February 17, 2026

Mr. Nick Tonsich
Clean Air Engineering – Maritime, Inc.
2500 Via Cabrillo Marina, Suite 300
San Pedro, California 90731
ntonsich@caemaritime.com

Dear Mr. Tonsich:

On December 1, 2021, Clean Air Engineering – Maritime (CAEM) submitted an Innovative Concept Application (IC Application) as a potential compliance pathway for meeting the requirements of the California Air Resources Board's (CARB) 2020 Control Measure for Ocean-Going Vessels At Berth (2020 At Berth Regulation) pursuant to California Code of Regulations, title 17, section 93130.17.

As requested by CARB in a letter dated July 14, 2022, CAEM revised its Application on August 19, 2022, to include minimum information required for Innovative Concept applications as described in section 93130.17(b)(1). As requested by CARB in a letter dated February 12, 2024, CAEM again revised its Application on March 13, 2024, to include additional information on reporting and recordkeeping as described in section 93130.17(b)(1)(D) and (d)(2). CAEM provided a final version of the Application on October 15, 2024. CAEM provided additional updates to the CAEM IC Reporting Template on October 24, 2024, December 5, 2024, and February 3, 2025. CARB staff approved CAEM's METS-3 as a CARB approved emission control strategy (CAECS) for container and roll-on/roll-off vessels on June 3, 2025 (Executive Order G-25-096 and G-25-097), and for tanker vessels on June 18, 2025 (Executive Order G-25-098). These approvals established the equipment necessary for the ICs. CARB staff met with CAEM to discuss finalizing the ICs on November 4, 2025, and CAEM provided a final version of the CAEM IC Reporting Template on February 9, 2026.

CARB staff have reviewed CAEM's ICs and the sub-concepts (IC-1 through IC-6) submitted as part of CAEM's application. IC-1 through IC-6 are sub-concepts that employ the use of a capture and control system for early compliance with the 2020 At Berth Regulation and for reducing emissions from currently unregulated vessel operations.

- IC-1 seeks to reduce emissions from tanker vessels at Port of Los Angeles (POLA) and/or Port of Long Beach (POLB) through use of a (CAECS) for early compliance with the 2020 At Berth Regulation.
- IC-2 seeks to reduce emissions from tanker vessels at all California ports, other than POLA and/or POLB, through use of a CAECS for early compliance with the 2020 At Berth Regulation.
- IC-3 seeks to reduce emissions from roll-on/roll-off vessels at all California ports through use of a CAECS for early compliance with the 2020 At Berth Regulation.

- IC-4 seeks to reduce emissions from bulk liquid barges at all California ports through use of a CAECS
- IC-5 seeks to reduce emissions from bulk and general cargo vessels at all southern California ports through use of a CAECS while at berth
- IC-6 seeks to reduce emissions from container vessels at anchor near Southern California ports through use of a CAECS.

Pursuant to section 93130.17(b)(4) of the 2020 At Berth Regulation, CARB grants CAEM Executive Order G-24-327 approving IC-1, IC-2, and IC-3.

Under IC-1, IC-2, and IC-3, CAEM can claim emissions reductions for the use of a capture and control system as specified under the Executive Order:

- IC-1 and IC-3 can claim early emissions reductions from January 1, 2023, until December 31, 2024. The credits generated may be used during the first compliance period until December 31, 2029.
- IC-2 can claim early emissions reductions from January 1, 2023, until December 31, 2026. The credits generated may be used during the first compliance period until December 31, 2029.

Please note that the use of a capture and control system under IC-1, IC-2, and IC-3 may not be extended for another compliance period beyond their respective end dates, as the 2020 At Berth Regulation specifies that the sources to be controlled are subject to the regulation requirements.

IC-4, IC-5, and IC-6 are still under review. CARB encourages CAEM developing capture and control systems for early compliance and for use on sources outside of the 2020 At Berth Regulation. Before approving these IC's, CAEM must have a CARB approved test plan for these sources. Any capture and control system to be used under the ICs must first receive CARB approval as an emission control strategy as described in section 93130.5(d).

In closing, we appreciate the opportunity to work with CAEM in its efforts to implement Innovative Concepts to meet the requirements of the 2020 At Berth Regulation. If you have any questions, please contact Angela Csondes, Manager, Marine Strategies Section at *angela.csondes@arb.ca.gov*. In addition, please feel free to contact Sam Bailey, Air Pollution Specialist, Marine Strategies Section at *samuel.bailey@arb.ca.gov*.

