



# OPERATIONS COMMITTEE

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## Agenda Report

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**File #:** 2023-2695

**Agenda Date:** 2/1/2023

**Agenda Item No:** 7.

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**FROM:** James D. Herberg, General Manager  
Originator: Riaz Moinuddin, Director of Operations & Maintenance

**SUBJECT:**

**MAIN SEWAGE PUMP VARIABLE FREQUENCY DRIVE TRANSFER SWITCH AND UNINTERRUPTABLE POWER SUPPLY SYSTEM IMPLEMENTATION AT PLANT NO. 2**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION:

- A. Approve a Sole Source Purchase Order Contract to One Source/Rockwell Automation for modifications to the six main sewage pump Variable Frequency Drives for a total amount not to exceed \$103,628; and,
- B. Approve a contingency of \$10,363 (10%).

**BACKGROUND**

The Orange County Sanitation District (OC San) Plant No. 2 headworks facility is designed with seven main sewage pumps. Variable Frequency Drives (VFD) are used to control the speed of the main sewage pumps to maximize efficiency of the pumping operation. These VFDs have integrated Uninterruptable Power Supply units. These integrated Uninterruptable Power Supply units are obsolete and no longer available.

One of the seven integrated Uninterruptable Power Supplies failed in 2020. It was determined that off the shelf replacements have compatibility issues with the existing internal VFD communication network that results in a failure of these critical pumps to start when switching from primary to back-up power. In 2020, a solution was developed by the original equipment manufacturer and was implemented successfully on the failed main sewage pump VFD.

**RELEVANT STANDARDS**

- Maintain a proactive asset management program
- Maintain a culture of improving efficiency to reduce the cost to provide the current service level or standard

**PROBLEM**

The Main Sewage Pumps at Plant No. 2 pump sewage into the treatment plant. Six of the seven VFDs that power these critical pumps contain obsolete Uninterruptable Power Supplies that are no longer available. Failure of these units limits the availability of this critical pumping system.

**PROPOSED SOLUTION**

Approve a Sole Source Purchase Order Contract to the original equipment manufacturer of the remaining six Main Sewage Pump VFDs to replace the obsolete Uninterruptable Power Supplies and modify the units to provide full functionality of this critical pumping system.

**TIMING CONCERNS**

Failure to implement the modifications to the VFDs will result in unavailability of the main sewage pumps as the obsolete Uninterruptable Power Supply units fail. This is especially a concern during critical periods when normal power is interrupted, and power is switched from normal power to the back-up power system.

**RAMIFICATIONS OF NOT TAKING ACTION**

The unmodified six main sewage pumps will not operate when switched to the back-up power system following an interruption to normal power, impacting the ability to lift flows to Plant No.2 headworks.

**PRIOR COMMITTEE/BOARD ACTIONS**

N/A

**ADDITIONAL INFORMATION**

N/A

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This recommendation will be funded under the Repairs and Maintenance line item for Division 880, Plant No. 2 Maintenance (Adopted Budget, FY 2022-23 & 2023-24, Section 6, Page 96), and the available funding is sufficient for this action.

**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:*

N/A