

December 9, 2025

Michael Walker, CEO
STAX Engineering, Inc.
215 West Figueroa Street
Santa Barbara, California 90802
m.walker@staxengineering.com

Dear Michael Walker:

California Air Resources Board (CARB) has reviewed STAX Engineering's (STAX) test plan and design change request for the Xcraft-1 system (STAXbox 1-1 and STAXbox 1-2) to treat emissions from auxiliary boilers on tanker vessels.

The Xcraft-1 system is currently approved under Executive Order (EO) G-25-200 for tanker vessels as a CARB Approved Emissions Control Strategy (CAECS) for compliance with the Control Measure for Ocean-Going Vessels At Berth (title 17, Cal. Code Regs. §§ 93130 et seq.) (2020 At Berth Regulation). Under this EO, STAX is authorized to operate one STAXbox per auxiliary engine, or two STAXboxes simultaneously in dual-train mode to control two auxiliary engines on the same tanker vessel.

On September 12, 2025, STAX submitted a test plan and design change request to modify the EO to allow two STAXboxes to control one auxiliary boiler using a two hose connector (one to two configuration). This connector captures the emissions from one auxiliary boiler and routes the exhaust to two STAXbox trains.

CARB staff reviewed the test plan, provided comments on October 21, 2025, and received a revised version on October 28, 2025.

Approval and Conditions

CARB approves the revised test plan submitted on October 28, 2025, under the requirements of the 2020 At Berth Regulation and CARB's Recommended Emissions Testing Guidelines for Ocean-Going Vessels.

This approval is based on the system description, design, and procedures described in the test plan. No changes to the Xcraft-1 system (STAXbox 1-1 and STAXbox 1-2) are allowed without prior CARB approval.

To receive EO approval for the one to two configuration, STAX must:

- Complete all testing outlined in the approved test plan.

- Submit all test reports to CARB.

Any deviation from the approved test plan without prior CARB approval may result in the application being deemed incomplete or disapproved by CARB's Executive Officer.

Examples of deviations include:

- Testing on additional vessel visits not included in the plan.
- Operating outside the approved system configuration.

The approved test plan is limited to auxiliary boilers using two STAXboxes with the two hose connector to control one auxiliary boiler (one to two configuration). CARB may request results from any additional testing beyond what is described in the plan.

Use of Research Exceptions

Up to **ten** vessel visits conducted under the approved test plan may qualify for the research exception under sections 93130.8(d) or 93130.10(e). These exceptions only apply to testing described in the approved plan and conducted after its approval.

STAX is responsible for:

- Tracking the use of the ten approved research exception visits.
- Providing the approved test plan to each participating vessel.
- Coordinating with vessel operators to ensure they understand the testing and which visit number they represent.

If more than ten visits are needed, STAX must request additional approval from CARB.

Reporting Requirements

All research exception visits must be reported by the terminal operator, vessel operator, and STAX. Specifically:

- **Within 7 days of vessel departure**, STAX must email shorepower@arb.ca.gov with:
 - Vessel type, name, and IMO number
 - Test plan name and CARB approval date
 - Tests performed
 - Number of research exceptions used and remaining

- **Before vessel arrival**, terminal operators must confirm and record the visit's research exception status with CARB and follow all requirements in section 93130.10(e).
- **Within 30 days of vessel departure**, vessel operators must report the visit in their vessel visit report per section 93130.8(d).

Failure to report within 7 days may result in the application being deemed incomplete or disapproved by the Executive Officer.

If you have any questions, please contact Angela Csondes, Manager, Marine Strategies Section, at angela.csondes@arb.ca.gov.

Sincerely,



Bonnie Soriano, Chief, Freight Activity Branch, Transportation and Toxics Division

Attachment: 09_10_2025_STAX CARB one_to_two tanker boiler test plan_rev 2.PDF

cc: Angela Csondes, Section Manager, Marine Strategies Section