

Public Hearing to Consider Proposed
Amendments to the Advanced Clean Trucks
Regulation and the Zero-Emission
Powertrain Certification Test Procedure
Staff Report: Initial Statement of Reasons

Date of Release: March 26, 2024

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the California Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

Table of Contents

Executive Summary	1
I. Introduction and Background.....	2
A. Advanced Clean Trucks Regulation	2
B. Clean Truck Partnership	3
C. Zero-Emission Powertrain Certification.....	4
II. The Problem that the Proposal is Intended to Address	4
III. The Specific Purpose and Rationale of Each Adoption, Amendment, or Repeal.....	5
Section 1963(a). Purpose	5
Purpose	5
Rationale	5
Section 1963(b). Scope and Applicability	5
Purpose	5
Rationale	5
Section 1963(c). Definitions	6
Purpose	6
Rationale	6
“Battery-Electric Vehicle”	6
Purpose	6
Rationale	6
“Complete Vehicle”	6
Purpose	6
Rationale	6
“Hydrogen Fuel-Cell Electric Vehicle” or “FCEV”	7
Purpose	7
Rationale	7
“Incomplete Vehicle”	7
Purpose	7
Rationale	7
“Manufacturer”	7
Purpose	7
Rationale	7
“Secondary Vehicle Manufacturer”	8
Purpose	8
Rationale	8
Section 1963(e). Low Volume Exemption	8

Purpose	8
Rationale	8
Section 1963.1(a). Deficit Generation.....	8
Purpose	8
Rationale	8
Section 1963.1(b). Deficit Calculation, Table A-1: ZEV Sales Percentage Schedule	9
Purpose	9
Rationale	9
Section 1963.2(a). ZEV Credit Calculation	9
Purpose	9
Rationale	9
Section 1963.2(b). NZEV Credit Calculation	10
Purpose	10
Rationale	10
Section 1963.2(h). Zero-Emission Powertrain Certification for ZEVs	11
Purpose	11
Rationale	11
Section 1963.2(i). No Double Counting ZEVs or NZEVs.....	11
Purpose	11
Rationale	11
Section 1963.3(b). Flexibility to Make Up a Deficit	12
Purpose	12
Rationale	12
Section 1963.3(f). Compliance Determination.....	13
Purpose	13
Rationale	13
Sections 1963.4(a), 1963.4(a)(2-11). Sales Reporting.....	13
Purpose	13
Rationale	14
Section 1963.4(b). Reporting Updates	15
Purpose	15
Rationale	15
Section 1963.4(e). Grouped Sales Reporting	15
Purpose	15
Rationale	15
Section 1963.4(e)	15

Purpose	15
Rationale	16
Section 1963.4(e)(1)	16
Purpose	16
Rationale	16
Section 1963.4(e)(2)	16
Purpose	16
Rationale	17
Section 1963.4(e)(3)	17
Purpose	17
Rationale	17
Section 1963.4(e)(4)	17
Purpose	17
Rationale	17
Section 1963.4(e)(5)	17
Purpose	17
Rationale	18
Section 1963.4(e)(6)	18
Purpose	18
Rationale	18
Section 1963.4(e)(7)	18
Purpose	18
Rationale	18
Section 1963.5(a)(1). Audit of Records	18
Purpose	18
Rationale	18
Section 1963.6. 2036 and Subsequent Model Year Requirements	19
Purpose	19
Rationale	19
Section 1956.8(a)(8). Exhaust Emission Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles and 2021 and Subsequent Zero- Emission Powertrains	19
Purpose	19
Rationale	19
California Standards and Test Procedures for New 2021 And Subsequent Model Heavy- Duty Zero-Emission Powertrains.....	19
Purpose	19

Rationale	19
List of Documents to be used in Conjunction with this Document	20
Purpose	20
Rationale	20
Part I, Section A. General Applicability	20
Purpose	20
Rationale	20
IV. Benefits Anticipated from the Regulatory Action, Including the Benefits or Goals Provided in the Authorizing Statute	20
A. Benefits to Manufacturers	20
B. Benefits to Implementation	21
V. Air Quality	21
VI. Environmental Analysis.....	21
A. Introduction.....	21
B. Prior Environmental Analysis	22
C. The Proposed Regulatory Action	23
D. Analysis	23
VII. Environmental Justice	26
VIII. Economic Impacts Assessment	26
A. Estimated Costs	27
1. Updates to Reporting Systems	27
2. Removal of Ultimate Purchaser Requirements.....	27
3. Total Costs	28
B. The creation or elimination of jobs within the State of California.....	29
C. The creation of new business or the elimination of existing businesses within the State of California.....	29
D. The expansion of businesses currently doing business within the State of California	29
E. Significant statewide adverse economic impact directly affecting business, including ability to compete.....	29
F. The benefits of the regulation to the health and welfare of California residents, worker safety, and the state’s environment.....	30
IX. Evaluation of Regulatory Alternatives	30
A. Alternative 1: No Action.....	30
B. Alternative 2: No Deficit Makeup Period	30
C. Alternative 3: Extend Deficit Makeup Period to Five Model Years with No Conditions.	31
D. Small Business Alternative	31
E. Performance Standards in Place of Prescriptive Standards.....	31

F. Health and Safety Code section 57005 Major Regulation Alternatives..... 31

X. Justification for Adoption of Regulations Different from Federal Regulations Contained in the Code of Federal Regulations 32

XI. Public Process for Development of the Proposed Action..... 32

XII. References..... 32

XIII. Appendices 33

 A. Appendix A-1: Proposed Title 13 Regulation Order..... 33

 B. Appendix B-1: Proposed Regulation Order for California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains 33

Executive Summary

Mobile sources and the 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). In the State, the transportation sector alone accounts for 41 percent of total GHG emissions (50 percent when upstream emissions from fuel is included) and is a major contributor to oxides of nitrogen (NO_x) and PM emissions. Medium- and heavy-duty vehicles contribute a quarter of the 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 Advanced Clean Trucks (ACT) regulation was adopted by the California Air Resources Board (CARB or Board) in 2021 to establish 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. The ACT regulation establishes requirements for medium- and heavy-duty manufacturers to produce and sell an increasing portion of their sales as vehicles that emit no criteria or GHG emissions, i.e., zero emission vehicles (ZEV) starting in the 2024 model year and ramping up through the end of the 2035 model year.

The proposed amendments to the ACT regulation would address minor issues that have arisen through the rule's implementation, will ensure alignment with the original intent of the rule, and fulfill some of CARB's commitments in the Clean Truck Partnership agreement to initiate the rulemaking action for the proposed amendments in 2024. These proposed amendments generally consist of minor, administrative changes that have minimal cost impacts and no emissions impact. The proposed amendments to the ACT regulation include the following modifications:

- Establish that compliance 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.
- Clarify that 2036 and subsequent model year medium- and heavy-duty vehicles are subject to the Advanced Clean Fleets 2036 100 Percent Medium- and Heavy-Duty Zero-Emissions Vehicle Sales Requirements.¹
- Remove the option to report grouped vehicle sales while maintaining the requirement to report vehicles individually.
- Provide flexibility for manufacturers to certify to the requirements of the Zero-Emission Powertrain Certification² (ZEP Cert) or the applicable requirements of the light-duty ZEV requirements.³
- Provide an optional pathway for manufacturers to certify complete medium-duty ZEVs through the ZEP Cert procedure.
- Modify the definition of manufacturer to clarify that secondary vehicle manufacturers are not subject to the ZEV sales requirement of the ACT regulation, as they are not within the intended scope of regulated parties.

¹ The Advanced Clean Fleets 2036 100 Percent Medium- and Heavy-Duty Zero Emissions Vehicle Sales Requirement is set forth in the California Code of Regulations (CCR) title 13, section 2016.

