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**File #:** 2025-4262

**Agenda Date:** 5/14/2025

**Agenda Item No:** 8.

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**FROM:** Robert Thompson, General Manager  
Originator: Lan C. Wiborg, Director of Environmental Services

**SUBJECT:**

**TRIPLE QUADRUPOLE INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve a Purchase Order to Avantor (VWR) for the purchase of a Triple Quadrupole Inductively Coupled Plasma Mass Spectrometer (TQ-ICP/MS) System using NASPO Master Agreement No. MA2024005 for a total amount not to exceed \$328,000; and
- B. Approve a contingency of \$16,400 (5%).

**BACKGROUND**

The TQ-ICP/MS system will be utilized to analyze for trace metals in wastewater samples as required by Orange County Sanitation District's (OC San) National Pollutant Discharge Elimination System (NPDES) Permit and various special projects.

**RELEVANT STANDARDS**

- Ensure the public's money is wisely spent
- Comply with environmental permit requirements
- Maintain a culture of improving efficiency to reduce the cost to provide the current service level or standard
- Maintain a proactive asset management program
- Participate in local, state, and national cooperative purchasing programs

**PROBLEM**

This request is to augment the laboratory's analytical capacity and capability as it relates to trace metals in wastewater. Currently the laboratory performs compliance analysis for this class of compounds using a traditional single-quadrupole ICP/MS. The current instrument is almost eight years old and is approaching the manufacturer-recommended serviceable life of 10-12 years. The current instrument struggles to meet analytical sensitivity requirements outlined in the 2019 California Ocean Plan for constituents such as cadmium, copper, silver, and zinc.

## **PROPOSED SOLUTION**

Approve a Purchase Order to VWR for the TQ-ICP/MS system to augment the current ICP/MS system. Purchasing the TQ-ICP/MS system will equip OC San with a more sensitive system that uses the most current technology, is less susceptible to matrix interference, and provides enhanced instrument capabilities to better support regulatory compliance.

## **TIMING CONCERNS**

Regulatory actions, such as the expected update to the California Ocean Plan or OC San's renewed NPDES permit, may impact required sensitivity levels for analysis of trace metals in wastewater. Method development and validation for a new instrument can take a significant amount of time, therefore having the instrument onboard ahead of any anticipated regulatory impacts is important to ensure timely compliance with updated requirements.

## **RAMIFICATIONS OF NOT TAKING ACTION**

Without the TQ-ICP/MS system, OC San will continue to use the existing system, which currently has difficulty in meeting minimum sensitivity requirements for some compounds. As the instrument approaches the end of its manufacturer's expected service life, the instrument is likely to lose sensitivity due to age and normal wear and tear. This decreased sensitivity is likely to result in a failure to achieve the sensitivity requirements outlined in the NPDES permit and referenced in the California Ocean Plan. If NPDES permit compliance is not met, OC San could be subject to enforcement action and daily penalties up to \$25,000 for each violation in addition to other actions deemed appropriate by the EPA and the Santa Ana Regional Water Quality Control Board (SARWQCB).

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

The National Association of State Procurement Officers (NASPO, formerly WSCA-NASPO) agreements are available to all State of California governmental entities (e.g., state agencies, cities, counties, special districts, school districts, universities) that expend public funds for the acquisition of both goods and services.

The State of California purchases a wide variety of goods and services ranging from pencils to temporary labor under these agreements. Annual purchases total nearly \$10 billion. The Procurement Division is the central purchasing authority for all State departments and local government agencies. With a massive marketplace and billions of dollars in purchasing power they can offer a lower procurement cost to California's state, county, city, special districts, education, and other government entities through their Leveraged Procurement Agreements. Leveraged Procurement Agreements allow entities/agencies to buy directly from suppliers through existing contracts and agreements. One of these that the state offers to California governmental agencies is the National Association of State Procurement Officers for Commodities, IT Goods & Services, and Telecommunication Goods and Services.

OC San is utilizing NASPO Agreement No. MA2024005 with VWR, under Ordinance No. OC SAN-61, Section 2.03(B), Cooperative Purchases.

The total cost of \$328,000 includes the TQ-ICP/MS system, installation and training, sales tax, and freight.

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with the authority levels of OC San's Purchasing Ordinance. This item has been budgeted (Budget FY 2024-2025 and 2025-26, Section 8, Page 91 Division 630 Capital Equipment) and the budget is sufficient for the recommended 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