May 13, 2024

Clerks' Office
California Air Resources Board
1001 I Street
Sacramento, California 95814

Re: Stellantis' Comments to CARB's proposed Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure

Stellantis respectfully submits the following comments in response to CARB's proposed Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure posted on March 26, 2024.[1]

Introduction to Stellantis

On January 16th, 2021, Fiat Chrysler Automobiles N.V. merged with Peugeot S.A to form Stellantis N.V.[2] The merger allows for the efficient allocation of resources for large-scale investments in platforms, powertrains, and technology. The merged entity makes Stellantis a leading global mobility player guided by a clear mission: to provide freedom of movement for all – through electrified vehicles, autonomous driving and digital connectivity. Stellantis' U.S. footprint includes a workforce over 56,000 employees, including over 43,000 UAW workers; six assembly plants; three engine plants and seven component plants, some of which are currently supporting the move to electrification by producing next generation multiuse transmissions and power electronics modules.

Our Company's strength lies in the breadth of our iconic brand portfolio and our deep roots and commitment to the communities in which we operate. Stellantis designs, manufactures, and sells vehicles in North America under the Chrysler, Dodge, Jeep, Ram, Fiat, Alfa Romeo and Maserati brands. Since 2009, the Company has created more than 30,000 jobs, including 22,500 hourly positions. Stellantis has committed to invest over €30 billion (euro) globally in vehicle electrification and software to help reduce greenhouse gas emissions – an important consideration for our customers, U.S. energy security, and the environment.

Stellantis is Committed to Developing the Needed Electrified Products

On August 5th, 2021, Stellantis, the UAW, and others from industry joined President Biden at the White House and supported his new call to achieve increased electrified vehicle sales by 2030. In addition, the United States Secretary of Energy signed a non-binding memorandum of understanding for COP27 which calls for 30% zero-emission commercial delivery vehicles, buses, and trucks by 2030.

On March 1st, 2022, Stellantis reconfirmed its commitment to spend over €30 billion globally to support electrification, including a targeted 50% electric vehicle (EV) mix for the passenger car and light truck fleet in the U.S. by 2030 (assuming conducive public policies). This includes investments in developing four all-new electric platforms. These platforms will unlock new facets of our brands, taking their

[1] Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure (March 26, 2024) available at https://ww2.arb.ca.gov/rulemaking/2024/advancedcleantrucks

[2] Despite the merger, FCA US LLC remains the primary subsidiary doing business in the United States. The company is hereinafter referred to as "Stellantis."

efficiency and performance to the next level. We are also a front-runner in hydrogen technology and, late in 2021, we were the first to deliver hydrogen fuel cell vans in Europe.

Stellantis generally supports comments submitted by the Truck and Engine Manufacturers Association (EMA) and offers the following comments the agency should incorporate into amendments to the ACT regulation:

1. Certification of 2026MY and beyond COMPLETE medium-duty ZEVs
2. Credit/Deficit Generation based on delivered for sale in California
3. 3 Year Deficit Make-Up Period

CARB Certification requirements for Medium-Duty ZEVs (i.e., BEVs & FCEVs)

There is no medium-duty ZEV certification pathway for complete vehicles in 2026MY that does not exceed the requirements intended by CARB for the Advanced Clean Trucks (ACT)[3] program. Through 2025MY, CARB's current regulations for medium-duty ZEVs requires certification via CARB ACC I. This certification pathway ends after 2025MY when ACC I is replaced by the ACC II regulation in 2026MY+. The 2026MY ACC II ZEV regulations do allow for the certification of medium-duty ZEVs, but *only* if the OEM is choosing to count the vehicles in the ACCII light-duty ZEV regulation. A medium-duty vehicle certified using the ACC II pathway cannot be used for compliance in CARB's ACT regulation. Additionally, the ACC II medium-duty certification pathway requires compliance with other new ACC II light-duty requirements, such as a minimum 200 mile range, ZEV durability/warranty, etc. These additional requirements are unique to the ACC II light-duty ZEV regulation and are not explicitly required by CARB's ACT regulation for medium-duty and heavy-duty vehicles as defined by 13 CCR § 1963. CARB confirmed this understanding in the ACC II FSOR Appendix C Summary of Comments to ZEV Regulation and Agency Response Section F Comment #5 under MDV ZEVs (see yellow highlighted CARB response below)[4]:

