

California Air Resources Board

Public Hearing to Consider the Proposed Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure

Staff Report: Initial Statement of Reasons

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Executive Summary

Mobile sources and fossil fuels that power them are the largest contributors in California to the formation of ozone, greenhouse gas (GHG) emissions, fine particulate matter (PM_{2.5}), and toxic diesel particulate matter (PM). The State transportation sector accounts for 39% of total state GHG emissions, 50% when upstream emissions from fuel are added, and is a major contributor to oxides of nitrogen (NO_x) and PM emissions. Medium- and heavy-duty vehicles contribute a quarter of the state transportation sector's GHG emissions and a third of the transportation sector's NO_x emissions, a disproportionately high share considering these vehicles represent only about 1.8 million trucks among the 30 million registered vehicles in the state.

The California Air Resources Board (CARB or Board) adopted the Advanced Clean Trucks (ACT) regulation¹ in 2021. The ACT regulation is a central element of California's comprehensive strategy to reduce harmful emissions from medium- and heavy-duty vehicles to the greatest degree feasible. The ACT regulation establishes more stringent emissions standards for medium- and heavy-duty vehicles that will assist California in attaining the State's air quality and climate mitigation targets and requires medium- and heavy-duty manufacturers to produce and sell an increasing portion of their sales as vehicles that emit no exhaust emissions of criteria pollutants or GHG emissions, i.e., zero- emission vehicles (ZEVs) beginning in the 2024 model year. Ten other states have adopted the ACT regulation under Section 177 of the federal Clean Air Act (42 U.S.C. § 7507), Colorado, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington (referred to as the Section 177 states).

The proposed amendments to the ACT regulation would provide additional compliance flexibility to manufacturers and amend existing provisions of the ACT regulation to facilitate manufacturers' compliance with the ACT regulation. The proposed amendments also fulfill CARB's commitment in the Clean Truck Partnership (CTP) agreement to, in collaboration with the regulated manufacturers and the Section 177 states, develop and propose to the Board a pooling concept that permits manufacturers to transfer surplus ZEV and near-zero emission vehicle (NZEV) credits generated in one state that has adopted the ACT regulation to assist in meeting compliance obligations in another state. The proposed amendments to the ACT regulation generally consist of minor changes that have no significant cost or emissions impact, and include the following modifications:

- Add an option for manufacturers to use surplus ZEV and NZEV credits generated in one state that has adopted the ACT regulation to assist with meeting ACT compliance obligations in another state. The proposed pooling flexibility implements a declining annual credit transfer allowance for the 2027 through 2031 model years that dictates how many credits can be transferred in a given year into a state with a deficit. These

¹ California Air Resources Board, Advanced Clean Trucks Regulation, 2019, (weblink: <https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks>, last accessed April 2025).

allowances would begin at 20% in 2027 and decrease by 2% each year, reaching 12% in 2031. The credit transfer allowance would then be constant at 10% for the 2032 through 2035 model years.

- Modify the Low Tractor Volume provision to permit manufacturers to offset a portion of deficits generated in the Class 7-8 tractor group with Class 2b-3 or Class 4-8 group ZEV credits for each model year.
- Decrease the minimum all-electric range threshold for NZEVs after the 2030 model year.
- Provide manufacturers increased flexibility with respect to the order in which they retire ZEV credits.
- Modify the communication protocols with respect to the ZEV connector criteria in the Zero-Emission Powertrain Certification (ZEP Certification) regulation.

I. Introduction and Background

CARB's mission includes protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change. To help achieve that mission, CARB has continually exercised its authority under state law and section 209(b) of the federal Clean Air Act to adopt and enforce a new motor vehicle emissions program that is distinct from, and that has generally been more protective of the public health and welfare than the comparable new federal motor vehicle emissions program.

The ACT regulation was adopted to achieve near- and long-term air quality and climate mitigation targets by establishing zero-emission standards for new medium- and heavy-duty vehicles and is part of CARB's holistic strategy to reduce emissions from transportation by increasing the introduction of zero-emission trucks (Class 2b to Class 8) that gradually increase over time starting in 2024.

Staff are proposing amendments to the ACT regulation to provide manufacturers additional flexibility to meet their compliance obligations. This additional flexibility allows manufacturers to use excess ZEV and NZEV credits generated in one state to aid in meeting their compliance requirements in other states that have also adopted the ACT regulation. Other proposed amendments include decreasing the minimum all-electric range threshold for NZEVs after the 2030 model year, establishing testing parameters beyond test weight for a vehicle's all-electric range, providing flexibility for offsetting Class 7-8 tractor obligations, and providing manufacturers more flexibility by adjusting the order in which they retire ZEV credits. The proposed amendments would smooth implementation and would help address market fluctuations by providing additional flexibility to the manufacturers in meeting the annual compliance requirements.

Staff are also proposing to modify the communication protocols with respect to the ZEV connector criteria in the ZEP Certification regulation. This change would provide additional flexibility for manufacturers certifying heavy-duty and incomplete medium-duty vehicles by specifying additional pathways to fulfill such communication protocol requirements.

A. Advanced Clean Trucks Regulation

The Board adopted the ACT regulation in 2021, as part of a holistic approach to achieve NO_x and GHG emissions reductions from medium- and heavy-duty vehicles. The ACT regulation has two components consisting of a manufacturer sales requirement and a one-time Large Entity Reporting requirement for fleet owners.

The first component applies to manufacturers that certify incomplete chassis or complete vehicles greater than 8,500 lbs. gross vehicle weight rating (GVWR), i.e., Class 2b-8 vehicles. Manufacturers are required to increase percentages of their Class 2b through 8 vehicles as ZEVs, beginning in the 2024 model year. By 2035, required ZEV sales percentages are: 55% of Class 2b–3 truck sales, 75% of Class 4–8 truck sales, and 40% of Class 7-8 tractor sales. Compliance is based on a credit and deficit system and provides flexibility for manufacturers to sell more ZEVs in one weight category and fewer in another. The ACT regulation provides manufacturers with a number of compliance flexibilities, including:

- Early action credits may be earned before the regulation goes into effect.
- Provisions to generate credits that may then be banked for future use.
- Provisions to trade credits with other manufacturers.
- Secondary vehicle manufacturers may opt into the credit trading and banking system.
- NZEV credits may be generated and used to offset up to 50% of the annual summed deficits.
- Deficits may be carried forward for three model years under the deficit makeup period.
- NZEV credits may be used to fulfill a deficit under the deficit makeup period.
- Low tractor volume sales may be offset with non-tractor credits.
- Manufacturers with an average of less than 500 annual on-road vehicle sales are exempt from the rules' requirements under the Low Volume Exemption.

The ACT regulation also included provisions requiring manufacturers to report information needed to demonstrate compliance, earn credits, and to report details about credit trade transactions. These reporting requirements apply to any vehicle manufacturer that produces and delivers for sale more than 500 on-road vehicles with a GVWR over 8,500 lbs. into California or into any state that adopted the ACT regulation. Manufacturers that produce vehicles below the 500-vehicle threshold have the option to voluntarily report to generate ZEV credits and NZEV credits.

In October 2024, the Board approved amendments to the ACT regulation.² The amendments primarily included the following changes:

² California Air Resources Board, Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure, October 24, 2024 (weblink: <https://ww2.arb.ca.gov/rulemaking/2024/advancedcleantrucks>, last accessed April 2025).

- Establish that compliance with the ACT regulation would be based on the reported sales of vehicles delivered for sale in California, and not based on when vehicles reach the ultimate purchaser;
- Extend the deficit makeup period from one model year to three model years; and
- Permit secondary vehicle manufacturers to opt into the ACT credit trading and transfer provision.

B. Clean Truck Partnership

In July 2023, CARB worked with the nation's leading major truck manufacturers to reach an agreement, called the Clean Truck Partnership.³ That agreement marks a commitment from the signatories to comply with California's vehicle standards, including the standards established by the ACT regulation. In turn, CARB has agreed to work collaboratively with manufacturers to provide specified periods of lead time to meet CARB's requirements in new rulemakings.

As part of the CTP agreement, CARB staff held a public workshop in November 2023 that introduced the concept of pooling under the ACT regulation. CARB staff have also worked with the regulated manufacturers and Section 177 states, per the CTP agreement, in an effort to develop and implement a pooling structure. Some of the proposed amendments specific to pooling constitute modifications that staff committed to propose to the Board as part of the CTP agreement.

C. Zero-Emission Powertrain Certification

In July 2019, CARB adopted the ZEP Certification test procedure, which established new, alternative certification procedures for heavy-duty battery-electric and fuel-cell vehicles and the zero-emission powertrains propelling such vehicles. The ZEP Certification establishes a process that can be used to provide additional transparency, consistency, and stability in heavy-duty zero-emission market segments targeted by CARB's technology-forcing regulatory measures or incentives geared to deploying more commercialized zero-emission vehicles. The ACT regulation requires manufacturers to utilize ZEP Certification starting with the 2024 model year for heavy-duty and incomplete medium-duty ZEVs in order to earn ZEV credits.

D. Manufacturers and Vehicles Regulated by the Advanced Clean Trucks Regulation

Twenty-five manufacturers certified medium- and heavy-duty vehicles in California in the 2023 model year. Of these, 12 manufacturers have sold, on average, more than 500 vehicles per

³ California Air Resources Board, Clean Truck Partnership, 2023 (web link: https://ww2.arb.ca.gov/sites/default/files/2023-07/Final%20Agreement%20between%20CARB%20and%20EMA%202023_06_27.pdf, last accessed April 2025).

year and are subject to the ACT regulation, including Blue Bird, Daimler, Ford, General Motors, International, Isuzu, Mercedes Benz, Nissan, PACCAR, Stellantis, Rivian, and Volvo.

