



- Board of Directors
Engineering and Operations Committee

5/10/2022 Board Meeting

7-6

Subject

Award \$2,654,000 contract to MMC Inc. for replacement of chillers at OC-88 Pump Station; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The chiller units at OC-88 Pump Station circulate chilled liquids to cool pumps and other process equipment. Without reliable chiller units, equipment can overheat and shutdown. The existing three chiller units have exceeded their expected useful service life and require replacement. This action awards a contract to furnish and install new chillers and chilled water pumps to ensure reliability of the pumping station and avoid service disruptions.

Details

Background

Treated water from the Robert B. Diemer Treatment Plant is conveyed through the Allen-McColloch Pipeline to the OC-88 Pump Station, which in turn pumps water directly into Municipal Water District of Orange County's South County Pipeline. The South County Pipeline extends 25 miles through south Orange County to the city of San Clemente.

The OC-88 Pump Station was constructed in 1990 and is located in the city of Lake Forest. The chillers at the OC-88 Pump Station are essential for normal operation of the pump station as they provide cooling water to the pumps at the facility; the heating, ventilation, and air conditioning system; and electrical equipment necessary to run the facility, such as motor control centers. The pumps will not start without at least one operational chiller at the pump station.

The OC-88 Pump Station currently has three chillers and two chilled water pumps. One chiller has failed, cannot be repaired, and has been taken out of service. Another chiller is only capable of running at half of its designed capacity. Currently, only one chiller is fully functional. To extend the service life of the two operable chillers, staff has performed repair and maintenance on these units by using salvaged parts from the nonfunctional chiller. Additional replacement parts are difficult to obtain and require direct purchase from the original manufacturer with varying lead times. If all chillers were to fail, the pumps at OC-88 would not be able to operate. This may result in downstream service disruptions. Additionally, the two chilled water pumps have exceeded their service lives and are also in need of replacement.

In addition to the mechanical issues associated with the three chillers, the equipment uses a refrigerant that is classified as a "high global warming potential" substance per South Coast Air Quality Management District (SCAQMD) rules. Consequently, it is not possible to recharge the chillers with new refrigerant. Under the proposed project, the existing chillers would be replaced with new SCAQMD-compliant units.

Final design for the OC-88 Pump Station Chiller Replacement Project is now complete, and staff recommends award of a construction contract at this time.

In accordance with the April 2020 action on the biennial budget for fiscal years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the actions described below, pending board award of the construction contract. Based on the current Capital Investment Plan expenditure forecast, funds for the work to be

performed pursuant to this action during the current biennium are available within the Capital Investment Plan Appropriation for Fiscal Years 2020/21 and 2021/22 (Appropriation No. 15517). Funds required for work to be performed pursuant to the subject contract after fiscal year 2021/22 are budgeted within the Capital Investment Plan Appropriation for Fiscal Years 2022/23 and 2023/24. This project has been reviewed in accordance with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Conveyance & Distribution System Rehabilitation Program.

OC-88 Pump Station Chiller Replacement – Construction

The project consists of furnishing and replacing three chillers and two chilled water pumps; providing a fully automated control system compatible with Metropolitan's supervisory control and data acquisition (SCADA) system to remotely control the installed chillers and pumps; installing conduit, piping, and supports; performing electrical modifications; and other work necessary for an operational system. Metropolitan forces will provide electrical tie-in support, perform submittal review, and SCADA integration.

A total of \$4,200,000 is required for this work. In addition to the amount of the contract described below, other funds to be allocated include \$128,000 for Metropolitan force construction, as described above; \$387,000 for construction management and inspection; \$335,000 for submittal review, technical support during construction, responding to requests for information, and preparation of record drawings; \$298,000 for contract administration and project management; and \$398,000 for remaining budget. Approximately \$500,000 has been expended on this project to date.

Attachment 1 provides the allocation of the required funds. The total estimated cost to complete OC-88 Pump Station Chiller Replacement, including the amount allocated to date and funds allocated for the work described in this action, is approximately \$4.7 million.

Award of Construction Contract (MMC Inc.)

Specification No. 2024 for the construction of the OC-88 Pump Station Chiller Replacement was advertised on March 2, 2022. As shown in **Attachment 2**, one bid was received and opened on April 6, 2022. The bid from MMC Inc. in the amount of \$2,654,000 complies with the requirements of the specifications. The engineer's estimate for this project was \$3,000,000. Staff investigated the reason for the single bid and attributes the lack of multiple bids to the high volume of electrical work currently underway in the region, the significant amount of equipment procurement that is required for the contract, and the continued supply chain uncertainty that impacted other contractor's confidence in their ability to meet the project schedule. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 20 percent of the bid amount. MMC Inc., is an SBE firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in **Attachment 3**.

