

March 7, 2025

Andrew Lu, Executive President  
4G Management, Inc.  
2018 Pacific Coast Hwy.  
Lomita, California 90717  
[andrew@4gmanagement.com](mailto:andrew@4gmanagement.com)

Dear Andrew Lu:

California Air Resources Board (CARB) staff have reviewed 4G Management's (4G) "MECCS-1 V4 RORO Test Plan" (Test Plan). The Maritime Emissions Capture and Control System -1 (MECCS-1) was previously granted approval dated on May 16, 2024, to test on container vessels. 4G is now seeking to test the MECCS-1 system on auto carrier/roll-on roll-off (ro-ro) vessels.

On April 30, 2024, 4G submitted a Test Plan to obtain approval for the barge-based MECCS-1 system to be used as a CARB Approved Emissions Control Strategy (CAECS) for compliance with the 2020 Control Measure for Ocean-Going Vessels At Berth (2020 At Berth Regulation), tit. 17, Cal. Code Regs. §§ 93130 *et seq.* CARB staff reviewed the Test Plan and provided written comments to 4G on July 12, 2024, September 30, 2024, and November 26, 2024. To address CARB staff's comments, 4G staff revised and resubmitted the Test Plan on August 29, 2024, October 11, 2024, December 16, 2024, and January 8, 2025 (Version 5).

### **Stipulations for CARB Approval of 4G's Request**

Based on CARB staff's review, and pursuant to Health and Safety Code section 93130.5(f) of the 2020 At Berth Regulation, 4G's Test Plan (Version 5) is hereby approved in accordance with testing requirements under section 93130.5 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 (Version 5). No changes or modifications are permitted to the MECCS-1 system without prior CARB approval. In order to receive Executive Order (EO) approval to treat emissions from ro-ro vessel auxiliary engines, 4G will need to complete all testing outlined in their Test Plan (Version 5) and provide all reports generated from these tests.

The application requirements that 4G 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 (Version 5) 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 (Version 5).

To complete the testing outlined in the Test Plan (Version 5), a total of 12 vessel visits as specified in the approved Test Plan (Version 5) 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 (Version 5).

4G is responsible for tracking the usage of the 12 approved vessel visits that may utilize the research exception, and 4G must provide a copy of the approved Test Plan (Version 5) to each vessel participating in the research. 4G 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 12 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 12 vessel visits are needed to complete all the testing outlined in the approved Test Plan, 4G must seek additional approval from CARB.

The terminal operator, vessel operator, and CAECS operator (4G) all must report research exception visits to CARB.

- Within seven (7) days after vessel departure, the CAECS operator (4G) must report the research exception visit to CARB via email at [shorepower@arb.ca.gov](mailto:shorepower@arb.ca.gov). In the report, 4G must include:
  - the vessel type, name, and IMO number,
  - name of the test plan and date of CARB approval,
  - what tests were performed during the visit,
  - the number of approved research exceptions used, and
  - how many research exceptions remain available.
- Before vessel arrival, terminal operators must confirm and record a visit's research exception status with CARB, and follow all other requirements in Section 93130.10(e).
- Within 30 days of vessel departure, the vessel operator must report the research exception visit to CARB in the vessel visit report, and follow all other requirements in Section 93130.8(d).

Andrew Lu  
March 7, 2025  
Page 3

The Executive Officer may deem the application incomplete or disapprove the application if 4G fails to report the use of a research exception for testing within seven days of the vessel's departure.

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: [MECCS-1 RORO V5 Test Plan 01.08.2025\\_ FINAL.pdf](#)

cc: Angela Csondes, Section Manager, Marine Strategies Section