

December 16, 2024

Blaine Gilles  
AERAS Technologies, LLC  
192 North Marina Drive  
Long Beach, California 90803  
[blaine@aeras-technologies.com](mailto:blaine@aeras-technologies.com)

Dear Blaine Gilles:

California Air Resources Board (CARB) staff have reviewed AERAS's "AERAS-1 SYSTEM RORO/CONRO TEST PLAN" (Test Plan). The AERAS-1 system was granted Executive Order (EO) G-23-293 on December 4, 2023, to treat emissions from container vessel auxiliary engines. AERAS is now seeking to test the AERAS-1 system on auto carrier/roll-on roll-off (ro-ro) vessels and combined container/ro-ro (con-ro) vessels. Con-ro vessels fall under the definition of ro-ro vessel specified in section 93130.2(b)(69) of the 2020 At Berth Regulation.

AERAS initially submitted their Test Plan on October 18, 2024. CARB staff provided comments on November 6, 2024. To address CARB staff's comments, AERAS resubmitted their Test Plan (Revision 1) on November 15, 2024. CARB staff provided additional comments on November 22, 2024. To address CARB staff's comments, AERAS revised and resubmitted their Test Plan (Revision 2, attached) on November 27, 2024.

### **Stipulations for CARB Approval of AERAS's Test Plan**

Based on CARB staff's review, and pursuant to Health and Safety Code section 93130.5(f) of the 2020 At Berth Regulation, AERAS's Test Plan (Revision 2) is hereby approved in accordance with testing requirements under the 2020 At Berth Regulation and the CARB Recommended Emissions Testing Guidelines for Ocean Going Vessels.

CARB approval is based on the system description, design, and operational procedures outlined in the approved Test Plan (Revision 2). No changes or modifications are permitted to the AERAS-1 system without prior CARB approval. In order to receive EO approval to treat emissions from either ro-ro or con-ro vessels, AERAS will need to complete all testing outlined in their Test Plan and provide all reports generated from these tests.

The application requirements that AERAS must meet to submit test results are outlined in section 93130.5 of the 2020 At Berth Regulation. Per section 93130.5(i) of the 2020 At Berth Regulation, if testing deviates from the approved Test Plan (Revision 2) without prior CARB approval, the Executive Officer may deem the application incomplete or disapprove the application. An example of deviating from the Test Plan includes conducting testing on additional vessel visits beyond those approved in the Test Plan and claiming such visits qualify for the research exception set forth in section 93130.8(d) or 93130.10(e) of the 2020 At Berth Regulation. CARB reserves the right to request the results of any testing conducted beyond the testing described in the approved Test Plan.

To complete the testing outlined in the Test Plan, a total of eight vessel visits that coincide with the tests specified in the approved Test Plan (Revision 2) may count as a compliant visit under the research exceptions in section 93130.8(d) or 93130.10(e) of the 2020 At Berth Regulation; however, these sections only apply for testing identified in the Test Plan and conducted after the date of this letter when the Request was approved. All testing must adhere to the system description, design, and operational procedures outlined in the approved Test Plan (Revision 2).

AERAS is responsible for tracking the usage of the eight approved vessel visits that may utilize the research exception, and AERAS must provide a copy of the approved Test Plan (Revision 2) to each vessel participating in the research. AERAS is also responsible for communicating with the vessel operator to ensure the operator knows what tests are being performed during the visit and which number out of the eight approved visits the vessel is participating in. As noted above, any tests completed in excess of those approved in the Request would not be eligible for the research exception to compliance with the 2020 At Berth Regulation set forth in section 93130.8(d) or 93130.10(e). If more than eight vessel visits are needed to complete all the testing outlined in the approved Test Plan, AERAS must seek additional approval from CARB.

A terminal must confirm and record a visit's research exception status with CARB prior to arrival, per section 93130.10(e)(2). AERAS should remind their customers that terminals have this obligation for any visits that utilize research exceptions.

All testing under the approved Test Plan (Revision 2) must be conducted in accordance with the approved operating conditions in EO G-23-293. As requested, AERAS may use previously approved research exception visits under AERAS' "Request to Amend AERAS Demonstration Plan" (Expansion Test Plan) approved on March 29, 2024, as needed for ro-ro vessel visits that exceed the approved operating conditions for kW output and/or exhaust flow rate in EO G-23-293 but fall within the requested test operating conditions of the Expansion Test Plan. Although the Expansion Test Plan was intended for container vessel testing, CARB staff are satisfied with this approach considering that the engines on ro-ro vessels and container vessels are similar, and both vessel types operate at similar loads and use similar engine technology. As required under the approved Expansion Test Plan, AERAS must conduct additional source tests to demonstrate that the AERAS-1 system is capable of meeting the emissions reduction requirements for vessels with higher kW output and/or exhaust flow rate than specified in the existing approved operating conditions under EO G-23-293.

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If you have any questions, please contact Angela Csondes, Manager, Marine Strategies Section, at [angela.csondes@arb.ca.gov](mailto: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 1: 2411115 AERAS RoRo Test Plan -Rev2.pdf

cc: Angela Csondes, Section Manager, Marine Strategies Section