

Public Hearing to Consider the Advanced Clean Fleets Regulations

Final Statement of Reasons for Rulemaking,
Including Summary of Comments and
Agency Response

Public Hearing Date: April 27-28, 2023
Agenda Item No.: 23-4-2.

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List of Acronyms and Abbreviations

100 Percent ZEV Sales – The 100 Percent ZEV Sales by 2036 Regulation

ACF or the Regulation or the ACF Regulation – The Advanced Clean Fleets Regulation

ACF 15-Day Notice - Notice of Public Availability of Modified Text and Availability of Additional Documents, Advanced Clean Fleets Regulation

APA – Administrative Procedures Act

AB – Assembly Bill

AB 5 – Gonzalez, Statutes of 2019, Chapter 296

AB 8 – Perea, Statutes of 2013, Chapter 401

AB 52 – Gatto, Statutes of 2014, Chapter 532

AB 118 – Nunez, Statutes of 2007, Chapter 750

AB 617 – Garcia, Statutes of 2017, Chapter 136

AB 841 – Ting, Statutes of 2020, Chapter 372

AB 1279 – Muratsuchi, Statutes of 2022, Chapter 337

AB 2061 – Frazier, Statutes of 2018, Chapter 580

AB 2127 – Ting, Statutes of 2018, Chapter 365

AB 2565 – Muratsuchi, Statutes of 2014, Chapter 529

AB 2700 – McCarty, Statutes of 2022, Chapter 354

ABT – Averaging, Banking, and Trading

ADAS – Advanced Driver Assist System

ARBOR – Air Resources Board Equipment Registration

BEV – Battery-Electric Vehicle

BTU – British Thermal Unit

CA GHG Phase 2 – California’s GHG Phase 2 Regulation

CAISO – California Independent System Operator

Caltrans – California Department of Transportation

CARB – California Air Resources Board

CCR – California Code of Regulations

CDFA – California Department of Food and Agriculture

CEC – California Energy Commission

CEQA – California Environmental Quality Act
CI – Carbon Intensity
COVID-19 – Coronavirus Disease 2019
CNG – Compressed Natural Gas
CNRA – California Natural Resources Agency
CPUC – California Public Utilities Commission
CTC – California Transportation Commission
CTP – Clean Truck Program
CVC – California Vehicle Code
DEF – Diesel Exhaust Fluid
DMV – California Department of Motor Vehicles
DOF – California Department of Finance
DTR – Drayage Truck Registry
EA – Environmental Analysis
EMFAC – Emission Factor
EnergIIZE – Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles
EPA – Environmental Protection Agency
ePTO – Electric Power Take-Off
EV – Electric Vehicle
EVITP – Electric Vehicle Infrastructure Training Program
EVSE – Electric Vehicle Supply Equipment
FSOR – Final Statement of Reasons
FCEV – Fuel Cell Electric Vehicle
GHG – Greenhouse Gas
GO-Biz – Governor's Office of Business and Economic Development
HD I/M or Clean Truck Check – Heavy-Duty Inspection and Maintenance Regulation
HD Omnibus – Heavy-Duty Omnibus Regulation
H2ICE – Hydrogen-Fueled Internal Combustion Engine
HPF or HPF Regulation – The High Priority and Federal Fleets Regulation
HVIP – Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project

ICE – Internal Combustion Engine
ICT – Innovative Clean Transit Regulation
IIJA – Infrastructure Investment and Jobs Act
IOU – Investor-Owned Utility
IPAG – Incentive Program Advisory Group
IRA – Inflation Reduction Act of 2022
IRP – International Registration Plan
ISEF – Innovative Small e-Fleets
ISOR or ACF ISOR or Staff Report– Advanced Clean Fleets Initial Statement of Reasons
kW – kilowatt
kWh – kilowatt hour
LBNL – Lawrence Berkeley National Lab
LCFS – Low Carbon Fuel Standard
LER – Large Entity Reporting
LLC – Limited Liability Company
LSI - Large Spark-Ignition Engine Fleet Requirements Regulation
MJ – Megajoule
MW – Megawatt
NAAQS – National Ambient Air Quality Standards
NERC – North American Electric Reliability Corporation
NEVI - National Electric Vehicle Infrastructure Program
NHTSA – National Highway Traffic Safety Administration
OAL – Office of Administrative Law
OEM – Original Equipment Manufacturer
OSHA – Occupational Safety and Health Administration
PG&E – Pacific Gas and Electric
PHEV – Plug-In Hybrid Electric Vehicle
PM – Particulate Matter
POU – Publicly Owned Utility
PSPS – Public Safety Power Shutoff