As described above, Metropolitan staff will perform construction management and inspection. Engineering Services' performance metric target range for inspection of projects with construction less than \$3 million is 15 percent. For this project, the performance metric goal for inspection is 13.9 percent of the total construction cost. The total cost of construction for this project is \$2,782,000, which includes the cost of the contract (\$2,654,000) and Metropolitan force construction (\$128,000).

Alternatives Considered

Staff assessed the viability of continuing to maintain the existing chillers. This is not possible due to the lack of spare parts and the use of a non-SCAQMD compliant refrigerant. Staff also considered upsizing the two existing chillers and abandoning the third non-operational chiller. However, these chillers are located on the rooftop of the OC-88 Pump Station structure and the larger chiller units would require expensive modifications of the existing roof structure. Additionally, peak demand months typically require two chiller units to stay operational. A third chiller provides increased operational flexibility and allows for one unit to be removed from service for maintenance even during periods of peak demand.

Staff recommends replacement of the three existing chillers at OC-88 Pump Station. This alternative will reduce the amount of maintenance hours spent on repairing faulty parts on the existing units, provide operational flexibility, and increase the overall reliability of the pumping plant. Moreover, new chiller units would minimize environmental impacts and allow Metropolitan to stay compliant with SCAQMD rules.

Summary

This action awards a \$2,654,000 construction contract to MMC Inc. for construction of the OC-88 Pump Station Chiller Replacement Project. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractors for Low Bidder, and **Attachment 4** for the Location Map.

Project Milestone

May 2023– Completion of construction of OC-88 Pump Station Chiller Replacement Project

Policy

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

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 51963, dated April 14, 2020 the Board appropriated a total of \$500 million for projects identified in the Capital Investment Plan for Fiscal Years 2020/21 and 2021/22.

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 action consists of awarding a construction contract and modifying existing public facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies as a Class 1 Categorical Exemption (Section 15301 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Award \$2,654,000 contract to MMC Inc. for construction of the OC-88 Pump Station Chiller Replacement project.

Fiscal Impact: Expenditure of \$4,200,000 in capital funds. Approximately \$100,000 will be incurred in the current biennium and has been previously authorized. The remaining funds from this action are accounted for in the next biennial budget and were authorized in April 2022.

Business Analysis: This option will protect Metropolitan's facility, ensure reliable water delivery, enhance operational flexibility, and avoid risk of fines from SCAQMD.

Option #2

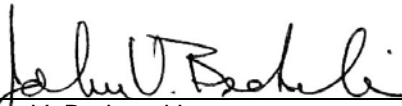
Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option will not reduce risk of a service disruption at the OC-88 Pump Station.

Staff Recommendation


Option #1



John V. Bednarski
Manager/Chief Engineer
Engineering Services

4/25/2022

Date



Adel Hagekhalil
General Manager

4/27/2022

Date

Attachment 1 – Allocation of Funds**Attachment 2 – Abstract of Bids****Attachment 3 – Listing of Subcontractors****Attachment 4 – Location Map**

Ref# es12688396

Allocation of Funds for OC-88 Pump Station Chiller Replacement

	Current Board Action (May 2022)
Labor	
Studies & Investigations	\$ -
Final Design	-
Owner Costs (Program mgmt., envir. monitoring)	295,000
Submittals Review & Record Drwgs.	335,000
Construction Inspection & Support	387,000
Metropolitan Force Construction	128,000
Materials & Supplies	-
Incidental Expenses	3,000
Professional/Technical Services	-
Right-of-Way	-
Equipment Use	-
Contracts	-
MMC Inc.	2,654,000
Remaining Budget	398,000
Total	\$ 4,200,000

The total amount expended to date replace the chillers at OC-88 Pumping Station is approximately \$500,000. The total estimated cost to complete the chiller replacement, including the amount appropriated to date and funds allocated for the work described in this action is \$4.7 million.

The Metropolitan Water District of Southern California**Abstract of Bids Received on April 6, 2022 at 2:00 P.M.****Specifications No. 2024
OC-88 Pump Station Chiller Replacement**

The work includes furnishing and replacing three chillers and two chilled water pumps, providing a fully automated control system, install conduit, piping, and electrical modifications.

Engineer's estimate: \$3,000,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
MMC Inc. La Palma, CA	\$2,654,000	\$839,000	100%	Yes

¹ Small Business Enterprise (SBE) participation level established at 20% for this contract.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 2024
OC-88 Pump Station Chiller Replacement**

Low bidder: MMC Inc.

Subcontractor and Location
Leed Electric Santa Fe Springs, CA

