



# OPERATIONS COMMITTEE

Administration Building  
10844 Ellis Avenue  
Fountain Valley, CA 92708  
(714) 593-7433

## Agenda Report

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**Agenda Date:** 7/24/2024

**Agenda Item No:** 11.

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

**SUBJECT:**

**ORANGE COUNTY SANITATION DISTRICT NEW OCEAN MONITORING VESSEL**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION:

- A. Approve an Agreement to Design and Build an Ocean Monitoring Vessel to All American Marine, Inc. (AAM) for the purchase of a 65-foot (overall length) aluminum catamaran design ocean monitoring vessel with a plug-in hybrid propulsion system for a total amount not to exceed \$9,206,149; and
- B. Approve a contingency of \$920,615 (10%).

**BACKGROUND**

Orange County Sanitation District (OC San) has conducted safe and effective ocean monitoring operations on *Nerissa* for 20 years, collecting and analyzing samples of seawater, sediment, fishes, and invertebrates within a 185 square mile area to assess the effects of its outfall discharge on the receiving environment as required by OC San's NPDES ocean discharge permit (NPDES No. CA0110604).

Maintaining a functional and reliable ocean monitoring vessel is critical in fulfilling OC San's mission in protecting public health and the environment in a cost-effective manner.

**RELEVANT STANDARDS**

- Ensure the public's money is wisely spent
- Comply with environmental permit requirements
- Protect public safety
- Commitment to safety & reducing risk in all operations
- Provide a safe and collegial workplace

## **PROBLEM**

At 20 years old, OC San's ocean monitoring vessel, *Nerissa*, is nearing the end of its service life and is due for replacement. In preparation for the vessel replacement, OC San staff became aware that CARB has instituted new engine emission regulations for California Harbor Craft (CHC) Vessels. The new regulations will require all CHC vessels operating in California to have the cleanest fuel emission system starting January 1, 2026. Ocean Monitoring staff assessed the viability of 3 CARB-compliant configurations and determined that it will not be possible to replace *Nerissa*'s twin Tier 1 diesel engines without making costly and major modifications to the hull. Tier 4 diesel engines equipped with diesel particulate filters (DPF) are larger and require a large tank to store the diesel emissions fluid. This creates space issues for engine maintenance. Both the plug-in hybrid and full electric propulsion systems require an additional battery room equipped with dedicated fire suppression and air supply systems. A full electric ocean monitoring vessel is currently not a viable option due to limitations with battery technology and charging infrastructure, and a Tier 4 diesel engine equipped with DPF is not a sustainable option as CARB's regulations continue to move towards zero emissions. Therefore, Ocean Monitoring staff determined that the most desirable option is the purchase of a new ocean monitoring vessel with a plug-in hybrid propulsion system.

## **PROPOSED SOLUTION**

Staff recommends replacing *Nerissa* with an aluminum catamaran design equipped with a plug-in hybrid propulsion system. Aluminum offers numerous benefits such as corrosion-resistant properties, high durability, and light weight which translates to increased fuel efficiency and less maintenance costs. The catamaran design offers numerous benefits including increased ship stability, deck space, fuel efficiency, and staff safety. The plug-in hybrid propulsion system is currently the most established and reliable configuration and will ensure compliance with new and future CARB air emission regulations as the plug-in hybrid propulsion system can be converted to full electric in the future.

## **TIMING CONCERNS**

CARB's new air emissions regulations require that all Tier 1 CHC vessels have a clean fuel emission system by January 1, 2026. Fortunately, the new regulations allow a 12-month extension if the vessel owner has signed an Agreement with a ship builder by December 31, 2024, to upgrade to a vessel that meets the emission requirements. OC San will be seeking the 12-month extension based on AAM's proposed design and build schedule. If the Board approves the Agreement, OC San expects to take possession of the new vessel between May and December 2026. However, AAM is unable to commit to a delivery timeline until Agreement execution, and build slots are reserved on a first-come, first-served basis. Given that OC San must have a signed Agreement by December 31, 2024, to be eligible for the 12-month extension, any further delay will put OC San in violation.

## **RAMIFICATIONS OF NOT TAKING ACTION**

Without Board approval, the next opportunity for Board consideration is September as the Board Committees go into recess in August. A two-month delay in executing the Agreement will postpone the new vessel delivery date by months to years as a new vessel takes several years to design and build and AAM expressed that they are currently in negotiations with other clients and the limited build slots are on a first-come, first-served basis.

A delay will also increase the risk of *Nerissa* breaking down due to her aging auxiliary systems (e.g., electrical, hydraulic, and deck winch systems) and risk OC San being in non-compliance with CARB's CHC regulations as well as other regulatory requirements. In the absence of a reliable ocean monitoring vessel, OC San will not be able to fulfill the required compliance ocean sampling and monitoring, which could lead 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 the SARWQCB. CARB may also impose a \$10,000 daily fine for operating a non-compliant vessel. Currently, a qualified ocean monitoring service is not available to satisfy OC San's regulatory requirements. Based on extensive research by Ocean Monitoring staff, the few available ocean monitoring vessel services within the region are nearly impossible to schedule, limited in scope of service, highly variable in equipment condition and staff qualifications, and generally not cost effective.