> *Comment: We recommend that CARB allows manufacturers to classify zero-emission medium-duty vehicles as either light-duty (i.e., toward the ACC2 ZEV regulation) or medium-duty vehicles (i.e., toward the Advanced Clean Truck regulation). It is expected that there will be many electric vehicle models that will straddle the two weight classes due to their multiple battery pack and electric range options. For example, there will be models for which the electric range is below 300 miles that are below the light-duty maximum weight, and otherwise similar models with greater than 400 miles of electric range that are above the light-duty maximum weight due to the larger, heavier battery pack. Such an allowance, at manufacturers' discretion, would support faster and greater ZEV deployment across a wider spectrum of electric ranges for prospective customers. This added flexibility would remove constraints and promote the greatest possible deployment of shorter- and longer-range electric van and pickups, regardless of year-to-year differences in manufacturer ZEV production and the stringency of the light-duty ZEV and Advanced Clean Truck programs. [OP98].*
>
> *Agency Response: CARB is not allowing the reclassification of vehicles from light duty to medium duty weight classes. These weight classes are defined in section 1900, title 13, California Code of Regulations. CARB did adopt the ACC II ZEV regulation, which included provisions to allow*

[3] 13 CCR 1962.4(a)(2)(A).

[4] CARB ACC II Final Statement of Reasons, Appendix C, Section F, Agency Response to Comment #5, pp. 84-85, Final Statement of Reasons (ca.gov)

manufacturers to certify to either the ACC II ZEV standard (section 1962.4) or ACT (section 1963). To the extent that this commenter intended to request for an optional certification path and option to earn values under section 1962.4, see response to Comment F-1.

According to CARB's ACT regulation all "incomplete" medium-duty ZEVs (8,501-14,000 lbs. GVWR) and all heavy-duty ZEVs (>14,000 lbs. GVWR) must be ZEP-certified. For "complete" medium-duty ZEVs, there are no specific certification or test procedure requirements identified in ACT.

Given the vehicle classification and use case of MDVs, it would be inappropriate to (by default) require compliance and certification to light-duty requirements in CARB ACC II (LD ZEV Program) for a vehicle that will generate credits in ACT § 1963. The ACC II regulation clearly indicates that medium-duty ZEVs must comply with ACC II if an OEM optionally chooses to count its ZEV credits in the light-duty ACC II ZEV program. CARB's ACT regulation is the appropriate default regulation for medium-duty ZEVs since it focuses on ZEV sales requirements for all vehicles > 8,500 lbs. GVWR (i.e., medium- and heavy-duty vehicles).

Use Zero-Emission Powertrain Certification for COMPLETE Medium-Duty ZEVs

Stellantis agrees that Zero-Emission Powertrain Certification (ZEP Cert) is the appropriate ZEV assurance measure for "complete" medium-duty vehicles (8,501-14,000 lbs.). ACC II is focused on light-duty vehicles and the associated use and capability of these vehicles. Light-duty BEVs have been in the market for several years and as a result inherently have a greater maturity and knowledge of use, performance, and durability. In contrast, the medium-duty ZEV market is new and lacks sufficient durability data to support the stringent ZEV assurance measures in light-duty ACC II. ZEP Cert supports electrification technology innovation and development. ZEP Cert delivers transparency by providing basic diagnostics, access to diagnostic tools, repair information, and battery health information.

Provide Lead-Time to Complete Medium-Duty ZEV Certification Requirements

While ZEP Cert is the appropriate ZEV assurance measure for this class of vehicles, requiring ZEP Cert for 2026MY is not a flexibility compared to CARB's affirmation that certifying to ACT § 1963 was a path in ACC II rulemaking comments. Instead, ZEP Cert is a new regulatory requirement for complete MDVs. CARB must follow the four-year Clean Air Act lead time requirement reaffirmed in the CARB – EMA Clean Truck Partnership [5] (July 2023) for changes to ACT or HD Omnibus that drive new development. Sufficient development time is needed to implement changes for diagnostics and diagnostic communication protocols. Vehicle communication architectures require significant changes to the electrical system hardware which includes development, validation/verification testing, and certification. These significant changes cannot be implemented prior to 2028MY.

