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Environmental Monitoring







EPA United States
Environmental Protection
Agency

**Code of
Federal
Regulations**





**CALIFORNIA
WATER BOARDS**
State Water Resources Control Board

STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

**California Ocean Plan
Santa Ana RWQCB Basin Plan**




NPDES Permit
OC San Ocean Monitoring and Reporting Program

- Core Compliance Monitoring
- Regional Monitoring
- Strategic Process Studies




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Ocean Monitoring Program



OC San must demonstrate:

- Safe to swim → Water quality monitoring 
- Healthy ecosystem → Sediment and animal community monitoring 
- Safe to eat fish → Fish health and tissue bioaccumulation monitoring 

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Ocean Monitoring Program



- 185 square miles
- 167 sampling stations
- 103 – 110 sea days per year
- Travel nearly 3,000 miles per year

Ocean Team



M/V Nerissa



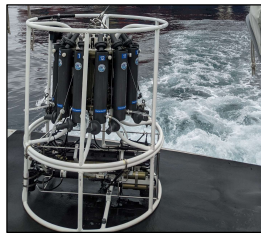
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Ocean Monitoring Program



CTD Rosette



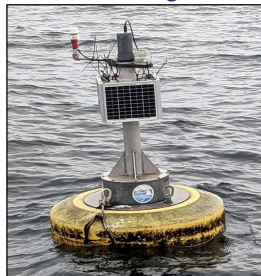
Water quality

Van Veen Grab Sampler



Sediment quality

Mooring



Oxygen and pH

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Ocean Monitoring Program



TRBM/ADCP



Profiling ocean current

Trawls



Benthic community

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Ocean Monitoring Program



Rig Fishing



Fish health



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Motor Vessel (M/V) Nerissa



- ✘ Will not meet CA Air Resources Board (CARB) regulations in 2026
- ✘ Overhaul will compromise hull integrity and is not cost-effective
- ✘ Unable to support expanding regulatory requirements

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Replacement Vessel



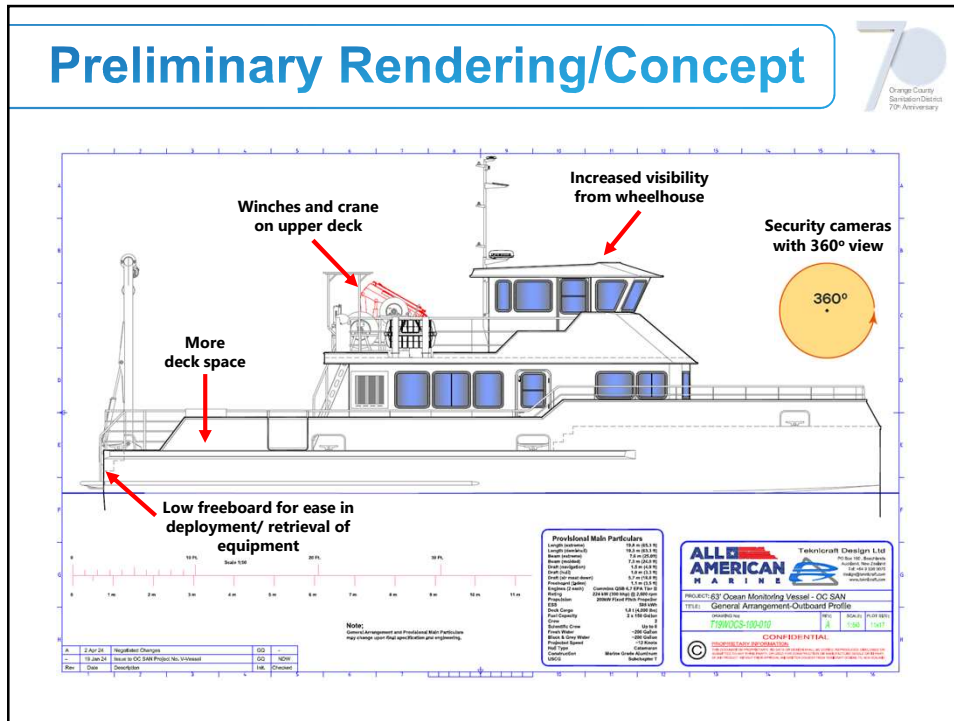
Similar Vessel: University of Hawaii Research Vessel



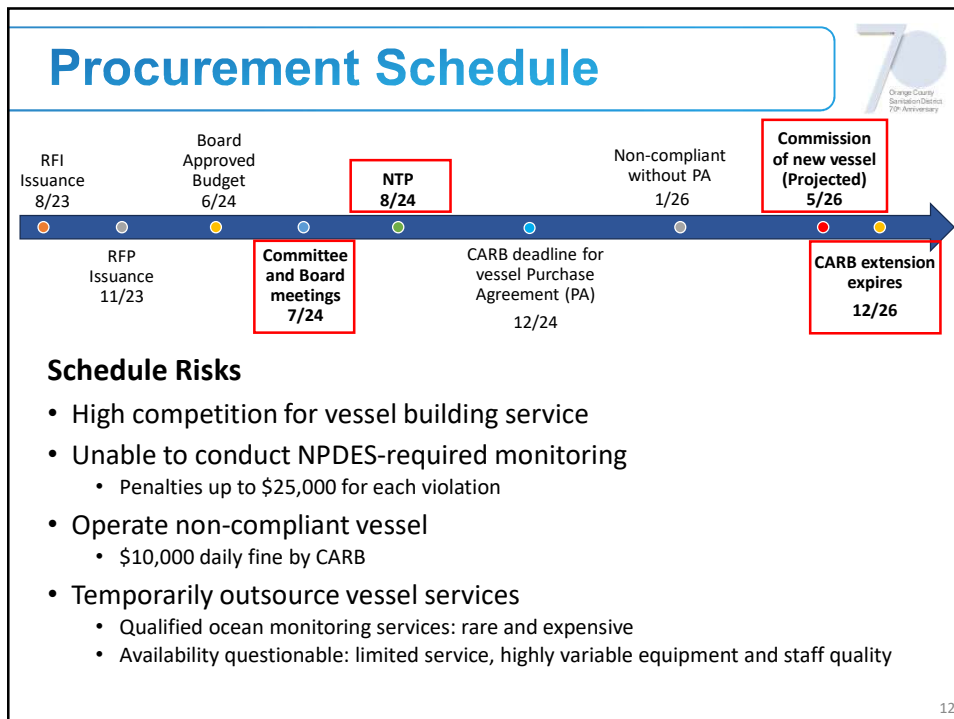
- ✔ CARB-compliant
- ✔ 65 feet long
- ✔ 25 feet wide
- ✔ Aluminum
- ✔ Catamaran design
- ✔ Plug-in hybrid system
- ✔ 30 years of estimated useful life

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End Tie for Replacement Vessel


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Retiring M/V Nerissa

CARB requirements: Cannot sell, purchase, offer for sale, lease, rent, import, or otherwise acquire a new or in-use diesel engine intended to operate in California.

Options

- Donate
- Auction
- Surrendered Vessel Program
- Salvage for parts



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