PTO – Power Take-Off
RD – Renewable Diesel
RNG – Renewable Natural Gas
RTC – Response to Comments
SB – Senate Bill
SB 1 – Beall, Statutes of 2017, Chapter 5
SB 100 – De León, Statutes of 2018, Chapter 312
SB 617 – Calderon, Statutes of 2011, Chapter 496
SB 643 – Archuleta, Statutes of 2021, Chapter 646
SB 671 – Gonzalez, Statutes of 2021, Chapter 769
SB 1020 – Laird, Statutes of 2022, Chapter 361
SB 1339 – Stern, Statutes of 2018, Chapter 566
SB 1383 – Lara, Statues of 2016, Chapter 395
SB 1440 – Hueso, Statutes of 2018, Chapter 739
SCE – Southern California Edison
SDG&E – San Diego Gas and Electric
SLG or SLG Regulation – The State and Local Government Fleets Regulation
SRIA – Standardized Regulatory Impact Analysis
TCO – Total Cost of Ownership
TRAC - Truck Regulations Advisory Committee
TRUCRS - Truck Regulation Upload, Compliance and Reporting System
VIN – Vehicle Identification Number
Volvo LIGHTS – Volvo Low Impact Green Heavy Transport Solutions
ZE – Zero-Emissions
ZEV – Zero-Emissions Vehicle
ZEP Certification – Zero-Emissions Powertrain Certification

I. General

On September 2, 2022, CARB released the 45-Day Notice of Public Hearing and Staff Report: ISOR, titled “Public Hearing to Consider Advanced Clean Fleets Regulation” for public review. The Staff Report contains a detailed description of the problem the Regulation is intended to address; a snapshot of the ZEV market, emissions analysis, health exposure and benefits analysis, cost and cost benefits analysis, environmental analysis, fiscal analysis, alternatives assessment, and rationale for the Regulation. The 45-Day Notice included all references relied upon and identified in the Staff Report.

The Regulation is explained in the Staff Report as critical to meeting California’s State and federal air quality standards, protecting public health, and achieving the State’s climate goals. The Regulation aims to further curb criteria, toxic, and GHG emissions by transitioning ICE vehicles to ZEVs using a phase-in approach, sets clear targets for regulated fleets to make a full conversion to ZEVs, and creates a catalyst to accelerate development of a heavy-duty public infrastructure network. In addition, it transitions drayage trucks to ZEVs given the suitability of their duty cycles, outsized impact on disproportionately impacted communities, and ability to maximize emissions reductions in heavily impacted communities. This approach gives fleets the flexibility to phase in ZEVs in the most suitable applications first and focuses initial ZEV infrastructure development to support community health around seaports and railyards. The Regulation includes four components. A manufacturer requirement for 100 percent of sales of medium- and heavy-duty vehicles to be ZEVs and fleet requirements to purchase and deploy ZEVs in SLG fleets, drayage truck operations, and HPF fleets.

The Regulation is the result of an extensive public process. In February 2020, CARB staff began informing the public of the likely proposal of the Regulation and development process. Over the past four years of ACF Regulation development, staff hosted 27 public listening sessions, workgroups, and workshops. CARB staff reached out directly to affected stakeholders and conducted more than 475 meetings with over 170 groups and individuals. CARB staff also sent more than 273,000 mailers and numerous emails to the 81,944 recipients from 10 email distribution lists, and 84,597 more fleet contacts from TRUCRS. CARB staff offered engagement opportunities to receive feedback and solicited alternatives from a variety of groups and stakeholders, including manufacturers, large fleet owners, single truck owners-operators, environmental advocacy organizations and the communities most heavily impacted by truck emissions. Through this public process, staff considered all stakeholder feedback and integrated many stakeholder’s concepts into the Regulation. CARB received written comments from 344 commenters during the 45-Day Notice comment period. On October 27, 2022, the Board conducted a public hearing where staff informed the Board of the Regulation, and the Board received an additional 32 written and 163 oral comments from the public. At the conclusion of the hearing, the Board directed staff to evaluate providing more time for infrastructure development and for trucks using biomethane to better align with California’s organic waste diversion rule, to continue working with transit fleets and utilities to ensure they can do their important work, streamline criteria for exemptions, and assess moving up the end date for sales of new combustion trucks and reducing the HPF fleet size from 50 to 10 tractors; as well as conduct additional stakeholder outreach.

