
File #: 2025-4304

Agenda Date: 5/28/2025

Agenda Item No: 16.

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

SUBJECT:

OCEAN ACIDIFICATION AND HYPOXIA MINI-MOORING

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION:

- A. Approve a Sole Source Service Contract with The Regents of the University of California on behalf of its San Diego campus' Scripps Institution of Oceanography to build and maintain an ocean acidification and hypoxia (OAH) mini-mooring and to provide field and data support, in an amount not to exceed \$290,000 for the period July 1, 2025, to June 30, 2026;
- B. Approve three (3) optional one-year renewals to maintain and calibrate the mini-mooring sensors as well as provide field and data support, in an amount not to exceed \$130,000 for each renewal; and
- C. Approve a 10% contingency per year.

BACKGROUND

Since 2015, Orange County Sanitation District (OC San), along with the City of Los Angeles, LA County Sanitation Districts and the City of San Diego, have been conducting ocean acidification and hypoxia (OAH) monitoring. OC San and the City of San Diego each use oceanographic moorings, which are seafloor-anchored buoys that suspend multiple OAH sensors throughout the water column. The goal of the mooring deployments is to gain a better understanding of the variability and decreasing trends in pH (acidification) and dissolved oxygen (hypoxia) across the Southern California Bight.

In 2021, OC San's OAH mooring program became a specific requirement under the 2021 National Pollutant Discharge Elimination Permit (NPDES) ocean discharge permit.

In 2022, with OC San Board approval, staff at the Scripps Institution of Oceanography (SIO) Ocean Time Series Lab at UC San Diego designed and built a pilot mini-mooring for OC San to address challenges associated with the previous OAH mooring's large size and long lead times with repairs and replacement of mooring sensors. The pilot mini-mooring is a lightweight system with similar capabilities to a traditionally large mooring, but it is designed to be more safely deployed and recovered. Additional benefits include access to local expertise, ease of transport, and remote

troubleshooting. Since the deployment of the pilot mini-mooring near the 120-inch outfall in May 2023, the instrument has successfully provided continuous real-time data with reduced downtime (from eight to two months) due to its compact design and more rapid servicing compared to the large mooring.

OC San plans to fully implement SIO's mini-mooring system which requires a backup mini-mooring to eliminate the lag time between deployments and minimize data interruptions. This contract will require SIO to build a new backup mini-mooring, provide resources and expertise in sensor maintenance and calibrations for both mini-moorings, and assist OC San staff with safe mooring deployment and recovery. The contractor will also provide services for real-time data stream management, quality control, and visualization according to federal guidelines, as specified in the NPDES permit.

RELEVANT STANDARDS

- Comply with environmental permit requirements
- Sustain 1, 5, 20-year planning horizons
- Maintain collaborative and cooperative relationships with regulators, stakeholders, and neighboring communities
- Ensure the public's money is wisely spent

PROBLEM

OC San currently does not have an annual service contract for the OAH mini-mooring, leaving us at risk if the mini-mooring requires maintenance or repairs. Moreover, without a backup mini-mooring, there may be up to a two-month data gap while the unit is being serviced.

PROPOSED SOLUTION

Approve a Sole Source Service Contract with SIO to resume maintenance, repair, and troubleshooting services as well as build a new, backup mini-mooring that will eliminate the lag time between deployments and lead to more continuous OAH data collection. The success of the pilot program demonstrated the experience and commitment SIO's Ocean Time Series Lab staff have in the design, deployment, and maintenance of this and similar real-time moorings, including those utilized by other agencies such as the City of San Diego.

The backup mini-mooring can be deployed at other monitoring locations as needed or to support monitoring efforts for OC San's 120-inch outfall rehabilitation project in 2027 and 2028.

TIMING CONCERNS

The annual service contract with SIO expired on October 2, 2024.

RAMIFICATIONS OF NOT TAKING ACTION

If a new service contract is not approved, then OC San may not meet NPDES permit requirements to monitor OAH at the designated location using an OAH mooring.

PRIOR COMMITTEE/BOARD ACTIONS

September 2022 - Approved a Sole Source Service Contract with The Regents of the University of California on behalf of its San Diego campus' Scripps Institution of Oceanography to design, build, and maintain an ocean acidification and hypoxia mini-mooring for a total amount not to exceed \$237,235 which includes \$159,066 for the first one-year period, to develop and deploy the mooring including the initial 6-month operation, and the first swap-out and subsequent 6-month operation; approved the renewal of the Sole Source Service Contract, at the sole option of OC San, for one (1) additional one-year period in the amount of \$78,169 for 12-month operation and two swap-outs; and approved a contingency in the amount of \$23,724 (10%).

September 2020 - Approved Scripps Institution of Oceanography (SIO) as the pre-approved OEM Sole Source for the Ocean Monitoring Program.

ADDITIONAL INFORMATION

N/A

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 2025-26, Section 6, Page 60, Environmental Laboratory and Ocean Monitoring) 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:

- Sole Source Service Contract