Further highlighting the need to accommodate development timelines, CARB's heavy-duty greenhouse gas certification staff have stated they are unable to review proposals for complete medium-duty vehicles as the current 1956.8 regulation does not support that certification path. Thus, OEMs are unable to confirm that complete medium-duty vehicles have viable development and manufacturing plans if CARB staff cannot provide any feedback. The start of 2026MY product production will be

[5] CARB/EMA Agreement: https://ww2.arb.ca.gov/sites/default/files/2023-07/Final%20Agreement%20between%20CARB%20and%20EMA%202023_06_27.pdf

imminent once rulemaking has been completed, and OEMs will not have feasible paths to implement changes to product and certify on-time.

Allow Newer, More Capable Diagnostic Communication Protocols for ZEP-Cert

We recommend affording OEMs the option to utilize UDS-based diagnostic communication protocols (based on Controller Area Network - CAN or Internet Protocol - IP) across products to reduce the complexity of electrical architectures and verification activities, increase robustness, and improve user experiences. Additionally, we propose that SAE J1979-3 (ZEVonUDS) should be optionally allowed for ZEP products, since J1979-3 is required by CCR § 1962.5 for CARB LD ZEV programs and such flexibility would allow certain manufacturers to harmonize their ZEV and ZEP portfolios.

Below are suggested revisions (highlighted in red) to the ZEP certification regulation[6] to provide for more capable diagnostic communication protocols:

> *3. Required Diagnostic Communications Tools Compatibility.*
>
> *3.1. A manufacturer must meet one of the following requirements in (a) or (b) or (c):*
>
> *(a)* A manufacturer must have installed a connector meeting *the requirements in subsection (h)(2) of title 13, CCR, section 1971.1, On-Board Diagnostic System Requirements--2010 and Subsequent Model-Year Heavy-Duty Engines, with a vehicle ~~controller area network~~ communications protocol that is capable of connection and communication with scan tools that meet the requirements in subsection (h)(3) of title 13, CCR, section 1971.1,*
>
> *(b)* A manufacturer must have installed a connector meeting *the requirements in subsection (c)(2) of title 13, CCR, section 1962.5 with a vehicle network communication protocol that is capable of connection and communication with scan tools that meet the requirements in subsection (c)(3) of title 13, CCR, section 1962.5,*
>
> *(c) A manufacturer must have a device permanently installed on the vehicle capable of displaying the information required in section 3.2 without the need for additional diagnostic tools.*
>
> *Subject to the advanced approval of the Executive Officer during the certification process, alternative communications hardware and/or protocols, other than those specified above in this subsection C.3.1, may be used if the manufacturer successfully demonstrates that such hardware and/or protocols do not create undue burden or costs for owners and third-party repair establishments requesting access to powertrain diagnostic information (e.g., the hardware and/or protocols are not proprietary and do not need to be purchased through the manufacturer). Any additional software needed to interface with alternative communications hardware shall be made available to the Executive Officer upon request, free of charge.*

[6] CALIFORNIA STANDARDS AND TEST PROCEDURES FOR NEW 2021 AND SUBSEQUENT MODEL HEAVY-DUTY ZERO-EMISSION POWERTRAINS, Adopted June 27, 2019, at pp. C-8,
ZEP Cert Final Test Proc. Att C - Powertrain Test Procedures (ca.gov)

Avoid 2026-27MY Medium-Duty ZEV Out-of-Market Condition with ZEP Cert

Due to the necessary lead-time previously mentioned, we recommend either of the following certification provisions for "complete" medium-duty ZEVs prior to 2028MY and that CARB communicate this change via a Memorandum of Understanding or Manufacturer Guidance Letter.

Option #1 (Preferred)
Include a certification path for 2026MY and 2027MY that mirrors the current requirements in ACC I § 1962.2 (current) for 2026-27MY.