² The Zero-Emission Powertrain Certification is comprised of CCR title 13, section 1956.8.

³ The Zero-Emission Vehicle Standards for 2018 through 2025 Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles are comprised of CCR title 13, section 1962.2.

- Align language with the Advanced Clean Cars (ACC) II regulation⁴ to maintain flexibility without double counting Class 2b-3 ZEV sales.
- Expand the types of documentation to be retained for vehicle sales tracking.
- Clarify that secondary vehicle manufacturers are subject to audit to confirm vehicle sales.
- Clarify that manufacturers must report updates in vehicle sales information for a given model year until all vehicle sales for a given model year have been delivered for sale.
- Add reporting requirements to identify the last point of delivery to allow CARB to verify the vehicles that are ultimately delivered to the ultimate purchaser and placed in service in California.
- Other minor changes to the reporting requirements to include additional vehicle type information for vehicles that are certified as complete vehicles, adding requirements to report the vehicle family name, and vehicle delivery information.

I. Introduction and Background

The ACT regulation was adopted to achieve near- and long-term air quality and climate mitigation targets by establishing zero emission standards for medium- and heavy-duty vehicles. CARB projects that manufacturers will initially produce Class 2b to Class 8 vehicles that have predictable daily schedules, stop-and-go driving cycles, and are centrally maintained and fueled where zero-emission drivetrains could be more efficient than conventional engines. The ACT regulation sets clear requirements on manufacturers to sell zero-emission trucks and required large entities including retailers, manufacturers, and government agencies to report information that could be used to develop future strategies that would require the use of zero-emission trucks.

Staff is proposing changes to the definitions, rule requirements, and reporting and recordkeeping requirements for clarity and smoother implementation. The proposed modifications are minor changes that would ensure the interpretation of definitions and rule requirements match more closely with the original intent of the regulation.

Staff is also proposing to extend the applicability of ZEP Cert to complete medium-duty ZEVs to provide manufacturers with an optional certification pathway.

A. Advanced Clean Trucks Regulation

CARB adopted the ACT regulation in January 2021 as part of a holistic approach to achieve NO_x and GHG emissions reductions from medium- and heavy-duty vehicles by establishing zero emission standards through advanced clean technology, and to increase the penetration of the first wave of such zero-emission heavy-duty technology into applications that are well suited to its use. The ACT regulation has two components consisting of a manufacturer sales requirement and a one-time Large Entity Reporting (LER) requirement for fleet owners.

The first component is a sales requirement that 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. Manufacturers are required to sell ZEVs as a percentage of their annual total sales. By 2035, required ZEV sales percentages will be as follows: 55 percent of

⁴ The Zero-Emission Vehicle Requirements for 2026 and Subsequent Model Year Passenger Cars and Light-Duty Trucks is comprised of CCR title 13, section 1962.4.

Class 2b–3 truck sales, 75 percent of Class 4–8 truck sales, and 40 percent of tractor sales. Compliance is based on a credit and deficit system and provides some flexibility for manufacturers to sell more ZEVs in one weight category and fewer in another; credits may also be banked and traded. Small manufacturers with fewer than 500 annual sales in California are exempt, but may opt-in to the regulation and report to claim ZEV credits.

Beginning in 2021, manufacturer sales reporting commenced to demonstrate compliance, earn credits, and to report details about credit trade transactions. ACT reporting applied to any vehicle manufacturer that produced and delivered 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.

The other component of the ACT regulation is the one-time reporting requirement for fleets. Large entities (fleet owners, businesses, government agencies, municipalities, brokers, etc.) had to report information about their vehicles if, in 2019, they operated a facility in California and met any of the following criteria:

- Had more than \$50 million in revenues in the 2019 tax year from all related subsidiaries, subdivisions, or branches, and have at least 1 vehicle; or
- Owned 50 or more vehicles in 2019; or
- Dispatched 50 or more vehicles into or throughout California in 2019; or
- Government agencies (federal, State, local, and municipalities) with at least 1 vehicle in 2019.

Large entity reporting was completed in 2021 and the results of the collected data are posted on the CARB webpage.^{5,6} Information collected through the survey was used to assist CARB in developing future policies, recommendations, and rulemaking actions, such as the Advanced Clean Fleets (ACF) regulation.

B. Clean Truck Partnership

In July 2023, CARB reached an agreement with the nation’s leading major truck manufacturers (hereinafter, the “Clean Truck Partnership”)⁷ that advances the development of zero-emission vehicles for the trucking industry by providing those manufacturers flexibility to meet emissions requirements while also ensuring attainment of the State’s climate and emission reduction goals. The agreement marks a commitment from the companies to meet California’s vehicle standards that will require the sale and adoption of zero-emissions technology in the State, which ensures that emissions benefits from the ACT regulation will be achieved. In turn, CARB has agreed to work collaboratively with manufacturers to provide reasonable lead time to meet CARB’s requirements before imposing new regulations and to

⁵ California Air Resources Board, Large Entity Fleet Reporting – Statewide Aggregate Data, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-02/Large_Entity_Reporting_Aggregated_Data_ADA.pdf, last accessed October 2023).

⁶ California Air Resources Board, Large Entity Fleet Reporting – Air Basin Aggregate Data, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-02/Air_Basin_Aggregated_Data_LER.xlsm, last accessed October 2023).

⁷ 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 October 2023).

support the development of necessary ZEV infrastructure. Some of the proposed amendments constitute modifications that staff committed to develop for the Board's consideration in 2024.

C. Zero-Emission Powertrain Certification

In July 2019, CARB adopted the ZEP Cert test procedure which established new, alternative certification procedures for heavy-duty battery-electric and fuel-cell vehicles and the zero-emission powertrains they use. ZEP Cert 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 Cert starting with the 2024 model year for heavy-duty and incomplete medium-duty ZEVs in order to earn ZEV credits. With the proposed amendment, ZEP Cert would become an optional certification pathway for complete medium-duty ZEVs.

II. The Problem that the Proposal is Intended to Address

As previously discussed, the proposed amendments fulfill commitments made by CARB staff in the Clean Truck Partnership by 2024, to increase the deficit makeup period and to clarify that compliance determination and sales reporting requirements are both defined when vehicles are produced and delivered for sale in California. Both of these proposed modifications will provide manufacturers additional flexibility to complete vehicles for a given model year.

When a complete vehicle is ordered, the delivery is fairly straightforward and is commonly delivered directly to the ultimate purchaser or to an authorized dealer who sells the vehicle from the lot. The time it takes to produce and deliver the completed vehicle varies for a variety of reasons, but can take longer than a year. However, most trucks in this category are manufactured as an incomplete vehicle or as a cab and chassis, where the body is often built and added by a second-stage manufacturer or dealer (i.e, upfitter) to complete its assembly in its final configuration. Customer orders may be fulfilled through a dealer in coordination with the chassis manufacturer, through the body builder who orders the incomplete chassis from the manufacturer, or directly through the manufacturer. In both cases, the vehicle may not be completed nor delivered to the ultimate purchaser within 90 days from the end of the model year and can take more than a year after the initial order is placed and can be longer for more specialized vehicles. The proposed modifications defining that compliance determinations are complete when vehicles are produced and delivered for sale will provide manufacturers greater clarity to determine when they have satisfied the requirements of the ACT regulation.

Additionally, certain definitions have been reworked to conform to these other changes and improve the readability of the regulation, and some definitions were added to use consistent terminology with other regulations. Reporting details are also being added to better identify the last point of sale and delivery so that CARB staff can verify the final sale to the ultimate purchaser directly rather than depending on the manufacturer's records.

