

EV-Related Regulations

1. 1962.3 – EV Charging regulations

a. (c)(3), Charging cord during certification testing

Based on current battery electric vehicle (BEV) owner behavior and increasing availability of public charging for long trips, it is likely that charging cords supplied pursuant §1962.3(c)(3) will be kept at home for home charging use and will not be kept inside the vehicle, except for rare occasions. In light of this anticipated usage of §1962.3(c)(3) charging cords, Auto Innovators' members intend to exclude charging cords from applicable Equivalent Test Weight (ETW) calculations. We seek CARB confirmation that the weight of the charging cord can be excluded from ETW.

2. 1962.4 – ZEV regulations

a. (e)(1)(B) Partial Credit PHEVs (2026-2028) Charging Requirements

This section requires 2026-2028 Partial Credit PHEVs to meet “the criteria identified in Section of (e)(1)(A)1 through (e)(1)(A)6.” Since the charging requirements for PHEVs receiving full-PHEV credits are contained in (e)(1)(A)7, we interpret this to mean the charging requirements in 1962.3 are not required for 2026-2028MY Partial Credit PHEVs meeting the requirements of (e)(1)(B).

b. (e)(2)(A) ZEVs and PHEVs provided for use in community-based clean mobility programs

We appreciate this specific Environmental Justice (EJ) flexibility was extended to allow participation in 2024 and 2025MYs. We understand that 2024 and 2025MY ZEVs and PHEVs participating in this program are not required to meet the requirements in these regulations 1962.4 (e.g., 1962.4(d) or 1962.4(e)(1)). Instead, the 2024 and 2025MY ZEVs and PHEVs will meet the provisions of current ZEV regulations in 1962.2. Nonetheless, these are EJ values that could be banked and counted toward 2026MY requirements and toward the MY2026-2028 minimum EJ cumulative allowance threshold calculations for use of the expanded cumulative Converted ZEV values in ACC II.

c. (c)(1)(C) Calculation of Production Volume

As noted below for 13 CCR 1961.4, there appears to be different definitions of the term “total number of passenger cars and light-duty trucks produced and delivered for sale in California” in this regulation 1962.4 and the Exhaust Emissions regulations 1961.4. The Exhaust regulation excludes all ZEVs by phasing them out 2026-2028, but we understand the ZEV regulation will include these in the “total number of passenger cars and light-duty trucks.” Additionally, the ZEV regulations specify that “a vehicle is counted in the production of the manufacturer that marketed it in California regardless of whether it is produced by a different manufacturer.” The Exhaust regulation is silent on this. This regulation 1962.4 points to the Exhaust regulations for

determining “total number of passengers and light-duty trucks,” so these two regulations are tied together.

We recommend CARB provide a single definition of “total number of passenger cars and light-duty trucks,” probably in the Exhaust Emission regulations to clarify the requirements.

3. 1962.5 – EV Data Standardization Regulations

a. (a) Applicability

Subsection (a) applicability could be read to require all PHEVs to meet this requirement. However, subsection (a)(2) makes it clear that this requirement only applies to “PHEVs certified to earn vehicle values in accordance with title 13, CCR, section 1962.4.” This reading is also reasonable since the only path to this regulation is through 13 CCR 1962.4 and non-credit-generating PHEVs would certify to 13 CCR 1961.4. While this is the only reasonable reading of this regulation, we recommend revising the applicability section (a)(2) as shown below for clarity.

(a) Applicability. The requirements of this section shall apply to light-duty ~~zero-emission vehicles (ZEV) and plug-in hybrid electric vehicles (PHEV)~~ certified to earn vehicle values in accordance with title 13, CCR, section 1962.4, and zero emission vehicles (ZEV) certified for sale in California as follows:

4. 1962.6 – EV Battery Label regulations

a. (b)(1)(B) Minimum Voltage requirement INL/EXT-15-34184 Battery Test Manual

The test manual reference is applicable to battery electric vehicles (BEVs) with range equivalent to 200 miles based on Urban Dynamometer Driving Schedule (UDDS) cycle. For vehicles with less UDDS miles like plug-in hybrid and hybrid vehicles, the minimum voltage should be specified by the manufacturer.

b. (b)(3)(B), QR Code

The section requires label on the battery with a “microQR” to take the technician or dismantler to a website with additional, specified, information about the battery. Unfortunately, microQR codes have a maximum ability of 21 alphanumeric characters at the idea / highest error correction level (18 and 14 characters for lower error correction levels). This could create an unnecessary challenge to create a website link utilizing only 21 alphanumeric characters even after utilizing a paid URL shortening service. For example, the domain of autosinnovate.org/ is 18 alphanumeric characters, leaving only 3 characters for each unique battery digital identifier for the next 20 years.

