
File #: 2025-4144

Agenda Date: 6/4/2025

Agenda Item No: 4.

FROM: Robert Thompson, General Manager
Originator: Mike Dorman, Director of Engineering

SUBJECT:

ELECTRICAL POWER DISTRIBUTION SYSTEM IMPROVEMENTS, PROJECT NO. J-98

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Receive and file Bid Tabulation and Recommendation for Electrical Power Distribution System Improvements, Project No. J-98;
- B. Award a Construction Contract Agreement to Shimmick Construction Company, Inc., for Electrical Power Distribution System Improvements, Project No. J-98, for a total amount not to exceed \$ 24,352,127; and
- C. Approve a contingency of \$2,435,213 (10%).

BACKGROUND

The electrical distribution systems at Orange County Sanitation District (OC San) Plant Nos. 1 and 2 supply power to all plant facilities and consist of distribution centers, power buildings, and electrical rooms throughout both plants. These facilities use switchgear and automatic transfer switches to distribute power from three different generation sources, Southern California Edison (SCE), Central Generation Facility (CenGen), and standby generators.

RELEVANT STANDARDS

- Comply with California Public Contract Code Section 20103.8, award construction contract to lowest responsive, responsible bidder
- 24/7/365 treatment plant reliability
- Protect OC San assets

PROBLEM

During an SCE power outage at Plant No. 1, CenGen is not capable of powering the entire plant, resulting in CenGen shutting down and select critical loads being automatically powered by standby generators. The remaining loads required for wastewater treatment will not be powered until the central generation facility is restarted, and electrical maintenance is called out to reconfigure the

electrical system. In addition, there is a high arc flash potential at a number of electrical switchgear lineups throughout Plant No. 1.

At Plant No. 2, the plant power monitoring and control system and arc flash mitigation system were not extended to Distribution Center A and Power Building B due to anticipated demolition at the time of design. The Power Building B 12kV-480V transformers have reached the end of their useful life. The Power Building D generator, automatic transfer switch, and 12kV-480V transformer have reached the end of their useful life. Headworks and Effluent Pump Station Annex (EPSA) standby generator systems do not have connections to easily load test the generators or a grounding system that meets the latest industry standards.

PROPOSED SOLUTION

Award a construction contract agreement to implement a load shedding system and arc flash mitigation system at Plant No. 1 (similar to Project No. J-117B at Plant No. 2); extend the plant power monitoring and controls system and arc flash mitigation system to Distribution Center A and Power Building B; replace aged transformers at Power Building B; refeed Power Building D from Distribution Center F; and add portable load bank connections and grounding system improvements at the Headworks and EPSA standby generation facilities.

TIMING CONCERNS

If the project is delayed, the electrical distribution system may suffer from reduced safety, reduced reliability, increased maintenance costs, and unexpected process facility outages with increased potential for spills.

RAMIFICATIONS OF NOT TAKING ACTION

Numerous small and large projects would need to be initiated to install, replace, and upgrade the various protective relays, breakers, conductors, and grounding systems. At Plant No. 1, the electrical distribution system would continue to have a more time-consuming restoration of power during a loss of SCE power.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATION

OC San advertised Project No. J-98 for bids on December 12, 2024, and four sealed bids were received on March 18, 2025. A summary of the bid opening follows:

Engineer's Estimate	\$ 13,200,000
<u>Bidder</u>	<u>Amount of Bid</u>
Shimmick Construction Company, Inc.	\$ 24,352,127
Helix Electric, Inc.	\$ 25,700,000
LEED Electric, Inc.	\$ 27,654,892
Mass Electric Construction Company	\$ 36,203,000

The bids were evaluated in accordance with the OC San's policies and procedures. A notice was sent to all bidders on April 24, 2025, informing them of the intent of OC San staff to recommend award of the Construction Contract Agreement to Shimmick Construction Company, Inc.

OC San received bids from multiple Contractors, three within similar range and all higher than the Engineer's Estimate. This indicates that the Engineer's Estimate was significantly lower than the actual project cost.

Given the cost difference, OC San issued a clarification request to Shimmick Construction Company, Inc. asking to provide general cost estimates for the work related to site, civil, electrical, instrumentation, and general conditions to closely compare the information against the Engineer's Estimate and understand the areas where the gaps between the amounts were.

Shimmick Construction Company, Inc. bid cost was higher than the Engineer's Estimate in the following areas: 1) site and civil (153% higher); 2) Engineer's Estimate did not include costs for temporary power and shutdowns, and underestimated commissioning costs (90% higher); 3) Engineer's Estimate did not account for the extensive engineering for shop drawing, field verification, and commissioning for the switchgear modifications (84% higher); 4) the equipment cost escalation outpaced the cost index rates used in the Engineer's Estimate for the 2021 and 2023 equipment quotes (44% higher); and 5) General Conditions (77% higher).

Based on the three lowest bids and the cost factors identified during the bid review, staff believe the difference between the Engineer's Estimate and Shimmick Construction Company, Inc.'s price is accounted for and reasonable.

Staff recommends awarding a Construction Contract Agreement to the lowest responsive and responsible bidder, Shimmick Construction Company, Inc., for a total amount not to exceed \$ 24,352,127.

CEQA

The project is exempt from CEQA under the Class 1 categorical exemptions set forth in California Code of Regulations section 15301. A Notice of Exemption has been filed with the OC Clerk-Recorder.

FINANCIAL CONSIDERATIONS

This request complies with the authority levels of OC San's Purchasing Ordinance. This item has been budgeted (Budget FY 2024-25 and 2025-26, Section 8, Page 48, Electrical Power Distribution System Improvements, Project No. J-98) and an increase to the project budget is being requested as

part of the annual budget update. The award of this contract will be contingent upon approval of the increased project budget as part of the budget update adoption.

ATTACHMENT

The following attachment(s) may be viewed on-line at the OC San website (www.ocsan.gov) with the complete agenda package:

- Construction Contract Agreement
- Presentation

TW:lb