



- Capital Investment Plan (CIP) Quarterly Report for the period ending September 2013

Summary

This report provides a summary of fiscal year accomplishments, capital expenditures to date, and status updates on major capital projects. Also included in this report is information regarding service connections and relocations authorized by the General Manager during the reporting period.

During the first quarter of fiscal year 2013/14, thirteen board actions appropriated a total of \$35.9 million, and five construction contracts were awarded. The total amount awarded for the five contracts was \$22 million below the budgeted amount as a result of the ongoing competitive bidding environment and, in one case, an innovative design solution that reduced construction costs. Through September 2013, 73 programs encompassing over 350 projects were underway. All capital programs are within their appropriated budgets. Actual fiscal year capital expenditures through September 2013 for all programs totaled \$38 million, compared to a budget of \$72 million. For the entire fiscal year, the projected capital expenditures are \$214 million, compared to a budget of \$295 million. The fiscal year variance is primarily attributed to the significant cost savings for a single under-budget construction contract, the Weymouth Oxidation Retrofit Program (ORP), and the need to adjust the scope and /or schedule for several refurbishment and replacement (R&R) projects to combine them with other projects at the same location, or to evaluate multiple design alternatives, in order to realize overall cost savings.

During the period from July 2013 through September 2013, \$16.4 million in construction contract payments were disbursed, reflecting progress on projects such as construction of the Weymouth ORP facilities, the La Verne Fabrication and Machine Shop upgrades, seismic upgrades to the Diemer washwater tank and finished water reservoir, and filter surface wash system upgrades at the Jensen plant. Four construction contracts were completed during the first quarter of fiscal year 2013/14.

At the end of the first quarter, 22 construction contracts were underway with a total value of approximately \$178 million. Three contracts are 99 percent complete.

More detailed information regarding accomplishments is included in the following pages.

Purpose

Administrative Code Requirement Section 2720 (a) (1): General Manager's Quarterly Reports.

Attachments

Not applicable.

Detailed Report

Section 2720 of the Administrative Code requires the General Manager to report quarterly to the Engineering and Operations Committee on the Capital Investment Plan, including service connections approved by the General Manager pursuant to Sections 4700-4708 with the estimated cost and approximate location of each, and the execution of any relocation agreements involving an amount in excess of \$100,000 under the authority of Section 8122(c).

No new agreements for service connections or relocations were approved during the reporting period.

Highlights of progress and major milestones on selected projects are presented below, grouped by driver. The project drivers are described below:

Water Quality – Programs to ensure Metropolitan meets all applicable water quality regulations and codes.

Board Report (Capital Investment Plan (CIP) Quarterly Report for the period ending September 2013)

Infrastructure Reliability – Programs to upgrade, refurbish or replace, existing facilities and equipment, including pipeline relocations and protection; and to ensure the protection, safety, and security of Metropolitan’s employees, visitors, and all real and intellectual properties and assets.

Regulatory – Programs to ensure Metropolitan’s operations and processes are in full compliance with all applicable regulations and codes other than water quality regulations.

Cost/Efficiency/Productivity – Programs to upgrade, replace, or provide new facilities, software applications, or technology that will provide economic savings that outweigh project costs through enhanced business and operating processes.

Supply and Delivery – Programs to provide new water supplies and/or major delivery or treatment facility expansions, including service connections.

Water Quality

- **Weymouth Oxidation Retrofit Program**

- Weymouth Oxidation Retrofit Program

Weymouth represents the final Metropolitan treatment plant to receive ozone as the primary disinfectant.

Construction of the Weymouth ozone facilities commenced in July 2012, and is approximately 32 percent complete.

Other work completed or underway under the Weymouth ORP includes relocation of the plant inlet conduit, new electrical switchgear, and modifications to chemical feed systems.



**Weymouth Plant
Ozone Contactors**

Infrastructure Reliability – Treatment Plants

- **Jensen Filter Surface Wash System Upgrades**
- **Diemer Electrical Upgrades - Stage 2**

- **Jensen Filter Surface Wash System Upgrades**

This project will replace the existing filter surface wash system with a fixed nozzle system. During filter backwashing, the top surface of a filter bed is sprayed with water to break up solids that build up during the filtration process. The existing 40-year-old rotary wash system has experienced extensive corrosion over time and overall performance of the filters has diminished.

