



- Board of Directors
Engineering and Operations Committee

2/14/2012 Board Meeting

7-2

Subject

Appropriate \$513,000; and authorize rehabilitation of Service Connection DW-CV-2T (Approp. 15438)

Description

This action authorizes construction to rehabilitate Service Connection DW-CV-2T for the Desert Water Agency (DWA) and Coachella Valley Water District (CVWD). This service connection allows Metropolitan to deliver up to 600,000 acre-feet of Colorado River water to DWA and CVWD in exchange for those agencies' entitlements of the same amount of water from the State Water Project (SWP). Rehabilitation of the turnout structure at DW-CV-2T will replace an aging valve and piping, and is needed to isolate the structure from the Colorado River Aqueduct (CRA) and reduce the risk of unplanned outages. The work also includes the installation of a maintenance platform and security fencing.

Timing and Urgency

The existing valves at Service Connection DW-CV-2T are deteriorated and have reached the end of their service life. The valves and associated piping must be replaced in order to maintain functionality of the structure and to minimize the risk of an unplanned outage of the CRA. Given the CRA's importance to Metropolitan's water deliveries, staff recommends moving forward with the rehabilitation work at this time.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Rehabilitation project. The project is budgeted within Metropolitan's CIP for fiscal year 2011/12.

Background

The CRA is a 242-mile-long water conveyance system that was placed into service in 1941. It consists of five pumping plants, 124 miles of tunnels, 63 miles of canals, and 55 miles of conduits, siphons and reservoirs. From the CRA's Whitewater Canyon siphons in Riverside County, Metropolitan delivers Colorado River water to DWA and CVWD in exchange for SWP entitlements under the existing Metropolitan/CVWD/DWA Water Exchange (1983) and Advance Delivery (1984) Agreements. Under the 1984 Advance Delivery Agreement, Metropolitan assumed ownership and responsibility for operation of Service Connection DW-CV-2T in exchange for the benefits received from advance delivery of DWA's and CVWD's SWP supply, including increased operational flexibility and improved supply reliability. These agreements allow Metropolitan to deliver up to 600,000 acre-feet of water to DWA and CVWD at any time during the term of the agreement, via Service Connection DW-CV-2T and several related connections, in exchange for DWA's and CVWD's obligation to return the same amount of SWP flow to Metropolitan. Service Connection DW-CV-2T has a capacity of up to 70 cubic feet per second (cfs), and is one of several service connections located at Whitewater Canyon in Riverside County. Together, these connections are capable of delivering up to 720 cfs of Colorado River water to CVWD and DWA's spreading basins.

The piping at Service Connection DW-CV-2T consists of two valves arranged in series: a 24-inch isolation valve which has been in operation for over 50 years, and a 16-inch discharge valve which has been in operation for over 25 years. The isolation valve is stuck in the open position and can no longer be operated. The discharge valve is

still serviceable but cannot be maintained or inspected without shutting down the CRA due to the inability to operate the isolation valve. If the discharge valve were to fail, an outage of the CRA would result. Discharge piping at the service connection has also corroded and needs to be replaced.

In February 2011, Metropolitan's Board authorized final design and procurement of a valve to rehabilitate Service Connection DW-CV-2T. Final design is complete, the valve has been procured, and staff recommends proceeding with construction at this time. The majority of work is planned to be completed during an upcoming CRA shutdown in February 2012.

Service Connection DW-CV-2T Turnout Rehabilitation – Construction (\$513,000)

Planned rehabilitation activities include replacement of the isolation valve, adjacent pipe fittings, and the discharge pipe; and replacement of vault covers and ladders. A new platform will be installed in the discharge valve vault to improve worker safety and provide a level work surface for maintenance of the valve. New fencing will also be installed to improve security of the turnout structures. A majority of the work will be performed by Metropolitan forces.

This action appropriates \$513,000 in budgeted funds and authorizes construction of upgrades to Service Connection DW-CV-2T. The requested funds include \$430,000 for Metropolitan force construction; \$28,700 for environmental monitoring and project management; \$7,500 for preparation of record drawings; and \$46,800 for remaining budget. The total estimated cost of construction is \$480,000, which includes the amount requested herein and \$50,000 in previously appropriated funds for procurement of the isolation valve.

This work has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds have been included in the fiscal year 2011/12 capital budget. This project is included within capital Appropriation No. 15438, the CRA Reliability Program - Phase 2, which was initiated in fiscal year 2006/07. Past work authorized under Appropriation No. 15438 includes the CRA 6.9 kV Fault Current Protection Upgrades, the Eagle Mountain Standby Generator Replacement, and the CRA 230 kV Disconnect Switches Replacement. The total appropriated amount for this program will increase from \$28,611,000 to \$29,124,000. See [Attachment 1](#) for the Financial Statement and [Attachment 2](#) for the Location Map.

