

## Agenda Report Details (With Text)

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**On agenda:** 11/20/2019      **Final action:** 11/20/2019  
**Title:** PLANT NO. 2 MAIN SEWAGE PUMPS, VARIABLE FREQUENCY DRIVE, 10 YEAR PREVENTATIVE MAINTENANCE  
**Sponsors:** Rob Thompson  
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**Attachments:** 1. Agenda Report, 2. File Summary

Date	Ver.	Action By	Action	Result
11/20/2019	1	BOARD OF DIRECTORS		
11/6/2019	1	OPERATIONS COMMITTEE	Recommended for Approval	

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

### SUBJECT:

### PLANT NO. 2 MAIN SEWAGE PUMPS, VARIABLE FREQUENCY DRIVE, 10 YEAR PREVENTATIVE MAINTENANCE

### GENERAL MANAGER'S RECOMMENDATION

#### RECOMMENDATION:

- A. Approve Sole Source Purchase Order Contract with OneSource Distributors for performing the 10-year manufacturer recommended Preventative Maintenance (PM) on all seven of Plant No. 2 Main Sewage Pump Variable Frequency Drives for an amount not to exceed \$438,751, which includes the purchase of the full scope of supply, freight, and taxes; and
- B. Approve a contingency of \$43,876 (10%).

### BACKGROUND

The Orange County Sanitation District (Sanitation District) has seven Main Sewage Pumps (MSP) at Plant No. 2 Headworks to pump all influent wastewater entering the plant for further treatment. These MSPs are each driven by an Allen Bradley PowerFlex 7000 Medium Voltage Variable Frequency Drive (VFD) for speed control. The VFDs were installed during the construction of P2-66 Headworks Improvements at Plant No. 2, which lasted from 2005 to 2013.

### RELEVANT STANDARDS

- Maintain a proactive asset management program
- Meet volume and water quality needs for the GWRS

## **PROBLEM**

The drives have reached their 10-year asset life cycle in which major preventative maintenance is critical to internal components and to maintain reliability per the manufacture's recommendation. Critical electronic and electrolytic components have reached their end of life cycle. Considering the number of years that have passed since the VFDs were manufactured and process criticality, it is essential that the electronics be maintained in optimum condition to ensure reliability, rather than waiting for failures to occur.

Additionally, Project No. P2-122, Headworks Modification, is designed to segregate reclaimable and non-reclaimable flows to support the Groundwater Replenishment System (GWRS). Three of the seven MSPs will be modified for a lower hydraulic capacity for efficient pumping. To compensate for the capacity loss, four MSPs and drives will be reprogrammed to operate above the original parameters of up to 5%. Reliable drives are critical to the project's success.

## **PROPOSED SOLUTION**

Approve a purchase order service contract to OneSource Distributors, who are the authorized distributor appointed by Rockwell Automation, a parent company of Allen Bradley, to perform a 10-year preventative maintenance refurbishment on all seven VFDs.

## **TIMING CONCERNS**

Construction for Project No. P2-122 is scheduled to start in summer of 2020 and the existing four drives will be reprogrammed during this period. The remaining three drives can be reconditioned one at a time by coordinating with Operations & Maintenance and Project No. P2-122.

## **RAMIFICATIONS OF NOT TAKING ACTION**

The reliability of the Plant No. 2 MSPs will continue to degrade as the VFDs electronic and electrolytic components age, jeopardizing dependability of the Headworks and GWRS project.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

A 10% contingency is requested to coordinate commissioning activities which may involve multiple site visits with associated mobilization costs due to operational constraints. The detailed schedule for refurbishing the VFDs will be determined in conjunction with other hydraulically related construction activities.

## **CEQA**

N/A

## FINANCIAL CONSIDERATIONS

This request complies with authority levels of the Sanitation District's Purchasing Ordinance. This recommendation will 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.

<u>Date of Approval</u>	<u>Contract Amount</u>	<u>Contingency</u>
11/20/2019	\$438,751	\$43,876 (10%)

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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