Option #2:
Revise ZEP diagnostic requirements for 2026-27MY to provide a clear path for certification approval for OEMs that have been developing alternative communication networks . The current ZEP communication protocol regulation provides an alternative communication approval path based on CARB executive officer (EO) approval, however, CARB is not providing advance review of such proposals for complete medium duty vehicles. This presents an unreasonable level of uncertainty that a product will be eligible for ZEP certification (i.e., a rejected CARB EO will leave product out-of-market as communication networks take significant lead time to develop). A clear regulation update to exempt complete medium-duty vehicles from the communication requirements for 26-27MY would provide the OEM confidence in its ability to certify. This would be aligned with CCR 1962.5 that does allow a portion of an OEMs ZEV applications to phase-in standardized communication protocol as late as 2028MY when using an alternative phase-in.

Some OEMs may be developing diagnostics based on a UDS architecture that is capable of DTC reading, clearing, and monitoring of parameters without special restrictions or permissions similar to the way the OBD tools currently interact with vehicles today. These methods intend to be aligned with enhanced tools that the service industry is accustomed to using, such as Stellantis' Witech tool that can be purchased by a third-party at a reasonable cost. This would not create undue burden or costs to third-party support services to service high voltage / zero-emission powertrains. In addition, this avoids potential conflict with newer diagnostic communication protocols. However, CARB staff has stated they are not able to support review and feedback prior to regulation finalization for complete medium-duty vehicles. To avoid future vehicles having to implement protocols that are essentially legacy, we recommend that ZEP certification allow communication protocols that are already standardized, such as J1979-03 without the need for EO approval, and OEM self-defined UDS based communication protocols.

In conclusion, either option enables OEMs more flexibility to certify medium-duty "complete" ZEVs in 2026-27MY avoiding an out-of-market condition, while meeting CTP lead-time requirements.

Remove Other ACT Constraints

Credit / Deficit Generation

Stellantis supports CARB's proposal to determine the credit and deficit generation on "vehicles delivered for sale in California." This proposed revision, is aligned with light-duty requirements, and will enable a far more efficient reporting process. The proposal also reflects provisions agreed to in the Clean Truck Partnership between CARB, EMA, and OEMs, including Stellantis. This will avoid delayed reporting that would have occurred under the previous language.

3 Year Deficit Make-Up Period

Stellantis supports CARB's proposal to revise the ACT regulation to extend the deficit make-up period from one to three model years. As CARB Staff notes in the ISOR[7], "[i]ncreasing the deficit makeup period to three model years is necessary as manufacturers may require additional time to satisfy the deficiency in ZEV credits resulting from potential market fluctuations and other variables that are outside of the manufacturer's control." This flexibility is critical while our medium- and heavy-duty ZEV portfolio, the ZEV market, and the charging infrastructure continue to grow.

While Stellantis fully supports extending the deficit make-up period to three model years, the newly added constraints to use the three-year period are unworkable. First, as proposed, a deficit cannot be made up with NZEV credits.[8] Stellantis believes both ZEV and NZEV credits should be allowed for a deficit make-up. The existing constraint, where NZEV credits cannot make up more than 50% of annual deficit would still be appropriate even in a carryback scenario. NZEV credits earned in a model year and those brought in via the three-year carryback measure (deficit make-up) should not exceed 50% of the credits in total for that model year.

Second, Stellantis also disagrees with the proposal that the deficit be less than 30% after one year. The ISOR asserts that requiring this net deficit below 30% "ensures that a manufacturer is making efforts towards offsetting the deficit. The selected threshold is reasonable and attainable while providing enough flexibility to make up the deficit."[9] Importantly, CARB Staff's analysis shows that "[e]xtending the deficit makeup period results in the same outcome as the sales of a given model year are not anticipated to be complete for about three years and ultimately compliance is based on the actual deliveries to the ultimate purchaser. Emissions benefits are, therefore, not delayed."[10] We do not believe it is necessary or practical to include this net deficit balance requirement. In essence, the requirement to offset up to 70% of a deficit within one year means an OEM most in need of the three-year provision, is least likely to be able to utilize it. Such a drastic offset within one year could prove difficult to attain and not provide the desired flexibility to make up the deficit. In the alternative, we recommend a more linear and equally proportioned approach, such as 33% offset after one year (rather than 70%) and 66% offset after two years. This alternative approach would both demonstrate a manufacturer is making efforts toward offsetting the deficit and is more practical and reasonable as a flexibility tool.

