Reference No. CLC-2025-003

January 21, 2025

Mr. Dan Bowerson
Alliance for Automotive Innovation
1050 K Street, NW, 6th Floor
Washington, DC 20001

Dear Mr. Bowerson,

This letter is in response to requests California Air Resources Board (CARB or the Board) staff have received from the Alliance for Automotive Innovation (Alliance) and individual automobile manufacturers for flexibility to address challenges implementing specific requirements of CARB's Advanced Clean Cars (ACC) II zero-emission vehicle (ZEV) regulations codified in various sections within Title 13, California Code of Regulations (CCR).[1]

CARB staff are in the process of developing amendments to the ACC II regulations for proposal to the Board that would, among other things, provide flexibilities or make other regulatory revisions to address many of the challenges manufacturers have raised. CARB staff are working to bring these amendments to the Board in 2025. In all cases of noncompliance under the Health and Safety Code, CARB exercises broad discretion on whether to take enforcement action when considering the various factors at play (e.g., Health & Saf. Code § 43024). Until the ACC II amendments are finalized, this letter provides guidance on Health and Safety Code factors CARB will consider in exercising enforcement discretion for ACC II provisions related to data standardization, battery labeling, and representative range and usable battery energy (UBE) testing of test groups for the 2026 and 2027 model years.

Manufacturers have raised additional issues regarding ACC II certification and implementation that go beyond the scope of this letter and will require further discussion. CARB will enforce all provisions not described below for the 2026 and 2027 model years adopted in the CCR but is committed to ongoing collaboration with manufacturers to certify vehicles and develop workable solutions that are consistent with the regulatory text.

[1] All subsequent section references in this letter refer to sections in Title 13 of the CCR.

Section **1962.4: Zero-Emission Vehicle Requirements for 2026 and Subsequent Model Year Passenger Cars and Light-Duty Trucks**

Determination of Test Group Certification Ranges

Section 1962.4(i) establishes certification requirements for new ZEVs and plug-in hybrid electric vehicles (PHEV). Under Section 1962.4(i)(3)(D), manufacturers must provide the unique range values applicable to individual vehicle models, sub-configurations, or other vehicle variants. CARB understands that testing every sub-configuration or variant in a test group in a timeframe consistent with Part I certification application submission prior to CARB issuing an executive order may be burdensome and is not congruent with the timeline by which the range of vehicles and subvariants are currently tested. To alleviate this potential mismatch in timing and testing concerns related to obtaining certification ranges, CARB will consider accepting range values based on testing of two vehicles that result in the lowest and highest certification range values and analytically derived certification range values for the remaining vehicles in that test group in their Part I certification application, so long as those analytically derived ranges are updated or confirmed with testing results in their Part II application and the methodology for analytically deriving the certification ranges are provided to the CARB certification staff prior to the submission of their Part I certification application.

Section 1962.5: Data Standardization Requirements for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-in Hybrid Electric Vehicles

Updated SAE Publications Incorporated by Reference in the Data Standardization Requirements

Section 1962.5 incorporates by reference three SAE standards documents that describe how to implement some of the requirements in the section. Since CARB adopted ACC II in 2022, SAE committees have continued their work on those standards and have made meaningful updates to better reflect and include important guidance on implementing the requirements of Section 1962.5, creating new versions of the reference materials. CARB will consider accepting the use of the more recently published versions of the three identified standards as meeting the requirements of the referenced versions:

- SAE J1979-3, “E/E Diagnostic Test Modes: Zero Emission Vehicle Propulsion Systems on UDS (ZEVonUDS)”, October 2023 (SAE J1979-3)
- SAE J1979-DA, “Digital Annex of E/E Diagnostic Test Modes”, April 2024 (SAE J1979-DA)

- SAE J2012DA, "Digital Annex of Diagnostic Trouble Code Definitions and Failure Type Byte Definitions", March 2023 (SAE J2012)

In-vehicle Display of Battery-Electric Vehicle (BEV) Data Standardization Parameters

Section 1962.5 requires manufacturers to standardize a variety of data parameters in accordance with the SAE documents referenced above. Section 1962.5(c)(6) requires that manufacturers display the battery state of health (SOH) and charge rate parameters to vehicle drivers with the same resolution as the underlying data parameter. Manufacturers have noted that SAE J1979-DA, incorporated by reference into Section 1962.5, requires both the SOH and charge rate parameters to be rounded to the nearest tenth, which may not be easily readable to vehicle users. CARB will therefore consider, when evaluating compliance, the relative role of clause of Section1962.5(c)(6) that would require "the same resolution" to be displayed to the driver in the overall context of meeting the goals and requirements of the ACC II program. CARB construes the requirements to be met if the parameters are rounded to the nearest whole number, which makes the values more easily readable by drivers.

