

May 20, 2026

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) is issuing the enclosed Executive Order (EO) G-23-294-004 for STAXbox capture and control systems for auxiliary marine diesel engines on container vessels under the 2020 At Berth Regulation, California Code of Regulations, title 17, section 93130.5. EO G-23-294-004 identifies the monitoring, reporting, and record-keeping requirements for approved STAXbox systems and stipulates the approved operating conditions for use of the STAXbox systems. EO G-23-294-003 is hereby superseded and is of no further force and effect.

G-23-294-004 reflects the following changes:

Changes to the CEMS parameters

STAX is required to submit CEMS data to CARB for each visit to verify that emission reduction levels are maintained. Previously, STAX was required to submit CEMS data following the parameters and measurement methods listed in STAX's Test Plan submitted on February 28, 2023. STAX requested to change their required CEMS parameters on April 20, 2025. Following discussion with CARB staff, STAX submitted an updated parameter list on June 4, 2025. G-23-294-004 approves this updated parameter list.

Xcraft-1 genset updates

STAX's February 28, 2023, Test Plan included an outdated make and model of the gensets on the Xcraft-1 barge. The updated make and model of the genset is in the design change Test Plan submitted on May 5, 2025. G-23-294-004 requires that all duplicate equipment be identical to the equipment described in the design change Test Plan, which includes the updated make and model of the gensets.

Removal of STAXbox 8-2 from the approved equipment list

STAXbox 8-2 (Xcraft-8) was previously approved for use on container vessels under EO G-23-294-003; however, STAX requested STAXbox 8-2 be removed from the approved equipment list. As requested by STAX on November 12, 2025, STAXbox 8-2 has been removed from the approved equipment list under G-23-294-004 and may no longer be used for compliance with the 2020 At Berth Regulation. To use STAXbox 8-2 on container vessels in the future, STAX will need to reapply and request that this system be added to the EO.

Approval for the Xcraft-1 (STAXbox 1-1 & 1-2) dual train system

On December 22, 2024, STAX submitted a Test Plan requesting a design change to allow operation of two STAXbox systems simultaneously on ro-ro vessels operating two auxiliary engines, where each STAXbox controls one engine exhaust simultaneously ("dual train system"). Emissions testing was conducted operating the Xcraft-1 (STAXbox 1-1 & STAXbox 1-2) dual train system, and STAX submitted a test report on May 15, 2025, with additional data submitted on June 6, 2025, and July 7, 2025. On September 29, 2025, CARB issued EO G-24-054-003 allowing dual train operation on ro-ro vessels.

STAX submitted a request to extend the approved dual train operation to container vessels on October 27, 2025.

We are pleased to inform you that we have approved the request to allow dual train operation on container vessels and have updated EO G-23-294-004 to reflect the requested design change.

New In-Use Compliance Flexibility for Auxiliary Engines Across Vessel Types

EO G-23-294-004 now allows more flexibility for in-use compliance testing when a system is approved for multiple vessel types. If a system is approved for auxiliary engine use on more than one vessel type (such as container, ro-ro, or tanker vessels), the required in-use compliance testing only needs to be done on one vessel type. Any of the approved vessel types may be used for the testing, as long as all in-use compliance deadlines are met. This change helps avoid repeating the same testing on different vessel types while still ensuring emissions controls are properly verified.

CAECS Auxiliary Generator Renewable Diesel Carbon Intensity Limit

EO G-23-294-004 also reflects an increase in the carbon intensity limit from 20.1 to 26.99 grams of carbon dioxide equivalent per megajoule of fuel (g CO₂e/MJ) for the renewable diesel used in the STAXbox auxiliary generators. This is to address an error CARB staff discovered with the previous calculation.

Approval Duration

STAX may operate under the terms specified in the EO, for STAXbox 1-1 and any duplicates included in this EO, as a CARB Approved Emission Control Strategy (CAECS) for five years from the date when the STAXbox 1-1 was approved (December 4, 2023) before needing to apply for an extension, as specified in section 93130.5(i)(1) of the 2020 At Berth Regulation.

Duplicate Systems

For a future duplicate system(s) to be added as approved equipment on an EO, STAX will again need to submit information confirming that there are no modifications to design or operation for a future system(s) as compared to the existing approved equipment. Duplicate

equipment must be identical to the STAXbox 1-1 (single train system) or the STAXbox 1-1 and STAXbox 1-2 (dual train system).

The Executive Officer may revoke the EO, or approval of any or all STAXbox system(s) listed as Approved Equipment in Attachment 1 of the EO, if the system fails to demonstrate that the expected emissions reductions are being achieved or if the STAXbox design or approved operating parameters are changed without prior notification and approval by the Executive Officer.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Bonnie Soriano".

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

Attachment: G-23-294-004

cc: Angela Csondes, Section Manager, Marine Strategies Section