Construction is 11 percent complete and is scheduled to be completed in December 2014.



Jensen Plant
Removal of surface wash nozzle piping

- **Diemer Electrical Upgrades – Stage 2**

Electrical improvements at the Diemer Plant are being completed in two phases. The first phase, which included construction of new duct banks, switchgear, and standby generators, was completed under the Diemer ORP construction contract.

The Stage 2 improvements will replace aged electrical components and reconfigure power distribution to critical plant processes.

Metropolitan’s Board awarded the Stage 2 construction contract in August 2013.



Diemer Plant
New switchgear and standby generator buildings

Infrastructure Reliability – Distribution System

- **Prestressed Concrete Cylinder Pipe Rehabilitation**
- **Reservoir Cover Replacement Program**

- **Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation**

This comprehensive long-term program was established to enhance the reliability of Metropolitan’s distribution system and to reduce the risk of costly emergency repairs of PCCP lines.

Three locations on the Second Lower Feeder were identified as needing repairs during inspections performed in early 2013. Design of repairs for all three sites and pipe fabrication for Site 1 were authorized by the Board in July 2013. Final design for Sites 1 and 2 was completed in August and a contract award is planned for November. Metropolitan staff has procured the steel plate and is fabricating the steel liner for Site 1. The steel liner for Site 2 will be furnished by the construction contractor. Final design for Site 3 is approximately 60 percent complete.

Preliminary design for rehabilitation of the remaining PCCP portions of the Second Lower Feeder was authorized by the Board in September 2013.



Fabrication of steel liner for Second Lower Feeder repairs at Site 1

- **Reservoir Cover Replacement Program**

This program is replacing the floating covers at the Skinner and Jensen plants, and at Palos Verdes Reservoir.

Final design to replace the Palos Verdes Reservoir cover is underway. The existing cover has been removed to allow investigations of the reservoir liner’s condition and the seismic stability of the outlet tower. That work has been completed. Final design is approximately 10 percent complete, and is scheduled to be completed by March 2014.



Aerial view of Palos Verdes Reservoir

Infrastructure Reliability – Colorado River Aqueduct

- **Copper Basin Reservoir Outlet Structure Rehabilitation**
- **Copper Basin and Gene Wash Dam Dewatering System Rehabilitation**

- **Copper Basin Reservoir Outlet Structure Rehabilitation**

The Copper Basin Reservoir was constructed in the 1930's. This project will rehabilitate the outlet facility, which utilizes three slide gates for flow control. The slide gates will be refurbished and the electrical power, system control, and data communication equipment will be replaced. Two new drop gates will be fabricated for use during construction to sequentially isolate each slide gate from the reservoir and from the outlet tunnel.

Construction is 50 percent complete, and is scheduled to be completed by December 2013.



Copper Basin Outlet Structure

- **Copper Basin and Gene Wash Dam Dewatering System Rehabilitation**

This project will replace the emergency drawdown valves and refurbish the valve structure housing at Gene Wash Dam and Copper Basin Reservoir. The valves are original CRA facilities and need to be replaced. Isolation plugs will be installed on the reservoir side of the drain pipe in order to replace the valves.

Final design is 60 percent complete, and is scheduled to be completed by June 2014.



**Gene Wash Dam
Howell Bunger Valve**

Board Report (Capital Investment Plan (CIP) Quarterly Report for the period ending September 2013)

Infrastructure Reliability – Other

- **La Verne Fabrication and Machine Shop Upgrades**
- **Wadsworth Pumping Plant Controls and Protection Upgrade**

- La Verne Fabrication and Machine Shop Upgrades

This project will extend the Machine and Fabrication Shop Buildings; install new cranes to handle large items such as valves, pipe segments, and pump impellers; install a new HVAC system and fire sprinklers; and perform electrical improvements.

Construction is 60 percent complete, and is scheduled to be completed by August 2014.



La Verne Fabrication and Machine Shop Building Expansion

- Wadsworth Pumping Plant Controls and Protection Upgrade

This project will replace the control and communications systems, protection relay system, vibration monitoring system, and portions of the power controls at Hiram Wadsworth Pumping Plant.