Sincerely,

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

Attachment: Executive Order G-24-327

cc: Angela Csondes, Manager, Marine Strategies Section

Sam Bailey, Air Pollution Specialist, Marine Strategies Section

State of California
AIR RESOURCES BOARD

Executive Order G-24-327

CARB approval of Clean Air Engineering - Maritime's Innovative Concepts for compliance with the Control Measure for Ocean-Going Vessels At Berth

WHEREAS August 27, 2020, the California Air Resource Board (CARB) adopted the Control Measure for Ocean-Going Vessels (OGV) At Berth, California Code of Regulations, sections 93130 - 93130.22 (2020 At Berth Regulation), which establishes requirements for ocean-going vessels at berth in a California port to reduce oxides of nitrogen (NOx), diesel particulate matter (PM), and reactive organic gases (ROG) emissions from auxiliary engines;

WHEREAS section 93130.17 of the 2020 At Berth Regulation allows regulated entities to incorporate an Innovative Concept (IC) to reduce emissions from sources in and around the regulated port or marine terminal at a level equal or greater to what would be achieved by reducing emissions from vessels;

WHEREAS an IC must meet the general requirements specified in section 93130.17(a);

WHEREAS applications for an IC must contain the information specified in section 93130.17(b)(1);

WHEREAS Clean Air Engineering- Maritime (CAEM) submitted an Innovative Concept Application (IC Application) to CARB on December 1, 2021, which included multiple separate and distinct sub-concepts for consideration;

WHEREAS CAEM develops and operates emissions capture and control systems for OGV as a CARB-approved emission control strategy (CAECS);

WHEREAS the strategy of Innovative Concept 1 (IC-1) is to reduce emissions from tanker vessels visiting a terminal at the Port of Los Angeles (POLA) or Port of Long Beach (POLB) by using CAEM's CAECS before the beginning of compliance specified in sections 93130.7(b) and 93130.7(c);

WHEREAS the strategy of IC-2 is to reduce emissions from tanker vessels visiting a terminal at any California port, other than the POLA/POLB, by using CAEM's CAECS before the beginning of compliance specified in sections 93130.7(b) and 93130.7(c);

WHEREAS the strategy of IC-3 is to reduce emissions from roll-on/roll-off vessels visiting a terminal at any California port by using CAEM's CAECS before the beginning of compliance specified in section 93130.7(b);

WHEREAS CARB staff reviewed the IC Application and all sub-concepts, including strategies IC-1, IC-2, and IC-3, and determined they meet the requirements specified in section 93130.17(b)(3);

WHEREAS this Executive Order does not constitute an air pollution or land use permit. All ICs must fully comply with applicable laws, ordinances, regulations and standards;

NOW, THEREFORE, IT IS ORDERED that CAEM's IC Application be approved for sub-concepts IC-1, IC-2, and IC-3, for use in accruing emission reductions to offset vessel emissions to demonstrate compliance with the 2020 At Berth Regulation;

BE IT FURTHER ORDERED that CAEM shall comply with the following requirements relating to the sub-concepts:

Operational Requirements for All Sub-concepts (IC-1, IC-2, and IC-3)

CAEM shall not begin use of an IC sub-concept until receiving an Executive Order from CARB for approval to operate their CAECS on the vessel type specified in the sub-concept. This includes meeting the emission reductions requirements of 93130.5(d) and following the application process as specified in 93130.5(e). CAEM must demonstrate that the CAECS to be used will reduce emissions below the emission rate limits specified in 93130.5(d) for the vessel type specified in the sub-concept;

Monitoring and Reporting Requirements for All Sub-concepts

CAEM shall maintain records of operation for any vessel visit using an IC under this executive order, including the hours of capture and control service duration and average auxiliary engine power and boiler fuel usage, when applicable, while under the scope of an IC;

CAEM shall report to CARB annually, by February 1, for the previous year, for each applicable IC sub-concept based on the requirements in section 93130.17(d) using the attached "CAEM IC Reporting Template";

By July 1, 2026, CAEM shall also submit the annual reports between January 1, 2023 and December 31, 2025;

All parties that operate or use CAEM's CAECS for an IC sub-concept must adhere to the requirements specified in the Executive Order for the CAECS, including vessel type and approved operating conditions;

Emissions reductions associated with the use of a CAECS as an IC under this Executive Order shall be calculated using the default emission rates for each pollutant, the average auxiliary engine power of the vessel during the visit, and boiler fuel usage during the visit, if applicable, as shown below:

Calculated Boiler Power (kW) =
(boiler fuel usage (gal) * fuel density (kg/gal)) / ((0.290 kg/kWhr) * visit duration (hr))

Calculated Aux. Engine NOx Emission Rate (g/hr) =
avg. aux. engine power (kW) * default aux. engine NOx Tier emission rate[1] (g/kWhr)

Total NOx Emission Rate (g/hr) =
Calculated Aux. Engine NOx Emission Rate + [Calculated Boiler Power (kW) * (2.0 g/kWhr)]

Calculated Aux. Engine Emission Rate (PM or ROG) (g/hr) =
avg. aux. engine power (kW) * default emission rate[2] (g/kWhr)

Calculated Boiler Emission Rate (PM or ROG) (g/hr) =
Calculated Boiler Power (kW) * default emission rate[2] (g/kWhr)

Emission Reduction (%) =
(default emission rate (g/kWhr) – required emission rate (g/kWhr))/default emission rate (g/kWhr)

Emissions Reductions per source per pollutant (lbs) =
(Total Emission Rate (for each pollutant) (g/hr) * (CAECS service duration (hr)) * Emission Reduction (%) / (453.6 g/lb)

[1] Default emission rates for NOx for auxiliary engines shall be determined using the specified EPA NOx Tier emission rate for the vessel being serviced.

