



● **Board of Directors**
Engineering and Operations Committee

9/12/2017 Board Meeting

8-2

Subject

Adopt CEQA determination and appropriate \$7.12 million; and award \$5,961,003 procurement contract to Flowserve Corporation for valve actuators for the Robert B. Diemer Water Treatment Plant (Appropriation No. 15436)

Executive Summary

This action awards a procurement contract for 142 actuators to replace the existing actuators on filter valves at the Robert B. Diemer Water Treatment Plant. This project will enhance reliability and performance of the water treatment process at the plant.

Timing and Urgency

The valve actuators on the filter valves at the Diemer plant have deteriorated from over 50 years of continuous operation and need to be replaced. The valve bodies in the plant's east filters were recently replaced with modern valves, while the existing valves in the west filters are scheduled for replacement in 2019. Due to the long lead time for manufacture of the actuators, and the importance of the filters in maintaining treated water deliveries from the Diemer plant, staff recommends awarding the procurement contract at this time. The actuators will be provided to a contractor for installation onto the new filter valves during an upcoming construction contract at the plant.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the Treatment Plant Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2017/18.

Details

Background

The Diemer plant was placed into service in 1963 with an initial capacity of 200 million gallons per day (mgd), and was expanded in 1969 to its present capacity of 520 mgd. It delivers a blend of waters from the Colorado River Aqueduct and State Water Project to Metropolitan's Central Pool and to an exclusive service area in Orange County. The Diemer plant is located in the city of Yorba Linda.

The Diemer plant has 48 filters distributed in two filter buildings. Filters are operated by opening and closing a series of valves which allow water to flow in and out of the filter beds during filtration and backwashing. Each filter contains five valves, ranging in diameter from 16 to 48 inches, which operate in conjunction with several large-diameter isolation valves in the backwash and surface wash systems to control and clean the filters. These valves are designed to close tightly to prevent mixing of filtered and unfiltered water, or leakage into the washwater reclamation system.

The original filter valves at the Diemer plant have deteriorated from over 50 years of continuous operation. The valve bodies exhibit corrosion and the rubber seats are worn. A staged project is underway to replace the obsolete filter valves with new valves that conform to American Water Works Association (AWWA) standards. In

May 2013, Metropolitan's Board awarded two procurement contracts for 267 replacement filter valves, including 11 spare units. These valves have been manufactured and delivered to a storage location near the Diemer plant.

Under the same project, staff conducted detailed inspections of the existing filter valve actuators to assess whether the units can be refurbished or must be replaced. These actuators are a heavy-duty type manufactured by Flowserve Corporation (formerly Limatorque, Inc.) that are referred to as SMB type. These actuators have had several internal design changes over the decades while retaining the same operating characteristics. The plant's east valve actuators were installed in 1963. Most of their internal components are no longer manufactured, and the actuators cannot be refurbished. The west valve actuators were installed in 1969 and have components which are still being manufactured. The west actuators are in satisfactory condition for continued operation in the short-term. However, to extend their service life, some of their parts need to be refurbished or replaced with parts provided by the original equipment manufacturer.

Staff has developed a strategy to cost-effectively refurbish and replace the existing filter valve actuators at the Diemer plant. The work is being executed in stages. First, the east filter valves were replaced under a contract in 2015 to rehabilitate the east filters. Under a second construction contract planned for 2019, the west filter valves will be replaced and the filter rehabilitation work will be completed. This latter contract will install new valve actuators furnished under the subject procurement contract. Finally, the existing actuators removed from the west filter valves will be refurbished and then re-installed on the recently replaced east filter valves. This approach will save at least \$4 million compared to the alternative of replacing all filter valve actuators at the Diemer plant, and will maintain the same equipment performance and interchangeability for all of the filters.

Staff conducted a survey of valve actuator manufacturers to identify available units that would match the operating characteristics of the Diemer filter valves. At present, there is only one other manufacturer that offers an actuator similar to the SMB type. Staff contacted that manufacturer, which is based in Japan, and determined that the firm does not maintain support personnel, spare parts, or a service facility in the United States. As a result, staff recommends award of a procurement contract for the new filter valve actuators to Flowserve Corporation, the manufacturer of the existing actuators.

Diemer Filter Valve Actuator Replacement – Procurement (\$7,120,000)

Specifications No. 1895 was completed on March 30, 2017. The contract will provide 131 electric actuators and 11 manual actuators of the SMB type, manufactured by Flowserve Corporation. Per Section 8140(1)(d) of Metropolitan's Administrative Code, the General Manager's designee has determined that conducting a new competitive procurement process for the needed equipment would not produce an advantage, and that a contract for the actuators is therefore exempt from competitive procurement. Staff has negotiated a price with Flowserve for the new actuators including costs, terms, and conditions consistent with previous competitive purchases of its actuators.