Staff released an emissions analysis which concluded the proposed Regulation already requires more ZEVs to be purchased than manufacturers are required though the ACT Regulation and

pushing ahead the tractor purchase requirements by three years could be a concern depending on how the rapidly developing market plays out.¹ The Board approved the ACF Resolution which includes direction to update the ACT manufacturer sales requirements to be consistent with the SIP.

At the direction of the Board and in response to stakeholder concerns, staff proposed updates to the original proposal and solicited stakeholder feedback through a series of two focused public workgroups and one general public workshop. Waste and wastewater provisions were discussed at the December 12, 2022, public workshop, which was attended by 253 remote and more than 23 in-person participants. Infrastructure Construction Delays and ZEV Purchase Exemptions were discussed at the January 13, 2023, public workgroup, which was attended by 717 remote and 49 in-person participants. A final February 13, 2023, public workshop on the draft 15-day revisions to the original proposal was attended by 77 in-person and 1,015 remote participants.

Based on the Board's direction and feedback from the additional public workshops, a number of proposed changes were made. The date for ending new combustion engines sales in California was moved from 2040 to 2036. New ICE vehicle purchases were required to be California certified engines when ZEV purchases are not required. A new provision was added to provide more time to begin phasing in ZEVs for CNG powered trucks that exclusively use biomethane and are operated by waste and wastewater fleets involved in municipal diversion of organic waste. Transit agencies were made exempt until January 1, 2030, to allow them to focus on electrifying their buses. Extensions for ZEV infrastructure were expanded to address circumstances beyond the fleet owner's control when constructing ZEV infrastructure or in obtaining grid power. Other changes were made to streamline criteria for the ZEV Purchase and Daily Usage Exemptions, and some safeguards were added to ensure exemptions are only granted when necessary for compliance. The drayage truck reporting requirements for terminals, seaports, and railyards were also streamlined. More information on the changes is provided in the section, Modifications Made to the Original Proposal

The following section provides a high-level summary of modifications made to the original proposal at the direction of the Board and in response to stakeholder concerns. The summary of changes does not include any definitions, edits made for clarity or those used to restructure. For more detailed information on each change and their purpose and rationale, see the ACF 15-Day Notice on CARB's website: <https://ww2.arb.ca.gov/rulemaking/2022/acf2022>.

In accordance with Government Code section 11346.8, the Board may adopt the proposed amendments after making any appropriate conforming modifications, as well as any additional supporting documents and information available to the public for a period of at least 15 days. The Board further provided that the Executive Officer shall consider such written comments as may be submitted during this period and shall make such modifications as may be appropriate

¹ CARB, Executive Officer Memo to Board - Advanced Clean Fleets Regulation High Priority Fleet Size Analysis, 2023 (web link: https://ww2.arb.ca.gov/sites/default/files/2023-02/HPF%20Fleet%20Size%20Board%20Memo_ADA.pdf, last accessed March 2023).

in light of the comments received, then shall present the Regulations to the Board for further consideration if warranted.

After the October 27, 2023, Board Hearing, CARB released a Notice of Public Availability of Modified Text and Availability of Additional Documents and Information on March 23, 2023. The text of the proposed regulatory and Staff Report modifications is posted on CARB's website: <https://ww2.arb.ca.gov/rulemaking/2022/acf2022> and was made accessible to all stakeholders and interested parties.

The Final EA and written responses to the Draft EA were posted on April 14, 2023, for public review and tribes requesting notice under AB 52 were provided notice. No requests for tribal consultation were received.

