



October 22, 2024

Submitted via <https://ww2.arb.ca.gov/lispub/comm/bclist.php>

California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Proposed Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure

To Whom It May Concern:

The Alliance for Automotive Innovation (Auto Innovators)¹ appreciates the opportunity to provide comments on the 15-day Proposed Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure.

Complete Medium-Duty Vehicle Certification

Auto Innovators commends CARB for the commonsense revisions to 13 CCR 1963.2(i), which provide the medium-duty ZEV OEMs a clear path forward for 2026MY+ MD ZEV certification while also keeping these vehicles in the medium-duty GHG fleet. This ensures that MD ZEVs can be sold in California and the Section 177 states, which in turn helps OEMs and CARB achieve the desired reduction in GHG emissions.

While fully supporting the changes, we believe there are several clarifications needed from CARB to make the regulation work as intended and ensure efficient certification. Specifically, our concern is with the test procedure referenced in 1963.2 (i), CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES 2018 AND SUBSEQUENT MODEL ZERO-EMISSION VEHICLES ELECTRIC VEHICLES, IN THE PASSENGER CAR, LIGHT-DUTY MEDIUM-DUTY VEHICLE CLASSES, Sept 3, 2015.

1. *Emissions Standards*

We believe the SULEV 20 or 30 exhaust emissions standards referenced in the (c)3.2(a) do not apply since Medium-Duty PHEVs would be certified to LEV IV standards in 13 CCR 1961.4 (and HD PHEVs are certified to Omnibus Low NOx in 13 CCR 1956.8(a)(2)(C) or (D)).

2. *BEV Test Procedure Reference – SAE J1634-2012*

Only SAE J1634-2012 is allowed in the test procedure per section B.1. as it was the most recent available at the time of publication. Currently industry is using SAE J1634-2017 for EPA certification and the -2021 version for 13 CCR 1962.4 (ACCII), we request the flexibility

¹ Auto Innovators represents the full auto industry, including the manufacturers producing most vehicles sold in the U.S., equipment suppliers, battery producers, semiconductor makers, technology companies, and autonomous vehicle developers. Our mission is to work with policymakers to realize a cleaner, safer, and smarter transportation future and to maintain U.S. competitiveness in cutting-edge automotive technology. Representing approximately 5 percent of the country's GDP, responsible for supporting nearly 10 million jobs, and driving \$1 trillion in annual economic activity, the automotive industry is the nation's largest manufacturing sector. www.autosinnovate.org.

to allow use of either the 2012, 2017, or 2021 versions of SAE J1634. This would allow OEM lab testing to remain consistent across various product lines, avoid time consuming and duplicative testing on the same vehicle, and reduce the potential for errors and launch delays.

3. *PHEV Test Procedure Reference – SAE J1711-2010*

Similar to the BEV test procedure, only SAE J1711-2010 is allowed in the test procedure per section B.1. as it was the most recent available at the time of publication. Industry is/will be using SAE J1711-2023 for EPA Tier 4 certification. For the same reasons noted in the BEV test procedures above, we request the flexibility to allow use of either the 2010 or 2023 versions of SAE J1711

4. *FCEV Test Procedure Reference – SAE J2572-2008*

Also, the FCEV test procedure referenced is SAE J2572-2008. We request the flexibility to use the more recent version approved in October 2014, SAE J2572-2014.

Incomplete 2b Vehicles

Auto Innovators appreciates CARB's proposed changes to 13 CCR 1963.2(i) and supports the proposed pathways for 8,501-14,000lb GVWR complete medium-duty vehicles to receive ZEV credit under 13 CCR 1963.2. However, there are two areas where the proposed regulation is unclear in how medium-duty vehicles might generate ZEV credit under 13 CCR 1963.2, and recommend CARB address these areas in the final rulemaking.

First, the proposed sections 13 CCR 1963.2(h) and (i) cover "heavy-duty on-road ZEVs over 14,000 pounds GVWR and incomplete medium-duty ZEVs from 10,001 through 14,000 pounds GVWR" and "On-road complete medium-duty ZEVs from 8,501 through 14,000 pounds GVWR," respectively. Incomplete medium-duty ZEVs from 8,501 through 10,000 pounds GVWR (class 2b) do not appear to be covered by either section and thus have no clear pathway to generate ZEV credits under 13 CCR 1963.2. Incomplete vehicles in this weight range are frequently customized for vocational purposes, such as small business use or last-mile delivery, and are also popular for recreational vehicle conversions. It is crucial that these vehicles have a streamlined certification and credit generation pathway through ACCI, ACCII, and ACT.