Section1962.6: Battery Labeling Requirements

Section 1962.6 establishes requirements for manufacturers to label the batteries for ZEVs, PHEVs, and hybrid electric vehicles to support battery dismantling, recycling, and safe disposal. Manufacturers—particularly those that use suppliers for battery packs or the serviceable units within those battery packs—are facing logistical challenges meeting certain of these requirements. Many manufacturers have also individually requested clarification of many of the same portions of these requirements.

General Battery Labeling Provisions

To the extent manufacturers develop distinct labels for the vehicle, battery, and module, the following provisions in this section meet the intent for each label under section 1962.6:

- Per Section1962.6(b)(1)(C), manufacturers are required to list the rated capacity of each serviceable unit. Manufacturers have raised questions over the unit (ampere hours or kilowatt hours) to be displayed. CARB will recognize capacity to be listed in ampere hours or in kilowatt hours under the regulation.
- Per Section1962.4(i)(3)(N), manufacturers are required to submit a sample data repository website pursuant to Section1962.6 at the time of their Part I certification application. Manufacturers have raised concerns about having this data repository website live at the time of certification. Model year 2026 being the first year of such requirements, CARB will accept samples of the data repository website in the Part I certification application and will consider the circumstances when evaluating compliance. CARB encourages manufacturers to make the website publicly available prior to the manufacturer's submission of its 2027 model year certification

applications and no later than January 1, 2027, and to provide CARB a link to the site when available.

Non-Identical Battery Labels

Under Section 1962.6(b)(2)(A), manufacturers must affix the same battery label as specified in Section1962.6(b)(1) on the vehicle, the exterior of the battery, and each module. Manufacturers have raised issues with the requirement that these labels be identical, noting that certain parameters may meaningfully differ across the vehicle, pack, and module and cause logistical challenges in working with suppliers to apply the same label. Therefore, CARB will take this into consideration when evaluating compliance, including if a manufacturer affixes different labels for the vehicle, battery pack, and module. CARB will also consider whether battery labels include supplemental information beyond what is prescribed in Section1962.6, whether it cross references the required language, and whether the reader can easily identify the information required by Section1962.6.

Vehicle Label

According to Section1962.6(b)(2)(B), a battery label must be attached to the engine compartment or in the driver-side doorjamb if the vehicle does not have an engine compartment. This battery label will be referred to as the "vehicle label." When evaluating compliance, CARB will consider the following factors that are intended to meet the requirements of section 1962.6.

- In lieu of attaching the vehicle label in the engine compartment as specified in Section1962.6(b)(2)(B), whether a manufacturer affixed the label to the driver's-side doorjamb, even if the vehicle has an engine compartment, as to not confuse dismantlers who may not know to look in the space of the vehicle what would have contained an engine, as most cargo carrying compartments are not typical for labeling.
- For vehicle labels, for purposes of compliance with Section1962.6(b)(1)(A), whether the manufacturer identifier code specified in SAE J2984 "Chemical Identification of Transportation Batteries for Recycling" SEP 2021, is either the entity who assembled the vehicle or the entity who can supply the safety data sheets for the entire battery system.
- For vehicle labels, for purposes of compliance with Section1962.6(b)(1)(A), whether the date of manufacture as specified in SAE J2984 "Chemical Identification of Transportation Batteries for Recycling" SEP 2021, is either the battery pack assembly date or the vehicle assembly date.
- For vehicle labels, under Section1962.6(b)(1)(B), which requires minimum voltage (V_{min}) to be listed on the label, whether the manufacturer chooses to list $Vmin_0$, where $Vmin_0$ is the minimum voltage of the entire battery system. For instance, if there is more than one battery pack in series, $Vmin_0$ would be the sum of the $Vmin_0$ of each battery pack. In addition, in the case where there is active reconfiguration of battery

pack voltages (for example, the vehicle drives on one voltage but charges at different voltage), CARB will consider accepting $Vmin_0$ as the minimum voltage of the entire battery system in its normal operating state. For example, in the case where the vehicle drives on 400V and charges at 800V, $Vmin_0$ is 400V. If the manufacturer chooses to list $Vmin_{0,cell}$, CARB will consider accepting $Vmin_{0,cell}$ to be the minimum voltage of the cell in the entire battery pack system.

