



# Orange County Sanitation District

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## OPERATIONS COMMITTEE

### Agenda Report

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**File #:** 2019-529

**Agenda Date:** 9/4/2019

**Agenda Item No:** 9.

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**FROM:** James D. Herberg, General Manager  
Originator: Rob Thompson, Assistant General Manager

**SUBJECT:**

PLANT NO. 2 EFFLUENT PUMP STATION ANNEX, VARIABLE FREQUENCY DRIVE MODERNIZATION, AND MANUFACTURER SERVICE AGREEMENT

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve Sole Source Purchase Order to the Original Equipment Manufacturer, Siemens Industry, Inc., to modernize three Effluent Pump Station Annex (EPSA) Variable Frequency Drives (VFDs) for a fixed amount not to exceed \$368,879, plus applicable tax and shipping;
- B. Approve Sole Source Purchase Order for SIEPRO® Technical Service Agreement with Siemens Industry, Inc. to perform annual preventative maintenance, for a three-year period, for an amount not to exceed \$68,805, plus applicable tax and shipping; and
- C. Approve contingency funds of 20% for each contract, for a combined total not to exceed \$87,537.

**BACKGROUND**

The Orange County Sanitation District (Sanitation District) operates three 3,000 horsepower EPSA pumps at Plant No. 2, each rated for 120 million gallons per day (mgd), designed to pump secondary effluent through the ocean outfall system to the Pacific Ocean. These pumps are driven by a Siemens Sinamics Perfect Harmony Medium Voltage VFD with the NXGI digital control system. They were installed in 2008 through Project No. J-77, Effluent Pump Station Annex, that replaced Foster Booster Pump Station.

**RELEVANT STANDARDS**

- Maintain a proactive asset management program
- Meet volume and water quality needs for the GWRS
- 24/7/365 treatment plant reliability

**PROBLEM**

The manufacturer has announced the obsolescence of critical components within the NXGI digital

control system of the VFD. Should any of the obsolete components fail, replacement parts are no longer available from the manufacturer which could result in considerable downtime. In addition, the drives are halfway through their anticipated life cycle. An increased level of major preventative maintenance is required to maintain optimum operating conditions and increased reliability to the process.

During construction of Project No. J-117B, Outfall Low Flow Pump Station, one or two Ocean Outfall Booster Station (OOPS) pumps will be unavailable due to scheduled rehabilitation. At this point, reliable EPSA pumps become increasingly critical to maintain our ocean outfall capacity.

## **PROPOSED SOLUTION**

Award two contracts to the original equipment manufacturer, Siemens Industry, Inc. One contract is to upgrade obsolete components in the NXGI digital control system to the latest NXG Pro to include refurbishing the power cells. This modernization will reset the asset lifecycle to 20 years when maintained to the manufacturer's recommendation.

The second contract is to procure a three-year Technical Service Agreement (TSA) for scheduled annual maintenance. Under this service agreement, the Sanitation District will benefit from an 8% discount to the upgrade and refurbishment cost of the first contract. This savings will recoup about 57% of the TSA contract cost while maintaining the highest possible uptime of the drives.

## **TIMING CONCERNS**

Construction for Project No. J-117B and OOPS pumps rehabilitation is scheduled to start in summer of 2020. Current plans call for completing all three drives no later than one year from Notice to Proceed.

## **RAMIFICATIONS OF NOT TAKING ACTION**

Reliability of ocean outfall pumping capacity is reduced and EPSA VFD failures will disrupt Project No. J-117B.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

Due to operational constraints involved with the release of the EPSA VFDs and need for vendor to make multiple site visits to support each VFD start-up, a 20% contingency is proposed.

## **CEQA**

N/A

## **FINANCIAL CONSIDERATIONS**

This request complies with authority levels of the Sanitation District's Purchasing Ordinance. This recommendation would be funded under the Repairs and Maintenance line item for Operations and Maintenance Department (Budget Update Fiscal Year 2019-20, Page 47), and the available funding is sufficient for this action.

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<u>Date of Approval</u>	<u>Contract Amount</u>	<u>Contingency</u>
09/04/2019	\$437,684	\$87,537 (20%)

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**ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OCSD website ([www.ocsd.com](http://www.ocsd.com)) with the complete agenda package:*

N/A

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