[7] CARB Staff Report: Initial Statement of Reasons (ISOR), March 26, 2024, at pp. 12-13.
[8] 13 CCR § 1963.3(d).
[9] ISOR at p. 13.
[10] ISOR at p. 21; see also pp. 12, 25.

The constraints on PHEV credits and "net deficit below 30%" are not required for offsetting credit deficits in CARB's ACCII ZEV or ACC1 GHG regulations, with a much more mature light-duty ZEV market[11,12]. We do not believe they are warranted here[13]. Stellantis requests that CARB delete these two constraints in the final amendments (or at a minimum revise the net deficit below 30% after one year proposal to a more linear approach spanning the three-year period).

Include Credit Pooling

In the CARB/EMA Clean Truck Partnership, there was an agreement to consider credit pooling across states that adopt the ACT rule. 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 which state the customer resides. 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 the infrastructure readiness or other supportive measures (i.e., incentives) in each state. Stellantis supports credit pooling as a means of maximizing ZEV sales and as a compliance enabler to the ACT rule.

Include products with Hydrogen Internal Combustion Engines

Per the CARB/EMA Clean Truck Partnership, "In calendar year 2023, CARB held a public workshop to discuss the appropriate role of hydrogen-fueled internal combustion engines towards meeting the requirements of the ACT and ACF regulations".

Worldwide, hydrogen ICEs are being studied as an alternative to HD ZEV technology. To this point, the Europe Union amended their Heavy-Duty rules on April 26th, 2024, to now include H2 ICE[14].

Encouraging more product offerings using hydrogen as a fuel, would promote hydrogen filling station infrastructure development and customer acceptance of hydrogen as a clean and efficient fuel source with CO_2 benefits like that of BEV.

Stellantis recommends that CARB include hydrogen ICE in its ACT regulation as a ZEV credit generator given that this technology emits zero tailpipe CO_2 emissions and near-zero NOx emissions.

Recommendations and Conclusion

Stellantis recommends CARB's final amendments incorporate the regulatory changes detailed above and summarized below to accommodate the CARB/EMA Clean Truck Partnership, potential market fluctuations and other variables outside of manufacturers' control.

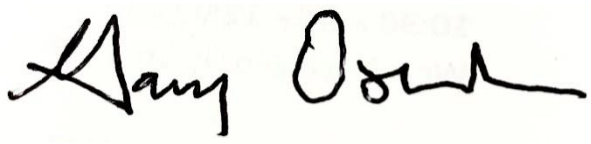
- Require ZEP certification as the appropriate ZEV assurance measure for "complete" medium-duty (8,501-14,000 lbs.) ZEVs no sooner than 2028MY to allow sufficient lead-time to implement significant changes for diagnostics and diagnostic communication protocols,

[11] 13 CCR 1962.4 (g).
[12] 13 CCR 1962.4 (h)(2).
[13] 13 CCR 1961.3 (b)(2).
[14] REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 April 2024 amending Regulation (EU) 2019/1242 as regards strengthening the CO2 emission performance standards for new heavy-duty vehicles and integrating reporting obligations, amending Regulation (EU) 2018/858 and repealing Regulation (EU) 2018/956 (see https://data.consilium.europa.eu/doc/document/PE-29-2024-INIT/en/pdf pdf (europa.eu) pp. 4-5, 32-33).

- Adjust ZEP Certification requirements to allow a more clear certification path for complete medium-duty vehicles for 2026-27 model years by exempting OEMs from the communication requirements,
- Support credit/deficit generation based on vehicles “delivered for sale in California,”
- Support a three-year carryback period without additional constraints,
- Support credit pooling, and
- Include hydrogen ICE vehicles for ACT flexibility and to promote the long-term hydrogen infrastructure likely needed for larger trucks.

Stellantis appreciates CARB Staff’s consideration of our comments and recommendations. Stellantis believes these changes are a win-win for CARB and the automotive industry. Stellantis stands ready to answer questions and work with the CARB towards feasible amendments to the ACT regulation and ZEP certification test procedure.

ON BEHALF OF STELLANTIS



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