The proposed edits to the requirements for vehicles with 2036 and beyond model years better align the ACT regulation with the requirements in "2036 100 Percent Medium- and

Heavy-Duty Zero Emissions Vehicle Sales Requirements” of the Advanced Clean Fleets regulation, title 13, CCR section 2016.

Other proposed amendments will better align the ACT regulation with requirements of the recently adopted ACC II regulation that applies to medium-duty passenger vehicles with a GVWR greater than 8,500 lbs.

Other proposed amendments modify reporting requirements to align reporting requirements with other regulations that collect vehicle sales information and adding definitions for conforming with other changes.

Lastly, the proposed amendment to ZEP Cert would increase flexibility for manufacturers by providing an optional certification pathway for complete medium-duty ZEVs, 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 are to address implementation issues raised by manufacturers, and to clarify and align regulation language with other existing regulations, to ensure that the regulations successfully resolve the problems to be addressed - which are described above in Chapter II.

Section 1963(a). Purpose

Purpose

The purpose of the changes in section 1963(a) is to add a reference to newly added section 1963.6.

Rationale

It is necessary to include reference to section 1963.6 to conform with changes made to add this new section to the regulation.

Section 1963(b). Scope and Applicability

Purpose

The purpose of the changes in section 1963(b) is to remove the language "and" and add "and 1963.6."

Rationale

It is necessary to include a reference to section 1963.6 to establish that the regulated parties are also subject to newly proposed section 1963.6.

Section 1963(c). Definitions

Purpose

The purpose of the changes in section 1963(c) is to remove unnecessary numbering for the definitions and references to these previously numbered sections.

Rationale

The removal of the numbering for the definitions is necessary for consistency with the formatting of existing CARB regulations. Removing the number references to definitions that were previously numbered is necessary as the numbering format no longer exists.

“Battery-Electric Vehicle”

Purpose

The purpose of this definition is to define “battery-electric vehicle” or “BEV” in section 1963(c) as the same as “electric vehicle” in 40 Code of Federal Regulations (CFR) section 1037.801, last amended by the United States Environmental Protection Agency (U.S. EPA) on January 24, 2023, incorporated by reference herein.

Rationale

It is necessary to include a definition for battery-electric vehicle to establish the term for reporting purposes. This is necessary to conform with changes made to the reporting requirements to report the advanced technology type for each vehicle that is delivered for sale in California. The specific definition was chosen to be consistent with other CARB regulations that use the same term and also reference the CFR definition.

“Complete Vehicle”

Purpose

The purpose of this definition is to define “complete vehicle” in section 1963(c) as having the same definition as 17 CCR section 95662(b)(1).

Rationale

This change is necessary to establish a definition of a “complete vehicle” for reporting purposes. This is necessary to conform with changes made to the reporting requirements to report whether the vehicle is a complete or incomplete vehicle. The specific definition was chosen to be consistent with other CARB regulations that use the same term.

“Hydrogen Fuel-Cell Electric Vehicle” or “FCEV”

Purpose

The purpose of this definition is to define “hydrogen fuel-cell electric vehicle” or “FCEV” in section 1963(c) as having the same definition as in 13 CCR section 1962.2.

Rationale

It is necessary to include a definition for hydrogen fuel-cell electric vehicle to establish the term for reporting purposes. This is necessary to conform with changes made to the reporting requirements to report the advanced technology type for each vehicle that is delivered for sale in California. The specific definition was chosen to be identical to other CARB regulations that use the same term and also reference the same CCR definition.

“Incomplete Vehicle”

Purpose

The purpose of this definition is to define “incomplete vehicle” in section 1963(c) as having the same definition as in 17 CCR section 95662(b)(2).

Rationale

This change is necessary to establish a definition of an “incomplete vehicle” for reporting purposes. This is necessary to conform with changes made to the reporting requirements to report whether the vehicle is a complete or incomplete vehicle. The specific definition was chosen to be consistent with other CARB regulations that use the same term.

“Manufacturer”

Purpose

Language was added to specify that the definition includes “persons who... introduce a new on-road motor vehicle into commerce in California as the manufacturer of record”. Language was also added to explicitly exclude from the definition “...secondary vehicle manufacturers that complete the vehicle assembly prior to the first purchase of the vehicle by an ultimate purchaser.”

Rationale

These changes are necessary to limit the scope of the regulation to only affect intended parties and manufacturers of record. It is necessary to exclude secondary vehicle manufacturers because they are often upfitters or body builders that do not certify the vehicle and engine emissions for sale, do not alter nor design the drivetrain, and solely complete vehicle assembly prior to first purchase of the vehicle. The manufacturer of record is the commonly understood term referring to the manufacturer to whom an Executive Order has been issued for a vehicle family for sale in California.

“Secondary Vehicle Manufacturer”

Purpose

Language was added to define the term “secondary vehicle manufacturer” as the same meaning as in 40 CFR section 1037.801, last amended by the U.S. EPA on January 24, 2023, incorporated by reference herein.

Rationale

This change is necessary to set forth a definition for “secondary vehicle manufacturer” to conform with edits made to the definition of “manufacturer”. The specific definition was selected to be consistent with existing CARB and federal regulations.

Section 1963(e). Low Volume Exemption

Purpose

The purpose of the changes in this section are to include the language "for" and replace "starting in 2024" with "through the end of the 2035 model year".

Rationale

It is necessary to include “for” to improve readability of the requirement. It is necessary to replace “starting in 2024” with “through the end of the 2035 model year” to establish the period in which the exemption applies. The end of the provision’s applicability is established as the end of the 2035 model year for consistency with the requirements that apply to 2036 and subsequent model year medium- and heavy-duty vehicles, which do not include the Low Volume Exemption. It is necessary for the exemption to apply through the end of the 2035 model year as opposed to a specified date in consideration of end dates varying amongst manufacturers for a given model year.

Section 1963.1(a). Deficit Generation

Purpose

The purpose of the changes in section 1963.1(a) is to clarify that deficits are incurred when a new on-road vehicle is produced and delivered for sale in California, rather than when it is sold to the ultimate purchaser. The language "shall annually incur deficits based on the manufacturer's annual sales volume of on-road vehicles produced and delivered for sale in California" was replaced with "accrues deficits for each on-road vehicle produced and delivered for sale in California for the model year" in section 1963.1(a). New language was added to specify “a vehicle is only eligible to generate deficits once” to section 1963.1(a).

Rationale

The requirement that a new on-road vehicle must be sold to the ultimate purchaser in order to incur deficits was removed because sales of a given model year will not be completed by the first reporting deadline and manufacturers either have contracts specifying where an

ordered vehicle will be delivered to the ultimate purchaser or are already expected to use their relationships with their upfitters, dealers and partners to ensure the vehicles that are certified for sale in California will ultimately be sold and delivered to the ultimate purchaser in California.

Lastly, this change is necessary to align with similar changes in the generation of ZEV and NZEV credits to make sure each vehicle sale is counted only once.

The language "accrues deficits for each on-road vehicle produced and delivered for sale in California for the model year" was added for consistency in language with sections 1963.2(a) and 1963.2(b).

Adding language to specify that a vehicle only generates deficits once is necessary to ensure that manufacturers do not accrue excessive and unintended deficits for a single vehicle.

Section 1963.1(b). Deficit Calculation, Table A-1: ZEV Sales Percentage Schedule

Purpose

The purpose of the change in section 1963.1(b) is to remove "and beyond" from Table A-1.

Rationale

It is necessary to remove "and beyond" from Table A-1 because ZEV sales requirements for 2036 and subsequent model years are now subject to the requirements of title 13, CCR section 2016⁸.