Class 2b vehicles are primarily comprised of full-size vans, chassis cabs & cutaways, and heavy-duty pickup trucks. Class 3 vehicles include the same vehicle types as Class 2b, but with higher payloads. The Class 2b-3 market is mainly served by many of the same manufacturers of lighter-duty vehicles and include Ford, General Motors, Mercedes, Nissan, Rivian, Stellantis, and Tesla. Class 4-8 single unit vehicles are mainly utilized in vocational applications as urban delivery vehicles, work-site trucks, and numerous other vocations where the chassis is typically upfitted by a secondary manufacturer, or upfitter, to its final configuration. The top three manufacturers in Class 4-8 are Ford, Freightliner, and International.⁴ The Class 7-8 tractor group encompasses tractors and yard tractors. The manufacturers of these vehicles include Daimler, Navistar, PACCAR and Volvo. Table 1 below provides an illustration of the different vehicle types and configurations, by vehicle class, and is presented in three distinct vehicle groups.

⁴ California Air Resources Board, Advanced Clean Trucks Credit Summary Through the 2023 Model Year, 2024 (web link: <https://ww2.arb.ca.gov/resources/fact-sheets/ACT-Credits-Summary%202023>, last accessed April 2025).

Table 1: Illustration of Various Truck Configuration by Vehicle Class Affected by the ACT Regulation

Class 2b-3	Class 4-8	Class 7-8 Tractors
  	  	  

Based on the ACT credit summaries for the 2021 through 2023 model years, California's zero-emission medium- and heavy-duty vehicle sales increased significantly. Sales grew from 355 vehicles in the 2021 model year to 7,639 in 2022, and 18,473 in 2023. Ford and Rivian led the market in 2023, accounting for over 88% of zero-emission medium- and heavy-duty vehicle sales in the state. Zero-emission tractor sales in California increased from 28 sales in the 2021 model year to 218 in 2022 and 354 in 2023.^{5,6,7}

⁵ California Air Resources Board, Advanced Clean Trucks Credit Summary, March 31, 2022, (weblink: <https://ww2.arb.ca.gov/sites/default/files/2023-02/ACTCreditMemo.pdf>, last accessed April 2025).

⁶ California Air Resources Board, Advanced Clean Trucks Credit Summary Through the 2022 Model Year, October 13, 2023, (weblink: <https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-trucks-credit-summary-through-2022-model-year?keywords=2025>, last accessed April 2025).

⁷ Advanced Clean Trucks - Zero-Emission Vehicle Credit Pooling Workshop, November 23, 2024 (weblink: <https://ww2.arb.ca.gov/sites/default/files/2023-11/231128actpres.pdf>, last accessed April 2025).

II. The Problem that the Proposal is Intended to Address

The proposed amendments fulfill commitments made by CARB staff in the CTP agreement. CARB staff committed to collaborating with Section 177 state and manufacturer representatives to develop and propose to the Board a pooling concept under the ACT regulation as early as possible. The proposed pooling concept permits a manufacturer with surplus credits in one state to use the credits to assist in meeting ACT compliance obligations in another state. This proposed provision is designed to preserve the overall emissions benefits of the ACT regulation across California and the Section 177 states by providing manufacturers with additional flexibility to meet compliance obligations should their ZEV sales be lower than anticipated due to varying factors, such as normal year-to-year market fluctuations, individual fleet purchase decision uncertainties, and unforeseen supply chain disruptions. Additionally, the proposed pooling provision provides manufacturers with more flexibility to continue selling both ZEVs and internal combustion engine vehicles while meeting varying market demand across California and the Section 177 states. This concept was discussed in public meetings with all affected stakeholders.

The proposed amendments would also provide manufacturers with additional flexibility to meet compliance obligations in the Class 7-8 tractor group, should fluctuations in ZEV and NZEV sales occur. The proposal permits a manufacturer to use a maximum of 1,000 Class 2b-3 or Class 4-8 group ZEV and NZEV credits, converted at 80% of their original value, to satisfy their Class 7-8 tractor group deficits for a given model year.

Currently, a manufacturer generates credits for NZEVs that achieve an all-electric range that equals or exceeds 75 miles or greater starting with the 2030 model year, meaning that vehicles with less than 75 miles all-electric range would receive no credit. The proposed amendments would provide manufacturers with more NZEV all-electric range flexibility starting with the 2030 model year, by decreasing the minimum all-electric range threshold from 75 miles to 45 miles. The NZEV credit value is proportional to the all-electric range.

Additionally, under the proposed amendments, a manufacturer would be permitted to request an alternative credit retirement order instead of the default sequence, providing flexibility in how credits may be retired. Proposed amendments to the credit retirement order also include revisions to align with the proposed pooling provision and updated requirements to offset deficits generated in the Class 7-8 tractor group. The proposed amendments aim to simplify compliance and to reduce regulatory and administrative burden on the manufacturers.

Other proposed amendments include clarifying the language that outlines how compliance is determined to reduce redundancy and ensure appropriate stakeholder interpretation of the requirements. The proposed amendments include specifying that a manufacturer utilizing the deficit makeup period may not transfer ZEV nor NZEV credits to any other party, including secondary vehicle manufacturers, to ensure that such credits must be applied towards offsetting an outstanding deficit. The proposed amendments also include extending the credit transfer reporting deadline for all transfers in consideration that transfers from prior model years may occur at any time. Additionally, a definition for "ACT pooling state" has been added

to support the addition of the pooling provision and the term “manufacturer of record” has been replaced with “manufacturer” in the manufacturer definition.

Lastly, the proposed amendments to the ZEP Certification aim to increase flexibility for manufacturers to fulfill the communication protocol requirements with respect to the ZEV connector criteria, as requested by manufacturers.

III.The Specific Purpose and Rationale of Each Adoption, Amendment, or Repeal

The overarching purpose of the proposed amendments to the ACT regulation is to provide regulated manufacturers with additional compliance flexibilities, and to modify existing requirements to address the issues described above in Chapter II.

Section 1963(c). Definitions

“ACT Pooling State”

Purpose

The purpose of the changes in section 1963(c) is to establish a term that includes California and Section 177 states that have elected to adopt the requirements of California Code of Regulations, title 13, sections 1963, 1963.1, 1963.2, 1963.3, 1963.4, and 1963.5 pursuant to the authority set forth in Section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

Rationale

The addition of this definition is necessary to establish what an ACT pooling state is. This definition is necessary to conform with changes made to ACT compliance determination which create flexibilities that allow manufacturers to transfer surplus ZEV and NZEV credits generated in an ACT pooling state to meet compliance obligations in another ACT pooling state.

“Manufacturer”

Purpose

The purpose of the changes in section 1963(c) is to replace “manufacturer of record” with “manufacturer.”

Rationale

Replacing the manufacturer of record term with “manufacturer” is necessary to prevent limitations in the scope of the entities that are regulated by the ACT rule. This change necessarily considers instances where a manufacturer introduces another manufacturer’s product into commerce through a partnership.

Section 1963(e). Low Volume Exemption

Purpose

The purpose of the change in section 1963(e) is to establish that manufacturers exempt from the ACT requirements under the Low Volume Exemption are also exempt from the pooling provision as described in section 1963.7 and must comply like other manufacturers when they no longer qualify for the Low Volume Exemption.

Rationale

Establishing that a low volume manufacturer is exempt from the requirements of the pooling provision is necessary given that these manufacturers are not eligible to participate because they do not generate deficits and, subsequently, cannot utilize such provision as described in section 1963.7. This proposed change ensures appropriate stakeholder interpretation of the newly added requirements.

Section 1963(f). Voluntary Credit Generation

Purpose

The purpose of the changes to section 1963(f) is to specify that the requirements apply to manufacturers exempt as low volume manufacturers per section 1963(e) and to add “and certification” to match the updated title of section 1963.2.

Rationale

Specifying that the requirements of section 1963(f) apply to manufacturers exempt under the Low Volume exemption, but who elect to generate ZEV or NZEV credits, is necessary to eliminate potential vagueness and ensure appropriate stakeholder interpretation of the requirements. This change aligns with the original intent of the language. The edit to the title of section 1963.2 is a conforming modification to match the revised title.

Section 1963.2. Advanced Clean Trucks Credit Generation, Banking, Trading, and Certification

Purpose

The purpose is to add the language “and Certification” to the title of the section 1963.2.

Rationale

Updating the title to include the language “and Certification” provides a more complete description of the requirements in the section and improves readability.

Section 1963.2(b)(2). Minimum All-Electric Range

Purpose

The purpose of the change to section 1963.2(b)(2) is to decrease the minimum all-electric range threshold from 75 miles to 45 miles.

Rationale

It is necessary to decrease the minimum all-electric range based on information provided by several regulated manufacturers regarding NZEVs. The manufacturers indicated that the same drivetrain is often used in multiple chassis across multiple vehicle weight class categories. The manufacturers also expressed that heavier NZEVs face greater challenges in meeting increased all-electric ranges due to limitations on the size of batteries that can be installed and higher hauling and towing weight capacities. The selected minimum all-electric range is attainable for these vehicles while still enabling a significant number of all-electric miles driven and meaningful emissions reductions because the credit for NZEVs is proportional to the all-electric range.

Section 1963.2(d). Credit Banking

Purpose

The purpose of the change to section 1963.2(d) is to specify that surplus ZEV and NZEV credits that have not been retired to offset deficits may be banked for future use.

Rationale

Specifying that surplus credits may be banked is necessary to ensure clarity that a manufacturer must use all available credits in their account to achieve compliance and cannot bank credits that could be used to offset existing deficits.

Section 1963.2(e). Credit Trading and Transfer

Purpose

The purpose of the changes to section 1963.2(e) is to establish that a manufacturer may only transfer surplus ZEV and NZEV credits out of their account to another manufacturer within the state or to their account in an ACT pooling state in accordance with section 1963.7.

Rationale

Specifying that only surplus credits may be transferred is necessary to ensure that credits required to offset a deficit are not transferred out of the account. This addition ensures that a manufacturer achieves compliance when credits are available instead of transferring such credits and unnecessarily falling into a deficit.

Is it necessary to establish that surplus credits may be transferred to another manufacturer within the state to distinguish the requirements from credits that a manufacturer elects to transfer to an ACT pooling state, given the addition of the pooling provision in new section 1963.7.

It is necessary to specify that a manufacturer may elect to transfer ZEV and NZEV credits to an ACT pooling state given the addition of the pooling provision in new section 1963.7, which establishes requirements for a credit transfer amongst multiple states.

Sections 1963.2(e)(1) and 1963.2(e)(1)(A-B). Credit Transfer Limitations

Purpose

The purpose of the addition of section 1963.2(e)(1) is to establish that a manufacturer must have surplus credits in the account for credits to be transferred out of the account.