We do not believe it was CARB’s intent to limit the label to only microQR code and recommend the following non-substantial change.

(B) The digital identifier on the label shall meet the MicroQR **or QR** code requirements of ISO 18004:2015, "Information technology — Automatic identification and data capture techniques — QR Code bar code symbology specification", adopted February 2015, incorporated by reference.

5. 1962.8(a)(2) – EV Battery Warranty regulations

a. Applicability for PHEVs not certified to §1962.4

We understand this regulation applies to BEVs and plug-in hybrid electric vehicles (PHEVs) that certify to Title 13, California Code of Regulations (13 CCR) §1962.4, which is the only regulation that references this regulation. Vehicles that do not certify to §1962.4, will certify under 13 CCR §1961.4 (which does not reference this regulation, §1962.8) and follow the emissions performance and defects warranty requirements starting with 13 CCR §2035. While this is the only reasonable reading of this regulation, we recommend revising the applicability section (a)(2) as shown below for clarity.

~~(1)(2)~~ The requirements for a battery warranty in subsection (c) shall also apply to 2026 and subsequent model year plug-in hybrid electric vehicles certified to earn vehicle values in accordance with title 13, CCR, section 1962.4, for sale in California. Plug-in hybrid electric vehicles are not subject to the requirements

b. Warranty SOH requirement for 2026MY

The SOH requirement is phased in with 40 percent meeting the requirement in 2026MY and 100 percent by 2027MY. The warranty requirements in 13 CCR 1962.8 for the battery appears to be based on the SOH in this section. We understand that for 2026MY vehicles that have not phased into this regulation 1962.5, the SOH evaluation would be based on a manufacturer defined procedure.

6. 1969 – Service Information regulations

a. SAE J2534 references

Currently, the reference to the basic definition of the J2534 version 05.00 API is missing. It should include SAE J2534-1_0500_202201 (January 2022), "Recommended Practice for Pass-Thru Vehicle Programming" for API version 05.00.

This missing document provides the basic API definition for 05.00 version of the API. The other documents currently referenced in Section (A)2. are just extensions to that API and do not include the basic API details. This missing document is the version 05.00 equivalent to the basic 04.04 API definition already referenced in Section A as SAE J2534-1 "Recommended Practice for Pass-Thru Vehicle Programming" December 2004. The 04.04 and 05.00 APIs are slightly different and as such, the details for both versions must be included.

Criteria Emission Related Regulations

1. 1961.2 – 2015-2025MY Exhaust emission regulations

a. (a)(8)(B)1. Interim in-use compliance standards

Under the current Subsection 1961.2 (a)(2)(D)2. *Alternative Phase-in Schedules for the 1 mg/mi Particulate Standard*, a manufacturer may include vehicles that are certified to the 1 mg/mi PM standard prior to model year 2025 as part of its alternative phase-in. Recognizing that some manufacturers have already begun certifying 2023 model year vehicles and have included 2023 model year vehicles as part of their alternative phase-in plan, the 15-notice accurately makes a correction clarifying the alternative phase-in could apply before 2025 model year. Auto Innovators supports this modification.

Under the current Subsection 1961.2 (a)(8)(B)1. *Interim In-Use Compliance Standards*., interim in-use compliance standards apply for the first two model years that a test group is certified to the LEV III standards. To be consistent with the 15-day notice modification clarifying that alternative phase-in of the 1 mg/mi PM standards could begin before 2025 model year, ARB should further clarify that the interim in-use compliance standard of 2 mg/mi PM also applies to vehicles certifying to the 1mg/mi standards before 2025 model year. The subsection should be modified to read “for the 2025 model year or earlier.”

We recognize that the language in 1961.2 has not changed. However, manufacturers are just now (2023MY) certifying the first vehicles to the 1 mg/mile PM standard and obviously have no in-use experience. We believe this was an oversight in 1961.2, since manufacturers would need interim in-use in the earliest years of complying with the more stringent standard.