CARB received written comments from 177 commenters during the ACF 15-Day Notice comment period. Staff presented the modified proposal to the Board for further consideration on April 27-28, 2023, at which 34 written comment submissions were received along with 158 individuals who gave oral testimony. At that hearing, the Board considered the Final EA and RTC in accordance with the requirements of CEQA and CARB's certified regulatory program. The Board adopted Resolution 23-13, which adopted the Findings and Statement of Overriding Considerations, approved written responses to the Draft EA, certified the Final EA, and adopted the proposed ACF Regulation. The adopted Regulations reflect the final modifications that were made available for the supplemental comment periods and non-substantial changes that were appropriate to be made, as reflected in the Final Regulation Orders made available for the hearing.

This FSOR updates the Staff Report by identifying and explaining the modifications that were made to the original proposal at the Board's direction and in response to comments. It updates the information in the Staff Report and summarizes and responds to the written and oral comments submitted to CARB on the Regulations or on the process by which they were adopted.

In adopting the ACF Regulations, CARB has added the following sections to title 13, in the CCR: 2013, 2013.1, 2013.2, 2013.3, 2013.4, 2014, 2014.1, 2014.2, 2014.3, 2015, 2015.1, 2015.2, 2015.3, 2015.4, 2015.5, 2015.6, and 2016.

Mandates and Fiscal Impacts to Local Governments and School Districts

Costs incurred by local governments and school districts are not reimbursable pursuant to Section 6 of Article XIII B of the California Constitution and Part 7 (commencing with Section 17500), Division 4 of Title 2 of the Government Code. These costs are not reimbursable because this action neither compels local agencies to provide new governmental functions (i.e., it does not require such agencies to provide additional services to the public), nor imposes requirements that apply only on local agencies or school districts.² Instead, this regulatory action establishes requirements that apply to all individuals and entities that own or operate regulated vehicles and facilities. This action also does not compel local agencies to increase the

² County of Los Angeles v. State of California (1987) 43 Cal.3d 46, 56.

actual level or quality of services that they already provide the public.³ For the foregoing reasons, any costs incurred by local agencies to comply with this regulatory action are not reimbursable.⁴

Consideration of Alternatives

For the reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this FSOR, the Board determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective and less burdensome to affected private persons, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law than the action taken by the Board.

1. Small Business Alternative

Section 11346.9, subdivision (a)(5), of the Government Code provides that the FSOR shall contain an "explanation setting forth the reasons for rejecting any proposed alternative that would lessen the adverse economic impact on small businesses." The drayage truck portion of the ACF Regulation does apply directly to small businesses. For discussion about small business alternatives, please see Chapter IX.C. of the ACF ISOR. The Board has not identified any reasonable alternatives that would be as effective in carrying out the purposes of the regulatory action and that would lessen any adverse indirect impacts of the ACF Regulations on small business. As explained in Chapter IV.A.7. of the ACF FSOR, as the master response to cost comments, the TCO including incremental ZEV purchase cost predicts that many businesses will experience net benefits from ownership and operation of ZEVs.

II. Modifications Made to the Original Proposal

The following section provides a high-level summary of modifications made to the original proposal at the direction of the Board and in response to stakeholder concerns. The summary of changes does not include any definitions, edits made for clarity or those used to restructure. For more detailed information on each change and their purpose and rationale, see the ACF 15-Day Notice on CARB's website: <https://ww2.arb.ca.gov/rulemaking/2022/acf2022>.

Changes to the Regulation include requirements to purchase the lowest emitting combustion engines when ZEVs are not being purchased, expansion of exemptions and extensions, additional flexibility for public fleets, a new provision to address transient vehicles, more time for certain waste and wastewater fleets, and additional limited exemptions, for example, intermittent snow removal vehicles would be exempt until January 1, 2030, and manufacturer test fleet vehicles would be excluded.

³ San Diego Unified School Dist. v. Commission on State Mandates (2004) 33 Cal.4th 859, 877.

⁴ County of Los Angeles v. State of California, 43 Cal.3d. 46, 58.

