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File #: 2022-2536 **Agenda Date:** 9/28/2022 **Agenda Item No:** 12.

FROM: James D. Herberg, General Manager
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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 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;

B. Approve 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

C. Approve a contingency in the amount of $23,724 (10%).

BACKGROUND

The Orange County Sanitation District (OC San) conducts ocean acidification and hypoxia (OAH) monitoring using an oceanographic mooring, which is a seafloor-anchored buoy that suspends multiple water quality sensors throughout the water column. The goal of the mooring is to better understand the variability and decreasing trends in pH (acidification) and dissolved oxygen (hypoxia) within our ocean monitoring region on the San Pedro Shelf. OC San's OAH mooring has been deployed voluntarily since 2012 and is now required under OC San's 2021 ocean discharge permit. Over the last several years, OC San staff have experienced several challenges with the deployment and recovery of the original mooring system due to (1) safety concerns related to its size and complexity, (2) long lead times with the repair and replacement of mooring sensors by the vendor, and (3) the recent retirements of staff with noted expertise in mooring maintenance and deployment.

This contract will require Scripps Institution of Oceanography (SIO) to design and build a new mini-mooring to provide real-time measurements of pH, dissolved oxygen, temperature, and salinity. The mini-mooring was recently developed by SIO as a light-weight system with similar capabilities to a traditional mooring, but designed to be more safely deployed and recovered. For example, the mini-mooring buoy is a little over one foot in diameter with an anchor weighing less than 100 pounds,

whereas the original mooring buoy is approximately five feet in diameter and is deployed with a 700-pound anchor. The mini-mooring also features a capability to collect data autonomously for a longer period (up to one year). The contractor will provide their resources and expertise in sensor maintenance and calibrations and will 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 permit. The mini-mooring design will increase safety for staff at sea and will produce higher quality time series data to better evaluate changing trends in OAH in OC San's coastal monitoring area.

RELEVANT STANDARDS

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

PROBLEM

The current mooring has not been collecting OAH data since its last recovery in January 2022. It has not been possible to re-deploy the current OAH mooring due to several challenges with safe deployment/recovery, instrumentation, and staffing.

PROPOSED SOLUTION

Approve a Service Contract with SIO to design and build a new mini-mooring that will be more safely deployed and recovered. Deployment of a mini-mooring will reduce lag times between deployments and lead to more continuous OAH data for ocean discharge permit compliance. Staff from SIO's Ocean Time Series Lab have significant experience in the design, deployment, and maintenance of similar real-time moorings, including those utilized by other agencies such as the City of San Diego. This proposed solution has been reviewed and approved by staff at the Santa Ana Regional Water Quality Control Board and Environmental Protection Agency Region IX.

TIMING CONCERNS

It has not been possible to re-deploy due to issues with safety concerns, sensor repairs, and the retirement of staff with noted expertise in mooring maintenance and deployment. Building and deploying a new and more feasible mooring design as soon as possible will minimize the gap in OAH data collection and enable timely compliance with OC San's ocean discharge permit.

RAMIFICATIONS OF NOT TAKING ACTION

By not investigating an alternative mooring design, OC San is at risk of violating its ocean discharge permit requirement to monitor OAH at a single location using an OAH mooring.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATION

SIO is a Board approved OC San Proprietary Service Provider for the Ocean Monitoring Program.

CEQA

N/A

FINANCIAL CONSIDERATIONS

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted (FY 2022-23) Line item: Section 6, Page 40).

ATTACHMENT

The following attachment(s) may be viewed on-line at the OC San website (www.ocsan.gov) with the complete agenda package:

- Service Contract

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