Section 1963.2(a). ZEV Credit Calculation

Purpose

The purpose of the changes to section 1963.2(a) are to set forth that ZEV credits are generated when a new on-road vehicle is produced and delivered for sale in California rather than sold to the ultimate purchaser. The language "may generate" was replaced with "earns" and "sold" was replaced with "delivered for sale". New language "a vehicle is only eligible to earn credits once" was added. Language "manufacturer-designated" was removed.

Rationale

The requirement that a new on-road vehicle must be sold to the ultimate purchaser in order to generate ZEV credits was removed because sales of a given model year will not be completed by the first reporting deadline and manufacturers either have contracts specifying where an ordered vehicle will be delivered to the ultimate purchaser or are already expected to use their relationships with their upfitters, dealers and partners to ensure the vehicles that are certified for sale in California will ultimately be sold and delivered to the ultimate purchaser in California.

⁸ The Advanced Clean Fleets 2036 100 Percent Medium- and Heavy-Duty Zero Emissions Vehicle Sales Requirement is set forth in CCR title 13, section 2016.

Lastly, this change is necessary for alignment with a similar change in the generation of deficits and NZEV credits.

It is necessary to replace "may generate" with "earns" to specify that earning credits will occur for each ZEV produced and delivered for sale in California as opposed to describing that the action may potentially occur.

Specifying that a credit is generated for each vehicle delivered for sale as opposed to sold is necessary for consistency with the requirements of sections 1963.2(a) and 1963.2(b).

Adding language to specify that a vehicle only earns credits once is necessary to ensure that manufacturers do not acquire excessive and unintended credits for a single vehicle.

Removing "manufacturer-designated" is necessary as the model year definition already states that the model year is designated by the manufacturer. This term is not used elsewhere in the regulation and its removal allows for consistency.

Section 1963.2(b). NZEV Credit Calculation

Purpose

The purpose of the changes in section 1963.2(b) is to set forth that NZEV credits are generated when a new on-road vehicle is produced and delivered for sale in California rather than sold to the ultimate purchaser. The language "may generate" was replaced with "earns" and "sold" was replaced with "delivered for sale". New language "a vehicle is only eligible to earn credits once" was added and "manufacturer-designated" was removed.

Rationale

The requirement that a new on-road vehicle must be sold to the ultimate purchaser in order to generate NZEV credits was removed because sales of a given model year will not be completed by the first reporting deadline and manufacturers either have contracts specifying where an ordered vehicle will be delivered to the ultimate purchaser or are already expected to use their relationships with their upfitters, dealers and partners to ensure the vehicles that are certified for sale in California will ultimately be sold and delivered to the ultimate purchaser in California. Lastly, this change is necessary for alignment with a similar change in the generation of deficits and ZEV credits.

It is necessary to replace "may generate" with "earns" to specify that earning credits will occur for each NZEV produced and delivered for sale in California as opposed to describing that the action will potentially occur.

Specifying that a credit is generated for each vehicle delivered for sale as opposed to sold is necessary for consistency with the requirements of sections 1963.2(a) and 1963.2(b).

Adding language to specify that a vehicle only earns credits once is necessary to ensure that manufacturers do not acquire excessive and unintended credits for a single vehicle.

Removing "manufacturer-designated" is necessary as the model year definition already states that the model year is designated by the manufacturer. This term is also not used elsewhere in the regulation and its removal allows for consistency.

Section 1963.2(h). Zero-Emission Powertrain Certification for ZEVs

Purpose

The purpose of the changes in section 1963.2(h) is to add language to establish that manufacturers may certify to the requirements of either 13 CCR section 1962.2 or 13 CCR section 1956.8 and 17 CCR section 95663 as amended by the Zero-Emission Powertrain Certification regulation. New language “and Enhanced Fuel Cell and Electric Vehicle” was added to the title of the section.

Rationale

Adding language in section 1963.2(h) to establish that manufacturers may meet the requirements of title 13, CCR section 1962.2 or 13 CCR section 1956.8 and 17 CCR section 95663 as amended by the Zero-Emission Powertrain Certification regulation is necessary in consideration of the certification pathway that manufacturers must follow for incomplete medium-duty ZEVs. This change prevents manufacturers from unnecessarily certifying to both requirements for the applicable vehicles. Adding the language “and Enhanced Fuel Cell and Electric Vehicle” to the title of the section is necessary to set forth that both ZEP Cert and the Enhanced Electric and Fuel Cell Vehicle Certification are required to earn credits under ACT, which is consistent with the regulation’s original intent.

Section 1963.2(i). No Double Counting ZEVs or NZEVs

Purpose

The purpose of the changes in section 1963.2(i) is to incorporate a reference to the ACC II regulations to avoid double counting credits for both the ACT regulation and the ACC II regulations from selling a medium-duty ZEV into California for the 2024 and 2025 model years. Additionally, language was added to this section to establish that, beginning with the 2026 model year, medium-duty ZEVs produced and delivered for sale in California that are counted towards the ACC II regulations will not be counted towards the ZEV deficit generated under the ACT regulation. Language was added to section 1963.2(i) to also clarify that manufacturers must comply with the ACT regulation's reporting requirements for vehicles that are counted towards compliance for the ACC II regulations. The reference to section 1963.4(c) was replaced with a reference to section 1963.4(d).

Rationale

It is necessary to include the ACC II regulations in section 1963.2(i) in order to prevent expected emissions benefits already claimed by the ACC II regulations for the 2024 and 2025 model years. Additionally, this change is necessary because the ACC II regulations include a provision under section 1962.4(i)(7) that offers the manufacturer the option to count Class 2b-3 ZEVs towards compliance. The provision provides the manufacturer with a choice as to how a ZEV that could be used to comply with either regulation would be counted and ensures that the ZEV sold into California would only be counted once. Specifying that, beginning with the 2026 model year, medium-duty ZEVs produced and delivered for sale in California that are counted towards the ACC II regulations will not be counted towards the ZEV deficit generated under the ACT regulation is necessary for consistency with the

requirements of section 1962.4(i)(7)(A). Establishing that vehicles counted towards compliance for the ACC II regulations fall under the reporting requirements of the ACT regulation is necessary for CARB staff to ensure that these vehicles are accounted for and that credits are distributed where appropriate. Lastly, it is necessary to replace the reference to section 1963.4(c) with a reference to section 1963.4(d) due to the referenced section being renumbered as a result of changes to section 1963.4.

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

Purpose

The purpose of the changes in section 1963.3(b) is to increase the time provided to manufacturers to meet credit obligations for a given model year from the end of the next model year to the end of the third consecutive model year. Language was added to this section to specify that the three-model year period begins with the first model year following the model year in which the manufacturer had a net deficit. The title of section 1963.3(b) was modified to replace "requirement" with "flexibility." New language was added in section 1963.3(b) to set forth that a manufacturer must have a cumulative net deficit after the end of a given model year in order to use the makeup period. New language was also added to this section to establish that the net deficit balance for a manufacturer must be below 30 percent by the end of the first year of the makeup period if the net deficit balance is more than 30 percent of the deficits generated from the most recent model year. In this section, the language "retires fewer ZEV or NZEV credits than required to in a given model year must make up the deficit by the end of the next model year by submitting a commensurate number of ZEV credits to satisfy the deficiency" was replaced with "the net deficit balance must be offset by the end of the three-model year period." The language "the following" was replaced with "subsequent." New language was added in the section to establish an example describing that the net deficit balance must be below 300 deficits in the 2025 model year for a manufacturer that accrues 1,000 deficits in the 2024 model year for the makeup period to be utilized. Lastly, new language was added in section 1963.3(b) to require that a manufacturer making up a deficit may not transfer ZEV credits to other manufacturers until the deficit is made up by the end of a compliance year.