This action appropriates \$7.12 million and awards a \$5,961,003 contract to Flowserve Corporation to furnish valve actuators for the Diemer plant. The contract amount includes all sales and use taxes imposed by the state of California. Due to the specialized nature of the components, no Small Business Enterprise (SBE) participation level was established for the contract. As a procurement contract, there are no subcontracting opportunities. In addition to the amount of the contract, the appropriated funds include \$410,000 for fabrication inspection and functional testing; \$80,000 for storage of the actuators in a bonded warehouse near the Diemer plant for a duration of one year; \$162,000 for review of submittals and responding to technical requests for information; \$140,000 for contract administration and project management; and \$366,997 for remaining budget. All activities will be performed by Metropolitan staff.

The total estimated cost to replace the filter valves at the Diemer plant, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$24 million to \$27 million. This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2017/18 capital expenditure plan. See [Attachment 1](#) for the Financial Statement and [Attachment 2](#) for the Location Map.

This project is included within capital Appropriation No. 15436, the Diemer Improvements Appropriation – FY 2006/07 Through FY 2011/12, which was initiated in fiscal year 2006/07. With the present action, the total funding for Appropriation No. 15436 will increase from \$54,819,000 to \$61,939,000.

Project Milestone

October 2018 – Delivery of valve actuators for the Diemer plant

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 8140: Competitive Procurement

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action involves funding, equipment procurement, and minor alterations, reconstruction or replacement of existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under Class 1 and Class 2 Categorical Exemptions (Sections 15301 and 15302 of the State CEQA Guidelines).

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

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is categorically exempt, and

- a. Appropriate \$7.12 million; and
- b. Award \$5,961,003 procurement contract to Flowserve Corporation for valve actuators for the Diemer plant.

Fiscal Impact: \$7.12 million in capital funds under Appropriation No. 15436

Business Analysis: This option will enhance reliability and performance of the filtration process at the Diemer plant.

Option #2

Do not award the contract for filter valve actuators at this time.

Fiscal Impact: None

Business Analysis: Under this option, staff would replace the existing actuators individually as they fail. Overall costs would increase, as the equipment would be replaced individually rather than through a planned program. There would be an increased risk of reduced plant capacity if filters are taken out of service as a result of equipment failure.

Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer,
Engineering Services

8/22/2017
Date



Jeffrey Nichtlinger
General Manager

8/29/2017
Date

Attachment 1 – Financial Statement

Attachment 2 – Location Map

Ref# es12654347

Financial Statement for Diemer Improvements Appropriation – FY 2006/07 Through FY 2011/12

A breakdown of Board Action No. 19 for Appropriation 15436 for the Diemer plant¹ is as follows:

	Previous Total Appropriated Amount (Nov. 2016)	Current Board Action No. 19 (Sep. 2017)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 1,110,600	\$ -	\$ 1,110,600
Final Design	5,676,600	-	5,676,600
Owner Costs (Contract admin. & program mgmt.)	3,375,722	140,000	3,515,722
Submittals Review	1,243,100	160,000	1,403,100
Construction Inspection & Support	3,790,791	335,000	4,125,791
Metropolitan Force Construction	5,599,400	-	5,599,400
Materials & Supplies	2,028,718	-	2,028,718
Flowsolve Corporation	-	5,961,003	5,961,003
Incidental Expenses (Storage & travel)	441,993	157,000	598,993
Professional/Technical Services	1,329,446	-	1,329,446
Equipment Use	43,155	-	43,155
Contracts	27,628,287	-	27,628,287
Remaining Budget	2,551,188 ²	366,997	2,918,185
Total	\$ 54,819,000	\$ 7,120,000	\$ 61,939,000

Funding Request

Appropriation Name:	Diemer Improvements Appropriation – FY 2006/07 Through FY 2011/12		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15436	Board Action No.:	19
Requested Amount:	\$ 7,120,000	Budget Page No.:	228
Total Appropriated Amount:	\$ 61,939,000	Total Appropriation Estimate:	\$ 79,500,000

¹ The total amount expended to date to replace filter valves at the Diemer plant is approximately \$9.8 million. The total estimated cost to complete this project, including the amount appropriated to date, current funds requested, and future construction costs, is anticipated to range from \$24 million to \$27 million.

² Includes previous reallocation of \$53,693 to Remaining Budget following the completion of three projects under budget.

Distribution System