The purpose of the addition of sections 1963.2(e)(1)(A-B) is to establish that the number of tractor credits that can be transferred must be the lesser of the surplus credits in the manufacturer's account and the number of surplus Class 7-8 tractor credits.

Rationale

Establishing that a manufacturer must have surplus credits in the account is necessary to ensure that credits required to offset a deficit are not transferred out of the account. This addition ensures that a manufacturer achieves compliance when credits are available instead of transferring such credits and unnecessarily falling into a deficit.

Specifying the limitations of the number of tractor credits that can be transferred is necessary to ensure availability of Class 7-8 tractor credits should a manufacturer need assistance in meeting the Class 7-8 tractor group requirements. This addition also ensures that a manufacturer does not transfer credits that are required to offset a deficit.

Section 1963.2(e)(2). Transferred Credit Requirements

Purpose

The purpose of the addition of section 1963.2(e)(2) is to designate an individual section to the requirements for transferred credits.

This section also specifies that such requirements apply to surplus ZEV and NZEV credits.

Rationale

Establishing the requirements for transferred credits in a separate section is necessary to improve readability.

Specifying that the requirements apply to surplus ZEV and NZEV credits is necessary for consistency in changes to section 1963.2(e) that establish that only surplus ZEV and NZEV credits may be transferred out of a manufacturer's account.

Section 1963.2(e)(3). Secondary Vehicle Manufacturer Credit Transfer

Purpose

The purpose of the addition of section 1963.2(e)(3) is to designate an individual section to the credit trading and transfer requirements for secondary vehicle manufacturers.

This section also identifies credit transfers from a secondary vehicle manufacturer to a manufacturer occurring within a given state.

Rationale

Establishing the credit trading and transfer requirements for secondary vehicle manufacturers in a separate section is necessary to improve readability.

It is necessary to specify that these credit transfers occur within a given state as secondary vehicle manufacturers are not permitted to transfer credits to an account in another ACT pooling state under the pooling provision. This change ensures appropriate stakeholder interpretation of the requirements.

Section 1963.2(e)(4). Credit Transfer Effective Date

Purpose

The purpose of the addition of section 1963.2(e)(4) is to establish that ZEV and NZEV credits are available to be transferred 180 days following the end of the model year in which the credits were generated.

Rationale

Establishing that credits are available to be transferred 180 days following the end of the model year in which the credits were generated is necessary to ensure the credits are not needed to meet the transferring manufacturer's annual compliance requirements for said model year. The selected timeframe ensures sufficient time for CARB staff to review the reported data for completeness, to resolve any discrepancies, and to verify account balances following the submission of the initial 90-day report.

Section 1963.3(a). Compliance Determination

Purpose

The purpose of changes to section 1963.3(a) is to provide further specification regarding how annual compliance is determined at the end of each model year, given the removal of section 1963.3(f). The language "except as specified in section 1963.3(c)(3)" was removed.

The language "generated in the most recent model year and prior model years" was replaced with "generated for all vehicle groups."

The changes specify how compliance is calculated, which is adding credits to and subtracting deficits from the remaining account balance from the prior model year.

The changes also establish that this method is consistent when determining compliance for all vehicle groups and for the Class 7-8 tractor group separately.

Lastly, the changes establish that a manufacturer has surplus credits if the account balance is positive after completing the compliance calculation or has a net deficit if the account balance is negative after completing the compliance calculation.

Rationale

It is necessary to specify that compliance is determined at the end of each model year to ensure that every vehicle produced and delivered for sale in California for the model year is reflected in the compliance calculation. This change ensures that compliance is not prematurely determined prior to the end of the model year, which aligns with the original intent of the language.

Removing the reference to section 1963.3(c)(3) is necessary as the credits that are encompassed by the requirements of this section contribute towards the compliance determination. This change aligns with the original intent of the language.

Specifying the compliance calculation is necessary to provide stakeholders with further clarification of the method for determining their compliance status. This change also provides clarity in how credits transferred in and out of a manufacturer's account contribute towards the compliance calculation. It is necessary that the compliance calculation begin with any remaining account balance from the prior model year to account for the account balance carried over from the prior year. These changes align with the original intent of the language.

Establishing that the method for determining compliance is the same for all vehicle groups and the Class 7-8 tractor group is necessary for consistency in the compliance calculation between the two categories. It is necessary to specify that the compliance calculation is applied separately for the Class 7-8 tractor group as only Class 7-8 tractor credits can offset Class 7-8 tractor deficits, except as provided in section 1963.3(c)(3).

Lastly, clarifying what it means for a manufacturer to have surplus credits or a net deficit is necessary to coincide with changes to section 1963.3(b) and the addition of section 1963.7 in which these terms are used.

Section 1963.3(b). Flexibility to Make Up a Deficit

Purpose

The purpose of the changes to section 1963.3(b) is to simplify the language describing that full compliance must be achieved by the end of the three-model year period. The changes also simplify the description of the requirement that the net deficit must be reduced to below 30% of the deficits generated in the previous model year by the end of the first and second years of the makeup period.

The changes specify that a manufacturer may utilize the flexibility to make up a deficit if they have a net deficit after September 30 following the end of a given model year.

A description of how the requirements apply for the 2025 model year in the example was added.

The language "manufacturer's total net deficit balance for all model years in this example must be offset" was replaced with "manufacturer must achieve compliance."

The purpose of the changes is to specify that, for a manufacturer utilizing the flexibility to make up a deficit, ZEV or NZEV credits may not be transferred out of a manufacturer's account should such transfers result in increases for the total net deficit for all vehicle groups or the net deficit for the Class 7-8 tractor group.

Lastly, the changes establish that compliance must be achieved by the end of the 2035 model year.

Rationale

Simplifying the language describing that full compliance must be achieved by the end of the three-model-year period and how the 30% threshold is applied is necessary to improve readability and prevent multiple interpretations of the requirements. These changes remove unnecessary language and are consistent with the original intent of the requirements.

It is necessary to specify a consistent point in time to determine whether a manufacturer has a net deficit or net credit balance to then determine how many credits can be transferred into or out of a manufacturer's account. This change considers fluctuations in credit and deficit totals throughout a given model year. Such fluctuations can change the existence of a net deficit, affecting eligibility for the flexibility. This change removes ambiguity surrounding eligibility should a manufacturer not maintain a net deficit throughout the model year. September 30 was chosen to coincide with new changes to section 1963.4(b) that establish this date as the deadline for correcting or updating reported information.

It is necessary to expand on the provided example to demonstrate how the requirements apply to the second model year of the makeup period, and to further identify what value the 30% threshold is calculated from and the model year in which compliance must be achieved. These additions ensure that stakeholders appropriately understand how the requirements for this flexibility apply in practice for all years of the makeup period.

Preventing manufacturers making up a deficit from transferring credits out of their account that would increase the total net deficit or the net deficit for the Class 7-8 tractor group is necessary to ensure consistency with the requirement that credits must be used to offset any outstanding deficit. Specifying this requirement for both the total net deficit and the net deficit for the Class 7-8 tractor group is necessary as compliance for the Class 7-8 tractor group is calculated separately from the vehicle groups as described in section 1963.3(a).

Lastly, it is necessary to establish that compliance must be achieved by the end of the 2035 model year given that the flexibility options including the deficit make up period end with the 2035 model year.

Section 1963.3(c). Credit Retirement Order

Purpose

The purpose of the changes to section 1963.3(c) is to establish that a manufacturer may submit an alternative sequence for retiring credits. The purpose of the changes is to also remove the reference to section 1963.3(c)(3).

Rationale

It is necessary to permit manufacturers to retire credits under an alternative sequence in consideration of circumstances where a manufacturer elects to retain Class 7-8 tractor group ZEV credits that are closer to expiration than other credits that are more easily traded. This proposed change aims to reduce the regulatory and administrative burden on the manufacturers by providing flexibility in the sequence in which credits may be retired. It is also necessary to remove the reference to section 1963.3(c)(3) as a manufacturer utilizing the flexibility of section 1963.3(c) must still comply with the credit retirement conventions and sequence established by sections 1963.3(c)(1-2).

Section 1963.3(c)(3). Flexibility to Make Up a Class 7-8 Tractor Group Net Deficit

Purpose

The purpose of the changes in section 1963.3(c)(3) is to provide additional compliance flexibility by establishing that a manufacturer may elect to convert a maximum of 1,000 surplus Class 2b-3 or Class 4-8 group ZEV or NZEV credits each year to offset remaining Class 7-8 tractor group deficits at the end of each model year. The changes establish a discount rate of 80% of the original credit value when converting Class 2b-3 or Class 4-8 group ZEV and NZEV credits to Class 7-8 tractor group credits and establish how to report the use of this flexibility. Further conforming changes were made to the title of the section “Flexibility to Make Up a Class 7-8 Tractor Group Net Deficit” to reflect the updated content of section 1963.3(c)(3). The changes also establish that the 1,000-credit conversion limit is cumulative for all credit types. Lastly, the proposed changes remove the requirement that a manufacturer must generate 25 or fewer Class 7-8 tractor deficits in order to use this flexibility.

Rationale

Updating the title to “Flexibility to Make Up a Class 7-8 Tractor Group Net Deficit” is necessary given the proposed changes to this section as the previous title, “Low Tractor Volume Flexibility”, would no longer reflect the purpose of the section or requirements accurately.

It is necessary to allow Class 2b-3 or Class 4-8 group ZEV or NZEV credits to be used to offset a remaining net deficit for the Class 7-8 tractor group to provide manufacturers with additional flexibility in meeting the Class 7-8 tractor group requirements should fluctuations occur in tractor sales from year to year. The selected threshold of a maximum of 1000 surplus credits of

Class 2b-3 or Class 4-8 group ZEV or NZEV credits provides sufficient flexibility to manufacturers to meet the Class 7-8 tractor group requirements while making it clear ZEV tractor sales will continue to be needed. It is necessary to specify that only surplus Class 2b-3 or Class 4-8 ZEV or NZEV credits can be converted to ensure that a manufacturer cannot enter a deficit in these groups while using this flexibility. It is necessary to specify that the converted surplus ZEV and NZEV credits can only be used to offset a remaining net deficit balance to limit the flexibility to convert the minimum number of credits needed to offset any remaining Class 7-8 tractor group deficit.