[2] Default emission rates for PM and ROG are specified in sections 93130.5(d)(1) and (2).

Applicability of IC-1

The reduction of emissions from tanker vessels using CAEM's CAECS under IC-1 may generate emission reductions from January 1, 2023, until December 31, 2024, before the 2020 At Berth Regulation specifies the beginning of compliance for tanker vessels at POLA/POLB started January 1, 2025;

CAEM may claim emission credits for vessel visits that occurred during testing of the capture and control system prior to December 31, 2024. CAEM must demonstrate that the emissions controlled met the requirements of 93130.5(d) to be eligible for IC use and the visit met all approved operating conditions of their CAECS Executive Order;

Applicability of IC-2

The reduction of emissions from tanker vessels using CAEM's CAECS at ports other than POLA/POLB under IC-2 may generate emission reductions from January 1, 2023, until December 31, 2026, when the 2020 At Berth Regulation specifies the beginning of compliance for tanker vessels at all California ports other than POLA/POLB;

CAEM may claim emission credits for vessel visits that occurred during testing prior to a CAECS Executive Order. CAEM must demonstrate that the emissions controlled met the requirements of 93130.5(d) to be eligible for IC use and the visit met all approved operating conditions of their CAECS Executive Order;

Applicability of IC-3

The reduction of emissions from roll-on/roll-off vessels using CAEM's CAECS under IC-3 may generate emission reductions from January 1, 2023, until December 31, 2024, when the 2020 At Berth Regulation specifies the beginning of compliance for roll-on/roll-off vessels at all California ports;

CAEM may claim emission credits for vessel visits that occurred during testing prior to a CAECS Executive Order. CAEM must demonstrate that the emissions controlled met the requirements of 93130.5(d) to be eligible for IC use and the visit met all approved operating conditions of their CAECS Executive Order;

BE IT FURTHER ORDERED that CAEM shall comply with the following requirements relating to this executive order and all sub-concepts:

General IC Reporting and Recordkeeping Requirements

A vessel operator or terminal operator using an approved CAEM IC to comply with the 2020 At Berth Regulation will report the use of the IC in the vessel compliance checklist from Section 93130.7(e)(4)(U) or terminal compliance checklist from Section 93130.9(d)(5)(P) due to CARB within 30 days of a vessel's departure;

CAEM will determine the amount of emissions from all vessel visits that used an IC toward compliance following Section 93130.17(d)(1) using the attached "CAEM IC Reporting Template";

CAEM will determine and document the amount of emissions reductions achieved with the IC in excess of the emissions from vessel visits that used an IC toward compliance following Section 93130.17(d)(2);

General IC Requirements

The IC is valid for the first compliance period between January 1, 2025, and December 31, 2029, unless extended by the Executive Officer for another compliance period of up to five years per Section 93130.17(a)(7);

The use of a capture and control system under IC-1, IC-2, and IC-3 may not be extended for another compliance period beyond their respective end dates, as the 2020 At Berth Regulation specifies that the sources to be controlled are subject to the regulation requirements;

Emission reductions achieved under an IC before the first compliance period can be used to offset emissions of vessels complying with this IC for the first compliance period as specified in Section 93130.17(a)(11), or until the date the emissions

reductions are no longer early or in excess of any other state, federal or international rule, regulation, statute, or any other legal requirement (including any requirement under a Memorandum of Understanding with a government entity);

Emission reductions achieved under an IC must be used to offset emissions of vessel visits that occur at the same port or marine terminal or overwater within three nautical miles of the port or marine terminal as described in Section 93130.17(a)(4);

Vessel visits made under an IC are not counted toward a fleet's Vessel Incident Events (VIE) or terminal operator's Terminal Incident Events (TIE) in section 93130.11, and are ineligible for using the remediation fund provisions in section 93130.15;

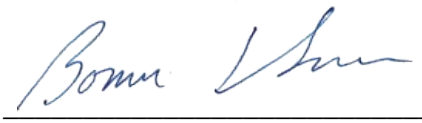
No changes are permitted to any sub-concept of this IC without advanced approval from CARB;

The sub-concepts in this IC are distinct and severable, and as such, decisions to revoke or modify approval for a specific sub-concept may not necessarily result in revocation of the entire IC or other sub-concepts within the IC;

The Executive Officer may revoke this IC, or a sub-concept, for any of the reasons specified in section 93130.17(f);

This Executive Order does not relieve CAEM from complying with all other applicable regulations.

Executed at Sacramento, California, this 17th day of February, 2026



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

Attachment 1: CAEM IC Reporting Template