This project is consistent with Metropolitan's goals for sustainability by enhancing reliability of the existing conveyance and distribution system in order to maintain reliable water deliveries in the future.

Project Milestones

March 2012 – Completion of CRA shutdown

June 2012 – Completion of construction

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed project involves the funding; final design; and minor alterations, reconstruction or replacement of existing public facilities along with the construction of minor appurtenant structures with no expansion of use and no possibility of significantly impacting the physical environment. In addition, the proposed project involves minor modifications in the condition of land, water, and/or vegetation which does not involve removal of healthy, mature, scenic trees. Accordingly, the proposed action qualifies under Class 1, Class 2, Class 3, and Class 4 Categorical Exemptions (Sections 15301, 15302, 15303, and 15304 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under four Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; and Class 4, Section 15304 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination and

- a. Appropriate \$513,000; and
- b. Authorize rehabilitation of Service Connection DW-CV-2T on the Colorado River Aqueduct.

Fiscal Impact: \$513,000 in budgeted funds under Approp. 15438

Business Analysis: This option will enhance CRA reliability, improve security and personnel safety, and reduce the risk of unplanned outages and costly emergency repairs.

Option #2

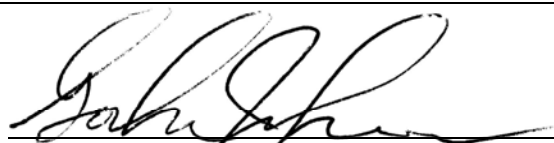
Do not authorize the construction at this time.

Fiscal Impact: None

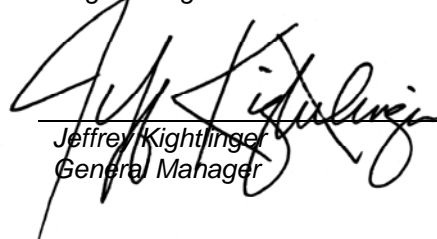
Business Analysis: This option would forego an opportunity to rehabilitate Service Connection DW-CV-2T during a scheduled shutdown. Deferral of the repairs could result in an unplanned outage to repair or replace turnout structure components.

Staff Recommendation

Option #1

 1/23/2012

 Gordon Johnson Date
 Manager/Chief Engineer,
 Engineering Services

 1/30/2012

 Jeffrey Kightlinger Date
 General Manager

Attachment 1 – Financial Statement

Attachment 2 – Location Map

Financial Statement for CRA Reliability Program – Phase 2

A breakdown of Board Action No. 17 for Appropriation No. 15438 for the rehabilitation of Service Connection DW-CV-2T¹ is as follows:

| | Previous Total Appropriated Amount (Nov. 2011) | Current Board Action No. 17 (Feb. 2012) | New Total Appropriated Amount |
|--|---|--|--|
| Labor | | | |
| Preliminary Design | \$ 1,261,800 | \$ - | \$ 1,261,800 |
| Final Design | 1,948,900 | - | 1,948,900 |
| Owner Costs (Program mgmt., envir monitoring) | 2,348,390 | 28,700 | 2,377,090 |
| Submittals Review & Record Drawings | 386,100 | 7,500 | 393,600 |
| Construction Inspection & Support | 1,846,000 | - | 1,846,000 |
| Metropolitan Force Construction | 2,691,700 | 323,000 | 3,014,700 |
| Materials & Supplies | 2,291,405 | 61,000 | 2,352,405 |
| Incidental Expenses | 120,800 | 10,000 | 130,800 |
| Professional/Technical Services | 1,607,000 | - | 1,607,000 |
| Equipment Use | 4,505 | 21,000 | 25,505 |
| Contracts (Fencing) | 12,936,440 | 15,000 | 12,951,440 |
| Remaining Budget | 1,167,960 | 46,800 | 1,214,760 |
| Total | \$ 28,611,000 | \$ 513,000 | \$ 29,124,000 |

Funding Request

| | | | |
|-----------------------------------|---|----------------------------------|------------------------------|
| Program Name: | CRA Reliability Program – Phase 2 | | |
| Source of Funds: | Revenue Bonds, Replacement and Refurbishment or General Funds | | |
| Appropriation No.: | 15438 | Board Action No.: | 17 |
| Requested Amount: | \$ 513,000 | Capital Program No.: | 15438-I |
| Total Appropriated Amount: | \$ 29,124,000 | Capital Program Page No.: | 290 |
| Total Program Estimate: | \$ 67,891,000 | Program Goal: | I-Infrastructure Reliability |

¹ The total amount expended to date on the Service Connection DW-CV-2T rehabilitation is approximately \$150,000.

Location Map