Removing the requirement that a manufacturer must have generated 25 or fewer Class 7-8 tractor deficits is necessary to offer this flexibility to all regulated manufacturers, not just for those manufacturers with deficits under the threshold.

It is necessary to specify that a manufacturer may elect to use this flexibility at the end of each model year for implementation clarity on the timing and frequency for when this flexibility is available to a manufacturer.

It is necessary to establish a discount rate for Class 2b-3 and Class 4-5 group ZEV and NZEV credits to ensure the changes do not negatively impact emission benefits, that the manufacturers continue to make progress towards increasing Class 7-8 tractor group sales and helps maintain a level playing field for manufacturers that have made investments in Class 7-8 tractors. It is necessary to specify that the discount rate is applied to the original credit value for implementation clarity that the changes could not be interpreted to override the weight class modifiers in Table A-2. The 80% threshold provides the needed flexibility without undervaluing the Class 7-8 tractor group credits.

It is necessary to specify that the use of this flexibility be reported so that CARB may be made aware of, properly account for, and track the use of converted credits to offset remaining Class 7-8 tractor group deficits. Without this reporting requirement CARB will be unable to validate and assess compliance with the transactions. Lastly, it is necessary to specify that a manufacturer cannot convert more than a total of 1,000 credits per model year to establish that the limit applies to all credit types combined as opposed to separate limits for each credit type.

Section 1963.3(f). Compliance Determination

Purpose

The purpose of the changes to section 1963.3(f) is to remove the compliance determination section.

Rationale

It is necessary to remove the compliance determination section as the requirements for determining compliance are described in section 1963.3(a). Removing this section ensures appropriate stakeholder interpretation of the requirements for determining compliance.

Section 1963.4(a). Sales Reporting

Purpose

The purpose of the change to section 1963.4(a) is to remove the language “except as provided in section 1963.4(d).”

The changes also establish April 1 as the deadline for the initial sales report following the end of each model year.

Rationale

It is necessary to remove the reference to section 1963.4(d) because such section does not establish requirements that would exempt a manufacturer from the sales reporting requirements and is, therefore, not necessary to reference for an exception.

Establishing April 1 as the deadline for the initial sales report following the end of each model year is necessary given that the current reporting deadline annually falls on a California state holiday in which CARB staff are not working and are, therefore, unavailable to assist manufacturers with reporting. Adjusting this deadline to the following day permits staff to be present and available to assist manufacturers with reporting and to address any technical issues that may occur with the reporting site on the date the report is due.

Section 1963.4(b). Reporting Updates

Purpose

The purpose of the changes to section 1963.4(b) is to establish that the deadline for correcting or updating reported information is September 30 following the end of each model year.

The changes also establish a requirement for manufacturers to remove a vehicle from a report if the vehicle is converted to a ZEV or NZEV and is sold by another manufacturer.

Rationale

Specifying September 30 as the deadline for correcting or updating reported information is necessary to remove ambiguity for such deadline as model years vary by manufacturer. This change is consistent with the intended timeframe of the previous language.

Establishing that a manufacturer must remove a vehicle from their report if the vehicle is converted to a ZEV or NZEV and is sold as a new vehicle by another manufacturer is necessary to avoid double counting and ensure reporting consistency and accuracy.

Section 1963.4(c). Credit Transfer Reporting Within a State

Purpose

The purpose of the changes to section 1963.4(c) is to add new language “Within a State” to the title.

The purpose of the changes is to also replace the language “CARB will not recognize any credit transfers until” with “credit transfers submitted with the required credit transfer information as described in section 1963.4(c)(2) will be recorded as completed for.”

Rationale

It is necessary to update the title to distinguish the reporting requirements for credit transfers occurring within a state versus credit transfers occurring between states. This proposed change also coincides with the addition of the new section 1963.4(d).

Requiring that credit transfers be submitted with the information described in section 1963.4(c)(2) is necessary to ensure that such transfers can be verified as complete for the date the report is received.

Section 1963.4(c)(1). Transfer Reporting Deadline

Purpose

The purpose of the changes to section 1963.4(c)(1) is to establish that credit transfer reports must be submitted by September 30 following the end of each model year.

The changes also establish that credit transfers will be reflected in the model year that corresponds to the calendar year in which the trade occurs and is reported. An example of this requirement is established in this section for a credit transaction occurring and being reported in the 2025 calendar year to be reflected towards compliance with the 2025 model year.

Rationale

It is necessary to extend the deadline for when the credit transfer report must be submitted to ensure that manufacturers have sufficient time to determine what transfers are necessary based on the credits and deficits generated following the end of a given model year and for the transfers to take place. This change also aligns with the deadline to update the initial vehicle report.

Requiring that credit transfers will be reflected in the model year that corresponds to the calendar year in which the trade occurs is necessary to establish which model year the transfer will be reflected in and to prevent retroactive trading for a completed model year. Including an example of this requirement is necessary to ensure appropriate stakeholder interpretation of the requirement.

Section 1963.4(c)(2), Section 1963.4(c)(2)(E). Required Credit Transfer Report Information

Purpose

The purpose of the change to section 1963.4(c)(2) is to update the title to include the language “report.”

The purpose of the changes to section 1963.4(c)(2)(E) is to specify the vehicle group credit that must be indicated.

Rationale

It is necessary to update the title of the section to more accurately describe the requirements outlined in the section.

It is necessary to specify all vehicle group credit types to ensure appropriate stakeholder interpretation of the requirement. This change aligns with the original intent of the language.

Section 1963.4(d). Credit Transfer Reporting Between States

Purpose

The purpose of the addition of section 1963.4(d) is to establish that manufacturers that either receive or transfer credits between California and another ACT pooling state must report such transactions to CARB for each year the transactions are completed. This section also establishes the criteria that CARB will record and date the transaction after confirming the requirements of section 1963.7 are met.

Rationale

The addition of this section is necessary to set forth a reporting requirement for manufacturers that choose to transfer credits into or out of their California accounts so that CARB may be made aware of, properly account for, and track such credit transfers. Without this reporting requirement, CARB will be unable to validate and confirm the transactions meet the criteria to be transferred. It is necessary to include the criteria that CARB will only record and date such transactions after confirmation that all the requirements of section 1963.7 are met for clarity on timeframe and that CARB will not recognize these transactions until a report is received and validated.

Section 1963.4(d)(1). Transfer Reporting Deadline

Purpose

The purpose of the addition of section 1963.4(d)(1) is to establish that credit transfer reports must be submitted by September 30 following the end of each model year.

Rationale

This addition is necessary to establish a deadline by which manufacturers are expected to report their credit transfer information that is consistent with the deadline to update the initial vehicle report. The deadline is consistent with the reporting deadline for credit transfers within a state and ensures sufficient time for manufacturers to gather information, after the end of a given model year, to be able to report accurate information to CARB.

Section 1963.4(d)(2), Section 1963.4(d)(2)(A-F). Required Credit Transfer Report Information

Purpose

The purpose of the addition of proposed sections 1963.4(d)(2)(A-F) is to detail the required information that must be included as part of the credit transfer report when a credit transfer is being reported between California and another ACT pooling state as well as the process for submittal of the report. The report must include the corporate name of the credit transferor, the states in which ZEV and NZEV credits are being withdrawn from and transferred to, the number of ZEV and NZEV credits transferred for each model year, and which vehicle class group the ZEV and NZEV credits are from. Section 1963.4(d) also establishes that the report must be a letter or other document signed by authorized agent of the party summarizing the transfer.

Rationale

The addition of these reporting requirements is necessary to establish the information required to keep track of the credit transfer from one ACT pooling state to another ACT pooling state, should it be required to demonstrate compliance as well as verification, in case of audit.

It is necessary to specify the information must be submitted in a letter or other document to provide clarity for the regulated stakeholders that they have flexibility in how the information is provided to CARB. It is necessary to specify that the report must be signed by an authorized agent to ensure that the information is being submitted by someone who has the authority to act on behalf of the regulated stakeholder.

It is necessary to report the corporate name of the credit transferor in order to identify the specific manufacturer under which the transfer is taking place.

Indicating the ACT pooling states in which ZEV and NZEV credits are being withdrawn from and transferred to is necessary to identify which specific states that the credits are being transferred out of. This information is necessary to validate that the manufacturer has eligible credits in the account where credits are being withdrawn from and to make sure the number of credits moved into the other account are consistent with the criteria for proper accounting of the transfer.

Reporting the number of ZEV and NZEV credits transferred for each model year is necessary to identify the quantity of credits transferred between the participating states. This information

is necessary to validate that the manufacturer has enough eligible credits in the ACT pooling states where credits are being withdrawn and for proper accounting of the transfer. It is necessary to specify that credit transfers be rounded to the nearest tenth per section 1963.2(c) for consistency with the existing credit accounting requirements.

Indicating the identity of credits as belonging to the Class 2b-3 group, Class 4-8 group, or Class 7-8 tractor group is necessary to determine the type of credit being reported. This information is necessary for proper accounting of the transfer.

Section 1963.4(e). Credit Conversion to Make Up a Class 7-8 Tractor Group Net Deficit

Purpose

The purpose of the addition of section 1963.4(e) is to establish that manufacturers that convert Class 2b-3 or Class 4-8 vehicle group ZEV or NZEV credits to Class 7-8 tractor group credits must report such conversions. This section also establishes that the Executive Officer will record and date the conversion after confirming the conversion criteria have been met.

Rationale

The addition of this section is necessary to set forth a reporting requirement for manufacturers that have converted Class 2b-3 or Class 4-8 vehicle group credits so that the Executive Officer may be made aware of, properly account for, and track such credit conversions. Without this reporting requirement, the Executive Officer will be unable to validate and, if necessary, enforce on the conversions. It is necessary to include the criteria that the Executive Officer will only record and date such conversions after confirmation that the criteria have been satisfied to specify the timeframe for confirming the recording of the conversions, and to establish that the Executive Officer will not recognize these conversions until a report is received and validated.