Rationale

Increasing the deficit makeup period to three model years is necessary as manufacturers may require additional time to satisfy the deficiency in ZEV credits resulting from potential market fluctuations and other variables that are outside of the manufacturer's control. The bulk of sales for a given model year are also not expected to initially conclude for approximately three model years. The outcome of the first few years of the regulation will, therefore, remain the same as compliance cannot be determined until all vehicles within a given model year are sold. This change would assist manufacturers in complying without affecting the regulation's overall objective and is consistent with its original intention.

It is necessary to specify the beginning and end points of the three-model year period to prevent misinterpretation of the allotted timeframe as a manufacturer may otherwise assume more or less time than intended is provided.

Establishing that a manufacturer must have a cumulative net deficit in order to use the makeup period is necessary to identify the parties that the flexibility applies to.

It is necessary to establish criteria for manufacturers to utilize the entire deficit makeup period to ensure that ZEVs or NZEVs are consistently being produced each year as opposed to deficits accruing due to minimal or no annual ZEV or NZEV production, resulting in the deficit being offset only at the end of the three-model year makeup period. Requiring that the net deficit balance must be below 30 percent of the deficits generated from the end of the first year of the makeup period ensures that a manufacturer is making efforts towards offsetting the deficit. The selected threshold is reasonable and attainable while providing enough flexibility to make up the deficit.

Replacing "the following" with "subsequent" is necessary to provide a more accurate description of the specified sequence of model years.

It is necessary to specify that the entire deficit must be offset by the end of the three-model year period to establish a clear endpoint of the allotted timeframe before a manufacturer is in violation of the rule requirements.

Including an example to demonstrate a realistic application of the 30 percent threshold is necessary to ensure appropriate interpretations of the criteria.

Preventing manufacturers making up a deficit from transferring credits to another manufacturer until the deficit is made up is necessary to ensure that the generated credits are used to offset the outstanding deficit.

Section 1963.3(f). Compliance Determination

Purpose

The purpose of adding new section 1963(f) is to set forth that compliance is achieved by the end of each model year when the cumulative credits exceed the total net deficits accrued in prior model years. This section establishes the basis for compliance determination as the reported sales of vehicles delivered for sale in California.

Rationale

Specifying that the cumulative credits must exceed the total net deficits in order to achieve compliance is necessary to ensure that all deficits accrued from prior model years are made up and to set forth that compliance is not based on the activity from a single model year. Establishing the basis for compliance determination as the reported sales of vehicles for sale in California is necessary to inform regulated parties what their compliance status is specifically based on.

Sections 1963.4(a), 1963.4(a)(2-11). Sales Reporting

Purpose

The purpose of the change in section 1963.4(a) is to establish that manufacturers must report the vehicle model year annually until all vehicles designated by the model year have been delivered for sale in California.

Language was added to section 1963.4(a)(2) to set forth that the weight class category must be reported as opposed to the GVWR. New section 1963.4(a)(3) requires manufacturers to report the vehicle family name. The purpose is to also require that manufacturers annually

report whether the vehicle is a complete or incomplete vehicle in section 1963.4(a)(4) and, for complete vehicles, if the vehicle is a tractor, yard tractor, excluded bus, school bus, cutaway vehicle, or other in section 1963.4(a)(5). The purpose of these changes is to remove the requirement to report the volume produced and delivered for sale in California for the vehicle type in the section previously numbered 1963.4(a)(5). New section 1963.4(a)(7) requires manufacturers to report the vehicle's advanced technology type as a BEV, FCEV, NZEV, or other as opposed to the drivetrain type. New section 1963.4(a)(9) requires manufacturers to report the latest status of vehicle delivery into California as reaching a dealer, secondary vehicle manufacturer, ultimate purchaser, or other. New sections 1963.4(a)(10) and 1963.4(a)(11) requires manufacturers to report the name of the person or entity that is the vehicle's recipient and the physical address of the vehicle's last known delivery destination, respectively. As a result of the addition of new sections, subsequent renumbering amongst sections 1963.4(a)(2-11) occur where applicable.

Rationale

It is necessary to require that manufacturers annually report the vehicle model year until all vehicles designated by the model year have been delivered for sale in California for the purposes of compliance determination. This change ensures that credits and deficits are appropriately accounted for and reported within each model year.

Requiring manufacturers to indicate if the vehicle type is an excluded bus, school bus, cutaway vehicle, or other for complete vehicles is necessary to coincide with excluding certain types of buses from being counted in a manufacturer's sales volume. Additionally including cutaway vehicles as a vehicle type option is necessary as cutaway vehicles may ultimately be produced as a type of bus by a secondary vehicle manufacturer. Including "other" as an option is necessary as a vehicle type option in the event that the vehicle is not a type of bus or cutaway vehicle.

Requiring manufacturers to indicate whether the vehicle is a complete or incomplete vehicle is necessary for alignment with the proposed reporting requirement for complete vehicles. This indication will prevent confusion for manufacturers producing incomplete vehicles as only complete vehicles will be assigned a vehicle type.

It is necessary for manufacturers to report the vehicle family name in order for the vehicle model year to be determined. Verifying the model year is necessary for compliance determination.

It is necessary to clarify the advanced technology type as opposed to the drivetrain type as drivetrains are typically associated with internal combustion engine vehicles. FCEV, BEV, and NZEV are provided as specific options to choose from as they are the most common advanced clean technologies available today. Including "other" as an option is necessary in the event that other advanced clean technologies are produced by manufacturers.

Requiring manufacturers to report the latest status of delivery is necessary for the purpose of compliance determination and to ensure that vehicles produced and delivered for sale in California remain in California.

It is necessary for manufacturers to report the name of the vehicle's recipient and the physical address of the vehicle's last known delivery destination for verification that the vehicle was actually delivered for sale in California.

It is necessary to remove the requirement to report the volume produced and delivered for sale in California for the vehicle type to coincide with the removal of the grouped sales reporting option. With the removal of the grouped sales reporting option, vehicles are to be reported individually resulting in the requirement to report the vehicle quantity no longer being necessary.

Section 1963.4(b). Reporting Updates

Purpose

The purpose of adding new section 1963.4(b) is to state that reported information may be corrected or updated no later than 180 calendar days following the end of the initial 90-day report period as provided in section 1963.4(a).

Rationale

It is necessary to provide manufacturers an opportunity to correct information reported to be consistent with other regulations including Heavy-Duty Engine and Vehicle Omnibus regulation and the Heavy-Duty Greenhouse Gas Certification Program. This modification will allow manufacturers an opportunity to ensure information previously reported has been corrected and improves the accuracy of the whole program.

Section 1963.4(e). Grouped Sales Reporting

Purpose

The purpose of the change in section 1963.4(e) is to remove the grouped sales reporting option.

Rationale

It is necessary to remove the grouped sales reporting option of the section previously numbered as 1963.4(e) because the grouped reporting option does not provide CARB staff sufficient information to confirm the veracity of information reported. Critically, the grouped sales reporting option did not provide VINs for reported information which is necessary to compare information reported under the ACT regulation versus other programs including the Phase 2 GHG regulation, the ACC regulations, and DMV registrations. Removing this option ensures manufacturers will submit individual information which contains all needed information.

Section 1963.4(e)

Purpose

The purpose of the changes in renumbered section 1963.4(e) is to remove the requirement that documentation must show vehicle delivery to the ultimate purchaser and instead require documentation show that vehicles are produced and delivered for sale in California. Language was added to establish that secondary vehicle manufacturers must retain documents for audit purposes in addition to manufacturers in section 1963.4(e). Language

was added to section 1963.4(e) to specify the acceptable documentation for tracking vehicles produced and delivered for sale.