Some of the provisions are only applicable to certain fleet requirements. Table 1Table II-1 summarizes the ACF 15-day changes for shared provisions between the three (SLG, HPF, and drayage) fleet requirements. The Backup Vehicle Exemption is not included in the table because no substantive changes were made to that provision.

Table II-1 Summary of 15-Day Changes for Shared Provisions

ACF 15-Day Change	Regulation	Summary of Change
Infrastructure Delay Extension	SLG, Drayage, HPF	<p>The provision was expanded to account for utility delays before construction begins and to provide more time due to construction delays.</p> <p>An additional site electrification delay was added to cover delays for ZEVs that cannot be supported by existing site power due to delays in obtaining grid power from the utility before construction starts. The site electrification delay can extend up to five years from the time a utility and fleet either execute a contract or the utility attests they will proceed with the project; this delay sunsets in 2030. Fleet owners with multiple sites must provide each site's preliminary infrastructure capacity evaluation from the utility or a third-party licensed professional electrical engineer to qualify.</p> <p>Construction related delays could be approved for up to two years instead of one additional year after construction permit is issued. This would provide for up to three-years from the time a construction permit is obtained due to circumstances outside a fleet owner's control.</p>
ZEV Purchase Exemption*	SLG, HPF	<p>Allows fleets to purchase a new ICE vehicle when ZEVs are not available in the needed configuration. To accommodate stakeholder requests for clarity on this exemption, the exemption is now separated into two separate paths. The first path requires CARB to maintain a list of vehicle body configurations not available as ZEVs. Fleets may purchase an ICE vehicle type on the list without applying for an exemption. Fleet owners could also apply for an exemption if a needed vehicle configuration was not available to serve the primary function for a particular fleet. Additionally, the provision was expanded to all GVWR.</p>

ACF 15-Day Change	Regulation	Summary of Change
Daily Usage Exemption*	SLG, HPF	Allows fleets to purchase a new ICE vehicle if available ZEVs cannot meet duty cycle for same truck configuration. The fleet must already be composed of 10 percent ZEVs to qualify. Fleets will have up to 180 days to make new ICE purchases when approved. In the ACF 15-day changes, calculations used to determine daily usage needs have been streamlined (including allowing for shorter time periods required by fleets for data collection). Fleets with mutual aid agreements can use a longer period to support their claim. This exemption was expanded to include all vehicle weight classes rather than just the larger trucks.
Mutual Aid Assistance	SLG, HPF	Allows for purchase of ICE vehicles after meeting a minimum threshold of ZEVs in the fleet. Original proposal set this threshold after the fleet had 75 percent ZEVs in the fleet. This has been relaxed. The threshold is a gradual phase-in to 75 percent ZEV over nine years, beginning at 25 percent in 2024 and increasing to 75 percent by 2035.
Waste and Wastewater Fleet Option	HPF Milestones, SLG opt-in	Applies to CNG trucks owned by waste hauler fleets or wastewater agencies that process or handle organic waste. Allows fleets who have opted into ZEV Milestones to shift compliance deadline for Groups 1 and 2 CNG vehicles to Group 3, giving them until 2030 to start their transition.
Vehicle Delivery Delay Extension	HPF, Drayage	Now applies to ZEV orders cancelled by an OEM. This delay gives drayage truck and high priority fleet owners 180 days and government fleet owners one year to secure another ZEV purchase agreement.
Accident/Non-repairable Vehicle Provision	HPF Model Year, Drayage, SLG	In the case of an accident, this provision allows a fleet owner to purchase and make limited use of an ICE vehicle with the same or newer model year engine as the non-repairable vehicle.
Intermittent Snow Removal Vehicle Exemption	SLG, HPF Milestones	A multi-use ICE vehicle that periodically removes snow from roads may be designated as an intermittent snow removal vehicle. They are excluded from the California fleet and exempt from ZEV purchases until 2030.

* Exemption allows the fleet owner to purchase a new California-certified ICE vehicle rather than a ZEV if their application is granted by the Executive Officer.