Second, the use of the Zero-Emission Powertrain (ZEP) Certification pathway especially for class 2b ZEVs is inconsistent between the proposed text of 13 CCR 1963.2(i), and summary point 8 describing changes to 13 CCR 1963.2(h) in the "Notice of Public Availability of Modified Text and Availability of Additional Documents" ("Notice") for these amendments. The proposed 13 CCR 1963.2(i) permits ZEP Certification for complete class 2b ZEVs, but summary point 8 states that "ZEP Certification is not an appropriate test procedure" for ZEVs at or below 10,000 pounds GVWR. This conflict is confusing and undermines the apparent intent of the proposed text of 13 CCR 1963.2(i). It is not addressed or clarified further in the Notice when describing 13 CCR 1963.2(i) in summary point 10.

To avoid further areas of regulatory uncertainty, Auto Innovators suggests revising 13 CCR 1963.2(h) to remove references to medium-duty vehicles so that it applies only to over-14,000 lb GVR heavy-duty vehicles. Medium-duty ZEVs can then be covered in 13 CCR 1963.2(i) with the proposed certification pathways (including ZEP certification) clearly allowed for ZEV credit generation for both complete and incomplete and both class 2b and class 3 medium-duty ZEVs, as follows:

- i) *Certification to Receive ZEV Credit for ~~Complete~~ Medium-Duty Vehicles. Onroad complete and incomplete medium-duty ZEVs from 8,501 through 14,000 pounds GVWR produced and delivered for sale in California must meet the requirements of...*

While CARB has historically required vehicles that are 10,000 pounds GVWR and below to be chassis-certified for criteria emissions (Notice, summary point 8), this distinction between class 2b and 3 ZEVs or between complete and incomplete medium-duty ZEVs has usually not been drawn in existing CARB ZEV regulations that manufacturers have relied on in making design decisions and developing compliance plans. For example, CARB's statement in the Notice that the proposed incomplete medium-duty vehicle GVWR change in 13 CCR 1963.2(h) "is necessary as 13 CCR section 1962.2 was not intended to certify incomplete medium-duty ZEVs" is not supported by the applicability text of 13 CCR 1962.2 (or 13 CCR 1962.4), or the associated "California Emissions Standards and Test Procedures" documents, which reference medium-duty vehicles without specifying complete or incomplete. In fact, CARB has issued current-MY executive orders to incomplete medium-duty ZEVs pursuant to 13 CCR 1962.2.²

For manufacturers to deliver zero-emission vehicles on time to support a successful medium- and heavy-duty ZEV program in California and other adopting states, we support the certification and credit pathways proposed in 13 CCR 1963.2(i) and request they be available for all medium-duty ZEVs, 8,501 through 14,000 pounds GVWR, complete and incomplete.

Treatment of NZEVs

NZEV Credits in Deficit Makeup

CARB is now proposing to allow NZEVs to resolve up to 50% of credit deficits in a model year. We support this change that allows the same amount of NZEV credits for an OEM regardless of whether or not a manufacturer had to use the three-model year makeup period. Without this change, an OEM that had a compliance shortfall would not be allowed to use a credit generating NZEV to contribute to the recovery. Auto Innovators supports this proposed change.

Test Procedures for NZEVs

Several Auto Innovators member companies have also engaged with CARB over the past year regarding appropriate test procedures for demonstrating all-electric range per 13 CCR 1963.2(b)(2) to generate NZEV credits. After discussion with CARB staff, CARB and member companies agreed that test cycles for demonstrating AER may be "one of the duty-cycles, as selected by the manufacturer, that is utilized to demonstrate criteria pollutant or CO2 emission compliance," per "California Certification and Installation Procedures for Medium- and Heavy-Duty Vehicle Hybrid Conversion Systems." For chassis dynamometer-certified vehicles, this could include test cycles such as the Urban Dynamometer Driving Schedule (UDDS, 40 CFR 86 Appendix I (a), incorporated by reference in CARB medium-duty criteria emission test procedures), and for engine or powertrain dynamometer-certified vehicles could include test cycles such as the Heavy-Duty Transient test cycle (40 CFR 1037 Appendix A, incorporated by reference in CARB heavy-duty GHG test procedures) or the Heavy-Duty Steady-State test cycle (55 mph or 65 mph steady-state cruise, using 40 CFR 1037 Appendix D grade profile, incorporated by reference in CARB heavy-duty GHG test procedures).

² CARB EO A-010-2513, Ford 2024MY T350 Chassis Cab and Cutaway E-Transit

Additional all-electric range testing considerations may be found in other documents, such as the use of Average Loaded Vehicle Weight required by “California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric and Other Hybrid Vehicles in the Urban Bus and Heavy-Duty Vehicle Classes.” For heavy-duty vehicles, other questions of how and whether typical heavy-duty powertrain test procedures and parameters other than test weight apply to all-electric range testing remain unresolved. These include coefficient of rolling resistance, aerodynamic drag area, axle ratio, tire size, and other parameters described at 40 CFR 1036.545 and especially whether parameters can be determined using section 1036.545(h) (previously at 40 CFR 1037.550, as incorporated by reference in CARB heavy-duty GHG test procedures).