Rationale

Removing the requirement that documentation must show vehicle delivery to the ultimate purchaser and instead show vehicles produced and delivered for sale in California is necessary for consistency with changes in the generation of deficits and ZEV and NZEV credits that also remove references to the ultimate purchaser.

Requiring that secondary vehicle manufacturers retain the required documentation is necessary for the enforceability of the rule. Secondary vehicle manufacturers are subject to audit, and it is a subsequent necessity that the appropriate documentation is retained for this purpose.

Establishing the acceptable documentation for tracking vehicles in renumbered section 1963.4(e) is necessary to ensure that appropriate documentation to support the information reported by manufacturers is available for CARB staff to audit. This requirement additionally improves the enforceability of the regulation. Identifying the acceptable documentation for tracking vehicle sales is necessary to ensure appropriate documentation is available for CARB staff to audit for rule enforcement. An invoice, receipt, contract, and purchase order from the manufacturer that shows the delivery destination to an ultimate purchaser in California, a dealership in California, or a secondary vehicle manufacturer who must have an order from a purchaser that will take delivery of the vehicle in California are appropriate as they are contractual documents with a specific VIN, vehicle recipient, and delivery destination. This information either provides verification the vehicle is delivered to the ultimate purchaser in California or provides CARB staff with the necessary information to verify the vehicle is ultimately delivered to the ultimate purchaser in California as a new vehicle.

Section 1963.4(e)(1)

Purpose

The purpose of this section is to state an invoice, receipt, contract, or purchase order from the manufacturer that shows the delivery destination to an ultimate purchaser in California is considered acceptable documentation for showing a vehicle has been produced and delivered for sale in California.

Rationale

This addition is necessary as documentation showing a vehicle has been delivered to an ultimate purchaser in California clearly shows the vehicle has been delivered produced and delivered for sale in California.

Section 1963.4(e)(2)

Purpose

The purpose of this section is to state an invoice, receipt, contract, or purchase order from the manufacturer that shows the delivery destination to a dealer in California is considered

acceptable documentation for showing a vehicle has been produced and delivered for sale in California.

Rationale

This addition is necessary as documentation showing a vehicle has been delivered to a dealer in California clearly shows the vehicle has been delivered produced and delivered for sale in California.

Section 1963.4(e)(3)

Purpose

The purpose of this section is to state proof of vehicle registration in California is considered acceptable documentation for showing a vehicle has been produced and delivered for sale in California.

Rationale

This addition is necessary as documentation showing a vehicle has been registered in California clearly shows the vehicle has been delivered produced and delivered for sale in California.

Section 1963.4(e)(4)

Purpose

The purpose of this section is to state documentation from a secondary vehicle manufacturer showing delivery of the manufacturer's vehicle in California is considered acceptable documentation for showing a vehicle has been produced and delivered for sale in California.

Rationale

This addition is necessary as documentation from a secondary vehicle manufacturer showing delivery into California shows the vehicle has been produced and delivered for sale in California.

Section 1963.4(e)(5)

Purpose

The purpose of this section is to state an invoice, receipt, contract, or purchase order from the manufacturer that shows the delivery destination to a secondary vehicle manufacturer who must have an order from a purchaser that will take delivery of the vehicle in California is considered acceptable documentation for showing a vehicle has been produced and is being delivered for sale in California.

Rationale

This addition is necessary as delivery to a secondary manufacturer who has a binding order to deliver the vehicle to California shows sufficient evidence that the vehicle has been produced and is being delivered for sale in California.

Section 1963.4(e)(6)

Purpose

The purpose of this section is to say a statement from the secondary vehicle manufacturer indicating delivery of the complete vehicle to a dealership or reseller in California is considered acceptable documentation for showing a vehicle has been produced and delivered for sale in California.

Rationale

This addition is necessary as a statement from a secondary manufacturer showing delivery to a dealership in California shows sufficient evidence that the vehicle has been produced and delivered for sale in California.

Section 1963.4(e)(7)

Purpose

The purpose of this section is to state a purchase order from the fleet owner showing delivery to California is considered acceptable documentation for showing a vehicle has been produced and delivered for sale in California.

Rationale

This addition is necessary as a purchase order showing future delivery to a fleet owner in California provides sufficient evidence that the vehicle will be produced and delivered for sale in California.

Section 1963.5(a)(1). Audit of Records

Purpose

The purpose of the change in section 1963.5(a)(1) is to clarify that secondary vehicle manufacturers are subject to an audit of records.

Rationale

Expanding the scope of potential audits to secondary vehicle manufacturers is necessary to ensure CARB staff will be able to verify vehicle sales reported by manufacturers are produced and delivered to California. This ensures that the modifications to requirements to track sales to the ultimate purchaser will not result in vehicles being misreported as sold in California.

Section 1963.6. 2036 and Subsequent Model Year Requirements

Purpose

The purpose of adding new section 1963.6 is to establish that 2036 and subsequent model year medium- and heavy-duty ZEVs are subject to the requirements of 13 CCR section 2016.

Rationale

It is necessary to inform regulated parties that the requirements for 2036 and subsequent model years are located in a separate section and these sections are only applicable for 2024 through 2035 model years.

Section 1956.8(a)(8). Exhaust Emission Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles and 2021 and Subsequent Zero-Emission Powertrains

Purpose

The purpose of the changes in this section is to remove the term “incomplete”. The language “as adopted June 27, 2019” was replaced with “as last amended [Insert Date of Amendment].”

Rationale

It is necessary to remove “incomplete” in order to provide an additional certification pathway for complete medium-duty ZEVs to increase flexibility in certification options as requested by manufacturers. This modification aligns language with changes made to the ZEP Cert test procedure Attachment C, Part I, Section A and the document’s note. It is necessary to replace the adopted date with a last amended date because the California Standards and Test Procedures for New 2021 and Subsequent Model Year Heavy-Duty Zero-Emission Powertrains would have been newly amended through the proposed modifications.

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

NOTE:

Purpose

The purpose of the changes in this section is to remove the term “incomplete”.

Rationale

It is necessary to remove “incomplete” in order to provide an additional certification pathway for complete medium-duty ZEVs to increase flexibility in certification options as requested by manufacturers. This modification aligns language with changes made to Section 1956.8(a)(8) and the document’s note.

List of Documents to be used in Conjunction with this Document

Purpose

The purpose of the changes in this section is to replace "July 27, 2019" with "September 9, 2021."

Rationale

It is necessary to update the last amended date with September 9, 2021, as the latest amendments to the California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles were adopted on September 9, 2021.

Part I, Section A. General Applicability

Purpose

The purpose of the changes in this section is to remove the language "incomplete".

Rationale

It is necessary to remove "incomplete" in order to provide an additional certification pathway for complete medium-duty ZEVs to increase flexibility in certification options as requested by manufacturers. This modification aligns language with changes made to Section 1956.8(a)(8) and the document's note.

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

The proposed modifications are expected to create benefits for manufacturers as well streamline implementation of ACT to ensure emission reductions occur as intended.

A. Benefits to Manufacturers

The proposed modifications to the ACT regulation will benefit manufacturers in two main ways. First, the proposed modifications will remove requirements for manufacturer to track vehicle deliveries to the ultimate purchaser in California. This change will simplify sales tracking for manufacturers which is expected to save costs for manufacturers. Second, the proposed modifications will extend the deficit makeup period from one year to three years. This expands an option available to manufacturers to carry over a deficit and will allow manufacturers more flexibility to meet the ACT regulation's requirement. Both of these changes will maintain the ACT regulation's emission benefits while increasing flexibility and decreasing regulatory burden on manufacturers. As explained in Section V below, these changes are not projected to adversely impact the emissions benefits of the ACT regulation since vehicle sales for a given model year are not anticipated to be fully completed for three years, and compliance is ultimately based on vehicles produced and delivered for sale in California. Additionally, the proposed amendment to ZEP Cert will benefit manufacturers by

providing an optional certification pathway for medium-duty ZEVs, providing greater flexibility to certify vehicles for sale in California.