Section 1963.4(e)(1). Conversion Reporting Deadline

Purpose

The purpose of the addition of section 1963.4(e)(1) is to establish that credit transfer reports must be submitted by September 30 following the end of each model year.

Rationale

This addition is necessary to establish a deadline by which manufacturers are expected to report their credit transfer information that is consistent with the deadline to update the initial vehicle report. The deadline is consistent with the reporting deadline for credit transfers within a state and ensures sufficient time for manufacturers to gather information after the end of a given model year to be able to report accurate information.

Section 1963.4(e)(2), Section 1963.4(e)(2)(A-C). Required Credit Conversion Report Information

Purpose

The purpose of the addition of proposed sections 1963.4(e)(2)(A-C) is to detail the required information that must be included as part of the report for a credit conversion and establish the process for submittal of the report.

The report must include the manufacturer name, the number of converted Class 2b-3 group ZEV and NZEV credits rounded to the nearest tenth per 1963.2(c), and the number of converted Class 4-8 group ZEV and NZEV credits rounded to the nearest tenth per section 1963.2(c).

Section 1963.4(e) also establishes that the report must be a letter or other document signed by authorized agent of the party summarizing the conversion.

Rationale

The addition of these reporting requirements is necessary to establish the information required to keep track of the credit conversion should it be required to demonstrate compliance as well as verification for the purpose of an audit.

It is necessary to report the manufacturer name in order to identify the specific manufacturer under which the conversion is taking place. Reporting the number of converted Class 2b-3 and Class 4-8 vehicle group ZEV and NZEV credits is necessary to identify the quantity of credits that are being converted to offset Class 7-8 tractor group deficits. This information is necessary to validate that the manufacturer has enough eligible Class 2b-3 or Class 4-8 vehicle group credits for the conversion. It is necessary to specify that credits be rounded to the nearest tenth per section 1963.2(c) for consistency with the existing credit accounting requirements. It is necessary to specify that the information must be submitted in a letter or other document to provide clarity to the regulated stakeholders that they have flexibility in how the information is provided. It is necessary to specify that the report must be signed by an authorized agent to ensure that the information is being submitted by someone who has the authority to act on behalf of the regulated stakeholder.

Section 1963.7. Pooling Flexibility to Transfer Credits to Another State

Purpose

The purpose of the addition of section 1963.7 with the title “Pooling Flexibility to Transfer Credits to Another State” was added to establish a section to consolidate the criteria for the proposed pooling provisions.

Rationale

Section 1963.7 is proposed to be added as a new section under the next available number in sequence with the corresponding title to contain the proposed pooling provisions in one regulatory section to maximize order and clarity in the regulations. The requirements are described in more detail below for each subsection of the proposed regulation.

Section 1963.7(a), Sections 1963.7(a)(1-3). Pooled ZEV and NZEV Credits

Purpose

The purpose of the addition of section 1963.7(a) is to establish a pooling provision that permits manufacturers to transfer surplus ZEV and NZEV credits generated in an ACT pooling state to satisfy deficits generated in another ACT pooling state for a given model year. Section 1963.7(a) also establishes a start date for when a manufacturer can elect to participate in this flexibility in addition to several criteria that describe the parameters for how the pooling provision will be implemented.

The purpose of the addition of section 1963.7(a)(1) is to require that a manufacturer can only transfer surplus credits into an ACT pooling state for which it has a net deficit. This section also establishes that a manufacturer may not transfer more surplus credits than are necessary to offset such net deficit in the other ACT pooling state.

The purpose of the addition of section 1963.7(a)(2) is to establish a maximum number of surplus credits that can be transferred between ACT pooling states, referred to as the pooled vehicle credit allowance. The changes also establish the methodology for calculating the maximum number of surplus credits that can be transferred out of an ACT pooling state or the number of deficits that must be offset by transferring credits into an ACT pooling state. This section also specifies that a manufacturer may transfer any surplus credits that do not exceed the pooled vehicle credit allowance for a given model year.

The purpose of the addition of “Table A-3. Pooled Vehicle Credit Allowance by Model Year” is to define the pooled vehicle credit allowance for each model year in each ACT pooling state. These allowances begin at 20% in 2027 and decrease by 2% each year, reaching 12% in 2031. The credit transfer allowance is then constant at 10% from model year 2032 through 2035. There is no pooled credit allowance after the 2035 model year.

The purpose of the addition of section 1963.7(a)(3) is to establish that a manufacturer may transfer surplus credits to another ACT pooling state where the flexibility to make up a deficit is being utilized.

Rationale

The addition of the proposed pooling provision is necessary for CARB to meet its commitment in the Clean Truck Partnership to develop and propose to the Board a pooling concept that permits manufacturers to transfer surplus ZEV and NZEV credits generated in one state that

has adopted the ACT regulation to assist in meeting compliance obligations in another state. This flexibility may assist the manufacturers in meeting their compliance obligations in states where ZEV sales are lower due to varying factors, such as normal year-to-year market fluctuations, individual fleet purchase decision uncertainties, and unforeseen supply chain disruptions.^{8,9} This addition would assist manufacturers in complying without affecting the regulation's overall objective and while preserving the overall emissions benefits from the ACT regulation across the ACT pooling states. Several criteria provide consistency in implementation and ensure emission reductions are achieved.

The addition of section 1963.7(a)(1) is necessary to coincide with changes to section 1963(e) that exempt low volume manufacturers from the pooling provision. It is necessary to specify that a manufacturer may not transfer more surplus credits than are necessary to offset the remaining net deficit in another ACT pooling state to prevent banking of credits transferred through the pooling provision.

The addition of section 1963.7(a)(2) is necessary to identify the procedure for calculating the number of credits that can be transferred into a state within a given model year to ensure that the manufacturers are able to determine the number of credits that can be transferred. Establishing a maximum limit on the number of credits that can be transferred into an ACT pooling state for each manufacturer is necessary to ensure that manufacturers make progress towards their annual compliance obligations in each ACT pooling state and achieving the emission reductions of the ACT regulation. Establishing a maximum prevents a significant portion of an ACT pooling state's compliance obligation from being met with credits transferred from another ACT pooling state. Specifying that a manufacturer may transfer any surplus credits that do not exceed the pooled vehicle credit allowance for a given model year is necessary to ensure that manufacturers make progress towards their annual compliance obligations in California. These criteria prevent a manufacturer from transferring an excess of surplus credits into an ACT pooling state for use in a future compliance year. These criteria will ensure that manufacturers make progress towards their annual compliance obligations and achieve the expected emission reductions of ACT.

Table A-3 is necessary so that manufacturers can calculate the maximum number of credits that can be transferred into a state in accordance with the methodology established in section 1963.7(2). The proposed percentages factor in the amount of overcompliance that could be theoretically expected within any ACT pooling state compared to the overall compliance requirement. Phasing down the percentages ensures manufacturers do not accumulate an excessive gap between actual sales volumes of ZEVs and NZEVs and the annual compliance requirement. Ending the pooling provision in the 2035 model year is necessary given that the regulation's requirements are only applicable through 2035 model year.

⁸ Federal Highway Administration, State Motor-Vehicle Registrations – 2020, 2020 (weblink: <https://www.fhwa.dot.gov/policyinformation/statistics/2020/xls/mv1.xlsx>, last accessed April 2025).

⁹ American Truck Dealers, 2023 Annual Financial Profile of America's Franchised New-Truck Dealerships, 2023, (weblink: <https://www.nada.org/media/5008/download?inline>, last accessed April 2025).

The addition of section 1963.7(a)(3) is necessary to assist manufacturers in meeting their compliance obligations and provide greater assurance that a manufacturer will remain in compliance when utilizing section 1963.3(b). For example, a manufacturer may contribute credits transferred from another ACT pooling state towards a deficit in California for which they are using section 1963.3(b) should a deficit remain after applying all available credits (such as those generated in-state or credits transferred from another manufacturer).

Table 2, shown below, provides an illustrative example of a manufacturer using the proposed pooling flexibility along with the deficit makeup period as described in section 1963.3(b). Deficits are shown as negative values and credits as positive values. In this example a manufacturer acquires an annual net balance of -2,000 for the 2027 model year after exhausting their available credits generated in-state and purchased from another manufacturer. The manufacturer is then permitted to offset up to 20% of the new deficits for 2027 (maximum of 400 credits) with credits transferred from another ACT pooling state, resulting in a net balance of -1,600 for the 2027 model year. This cumulative net balance is subsequently carried forward into the 2028 model year.

Table 2: Example of the Deficit Makeup Period and Pooling Flexibilities Working Simultaneously

	2027	2028	2029	2030
Total sales	10,000	10,000	10,000	10,000
Annual ZEV sales requirement	20%	30%	40%	50%
Deficits generated (shown as negative values)	-2,000	-3,000	-4,000	-5,000
Balance carried over from prior year	N/A	-1,600	-1,380	-1,614
Credits generated	0	2,680	3,126	5,914
Annual net balance	-2,000	-1,920	-2,254	-700
Pooling percentage allowance	20%	18%	16%	14%
Pooling contribution	400	540	640	700
Net balance with pooling contribution	-1,600	-1,380	-1,614	0

For the 2028 model year, a manufacturer acquires an annual net balance of -1,920 after exhausting their available credits (such as those generated in-state or transferred from another manufacturer). The manufacturer is then permitted to offset up to 18% of the new deficits for 2028 with credits transferred from another ACT pooling state (maximum of 540 credits), resulting in a cumulative net balance of -1,380 for the 2028 model year. This cumulative net balance is subsequently carried forward into the 2029 model year.

This procedure continues for the 2029 and 2030 model years with the manufacturer's net balance for all model years in this example being offset by the end of the 2030 model year.

Exhaust Emission Standards and Test Procedures – 1985 and Subsequent Model Heavy-Duty Engines and Vehicles, 2021 and Subsequent Zero-Emission Powertrains, and 2022 and Subsequent Model Heavy-Duty Hybrid Powertrains

Section 1956.8(a)(8). Zero-Emission Powertrain Certification Standards

Purpose

The purpose of the changes to this section is to replace the language “last amended March 19, 2025” with “last amended <INSERT EFFECTIVE DATE>.”