Because these requirements for generating NZEV credits are not directly described or referenced in 13 CCR 1963.2 and require simultaneous interpretation of multiple technical requirement documents, there has been a lack of clarity among manufacturers as to the required test procedures to generate NZEV credits. We therefore request CARB revise 13 CCR 1963.2(b) to directly reference a single test procedure document covering NZEV all-electric range testing requirements for ACT credit, aligned with the requirements discussed and agreed with manufacturers earlier this year regarding test cycles and weights described above.

GHG Implications of ZEP Certification and Fleets

In our September 24, 2024 letter to CARB regarding medium-duty ZEV certification pathways, Auto Innovators also requested a clear statement from CARB that the ZEV credit certification pathway would not affect the greenhouse gas (GHG) averaging set in which medium-duty ZEVs were included. At various times and to various companies, CARB staff has asserted or suggested that zero-emission powertrain (ZEP) certification may affect GHG certification by requiring ZEP-certified vehicles, including MDVs, to be placed in the heavy-duty vocational vehicle GHG averaging set (17 CCR 95663(a) for California compliance, 40 CFR 1037 for EPA compliance).

However, this has not been apparent to Auto Innovators from ACT rulemaking workshops or the current wording of ZEP certification section 13 CCR 1963.2(h):

- h) Zero-Emission Powertrain Certification for ZEVs. Beginning with the 2024 model year, on-road ZEVs over 14,000 pounds GVWR and incomplete medium-duty ZEVs from 8,501 through 14,000 pounds GVWR produced and delivered for sale in California must meet the requirements of 13 CCR section 1956.8 and 17 CCR section 95663 as amended by the Zero-Emission Powertrain Certification regulation to receive ZEV credit.*

The reference to 17 CCR 95663 does not specify 95663(a) or (b), suggesting heavy-duty vocational vehicle or medium-duty work factor GHG standards could apply, respectively. And 13 CCR 1956.8 has minimal applicability to medium-duty ZEVs, as class 2b-3 vehicles are not part of the heavy-duty zero-emission averaging set for NOx or particulate matter credits and heavy-duty engine GHG standards (13 CCR 1956.8(a)(7) and (c)(4)) do not apply to ZEVs without internal combustion engines. The proposed language in 13 CCR 1963.2(h) and (i) does point more specifically to the ZEP certification section 13 CCR 1956.8(a)(8) and test procedure section 17 CCR 95663(d), which we appreciate.

Other regulations such as EPA’s GHG standards for 2027-2032MY medium-duty vehicles have been written assuming ACT will drive increased medium-duty vehicles subject to medium-duty, not heavy-

duty GHG standards.³ Manufacturer product and compliance plans to meet GHG and ZEV requirements have relied on similar interpretations of CARB regulations. Given the past uncertainty in this area, even with the new proposed language we request that CARB more explicitly state in 13 CCR 1963 that ZEV credit certification pathway, including ZEP certification, does not impact GHG averaging set for medium-duty vehicles.

Labeling

Auto Innovators encourages CARB to implement the elements of the Clean Trucks Partnership (CTP)⁴ related to credit and deficit accounting and “delivered for sale” in the ACT amendments. The CTP affirmed that CARB would initiate an ACT rulemaking, consistent with prior ACT credit reporting guidance,⁵ that “compliance determination and sales reporting requirements are both defined when vehicles are produced and delivered for sale in California.” Auto Innovators supports credit accounting and reporting as discussed in the “Advanced Clean Trucks Regulation Sales Reporting (May 23, 2023)” correspondence, and as currently administered under that advisory.

The proposed notice is inconsistent with CTP. In the 15-day Proposed Regulation Order with proposed changes to ACT, CARB adds section 1963(g), which requires new vehicle labels in order for manufacturers to use “produced and delivered for sale” accounting for ACT. The labels are additional requirements beyond what was already agreed to in CTP and labels as proposed are likely to create more administrative problems than they solve.

The labeling requirement as written in 1963(g) is not practical and would require significant burdens on manufacturers to operationalize. Auto Innovators concerns include:

- MY2025 production of Medium Duty Vehicles subject to ACT began January 2, 2024, and 1963(g) would require manufacturers add labels to vehicles already in the field and beyond manufacturer control to qualify for “delivered for sale” accounting. Retroactive requirements are inconsistent with the spirit of the CTP, which stated in (5) that CARB would honor lead time for new requirements.

