



# OPERATIONS COMMITTEE

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## Agenda Report

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**File #:** 2021-1974

**Agenda Date:** 12/7/2022

**Agenda Item No:** 10.

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**FROM:** James D. Herberg, General Manager  
Originator: Kathy Millea, Director of Engineering

**SUBJECT:**

**UNINTERRUPTIBLE POWER SUPPLY IMPROVEMENTS AT PLANT NO. 1, PROJECT NO. P1-132**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Receive and file Bid Tabulation and Recommendation for Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132;
- B. Approve a project budget increase of \$2,600,000 for Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132, for a new total project budget of \$9,600,000;
- C. Award a Construction Contract to LEED Electric, Inc. for Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132 for an amount not to exceed \$5,765,789; and
- D. Approve a contingency of \$576,579 (10%).

**BACKGROUND**

The Orange County Sanitation District (OC San) has 15 smaller commercial-type uninterruptible power supply (UPS) units throughout the northwest area of Plant No. 1. These units maintain power to critical loads and the plant process control systems in the event of a power failure. This project is part of an on-going effort to replace small UPS units at the two treatment plants with regional, industrial UPS units with 20-year batteries to increase the standby power system reliability as recommended by the J-102 Energy Master Plan in 2007. The existing 480-volt electrical distribution equipment located in the Warehouse, Maintenance and Rebuild Shop, and Fleet areas have reached the end of their useful life and require replacement.

**RELEVANT STANDARDS**

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

**PROBLEM**

The existing smaller commercial-type UPS units are either at the end of their useful life or are obsolete. These commercial-type units have a shorter design life than industrial-type UPS units, utilize battery technology that requires replacement every three to five years, and require more maintenance than an industrial-type UPS. If a failure occurred, a portion of the plant control system could be shut down during a power outage, leaving Operations staff unable to monitor the wastewater treatment process through the control system computers. Operations staff would need to go to the field to monitor the status of the treatment process affected by the control system outage.

The 480-volt electrical distribution equipment in some non-process areas has exceeded their useful life and needs replacement. Parts are either very difficult to source or are no longer available.

**PROPOSED SOLUTION**

Award a Construction Contract for Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132, to install a Regional UPS to replace the existing smaller UPS units and replace the outdated 480-volt electrical distribution equipment.

**TIMING CONCERNS**

The existing UPS units are near or at the end of their useful life. If the project is deferred, there will be an increased risk of failure of the existing UPS units, resulting in the shutdown of a portion of the plant control system.

The existing electrical distribution equipment provides power to the Warehouse, Maintenance and Rebuild Shop, and Fleet areas and are at or past the end of their useful lives. If the project is deferred, the electrical equipment will continue to age and be subject to failure resulting in the potential for unexpected, long-term outages for connected equipment.

**RAMIFICATIONS OF NOT TAKING ACTION**

The existing UPS systems and electrical equipment would not be replaced and would result in reduced reliability and increased risk of failure.

**PRIOR COMMITTEE/BOARD ACTIONS**

November 2019 - Approved a Professional Design Services Agreement with Tetra Tech, Inc. to provide engineering services for Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132, for an amount not to exceed \$784,680; and approved a contingency of \$78,468 (10%).

**ADDITIONAL INFORMATION**

OC San advertised for bids on July 14, 2022, and one sealed bid was received on August 25, 2022. A summary of the bid opening follows:

Engineer's Estimate	\$ 3,637,405
<u>Bidder</u>	<u>Amount of Bid</u>
LEED Electric, Inc.	\$ 5,765,789

The Planholders list contained the names of 14 potential Bidders. Prior to receipt of the Bid, on August 18, 2022, a Pre-bid Survey was conducted of those companies on the Planholders list. Four companies responded to the survey and of those four, three stated that they planned to bid, so adequate competition was expected.

The bid was evaluated in accordance with OC San's policies and procedures. Since the single bid amount was 70% higher than the construction budget, the OC San project team, managers, and O&M team held discussions to validate the current project needs and potential alternatives.

The ultimate decision concluded that moving forward with the project as proposed was best suited to meet the operational and reliability needs of OC San. Key reasons for the team still recommending award include the absolute need for replacing the aged 480-volt electrical distribution equipment in the Maintenance and Rebuild Shop areas. These shops are a vital component of keeping the plant equipment maintained, repaired, and operational.

Installation of the regional UPS, as opposed to replacing smaller individual UPS units in-kind, will align with adopted OC San operational philosophy and provide a more reliable standby power system. These regional UPS systems have already been implemented in various locations at Plant Nos. 1 and 2 to provide more robust standby power system with reduced maintenance costs over the asset lifespan.

Staff recommends awarding a Construction Contract to the lowest responsive and responsible bidder, LEED Electric, Inc., for a total amount not to exceed \$5,765,789.

## **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 project was budgeted (Adopted Budget, Fiscal Years 2022-2023 and 2023-24, Section 8, Page 56, Uninterruptible Power Supply Improvements at Plant No. 1, Project No. P1-132). This item will increase the project budget and will be funded from the Capital Improvement Program budget.

**ATTACHMENT**

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

- Construction Contract
- Presentation

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