B. Benefits to Implementation

The proposed modifications to the ACT regulation will improve implementation of the rule by ensuring critical information is transmitted to CARB and providing clarification on the regulation's requirements. This includes ensuring manufacturers provide complete information for all vehicles reported rather than reporting grouped sales which lack unique Vehicle Identification Numbers for each vehicle which ensures CARB staff can cross reference vehicles reported versus other information reported through other regulations.

V. Air Quality

As discussed above, the proposed amendments to the ACT regulation are minor and intend to improve rule implementation and extend the deficit make up period to generate ZEV or NZEV credits. Extending the deficit makeup period results in the same outcome as the sales of a given model year are not anticipated to be complete for about three years and ultimately compliance is based on the actual deliveries to the ultimate purchaser. Emissions benefits are, therefore, not delayed. As a result, the proposed amendments are not projected to provide any significant decrease nor increase in emission relative to the baseline. The emissions benefits expected from the ACT regulation as initially adopted would remain the same.

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) (14 CCR 15251(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 (17 CCR 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,⁹ to explain CARB's determination that no additional environmental analysis is required for the proposed modifications to the ACT regulation.

⁹ CARB, Final Environmental Analysis for the Proposed Advanced Clean Trucks Regulation. June 23, 2020.

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 a response to 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 energy demand (long-term operational-related) and reductions of greenhouse gas emissions (long-term operational-related).

The Final EA also concluded that there could be less-than-significant impacts to air quality (long-term operational-related), energy demand (long-term operational-related), greenhouse gas emissions (short-term construction-related), mineral resources (short-term construction-related), population and housing, public services, recreation. In addition, it was determined that potentially significant and unavoidable adverse impacts to the following resource areas could occur: aesthetics, agriculture and forestry, 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 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:

- Establish that compliance 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.
- Clarify that 2036 and subsequent model year medium- and heavy-duty vehicles are subject to the Advanced Clean Fleets 2036 100 Percent Medium- and Heavy-Duty Zero-Emissions Vehicle Sales Requirements.
- Remove the option to report grouped vehicle sales while maintaining the requirement to report vehicles individually.
- Provide flexibility for manufacturers to certify to the requirements of ZEP Cert or the applicable requirements of the light-duty ZEV requirements.
- Provide an optional pathway for manufacturers to certify complete medium-duty ZEVs through the ZEP Cert procedure.
- Modify the definition of manufacturer to clarify that secondary vehicle manufacturers are not subject to the ZEV sales requirement of the ACT regulation, as they are not within the intended scope of regulated parties.
- Align language with the Advanced Clean Cars (ACC) II regulation to maintain flexibility without double counting Class 2b-3 ZEV sales.
- Expand the types of documentation to be retained for vehicle sales tracking.
- Clarify that secondary vehicle manufacturers are subject to audit to confirm vehicle sales.
- Clarify that manufacturers must report updates in vehicle sales information for a given model year until all vehicle sales for a given model year have been delivered for sale.
- Add reporting requirements to identify the last point of delivery to allow CARB to verify the vehicles that are ultimately delivered to the ultimate purchaser and placed in service in California.

Other minor changes to the reporting requirements to include additional vehicle type information for vehicles that are certified as complete vehicles, adding requirements to report the vehicle family name, and vehicle delivery information.

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 alter the compliance responses by regulated entities covered by the program. As such, these 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. (17 CCR 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 (14 CCR 15164 (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 (14 CCR 15164(c), (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 regulation 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.*

The sales of a given model year are not expected to initially conclude for approximately three years. Aligning the deficit makeup period with this anticipated timeframe, therefore, results in the same outcome for the first few years of the regulation. An increased deficit makeup period does not delay emissions benefits nor ZEV production and delivery and aligns with the original intent of the regulation. Additionally, there are no substantive changes in the compliance requirements as manufacturers are only receiving additional time to offset deficits that have been incurred. This increased timeframe would not have any detrimental impacts on the California emissions inventory, nor would it result in any new or modified facilities as a result of implementation. The proposed amendments would not result in any new or modified facilities, nor any other types of construction or operational-related impacts that could lead to potential adverse environmental impacts.

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.

- (2) *There are no substantial changes with respect to the circumstances under which the regulation 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 environmental settings or circumstances in which the proposed modifications to the ACT regulation are being implemented compared to that 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.

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. (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 increase the penetration of lower emitting, zero-emission heavy-duty technology into applications that are well suited to its use and achieve NO_x and GHG emissions reductions through advanced clean technology. The proposed amendments would still preserve these goals while also providing manufacturers additional flexibility in offsetting incurred deficits for a given model year as well as other proposed changes that would assist with reporting and rule implementation. 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 expected to have a minor cost impact due to costs from the updated reporting requirements and reductions in costs from removal of the ultimate purchaser requirement. However, CARB estimates a decrease in costs from 2025 through 2035 due to removal of the requirement for manufacturers to track when vehicles produced and delivered for sale in California reach the ultimate purchaser. As a

result, the costs and savings to the manufacturers are expected to ultimately result in a net decrease in costs when compared to the baseline.

The proposed amendment to ZEP Cert does not have a cost impact as the certification pathway remains optional for complete medium-duty ZEVs. To the extent that manufacturers take advantage of this new pathway, it may result in unquantifiable cost savings to manufacturers who opt to certify using this pathway.

A. Estimated Costs

This section summarizes the estimated total costs of the proposed amendments and the methodology used to determine these costs.

1. Updates to Reporting Systems

The proposed ACT amendments will update the ACT regulation's reporting requirements by removing the ability for manufacturers to report using the Grouped Sales Reporting option, which permits manufacturers to submit required information grouped by categories for vehicles that are not ZEVs or NZEVs without providing individual VINs. The removal of this option necessarily provides CARB staff sufficient information to confirm the veracity of a manufacturer's report by instead requiring that needed information be reported for each individual vehicle. The proposed amendments additionally modify information reported, such as the vehicle family name and whether each vehicle is a complete or incomplete vehicles.

CARB estimates that the proposed amendments will require manufacturers to update their sales tracking system to generate new reports to submit to CARB per the ACT regulation's requirements. Regulated manufacturers are expected to already have this information. CARB estimates updating these reporting systems will require 40 hours of work for the compliance engineer assigned to perform these updates for each of the 12 regulated manufacturers.

Per data from the U.S. Bureau of Labor Statistics, the hourly wage for a compliance officer nationwide is \$37.01.¹⁰ This wage is adjusted to account for benefits and other costs to the company by dividing by 0.7 to result in an hourly cost to the company of \$52.87.

2. Removal of Ultimate Purchaser Requirements

The ACT regulation currently requires manufacturers to track when the vehicles they produce and deliver for sale in California reach the ultimate purchaser, defined as the first person who in good faith purchases the vehicle for purposes other than resale (i.e., a fleet). The proposed ACT amendments remove this requirement and would require manufacturers to now solely comply based on vehicles produced and delivered for sale in California. This removal is expected to result in a cost reduction to manufacturers who currently need to track all vehicle sales after they leave their factory. (We note, as a point of reference, that removing the ultimate purchaser language from the Heavy-Duty Omnibus regulation did not result in cost savings as it was still required in the ACT regulation. As proposed, it would no longer be required by either regulation, leading to the cost savings.)