³ EPA Final Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium Duty Vehicles, 89 Fed. Reg. 27,842, 27,915 (Apr. 18, 2024). <https://www.govinfo.gov/content/pkg/FR-2024-04-18/pdf/2024-06214.pdf>. “While [EPA] did anticipate that some growth in development of [ZEV] technologies would occur due to the credit incentives in the HD GHG Phase 2 final rule, [EPA] did not expect the level of innovation observed since [EPA] finalized the rule in 2016, the IRA or BIL incentives, or **that California would adopt the Advanced Clean Trucks (ACT) rule at the same time these advanced technology multipliers were in effect.** We therefore proposed phasing out multipliers for PHEV, BEV, and FCEV technologies one year earlier than provided in the Phase 2 rule such that the multipliers would be eliminated in MY 2027. ...In light of the current existence of, and expected continued rapid increase in, adoption of advanced technologies (include zero-emission technologies) in the MDV market, **EPA is, as proposed, removing the BEV, PHEV, and FCEV multipliers for MY 2027.** ... Given that MY 2025 has already begun and that MY 2026 begins as early as nine months from this final rule, EPA believes it would not be appropriate to change the MY 2025 or 2026 multipliers.” (emphasis added).

⁴ Clean Trucks Partnership (July 5, 2023). [CARB and the Truck and Engine Manufacturers Association Agreement](#)

⁵ Manufacturers Advisory Correspondence 2023-01, Advanced Clean Trucks Regulation Sales Reporting (March 23, 2023). [Manufacturer Advisory Correspondence, ACT 2023 \(ca.gov\)](#)

- The labels would create extraordinary administrative burden for business in states adopting ACT, possibly resulting in unique labels for California, Colorado, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Washington, and any other state that adopts ACT.
- The labels “for sale in California” likely will create confusion for dealers, customers, and possibly regulators in states adopting some but not all of California regulations. For instance, New Jersey, New York, and Washington are expected to adopt ACT, but not Low NOx Omnibus in the same year.⁶ Similarly, manufacturers may certify and account for Medium Duty Vehicles through either ACT, or Clean Cars Programs (ACC I or ACC II), but not in both programs. The labels “for sale in California” will likely cause confusion on credit and deficit accounting, and not provide clarity.
- The proposed requirement for manufacturers to label vehicles “not intended for sale as a new vehicle in California” may exceed California authority, as this could be a new requirement for vehicles not subject to California regulations. Similarly, manufacturers are unclear on how to administer this “not intended for sale” labeling requirement in multiple states adopting ACT.
- As discussed in 1963.5(a)(2)(A-B), manufacturers may be subject to penalty, unless the requirements of section 1963(g) are met.

Absent manufacturers adding labels, per 1963(g), credit and deficit accounting would default to that described in 1963.5(a)(2)(A-B), which use registration accounting. As discussed at length and repeatedly in ACT rule-making record and Low NOx Omnibus rule-making record, manufacturer concerns with registration accounting include:

- It is contrary to the terms of the CTP that were based on the mutual recognition that an agency compliance determination or company reporting requirement based on anything other than “delivered for sale” would be impractical to administer.
- Manufacturers have limited influence on dealer inventory decisions, and where customers register their property. Administrative burden for a California rule as proposed would extend to dealers in all 50 states, including states that have not opted into California standards, and even then would include some uncertainty. The choices of independent entities, beyond a manufacturer’s control or influence and not subject to the ACT regulation, should not be able to alter a manufacturer’s compliance status.
- The timeline for determining registrations is uncertain – compliance status could be uncertain for weeks, months, or years after the end of a model year. Availability of registration information varies by state and so too may the timing of the compliance status.

Manufacturers already provided VIN information and information on the business transaction for delivery of vehicles subject to the Advanced Clean Trucks rule. Manufacturer-supplied information at the time of final reporting supports a paper trail, sufficient for CARB to work together with manufacturers to cross-compare with registration data and to identify actors attempting to source vehicles systematically in a way that may circumvent California regulations.

⁶ (Accessed October 16, 2024. Last updated June 2024) [States that have Adopted California's Vehicle Regulations | California Air Resources Board](#)

Include Credit Pooling

The Clean Trucks Partnership included an agreement to consider credit pooling across ACT-adopting states. CARB held a public workshop to discuss this but did not include a proposal in this rulemaking. OEMs must encourage and accept sales of medium and heavy-duty ZEVs regardless of the state in which the customer resides. A lack of pooling can lead to market distortions and sales biasing in an attempt to achieve uniform ZEV sales across all ACT states regardless of infrastructure readiness or other supportive measures (i.e., incentives) in each state. Auto Innovators supports credit pooling to maximize ZEV sales and as a compliance enabler to the ACT rule.

Thank you again for this opportunity to comment. If you have any questions, please contact Catherine Palin at cpalin@autosinnovate.org.