Section 2013, State and Local Government Fleets

Language was added to exempt transit agencies subject to the ICT Regulation until after January 1, 2030. Language was added to allow SLG fleets to permanently opt into the ZEV Milestones Option and to let a fleet owner know they have until January 1, 2030, to make their choice. Allowing SLG to opt into the ZEV Milestones Option may provide additional time for work trucks and specialty vehicles depending on the fleet composition. Language was added to allow SLG who qualify for the Waste and Wastewater Fleet Option to opt into the ZEV Milestones Option to apply for that provision. Language was added to inform government entities they can comply jointly, but only under the SLG Regulation. Language was added to allow SLG fleets with ten or fewer vehicles, or those whose jurisdiction or service area is split between a designated low population and a non-designated county, more time to start their ZEV transition. Language was modified in the NZEV flexibility provision to expand the use of the provision to any NZEV with a 2035 or earlier model year to be counted as a ZEV for the whole Regulation, except as specified in the Daily Usage and ZEV Purchase Exemptions. Language was added to the late reporting penalty section.

Section 2014, Drayage Truck Requirements

Language was modified to add clarity to definitions for drayage truck requirements. Seaport, railyard, and terminal reporting requirements were modified to reduce burden on reporting parties, add clarity to compliance dates, and account for limited data collection capabilities that some facilities may have.

Section 2015, High Priority and Federal Fleets

Language was added to allow HPF fleet owners, who have vehicles subject to the Zero-Emission Airport Shuttle Bus Regulation, to delay their ZEV transition for those subject vehicles until January 1, 2027. Language was added to inform HPF fleet owners that they may switch between ZEV Milestones and Model Year Schedules until January 1, 2030, and to inform corporations they may comply jointly under the ZEV Milestones Option. Language was added to give HPF fleet owners an annual, 5-Day Pass that excludes any one vehicle from their California fleet for five consecutive days. Language was added to give national rental fleets, complying with the ZEV Milestone Schedule, an option to take an average of four quarterly snapshots of their vehicles operating in California to claim as their California fleet. Language was added on temporary period for late reporting.

Section 2016, 100 Percent ZEV Sales Requirements

Language was modified to reflect a 2036 model year 100 Percent ZEV Sales requirement. This change meets Board direction and is necessary to achieve State air quality and climate goals. Accelerating the 100 Percent ZEV Sales manufacturer requirement sends a stronger market signal indicating the end of combustion-powered sales in California in 2036 rather than in 2040.

Updates to Analysis as a Result of Modifications

Modifications to the Regulation that impact emission estimates include accelerating the 100 Percent ZEV Sales requirement to begin in 2036 instead of 2040. This will accelerate ZEV purchases by all fleets by four years including those not affected by the SLG, drayage, or HPF sections. This change is expected to increase emissions benefits and cost savings associated with the Regulation as ZEVs have lower TCO than ICE vehicles in 2036. Staff have added a new provision affecting CNG powered trucks owned by public or private waste and wastewater fleets involved in municipal diversion of organic waste. Vehicles affected by this provision are moved to the ZEV Milestone Group 3 schedule. This provision provides additional time to these fleets before they must transition these vehicles to ZEVs. Finally, the changes would require California-certified engines when new ICE vehicles are purchased.

Other modifications made to the emissions estimates since the Staff Proposal was released include changes to the Legal Baseline. CARB's HD I/M program became effective on January 1, 2023⁵ and the Federal CTP was adopted by the U.S. EPA.⁶ Both the HD I/M and CTP decrease projected tailpipe criteria emissions from ICE heavy-duty vehicles and increase their projected costs. These regulatory changes and updates to the Legal Baseline since the Staff Report was released result in smaller criteria pollutant emissions benefits for ACF than originally analyzed.

On August 16th, 2022, President Joe Biden signed the IRA. This landmark piece of federal legislation establishes several provisions which will reduce costs of medium- and heavy-duty ZEVs and accelerate the ZEV market. In the original ACF proposal, staff had attributed IRA cost reductions of \$2.0 billion in credits from the IRA in the Legal Baseline. Since the release of the Staff Report, this increased to \$4.3 billion in credits due to the increased number of ZEVs and chargers being purchased by fleets subject to the Regulation. This results in a net cost change of -\$2.3 billion, representing an increase in savings, due to the IRA.