Rationale

It is necessary to replace the last amended date because the California Standards and Test Procedures for New 2021 and Subsequent Model Year Heavy-Duty Zero-Emission Powertrains would be amended through the proposed modifications.

California Standards and Test Procedures for New 2021 And Subsequent Model Heavy-Duty Zero-Emission Powertrains

Part I, Section C.3.1

Purpose

The purpose of the changes to this section is to modify the communication protocols with respect to the ZEV connector criteria in the ZEP Certification regulation.

Rationale

Permitting the use of a communication protocol explicitly allowed for light-duty vehicles is necessary to increase flexibility to manufacturers certifying heavy-duty and incomplete medium-duty vehicles. The proposed change incorporates additional pathways requested by several manufacturers to fulfill communication protocol requirements with respect to ZEV connector criteria.

IV. Benefits Anticipated from the Regulatory Action, Including the Benefits or Goals Provided in the Authorizing Statute

The proposed amendments are expected to create benefits for manufacturers and Section 177 states to ensure emissions reductions occur from implementation of the ACT regulation as intended.

A. Benefits to Manufacturers

The proposed amendments to the ACT regulation will benefit manufacturers in two main ways. First, the proposed amendments will permit surplus ZEV and NZEV credits generated in one state that has adopted the regulation to assist in meeting ACT compliance obligations in another state. This introduces additional flexibility in the regulation and will grant manufacturers a greater ability to meet the ACT regulation's requirements in all states that have adopted the regulation. Second, allowing credits generated from the Class 2b-3 and Class 4-8 groups to be converted to offset a portion of the deficits generated from the Class 7-8 tractor group will enable manufacturers to more easily meet their compliance obligations and account for potential fluctuations in tractor sales from year to year. Both proposed amendments will maintain the ACT regulation's emission benefits while increasing flexibility and decreasing regulatory burden on manufacturers. As explained in Section VI below, these proposed amendments are not projected to adversely impact the emissions benefits of the

ACT regulation in California as they are not expected to alter the statewide compliance responses by regulated entities covered by the program. It is also unlikely that compliance obligations in California will be met with credits transferred from a Section 177 state through the pooling provision.

Additionally, the proposed amendments to the ZEP Certification will benefit manufacturers certifying heavy-duty and incomplete medium-duty vehicles by incorporating additional pathways to fulfill communication protocol requirements with respect to ZEV connector criteria.

B. Benefits to Advanced Clean Trucks Pooling States

The proposed modifications to the ACT regulation will help ensure that the emissions goals will be met overall when other states choose to adopt these standards within their jurisdiction, as explicitly provided for under Section 177 of the Clean Air Act. The proposed modifications will provide manufacturers with a greater ability to comply with the ACT regulation's requirements in California, and any states that choose to adopt these standards, should vehicle sales fluctuate due to varying factors outside of the manufacturers' control. The proposed amendments also increase compliance flexibility without burdening the regulated manufacturers and businesses within California and each respective state that rely on the manufacturers for their regular operations.

V. Air Quality

The proposed amendments to the ACT regulation are relatively minor and would solely provide manufacturers additional flexibility to comply with the regulation. In particular, the proposed amendments would allow manufacturers to more effectively account for fluctuations in vehicle sales from year to year. The proposed pooling provision is not expected to affect overall statewide emissions reduction requirements in California under the ACT regulation for several reasons. First, only surplus credits can be transferred out of a participating state. Second, the number of credits that may be transferred into a state by a manufacturer is limited by the proposed pooling provision. Third, in any given model year, it is reasonable to expect that some manufacturers will elect not to use the pooling provision and will instead elect to retain their surplus credits for future compliance. Finally, credits can flow both into and out of any given state.

The proposed amendments are not expected to have any potentially significant emissions impact. First, the pooling provision only applies to tractor manufacturers that have a net deficit in any given model year and the total number of credits that can be converted is limited. Second, manufacturers have other flexibility options, including the deficit makeup period and the ability to trade credits with other manufacturers, and no change would occur as a result of the proposed amendments unless a tractor manufacturer elects to use the added credit conversion flexibility. Third, the 80% conversion factor described above reduces the number of credit conversions that could be made by a given manufacturer while increasing the potential for increased emissions reductions because more credits overall would be retired. Finally, the weight class modifier already accounts for differences in emissions from different vehicle

categories, so any credit conversions would not have a significant emissions impact. Overall, staff expects the emissions benefits associated with the proposed amendments to be approximately neutral in California.

Section 177 of the federal Clean Air Act allows states to adopt the ACT regulation. The proposed amendments are not expected to result in any potentially significant emissions impacts in those states. Nothing in the proposed amendments has any potential to increase emissions above the existing conditions baseline. In terms of future anticipated reductions, given that the proposed amendments provide compliance flexibility to the manufacturers as opposed to modifying the rule's requirements, the number of vehicles deployed as a result of the ACT regulation is expected to remain the same. Further, while a manufacturer would have the ability to transfer credits to Section 177 states that were generated from vehicles produced and delivered for sale in California, credits could also be transferred into California from the Section 177 states. As a result, credit transfers through the pooling provision are expected to be distributed relatively evenly amongst the states, meaning emissions benefits are similarly expected to be distributed relatively evenly amongst the states. Lastly, as described previously, the 80% credit conversion factor would increase the volume of credits retired, resulting in increased emissions reductions, and the weight class modifier already accounts for differences in emissions from different vehicle categories. Overall, no change is expected to occur as a result of the proposed amendments should a manufacturer elect to not utilize the flexibilities as part of the proposed amendments and no changes are expected to occur in the compliance response types that were analyzed previously as a result of the proposed amendments.

VI. Environmental Analysis

A. Introduction

This chapter provides the basis for CARB's determination that no subsequent or supplemental environmental analysis is required for the proposed modifications to the ACT regulation. A brief explanation of this determination is provided in Section D below. CARB's regulatory program—which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality—has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA) (Cal. Code Regs., tit. 14 § 15251, subd. (d)). Public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. CARB, as a lead agency, prepares a substitute environmental document (referred to as an "Environmental Analysis" or "EA") as part of the Staff Report to comply with CEQA (Cal. Code Regs., tit. 17 §§ 60000-60008).

This EA serves as a substitute document equivalent to an addendum to the prior EA, *Final Environmental Analysis for the Proposed Advanced Clean Truck Regulation*, (CARB 2020) or

Final EA,¹⁰ to explain CARB's determination that no additional environmental analysis is required for the proposed modifications to the ACT regulation.

B. Prior Environmental Analysis

CARB previously prepared the Final EA under its certified regulatory program (Cal. Code Regs., tit. 17, §§ 60000-60008) to comply with the CEQA requirements. The Final EA provided an environmental analysis, which focused on reasonably foreseeable potentially significant adverse and beneficial impacts on the physical environment resulting from reasonably foreseeable compliance responses. The ACT regulation was first presented to the Board in December 2019. CARB responded in writing to comments received on the Draft EA in response to the comments document that was made publicly available on June 23, 2020. At the second hearing in June 2020, the Board adopted Resolution 20-19 certifying the Final EA and adopting the findings and statement of overriding considerations. A Notice of Decision was filed with the Secretary of State on June 30, 2020, and the Regulation was effective on March 15, 2021. All associated documents are available at <https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks>.

The Final EA provided an analysis of the potentially significant adverse and beneficial environmental impacts resulting from implementation of the ACT regulation and their associated reasonably foreseeable compliance responses. In addition, the Final EA used a conservative approach and considered some environmental impacts as potentially significant because of the inherent uncertainties in the relationship between physical actions that were reasonably foreseeable under the rulemaking and environmentally sensitive resources or conditions that may be affected.

Compliance responses to the ACT regulation were expected to result in beneficial impacts to air quality (long-term operational-related), energy demand (long-term operational-related), and greenhouse gas emissions (long-term operational-related).

The Final EA also concluded that there could be less-than-significant impacts to air quality (odor-related), energy demand (short-term construction-related), greenhouse gas emissions (short-term construction-related), mineral resources (short-term construction-related), population and housing, public services, and recreation. In addition, it was determined that potentially significant and unavoidable adverse impacts to the following resource areas could occur: aesthetics, agriculture and forestry, air quality (short-term construction-related), biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources (long-term operational related), noise, transportation, and utilities and service systems. While many of the identified potentially significant adverse impacts could be reduced to a less-than-significant level by mitigation that can and should be implemented by local lead agencies, authority to do so is beyond the purview of CARB. The authority to determine project-level impacts and require

¹⁰ California Air Resources Board, Final Environmental Analysis for the Proposed Advanced Clean Trucks Regulation. June 23, 2020.

project-level mitigation lies with land use and/or permitting agencies for individual projects, causing inherent uncertainty in the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts. Consequently, the Final EA took the conservative approach in its post-mitigation significance conclusion and disclosures of potentially significant and unavoidable adverse impacts, for CEQA compliance purposes. The significance determinations are discussed in greater detail in the Final EA. As discussed below, the proposed modifications to the ACT regulation would not constitute a substantial change or new information resulting in any new significant effects or a substantial increase in the severity of previously identified significant effects.

C. The Proposed Regulatory Action

The proposed amendments to the ACT regulation include the following modifications:

- Permit manufacturers to use surplus ZEV and NZEV credits generated in one state that has adopted the ACT regulation to assist with meeting ACT compliance obligations in another state. The proposed pooling flexibility implements a declining annual credit transfer allowance for the 2027 through 2031 model years that dictates how many credits can be transferred in a given year into a state with a deficit. These allowances would begin at 20% in 2027 and decrease by 2% each year, reaching 12% in 2031. The credit transfer allowance would then be constant at 10% for the 2032 through 2035 model years.
- Modify the Low Tractor Volume provision to permit manufacturers to offset a portion of deficits generated in the Class 7-8 tractor group with Class 2b-3 or Class 4-8 group ZEV or NZEV credits for the 2027 through 2031 model years.
- Decrease the minimum all-electric range threshold requirements for NZEVs after the 2030 model year.
- Increase flexibility in the credit retirement order.
- Modify requirements for communication protocols and ZEV connector criteria in the ZEP Certification.

These modifications to the ACT regulation are minor but necessary for inclusion of the pooling provision and to enable effective execution of the rule. With these provisions, manufacturers will have greater compliance flexibility through the credit system while maintaining the emission benefits of the ACT regulation.