- For vehicle labels, CARB will accept the listed rated capacity in ampere-hour or kilowatt-hour under Section1962.6(b)(1)(C).

Battery Pack Label

Per Section1962.6(b)(2)(A), a label shall be attached to the exterior of the battery such that it is visible and accessible when the battery is removed from the vehicle in accordance with the manufacturer's recommended procedures for removal. This battery label will be referred to as the "battery pack label." When evaluating compliance, CARB will consider the following factors that are intended to meet the requirements of section 1962.6.

- For the battery pack label, for purposes of compliance with Section1962.6(b)(1)(A), CARB will accept the manufacturer identifier code specified in SAE J2984 "Chemical Identification of Transportation Batteries for Recycling" SEP 2021, as the entity who assembled the battery pack or the entity who can supply the safety data sheets for the battery pack.
- For the battery pack label, for purposes of compliance with Section1962.6(b)(1)(A), CARB will accept the date of manufacture as specified in SAE J2984 "Chemical Identification of Transportation Batteries for Recycling" SEP 2021, to be the battery pack assembly date.
- For battery pack label, CARB will accept the listed rated capacity in ampere-hour or kilowatt-hour under Section1962.6(b)(1)(C).

Module Label

Per Section1962.6(b)(2)(A), for batteries that are designed such that portions of the battery pack may be separately removed for service or repair, a label shall also be attached to each portion. This battery label will be referred to as the "module label." When evaluating compliance, CARB will consider the following factors that are intended to meet the requirements of section 1962.6.

- For the module label, for purposes of compliance with Section1962.6(b)(1)(A), CARB will accept the manufacturer identifier code specified in SAE J2984 "Chemical Identification of Transportation Batteries for Recycling" SEP 2021, as the entity who assembled the module or the entity who can supply the safety data sheets for the module
- For the module label, for purposes of compliance with Section1962.6(b)(1)(A), CARB will accept the date of manufacture as specified in SAE J2984 "Chemical

Identification of Transportation Batteries for Recycling" SEP 2021, to be the battery pack assembly date or the module assembly.
- For the module label, CARB will not enforce the portion of Section1962.6(b)(1)(B) to list the $Vmin_{0,cell}$ as the minimum cell voltage of the battery pack, since this may be unknown that the time of manufacture of the battery module.
- For module label, CARB will accept the listed rated capacity in ampere-hour or kilowatt-hour under Section1962.6(b)(1)(C).

California Test Procedures for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-in Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes

Use of Test Data from SAE J1634 version 2017 Testing

The ACC I ZEV test procedure[2] requires manufacturers to use the 2012 version of SAE J1634 "Battery Electric Vehicle Energy Consumption and Range Test Procedure" (J1634_201210) for testing 2025 and prior model year BEVs. For the same model year vehicles, the U.S. Environmental Protection Agency (U.S. EPA) has allowed manufacturers to use the 2017 version of the same test procedure (J1634_201707) in their certification applications and for fuel economy labeling purposes. To help reduce concerns with testing, CARB has accepted test data for those manufacturers that have used J1634_201707 for U.S. EPA's requirements due to negligible differences between J1634_201707 and J1634_201210.

Under the ACC II ZEV test procedures,[3] CARB requires manufacturers to use the 2021 version of SAE J1634 (J1634_202104). Recognizing the concerns of original equipment manufacturers (OEMs), CARB will consider allowing 2025 model year BEV certification data (generated using J1634_201707) to be carried over to 2026 model year vehicle applications.

If you have any questions regarding the discretion being provided for the 2026 and 2027 model years as described in this letter, please contact Bradley Thorne, Manager, On-Road Light-Duty Certification Section at 951-542-3393 or bradley.thorne@arb.ca.gov.

Sincerely,

Robin U. Lang

Robin Lang, Division Chief, Emissions Certification and Compliance Division

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[2] California Exhaust Emission Standards and Test Procedures for 2018 through 2025 Model Year Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes.

[3] California Test Procedures for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-in Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes.

cc:

Shobna Sahni, Branch Chief, Advanced Clean Cars Branch

Bradley Thorne, Manager, On-Road Light-Duty Certification Section