2. 1961.4 – 2026MY+ Exhaust emission regulations

a. (a)(3)(B), Optional Engine standards for medium-duty vehicles (MDVs)

For MDVs greater than 10,000 pounds gross vehicle weight rating (GVWR), this subsection allows engine certification to the heavy-duty engine standards and test procedures under 13 CCR 1956.8. Subsection (a)(3)(B) provides that MDVs so certified are “not subject to the MDV fleet average, emission standards, or phase-ins of this section 1961.4.” However, these vehicles should not be required to meet any of the provisions in this section 1961.4. Otherwise, it is not clear what provisions of 1961.4 apply to engine certified MDVs. For clarity, we recommend modifying this as follows:

(B) For engines used in MDVs that are certified to the engine standards of title 13, CCR, section 1956.8 in accordance with subsection (a)(3)(A), including those produced by small volume manufacturers, the engines and MDVs are not subject to the MDV fleet average, emission standards, or phase-ins of this section 1961.4 and must be certified to the LEV-IV chassis standards and test procedures set forth in this section 1961.4 engine standards, emissions averaging provisions, and test procedures in title 13, CCR, sections 1956.8(c)(1)(C) or 1956.8(h)(7), as applicable to heavy-duty diesel or Otto-cycle engines and as set forth in

b. (c)(8) Attestation

For decades manufacturers have attested to meeting certain requirements (e.g., high-altitude, formaldehyde, emissions continuity) through a declaration in the certification application. The new regulation requires “a statement signed and dated by an individual, who is employed by a manufacturer and authorized to affirm the attested statement on behalf of the manufacturer, certifying under penalty of perjury under the laws of the State of California that the attested statement is true, accurate, and complete.” We understand this change simply clarifies the current practice and process where attestations are included in the certification documentation, which is signed and dated and includes contact information. Otherwise, this requirement would add complexity in the certification process, the potential for delays, without providing any environmental benefit.

c. (d)(1)(B)1.b, Calculation of total number of LDVs produced and delivered for sale ($Veh_{totalnum}$)

There appears to be different definitions of the term “total number of passenger cars and light-duty trucks produced and delivered for sale in California” in this regulation 1961.4 and the ZEV regulations 1962.4. For example, starting in 2029 model year, the Exhaust regulation excludes all ZEVs, but we understand the ZEV regulation will include these in the “total number of passenger cars and light-duty trucks.” Additionally, the ZEV regulations specify that “a vehicle is counted in the production of the manufacturer that marketed it in California regardless of whether it is produced by a different manufacturer.” The Exhaust regulation is silent on this. The ZEV regulations point to the Exhaust regulations for determining “total number of passengers and light-duty trucks,” so these two regulations are tied together.

We recommend CARB clarify the requirements in this regulation.

3. Exhaust emission test procedures

a. Part I, I.4.5.1, CARB authority to test of in-use compliance

This section includes a new provision that allows the Executive Officer (EO) to “conduct testing under any operating conditions where the emission standards apply as reasonably necessary to confirm compliance with any regulatory provision.” It is not clear what is considered an “operating condition where the emission standards apply.”

It seems such testing is already provided in the defeat device provisions. For example, Part 86, §86.1809-12(b) allows “The Administrator may test or require testing on any vehicle at a designated location, using driving cycles and conditions that may reasonably be expected to be encountered in normal operation and use, for the purposes of investigating a potential defeat device.”

We understand the need for the new provision when testing for cold-start intermediate soak, where a manufacturer will only test at discrete soak times, but CARB could test at other soak times. Beyond this, it is not clear what this new provision provides, nor how it could be implemented or how results from such testing might be implemented.

4. Evaporative Emissions Standards and Test Procedures – Ethanol Retention Testing

The new Evaporative Emissions Standards and Test Procedures begin with the 2026 model year. These updated test procedures harmonize with the EPA ethanol retention test requirements in 40 CFR § 86.117-96, which do not require monthly ethanol retention tests once specified conditions are met. The ethanol retention tests places manufacturer’s very high-volume Sealed Housing Evaporative Determination (SHED) test facility out of commission for an extended period. In virtually every case, the conditions identified in 40 CFR § 86.117-96 are met and no corrective action is taken after the ethanol retention tests. Unfortunately, CARB’s existing test procedures, which continue to apply until 2026 MY, were not changed, and without relief manufacturers would need to continue conducting unnecessary ethanol retention tests. The regulations allow CARB to approve modifications to test procedures. Automakers plan to request a modified test procedure to harmonize with 40 CFR § 86.117-96 prior to 2026MY.