Preliminary design is nearing completion and a request for proposals for final design by a consultant is scheduled to be issued in November 2013.



Wadsworth Pumping Plant

Board Report (Capital Investment Plan (CIP) Quarterly Report for the period ending September 2013)

Regulatory

- **Chemical Unloading Facility Chlorine Containment**

- **Chemical Unloading Facility (CUF) Chlorine Containment**

The Chemical Unloading Facility is used to transfer liquid chlorine from vendor-supplied rail cars to Metropolitan-owned cargo trailers. The new chlorine containment facilities will be constructed within an enclosed building.

Final design is scheduled to be completed in November 2013. Board award of the construction contract is planned for March 2014.



Existing Chemical Unloading Facility

Cost/Efficiency/Productivity

- **Yorba Linda Power Plant Upgrades**

- **Yorba Linda Power Plant Upgrades**

This project will replace the existing Pelton wheel hydraulic turbine at the Diemer plant with a Francis turbine capable of operating under post-ORP hydraulic conditions, and will modify the electrical configuration to use the power on-site to meet energy demands of the Diemer plant.

The turbine is on schedule to be delivered to the site by March 2014. Final design for the turbine installation and power plant upgrades is complete, and the project has been advertised for bids. Board award of the construction contract is planned for November 2013.



**Yorba Linda Power Plant Upgrades
Fabricated draft tube elbow at the manufacturer's shop**

Board Report (Capital Investment Plan (CIP) Quarterly Report for the period ending September 2013)

Capital Program for Projects Costing Less Than \$250,000

The Minor Cap program is authorized each fiscal year to enable staff to expedite small capital projects that arise during the year. Since many of these projects require rapid response to address unanticipated failures, safety or regulatory compliance concerns, or to take advantage of shutdown opportunities, the Minor Cap program authorizes the General Manager to execute projects that meet defined criteria during the fiscal year without seeking additional board approval.

A total of twenty-six projects have been authorized under the 2012/13–2013/14 Minor Cap program through the first quarter of fiscal year 2013/14. Two projects were authorized during the first quarter (June through September 2013) and are listed below:

- Garvey Reservoir Site Drainage Repairs and Modifications - This project will improve the storm water drain system, including detention basin improvements to minimize both erosion and potential drainage onto neighboring properties.
- East Rollup Parking Door at L. A. Headquarters - This project will replace the L. A. Headquarters Building’s existing 38-foot-wide roll-up garage door with two smaller high-capacity doors. The existing door has reached the end of its service life and requires frequent repairs.

The following table provides the overall status of the 2006/07 through 2012/13–2013/14 Minor Cap programs.

| FY Budget | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13-2013/14 |
|---|---------|---------|----------|---------|---------|---------|-----------------|
| Amount Appropriated | \$5.6M | \$5.0M | \$4.825M | \$4.5M | \$3.5M | \$3.0M | \$10.0M |
| Number of Projects Approved | 31 | 31 | 22 | 23 | 17 | 16 | 26 |
| Number of Projects Completed Through September 2013 | 30 | 31 | 21 | 23 | 12 | 7 | 4 |
| Percent of Work Complete | 99% | 100% | 98% | 100% | 85% | 74% | 22% |
| Number of Projects Over 3 years | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Expenditures Through September 2013 | \$3.89M | \$4.35M | \$3.93M | \$3.49M | \$2.48M | \$2.06M | \$1.43M |

Through June 2013, 128 of the 166 projects have been completed, while two have exceeded three years in duration. The two projects and their variance explanations are as follows:

Board Report (Capital Investment Plan (CIP) Quarterly Report for the period ending September 2013)

Fiscal Year 2008/09 Minor Cap – Project Over Three Years in Duration

- Replace six solids pumps at the Skinner plant

This project has experienced delays due to non-responsive bids for equipment that required re-advertisement, and scheduling shifts to accommodate other projects. The equipment delivery date is currently planned for December 2013, while installation of the six pumps will be completed by Metropolitan forces in June 2014.

Fiscal Year 2006/07 Minor Cap – Project Over Three Years in Duration

- Upgrade Microwave Buildings at six locations for code compliance associated with the emergency generators and fuel tanks.

This project has experienced delays in permitting with local agencies. The project is scheduled to be completed by December 2013.