background: PeopleSoft application is used for payroll processing, tracking of employee-related information, and monitoring of compliance training. Staff evaluated alternative solutions and the findings indicate that upgrading the PeopleSoft application is the most reliable path to pursue for Metropolitan. The HCM application includes Employee Relations, Payroll, Benefits and Temporary Workers, and Consultant Tracking Modules. The upgrade will allow Metropolitan to continue to receive vendor support and needed tax updates.</p> <ul style="list-style-type: none"> During this period, staff continued to prepare the environment for final user acceptance testing. <p>Next step: Staff will address any issues that were discovered during the user acceptance testing and prepare to implement the upgraded version of PeopleSoft.</p> <p>Other Key Activities and Accomplishments</p> <ul style="list-style-type: none"> Cloud Computing Technology and Collaborative Work Environment Solutions: <ul style="list-style-type: none"> Staff conducted four additional 	

introductory SharePoint training sessions for general end-users. More sessions will be planned if demand remains high.

- The inaugural meeting of a SharePoint User Group occurred in April. The purpose of the User Group is to increase communication between technical staff and the end-user community and to provide a venue for demonstrations of SharePoint’s collaborative possibilities.
- Staff created new SharePoint collaborative work sites that includes:
 - MWD Solar Cup – this site was created for External Affairs and features documents, calendar, events, and a scorecard to track the activities associated with the Solar Cup.
 - MWD Power Outage – this site was created for Information Technology to assist users with coordination activities during the annual power shutdown.

- Annual Power Outage Testing - In preparation of the annual testing of the Fire Life Safety System at the Metropolitan Headquarters Building, staff successfully moved critical applications to an alternative facility.
- The New Redesigned Metropolitan Home Website was launched in early June. The new website is the culmination of significant effort and collaboration by External Affairs and Information Technology staffs, working with all of the other Metropolitan departments and groups. Information on the new site has been reorganized in a more reader-friendly manner, making the website easier to navigate.

Expenditure for the Productivity / Cost Efficiency category exceeded the planned budget for this fiscal year due to cost associated with carryover project from the previous year. All projects within the program are expected to be completed within appropriated amounts.