The proposed modifications do not change the type of facilities or projects that are permitted under the existing ACT regulation, nor do staff anticipate that they will significantly alter the compliance responses by regulated entities covered by the program. As such, these proposed amendments are not expected to introduce any new environmental impacts that were not already evaluated under the Final EA.

D. Analysis

1. Legal Standards

When considering modifications to a regulation for which a substitute document equivalent to an Environmental Impact Report (EIR) or negative declaration had previously been prepared, CARB looks to Public Resources Code section 21166 and CEQA Guidelines section 15162 for guidance on the requirements for subsequent or supplemental environmental review. (Cal. Code Regs. tit. 17 § 60004.4.)

CEQA Guidelines section 15162 states:

- (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:*
- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
 - (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
 - (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:*
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

If a subsequent or supplemental EIR or negative declaration is not required, the lead agency may document its decision and supporting evidence in an addendum (Cal. Code Regs., tit. 14 § 15164, subd. (e)). The addendum and lead agency's findings should include a brief explanation, supported by substantial evidence, of the decision not to prepare a subsequent or supplemental EIR or negative declaration (14 CCR § 15164(e)). An addendum need not be circulated for public review, but must be considered by the lead agency prior to making a decision on the project (Cal. Code Regs., tit. 14 § 15164(c), subd. (d)).

2. Basis for Determination

CARB has determined that the proposed modifications to the ACT regulation do not involve any changes that result in any new significant adverse environmental impacts or a substantial increase in the severity of the significant adverse impacts previously disclosed in the Final EA. Further, there are no changes in circumstances or new information that would otherwise warrant any subsequent or supplemental environmental review. The Final EA adequately addresses the implementation of the regulation as modified by the proposed amendments and no additional environmental analysis is required. The basis for CARB's determination that none of the conditions requiring further environmental review are triggered by the proposed modifications is based on the following analysis.

- (1) There are no substantial changes to the project previously analyzed in the Environmental Analysis which require major revisions to the Environmental Analysis involving new significant environmental effects or a substantial increase in the severity of previously identified effects.*

There are no substantive changes in the compliance requirements as manufacturers are only receiving additional flexibility to assist in meeting their compliance requirements or offset their Class 7-8 tractor group deficits, while preserving the regulation's emissions reductions. This increased flexibility would not have any detrimental impact on the California emissions inventory, nor would it result in any new or modified facilities as a result of implementation. The proposed amendments would also not result in any other types of construction or operational-related impacts that could lead to potential adverse environmental impacts beyond those analyzed in the Final EA.

- (2) There are no substantial changes with respect to the circumstances under which the project is being undertaken which require major revisions to the previous Environmental Analysis involving new significant environmental effects or a substantial increase in the severity of previously identified effects.*

There are no substantial changes to the circumstances under which the proposed modifications to the ACT regulation are being implemented compared to those analyzed in the Final EA. As explained above, the proposed modifications also do not substantially alter the compliance responses of the regulated entities or result in any changes that significantly affect the physical environment.

- (3) There is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous Environmental Analysis was certified as complete, that changes the conclusions of the Environmental Analysis with regard to impacts, mitigation measures, or alternatives;*

No new information of substantial importance has become available to CARB staff since the Final EA was certified. Therefore, the conclusions found the Final EA about the compliance responses for the ACT regulation or potential environmental impacts to any resource areas have not changed.

Tribal Cultural Resources and Wildfire Risk are two new CEQA resource areas added to Appendix D to the CEQA Guidelines since CARB completed the Final EA in 2020. Additional analysis of these resource areas is not required. Changes in guidelines are not new information triggering a subsequent review so long as the underlying environmental issue was understood at the time of the initial EIR. (*Concerned Dublin Citizens v. City of Dublin* (2013) 214 Cal.App.4th 1301, 1318-1320.) While the Final EA did not directly analyze these resource areas, impacts on tribal resources and wildfires were adequately understood at the time of the Final EA in 2020. Note also that project impacts on tribal resources were analyzed in the 2020 EA's Cultural Resources section, concluding the Regulation would result in a significant and unavoidable impact. Since tribal resources were included under the Cultural Resources analysis, the same recommended mitigation measures would apply even if Tribal Cultural Resources were analyzed as their own resource area in the Final EA. Likewise, several impacts analyzed under the Wildfire resource area, such as impacts to emergency plans or impacts of fire, were known and analyzed under the Hazards and Hazardous Materials Resource area, which the Final EA concluded was potentially significant and unavoidable. Similarly, recommended mitigation measures would be the same. The proposed amendments would not result in any potential for new impacts that would change the Final EA analysis, particularly since there would be no changes to the compliance response types that were analyzed previously. Therefore, an addendum is appropriate here. Because there is no substantive change to the way in which regulated entities operate, the proposed amendments will not result in additional physical changes to the environment beyond what would already occur under the existing ACT regulation. The proposed amendments do not incentivize or otherwise drive new project types. Therefore, CARB staff does not anticipate that the proposed amendments will cause new significant environmental effects or a substantial increase in the severity of previously identified effects in the Final EA.

In summary, no supplemental or subsequent environmental analysis is required for these proposed modifications to the ACT regulation because, as described above, the proposed changes do not result in any new environmental impacts or in a substantial increase in severity to the impacts previously disclosed in the Final EA. Further, there are no changes in circumstances or new information that would otherwise warrant an additional environmental review.

VII. Environmental Justice

State law defines environmental justice as the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (Gov. Code, § 65040.12, subd. (e)(1)). Environmental justice includes, but is not limited to, all of the following: (A) The availability of a healthy environment for all people; (B) the deterrence, reduction, and elimination of pollution burdens for populations and communities experiencing the adverse effects of that pollution, so that the effects of the pollution are not disproportionately borne by those populations and communities; (C) governmental entities engaging and providing technical assistance to populations and communities most impacted by pollution to promote their meaningful participation in all phases of the environmental and

land use decision making process; and (D) at a minimum, the meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions (Gov. Code, § 65040.12, subd. (e)(2)). The Board approved its Environmental Justice Policies and Actions (Policies) on December 13, 2001, to establish a framework for incorporating environmental justice into CARB's programs consistent with the directives of State law. These policies apply to all communities in California but are intended to address the disproportionate environmental exposure burden borne by low-income communities and communities of color. Environmental justice is one of CARB's core values and fundamental to achieving its mission.

The ACT regulation was designed to help introduce lower emitting, zero-emission heavy-duty technology into applications that are well suited to its use and achieve NOx and GHG emissions reductions through advanced clean technology. The proposed amendments would still preserve these goals while also providing manufacturers with additional compliance flexibility and fulfilling CARB's commitment in the CTP agreement to propose a pooling concept to the Board as soon as possible in collaboration with the manufacturers and Section 177 states. As a result, the proposed amendments are not expected to have any negative impacts to CARB's environmental justice policy of reducing exposure to harmful pollutants.

VIII. Economic Impacts Assessment

The proposed amendments to the ACT regulation are not expected to have an impact on costs because they do not impose additional requirements on manufacturers and instead provide manufacturers with greater compliance flexibility. The proposed amendments otherwise consist of administrative changes for smoother implementation.

The proposed amendments to the ZEP Certification are not expected to have an impact on costs because they comprise of administrative changes intended to provide additional flexibility to manufacturers certifying heavy-duty and incomplete medium-duty vehicles by incorporating additional pathways to fulfill requirements on communication protocols.

A. Estimated Costs

The proposed amendments include the following changes that are not expected to have an impact on costs on California businesses and individuals due to the proposed amendments are primarily changes that provide additional compliance flexibility.

B. The creation or elimination of jobs within the State of California

The proposed amendments are expected to result in minor increases and decreases in work performed that can be absorbed by the regulated manufacturers. As a result, no jobs are expected to be created or eliminated by these proposed amendments.

C. The creation of new business or the elimination of existing businesses within the State of California

The proposed amendments are expected to have no impact on costs to regulated businesses and will not have an impact on business creation or elimination.

D. The expansion of businesses currently doing business within the State of California

The proposed amendments do not affect the ZEV sales percentage requirements, resulting in the business conducted to meet the basic requirements remaining about the same. Therefore, no businesses affected by the ACT regulation are expected to expand from the implementation of these proposed amendments.

E. Significant statewide adverse economic impact directly affecting business, including ability to compete

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons. Additionally, the proposed amendments are expected to have no significant competitiveness impacts on California businesses.

F. The benefits of the regulation to the health and welfare of California residents, worker safety, and the State's environment

The proposed amendments are generally minor changes that are expected to have no cost or emissions impact and no impact on health and welfare of California residents, worker safety, and the State's environment.

IX. Evaluation of Regulatory Alternatives

Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated and provides reasons why these alternatives were not included in the proposal. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing law. The Board has not identified any reasonable alternatives that would lessen any adverse impact on small businesses.

A. Alternative 1: No Action

Alternative 1 represents a status quo scenario where no amendments are made to the ACT regulation. Alternative 1 would not be expected to cause any changes to the benefits in terms of emissions, health benefits, or costs.

Under this concept, there would be no flexibility provision that allows manufacturers to use surplus ZEV and NZEV credits generated in one state that has adopted the ACT regulation to assist with meeting ACT compliance obligations in another state. Alternative 1 was rejected because the current ACT regulation does not provide substantial flexibility to manufacturers facing potential annual market fluctuations and other variables outside of the manufacturers' control that may prevent them from meeting compliance obligations and would fail to meet commitments made in the Clean Truck Partnership to present a pooling concept to the Board for consideration. The lack of a pooling flexibility would mean that manufacturers are more likely to have more challenges in planning for and maintaining compliance with the ACT regulation as the annual ZEV percentages continue to increase and market conditions result in fluctuating sales. Without added flexibility for manufacturers to address annual sales fluctuations, manufacturers are more likely to take other steps, such as reducing total sales, that could delay emissions reductions. For these reasons, Alternative 1 was rejected.