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

### Vessel Designer/Builder Selection:

On August 2, 2023, OC San issued a Request for Interest and Information (RFI) to identify potential firms interested and to obtain general market information related to current market conditions and other issues that may potentially impact the procurement. Three firms responded to the RFI.

On November 16, 2023, OC San issued an RFP to procure the design and construction of an Ocean Monitoring Vessel as outlined in the scope of work (Scope of Work). The RFP was publicly advertised in the Orange County Register and an electronic notification was sent to multiple firms, including the three firms who responded to the RFI.

A mandatory virtual pre-proposal meeting was conducted on November 28, 2023, to discuss the proposal requirements, scope of work, project schedule, and evaluation process with potential proposers. Prior to receipt of proposals, an Evaluation Team was formed consisting of OC San staff: Boat Captain (Project Manager), Assistant Boat Captain, Environmental Supervisor, Environmental Protection Manager, and non-voting Senior Contracts Administrator. A pre-proposal survey was conducted and the three firms who responded to OC San's RFI confirmed that they intended to submit a proposal.

On January 31, 2024, OC San received proposals from the following 2 firms:

- All American Marine, Inc.
- Platypus Marine, Inc.

A post-proposal survey was conducted with the 3<sup>rd</sup> firm, but a response was never received.

On February 21, 2024, the Evaluation Team convened to score the proposals based on the following evaluation criteria and weighting requirements included in the RFP. OC San's proposal evaluation method is best value, with a combination of technical and cost factors.

Criterion	Weighting
Project Understanding and Approach	20%
Related Project Experience	15%
Project Team and Staff Qualifications	20%
Proposed Specifications, Deliverables, and Schedule	35%
Cost Proposal	10%
Alternative/Innovation Bonus Points	6%

Based on the Evaluation Team’s review, the highest-scoring firm was invited for an interview. Below is the summary of the scores prior to the interview.

Proposer	Project Understanding and Approach (Max. 20 Points)	Related Project Experience (Max. 15 Points)	Project Team and Staff Qualifications (Max. 20 Points)	Proposed Specs, Deliverables & Schedule (Max. 35 Points)	Cost Proposal (Max. 10 Points)	Alternative / Innovation Bonus Points (Max. 6 Points)	Total Score (Max. 106 Points)
All American Marine, Inc.	19	14	19	32	10	1	95
Platypus Marine, Inc.	13	8	17	25	6	1	70

The interview with AAM was conducted on March 6, 2024. After the interview, AAM confirmed their standing as the highest-scoring proposer based on both the written proposal and the interview. Below is the summary of the final scores.

Proposer	Project Understanding and Approach (Max. 20 Points)	Related Project Experience (Max. 15 Points)	Project Team and Staff Qualifications (Max. 20 Points)	Proposed Specs, Deliverables & Schedule (Max. 35 Points)	Cost Proposal (Max. 10 Points)	Alternative / Innovation Bonus Points (Max. 6 Points)	Total Score (Max. 106 Points)
All American Marine, Inc.	20	14	19	32	10	1	96

Proposer	Reviewer				Total Score (Max. 106 Points)
	1	2	3	4	
All American Marine, Inc.	91	91	88	90	96

AAM, the proposer with the highest score, excelled in both the proposal and the interview. Their technical proposal went beyond a general understanding of the Scope of Work and provided specific examples of how the proposed team would approach challenges on the new vessel. The following are key elements that were unique from AAM's proposal:

- All hardware, equipment, and components that will be used in the build were specified.
- A load analysis of the proposed vessel, including AC/DC loads for the proposed equipment, was completed based on OC San's operating profiles.
- Battery storage was based on End of Life to ensure OC San will be compliant with CARB's 30% rule for life of batteries.
- Differences between parallel and series hybrid electric vessels were explained, including why they chose a series hybrid system for the proposed vessel.
- Project team has designed and built multiple research and hybrid vessels in-house.

On March 12, 2024, the Director of Environmental Services concurred with the Evaluation Team's recommendation to proceed with negotiations with the highest-scoring proposer, AAM.

Negotiations:

Beginning on March 19, 2024, the Evaluation Team conducted negotiations with AAM regarding the following topics:

- Removal of bow thrusters
- Lengthen vessel by one "frame" (40 inches)
- Main cabin/lab general layout
- Storage cabinets/drawers
- Incorporating Teledyne ADCP
- Aft deck workstation cover
- Seating/wet storage
- Security cameras capturing 360-degree view around the vessel

The final negotiated cost increased due to the factors mentioned above, in addition to incorporating the CA sales tax of 7.75% to the purchase price. The table below summarizes the revised cost.

	Original	Final Negotiated
Builder's Cost	\$8,231,160	\$9,206,149

All requested contractual exceptions were reviewed by various parties and had input from the Project team, Contracts Supervisor, Finance & Procurement Manager, Risk Management, and General Counsel.

**CEQA**

N/A

**FINANCIAL CONSIDERATIONS**

This request complies with authority levels of OC San's Purchasing Ordinance. This item has been budgeted (Budget FY 2024-25 and 2025-26, Section 8, Page 96) and the budget along with funds allocated from Budget FY 2023-24 is sufficient for the recommended action.

<u>Date of Approval</u>	<u>Contract Amount</u>	<u>Contingency</u>
07/24/2024	\$ 9,206,149	\$920,615 (10%)

**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:*

- Agreement
- Presentation