
File #: 2024-3943

Agenda Date: 11/20/2024

Agenda Item No: 23.

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

SUBJECT:

TRIPLE QUADRUPOLE GAS CHROMATOGRAPH MASS SPECTROMETER (TQ-GC/MS) SYSTEM

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION:

Approve a Purchase Order to VWR International, LLC for the purchase of a Triple Quadrupole Gas Chromatograph Mass Spectrometer (TQ-GC/MS) System using NASPO Master Agreement No. MA2024005 for a total amount not to exceed \$325,947.

BACKGROUND

The TQ-GC/MS system will be utilized to analyze wastewater samples as required by Orange County Sanitation District's (OC San) NPDES Permit and for various special projects. This is the third of the three budgeted TQ-GC/MS systems for the OC San laboratory; the other two have been successfully deployed for use in ocean sediment and fish tissue analyses.

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 semi-volatile organic compounds in wastewater. Currently the laboratory analyzes routine compliance samples for this class of compounds using a traditional single-quadrupole GC/MS. The current instrument is 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 benzidine, hexachlorocyclopentadiene, hexachlorobenzene, and 2,4-dinitrophenol. The current instrument does not have a backup system

in place. In instances of instrument malfunction, staff needs to devote resources to get the instrument back up and running to meet compliance deadlines, or in extreme cases, must send samples out to a contract laboratory for analysis. When sending this type of sample out in the past, OC San has experienced issues with the contract laboratory meeting our sensitivity and data quality objectives. OC San's NPDES permit also requires annual analysis for Industrial Endocrine Disrupting Compounds (IEDCs) in the final effluent. OC San has historically performed this analysis in-house using a GC/MS Time-of-Flight instrument. The instrument was initially purchased in 2004 and was taken out of service in 2023 due to age and inability to meet method suitability criteria. The analysis of IEDCs has been outsourced to a contract lab. Several IEDCs in OC San's permit are uncommon, and only one lab nationwide offers analytical capability for the entire list. On two separate occasions, the contract lab has communicated to OC San their intent to discontinue the analysis of those particular compounds.

PROPOSED SOLUTION

Approve a purchase order to VWR International, LLC (VWR) for the TQ-GC/MS system in the amount of \$325,947 to augment the current GC/MS system. Purchasing the TQ-GC/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. The existing GC/MS will be kept in service as a backup to the new system, providing valuable redundancy in case of instrument malfunctions or other contingencies. The TQ-GC/MS system will also be used to develop an in-house method for the analysis of IEDCs, providing long-term assurance that OC San will be able to meet monitoring requirements for those compounds should contract lab services become unavailable.

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 semi-volatiles 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-GC/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 of up to \$25,000 for each violation in addition to other actions deemed appropriate by the EPA and Santa Ana Regional Water Quality Control Board.

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 \$325,947 includes the TQ-GC/MS system, installation and training, a 2-year extended warranty, sales tax, and freight.

CEQA

N/A

FINANCIAL CONSIDERATIONS

This request complies with authority levels of OC San's Purchasing Ordinance No. OC SAN-61. This item has been budgeted (Budget FY 2024-25 and 2025-26, Section 8, Page 90, 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) with the complete agenda package:

N/A