B. Alternative 2: Limit Pooling to Five Model Years, Reduce Percentage Allowance, and Restrict Credits Transferred from Any One State

Alternative 2 was developed based on feedback from stakeholders and presented by CARB at a public workshop held on December 9, 2024.¹¹ Alternative 2 permits manufacturers for the 2027 through 2031 model years to use surplus ZEV and NZEV credits generated in one state that has adopted the ACT regulation to assist with meeting ACT compliance obligations in another state for the Class 7-8 tractor group only. The amount of ZEV and NZEV credits that can be transferred into a state with a deficit is subject to a declining percentage allowance over the five-model-year period. The number of transferable credits through pooling is calculated using the percentage allowances in Table 3 for the applicable model year multiplied by the deficit calculation as described in section 1963.1(b).

Table 3: Pooled Vehicle Credit Allowance by Model Year

Model Year	2027	2028	2029	2030	2031	2032+
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¹¹ Advanced Clean Trucks Proposed Pooling Concepts, December 9, 2024 (weblink: https://ww2.arb.ca.gov/sites/default/files/2024-12/241209actpres_ADA.pdf, last accessed April 2025).

Percentage Allowance	20%	16%	12%	8%	4%	0%
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Under this concept, credit transfers from any one state with a credit surplus to a state that has a deficit would be limited to 25% of the percentage allowance for the applicable model year. Credits that can be transferred through this flexibility provision would be restricted to those generated in the most recent model year. This is a more stringent alternative and would provide less flexibility to manufacturers in meeting compliance targets, limit the number of credits that can be transferred from any one state, and require greater ZEV deployment in each Section 177 state. Alternative 2 is not expected to cause any significant changes to emissions or health benefits in California. The costs of Alternative 2 are expected to be the same as the proposed amendments as they both provide additional compliance flexibility.

Alternative 2 was rejected as it fails to provide sufficient necessary flexibility to the regulated manufacturers in meeting compliance obligations in California and the Section 177 states. This concept's several compounded conditions create difficulty for the manufacturers in planning for future compliance, should they utilize the flexibility as tracking and administering pooled credits in a reasonably predictable and useful manner, would be too complicated given the varying layers of conditions. Limiting pooling to the Class 7-8 tractor group would provide no flexibility to the majority of the regulated manufacturers and effectively put them at a disadvantage as they do not produce vehicles in this group which prevents them from being able to utilize this flexibility. The percentage allowances, as described in Table 3, decline too quickly to sufficiently assist manufacturers in meeting the compliance requirements in the other states. Lastly, restricting the credits that can be pooled to those generated in the most recent model year implements an additional unnecessary restriction and does not consider early action credits, credits generated and banked from overcompliance in previous model years, nor credits acquired through the trading and transfer system. For these reasons, Alternative 2 was rejected.

C. Alternative 3: Credit Pooling with No Conditions

Alternative 3 permits manufacturers to use surplus ZEV and NZEV credits generated in one state that has adopted the ACT regulation to assist with meeting ACT compliance obligations in another state with no conditions. This alternative is based on a concept proposed by the Truck and Engine Manufacturers Association (EMA) at a public workshop for the ACT credit pooling concept on November 28, 2023,¹² in addition to comments submitted by EMA to CARB on December 20, 2024. This is a less stringent alternative and would provide greater flexibility to manufacturers in meeting compliance requirements in California and the Section 177 states but increases the risk that some manufacturers could decrease or eliminate ZEV and NZEV

¹² Truck and Engine Manufacturers Association, ACT Credit-Pooling Concepts for Opt-In States, November 28, 2023 (web link: <https://ww2.arb.ca.gov/sites/default/files/2023-11/231128emapres.pdf>, last accessed April 2025).

deployment in California or other participating states. Alternative 3 has an unacceptable risk that could result in significant losses of emission and health benefits in California or in one or more of the Section 177 states. However, staff did not perform an emissions analysis due to the speculative nature of the number of manufacturers that may use this flexibility and how overall ZEV sales in California would change.

Alternative 3 was rejected as it fails to establish adequate guardrails to protect against a potential influx of credits from California or a Section 177 state, which would ultimately delay necessary emissions reductions and public health benefits. Should credits generated in California or a Section 177 state be used in such excess to meet compliance obligations, the growth of the ZEV and NZEV markets would almost certainly be delayed and subsequently create uncertainty associated with manufacturer ability to meet compliance requirements. This would also create uncertainty for California and other states who are creating supporting vehicle and infrastructure policies and programs as manufacturers could have the option to opt out of those states completely. For these reasons, Alternative 3 was rejected.

D. Small Business Alternative

The Board has not identified any reasonable alternatives that would lessen any adverse impact on small businesses. Additionally, the Executive Officer has determined under CCR title 1, section 4, that the proposed regulatory action would not affect small businesses as none of the manufacturers subject to the ACT regulation meet the Assembly Bill 1033 (Garcia, Stats. 2016, ch. 346) definition of a small business.

E. Performance Standards in Place of Prescriptive Standards

The proposed amendments do not change the prior determination that the ACT regulation does not establish a prescriptive standard. The ACT regulation is a performance standard as it requires that zero-emission trucks be produced; it does not prescribe the kind of technology that must be deployed.

F. Health and Safety Code section 57005 Major Regulation Alternatives

The proposed regulation will not result in a total economic impact on state businesses of more than \$10 million in one or more years of implementation. Therefore, this proposal is not a major regulation as defined by the Health and Safety Code section 57005.

X. Justification for Adoption of Regulations Different from Federal Regulations Contained in the Code of Federal Regulations

This chapter is intended to satisfy Government Code section 11346.2, subdivision (b)(6), which requires CARB to describe its efforts to avoid unnecessary duplication or conflicts with federal regulations that address the same issues. However, the proposed amendments are minor to

the scope of the ACT regulation and do not conflict with federal regulations as there are no federal requirements for manufacturers to sell ZEVs with a gross vehicle weight rating greater than 8,500 lb.

XI. Public Process for Development of the Proposed Action

Consistent with Government Code sections 11346, subdivision (b), and 11346.45, subdivision (a), and with the Board's long-standing practice, CARB staff held public workshops and had other meetings with interested persons during the development of the proposed amendments. These informal pre-rulemaking discussions provided staff with useful information that was considered during the development of the amendments that is now being proposed for formal public comment.

In November 2023, CARB staff began informing the public of the proposed amendments to the ACT regulation and the development process. Staff hosted public workshops on November 28, 2023, and December 9, 2024, via webcast to capture stakeholder input on the proposed concepts. Staff additionally conducted 33 meetings with 20 stakeholder groups. The existing ACT regulation webpage hosted all information pertaining to the regulatory process, the public workshop announcement, workshop materials, the workshop recording, drafted regulation language, a listserv signup link, and contact information.

XII. Documents Relied Upon

The following documents are the technical, theoretical, or empirical studies, reports, or similar documents relied upon in proposing these regulatory amendments, identified as required by Government Code, section 11346.2, subdivision (b)(3).

- 1) California Air Resources Board, Advanced Clean Trucks Regulation, 2019 (weblink: <https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks>, last accessed April 2025).
- 2) California Air Resources Board, Amendments to the Advanced Clean Trucks Regulation and the Zero-Emission Powertrain Certification Test Procedure, October 24, 2024 (weblink: <https://ww2.arb.ca.gov/rulemaking/2024/advancedcleantrucks>, last accessed April 2025).
- 3) California Air Resources Board, Clean Truck Partnership, 2023 (web link: https://ww2.arb.ca.gov/sites/default/files/2024-09/240925_actmemo_ADA_0.pdf, last accessed April 2025).
- 4) California Air Resources Board, Advanced Clean Trucks Credit Summary Through the 2023 Model Year, 2024 (web link: <https://ww2.arb.ca.gov/resources/fact-sheets/ACT-Credits-Summary%202023>, last accessed April 2025).
- 5) California Air Resources Board, Final Environmental Analysis for the Proposed Advanced Clean Trucks Regulation. June 23, 2020.

- 6) Federal Highway Administration, State Motor-Vehicle Registrations – 2020, 2020 (weblink: <https://www.fhwa.dot.gov/policyinformation/statistics/2020/xls/mv1.xlsx>, last accessed April 2025).
- 7) American Truck Dealers, 2023 Annual Financial Profile of America’s Franchised New-Truck Dealerships, 2023 (weblink: <https://www.nada.org/media/5008/download?inline>, last accessed April 2025).
- 8) Federal Highway Administration, State Motor-Vehicle Registrations – 2020, 2020 (weblink: <https://www.fhwa.dot.gov/policyinformation/statistics/2020/xls/mv1.xlsx>, last accessed April 2025).
- 9) American Truck Dealers, 2023 Annual Financial Profile of America’s Franchised New-Truck Dealerships, 2023 (weblink: <https://www.nada.org/media/5008/download?inline>, last accessed April 2025).
- 10) California Air Resources Board, Advanced Clean Trucks Credit Summary, March 31, 2022 (weblink: <https://ww2.arb.ca.gov/sites/default/files/2023-02/ACTCreditMemo.pdf>, last accessed April 2025).
- 11) California Air Resources Board, Advanced Clean Trucks Credit Summary Through the 2022 Model Year, October 13, 2023 (weblink: <https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-trucks-credit-summary-through-2022-model-year?keywords=2025>, last accessed April 2025).
- 12) Advanced Clean Trucks - Zero-Emission Vehicle Credit Pooling Workshop, November 23, 2024 (weblink: <https://ww2.arb.ca.gov/sites/default/files/2023-11/231128actpres.pdf>, last accessed April 2025).
- 13) Advanced Clean Trucks – Proposed Pooling Amendments, December 9, 2024 (weblink: https://ww2.arb.ca.gov/sites/default/files/2024-12/241209actpres_ADA.pdf, last accessed April 2025).
- 14) Truck and Engine Manufacturers Association, ACT Credit-Pooling Concepts for Opt-In States, November 28, 2023 (web link: <https://ww2.arb.ca.gov/sites/default/files/2023-11/231128emapres.pdf>, last accessed April 2025).

XIII. Appendices

A. Appendix A-1: Proposed Title 13 Regulation Order

Appendix A-2: Proposed Title 13 Regulation Order (Accessible Format)

B. Appendix B-1: Proposed Regulation Order for California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains

Appendix B-2: Proposed Regulation Order for California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains (Accessible Format)