Medium- and heavy-duty vehicles can be sold as complete vehicles where the vehicle manufacturer installs the body and delivers the vehicle to the ultimate purchaser, or as

¹⁰ U.S. Bureau of Labor Statistics, Occupational Employment and Wages, May 2022, 13-1041 Compliance Officers, 2022 (web link: <https://www.bls.gov/oes/current/oes131041.htm>, last accessed September 2023).

incomplete vehicles where the vehicle manufacturer delivers cab-and-chassis vehicles to a secondary manufacturer. The secondary manufacturer upfits the vehicle with a body and then delivers the vehicle to the ultimate purchaser. CARB estimates the existing requirements do not impose a cost burden on sales of complete vehicles which are delivered directly from the vehicle manufacturer to the customer or dealership. However, incomplete vehicles require additional tracking as the vehicle manufacturer must communicate with the secondary purchaser to determine where the vehicle is ultimately delivered.

CARB estimates tracking delivery of these incomplete vehicles to the ultimate purchaser will require 1 minute of time from a compliance officer for both the vehicle manufacturer and secondary manufacturer, resulting in 2 minutes total, for each incomplete vehicle sold in California. The removal of this requirement will save 2 minutes of time for each incomplete vehicle sold in California. Per data from the U.S. Bureau of Labor Statistics, the hourly wage for a compliance officer nationwide is \$37.01 per hour.¹¹ This wage is adjusted to account for benefits and other costs to the company by dividing by 0.7 to result in an hourly cost to the company of \$52.87.

Based on information from Emission Factor Inventory Model 2021, CARB estimates 14,688 incomplete vehicles will be sold into California in 2024, increasing to 20,388 in 2025 MY, and will afterwards increase at a rate of roughly 2% per year to 2035.

3. Total Costs

The proposed ACT amendments are expected to result in nearly offsetting cost increases and decreases in 2024 due to costs from the updated reporting requirements and reductions in costs from removal of the ultimate purchaser requirement, and a decrease in costs from 2025 through 2035 due to removal of the ultimate purchaser requirement. The net cost of the ACT amendments is \$25,000, and the net cost savings or benefits of the ACT amendments are -\$465,000. The net cost of the ACT amendments are -\$440,000, representing a decrease in costs versus the baseline as shown in Table 1.

¹¹ U.S. Bureau of Labor Statistics, Occupational Employment and Wages, May 2022, 13-1041 Compliance Officers, 2022 (web link: <https://www.bls.gov/oes/current/oes131041.htm>, last accessed September 2023).

Table 1: Cost of ACT Amendments Versus the Baseline

Calendar Year	Updates to Reporting System	Removal of Ultimate Purchaser Requirement	Annual Total
2024	\$25,000	-\$26,000	-\$510
2025	-	-\$36,000	-\$36,000
2026	-	-\$36,000	-\$36,000
2027	-	-\$37,000	-\$37,000
2028	-	-\$38,000	-\$38,000
2029	-	-\$38,000	-\$38,000
2030	-	-\$39,000	-\$39,000
2031	-	-\$43,000	-\$43,000
2032	-	-\$42,000	-\$42,000
2033	-	-\$43,000	-\$43,000
2034	-	-\$43,000	-\$43,000
2035	-	-\$44,000	-\$44,000
Grand Total	\$25,000	-\$465,000	-\$440,000

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 which 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 minimal 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 conducted business to meet the basic requirements remaining the same. Therefore, no businesses affected by ACT 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.

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

These amendments are generally minor, administrative changes that have minimal cost impacts and no emissions impact and no impact to 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 proposed amendments to the ACT regulation. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the amendments to the ACT regulation.

A. Alternative 1: No Action

CARB staff considered Alternative 1, i.e., not making any changes 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, the time provided to manufacturers to meet credit obligations from retiring fewer ZEV or NZEV credits than required for a given model year would be unchanged. Alternative 1 was rejected because the current makeup period does not provide substantial time to manufacturers facing potential market fluctuations and other variables outside of the manufacturers' control that may prevent them from satisfying the deficiency, even more so under a shorter timeframe. Reducing or maintaining the current deficit makeup period would result in an unintended increase in enforcement action against manufacturers should the deficit not be made up within the allotted timeframe. For this reason, Alternative 1 was rejected.

B. Alternative 2: No Deficit Makeup Period

Alternative 2 eliminates the time provided to manufacturers to meet credit obligations from retiring fewer ZEV or NZEV credits than required for a given model year. This is a more stringent alternative and would remove the flexibility provided to manufacturers that assists in meeting compliance requirements. Alternative 2 is not expected to cause any significant changes to emissions or health benefits. The costs of Alternative 2 are expected to be the same as the proposed ACT amendments since similar changes to the reporting requirements and ultimate purchaser requirements are included in this alternative.

Alternative 2 was rejected because removing the deficit makeup period eliminates the ability for a manufacturer to account for unforeseen market fluctuations and other variables that may affect compliance for a given year. Removing this flexibility creates uncertainty associated with manufacturer's ability to meet their compliance requirements. Additionally, as with Alternative 1, eliminating the deficit makeup period would result in an unintended increase in enforcement action against manufacturers should the deficit not be offset by the end of the model year. For this reason, Alternative 2 was rejected.

C. Alternative 3: Extend Deficit Makeup Period to Five Model Years with No Conditions

Alternative 3 increases the time provided for manufacturers to make up deficit obligations from retiring fewer ZEV or NZEV credits than required for a given model year. This alternative would increase the deficit makeup period from the proposed three model years to five model years and not apply any conditions to ensure that manufacturers remain close to their compliance targets. This is a less stringent alternative and would provide greater flexibility to manufacturers in meeting compliance requirements but would increase the likelihood for manufacturers to potentially produce no ZEVs for several years. The resulting emissions reductions would be lost through an effective loophole. Staff did not perform an emissions analysis due to the speculative nature of the number of manufacturers that may use the delay and, as a result, need to guard against the potential abuse of the flexibility. Alternative 3 could result in significant losses in emissions and health benefits and create a competitive disadvantage for manufacturers that did not delay their ZEV deployments.

Alternative 3 was rejected because providing a five-year deficit makeup timeframe is excessive and unnecessary compared to the proposed three-year timeframe. Extending the makeup period to five model years without requirements for manufacturers to remain close to their compliance targets creates uncertainty associated with manufacturer ability to rectify a deficit and meet compliance requirements. For this reason, Alternative 3 was rejected.

D. Small Business Alternative

The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business. 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 AB 1033 (Garcia, Chapter 346, Statutes of 2016) 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 amendments 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 HSC 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 modifications 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

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

In October 2023, CARB staff began informing the public of the proposed amendments to the ACT regulation and the development process. Staff hosted a public workshop on November 13th, 2023, via webcast to capture stakeholder input on the draft regulatory language. Staff additionally conducted four meetings with three 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. References

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, Large Entity Fleet Reporting – Statewide Aggregate Data, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-02/Large_Entity_Reporting_Aggregated_Data_ADA.pdf, last accessed December 2023).
- 2) California Air Resources Board, Large Entity Fleet Reporting – Air Basin Aggregate Data, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-02/Air_Basin_Aggregated_Data_LER.xlsm, last accessed December 2023).
- 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 December 2023).
- 4) U.S. Bureau of Labor Statistics, Occupational Employment and Wages, May 2022,13-1041 Compliance Officers, 2022 (web link: <https://www.bls.gov/oes/current/oes131041.htm>, last accessed December 2023).
- 5) U.S. Bureau of Labor Statistics, Occupational Employment and Wages, May 2022,13-1041 Compliance Officers, 2022 (web link: <https://www.bls.gov/oes/current/oes131041.htm>, last accessed December 2023).

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)