Furthermore, CEC published updated Transportation Fuel Demand Forecasts on January 5, 2023; these updated values changed the cumulative cost of the Regulation from 2024-2050 by \$21.5 billion representing a decrease to the cost of the Regulation. Other, minor corrections were made. Updated costs, emissions and health benefits are presented in Appendix B to the ACF 15-Day Notice. A summary is shown in the table below.

Table III-2: Statewide Cumulative Benefits of the Regulation to 2050

Cumulative Benefit to 2050	Value
NOx Reduction	146,872 tons
PM2.5 Reduction	6,875 tons
GHG Reduction	327 MMT CO ₂
Avoided Cardiopulmonary Mortalities	2,526
Health Benefits Savings	\$26.5 billion

⁵ Cal. Code Regs., tit. 13, sections 2193, 2195 through 2199.1

⁶ U.S. Environmental Protection Agency, Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 2023 (web link: <https://www.federalregister.gov/documents/2023/01/24/2022-27957/control-of-air-pollution-from-new-motor-vehicles-heavy-duty-engine-and-vehicle-standards>, last accessed February 2023).

Cumulative Benefit to 2050	Value
Social Cost of Carbon Savings*	\$9.8-\$38.7 billion
Statewide Direct Cost-Savings	\$116.7 billion
Statewide Incremental Total Cost of Ownership Savings	\$48.0 billion
Tax and Fee Revenue	-\$36.6 billion
Statewide Benefits and Savings**	\$106.6 billion

* The Social Cost of Carbon savings include global figures and are not included in the total California benefits and savings.

**The total includes the statewide direct cost-savings and health benefits savings minus the tax and fee revenue.

Non-Substantial Modifications

Subsequent to the 15-day public comment periods mentioned above, staff identified the following additional non-substantial changes to the Regulation:

1. Modifications to Section 2013

Section 2013(a)(2)

Added a period after "lbs." that was erroneously excluded.

Section 2013(b)

Removed an extra space in front of "This does not include entities" in the definition for "Manufacturer" that was erroneously included.

Section 2013.1(c)(1)(A)

Removed an extra space after "deadline" that was erroneously included.

Section 2013.2(a)

Removed an extra space after "Fleet" that was erroneously included.

Section 2013.2(i)

Added a space between "extensions" and "requests" that was erroneously omitted.

2. Modifications to Section 2014

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Added period at after "Section 2014" for consistency with other components of the ACF Regulation.

Page 3, before Section 2014

Removed "s" from "Sections" as the pluralization was not needed.

Section 2014(b)

Replaced period at the end of the header for Section 2014(b) with a colon. This change was made to be consistent with the other components of the ACF Regulation.

3. Modifications to Section 2015

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Added period after "Section 2015" for consistency with other components of the ACF Regulation.

Section 2015(b)

Removed an extra space in the "vehicle purchase" definition that was erroneously included.

Section 2015.2

Removed an extra space in front of "By using this option" that was erroneously included.

Section 2015.2(a)

Removed a second period from "Table A: ZEV Fleet Milestones by Milestone Group and Year for their California fleets" that was erroneously included.

Added a space between "31,2027" to now read "December 31, 2027" that was erroneously omitted.

Section 2015.3(e)(2)(D)(1)

Removed an extra space that was erroneously included.

Section 2015.4(k)

Added a space between "extensions" and "requests" that was erroneously omitted.

4. Modifications to Section 2016

Section 2016

Added space/indent between "2016." and "100" in the header which was erroneously omitted.

The above-described modifications constitute non-substantial changes to the regulatory text and do not materially alter the requirements or conditions of the adopted rulemaking action. In addition to these changes, additional non-substantive changes were made to correct

numbering, formatting, and grammatical changes throughout the amended and adopted Regulation text.

III. Documents Incorporated by Reference

The Regulation and the incorporated certification procedures, test procedures, and other documents adopted by the Executive Officer incorporate by reference the following documents:

California Air Resources Board, 2014 amended in 2018. Final Phase 2 Greenhouse Gas Amendments to California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles, Attachment B table called, "Phase 2 Plug-in Hybrid Electric Vehicles All-Electric Range Requirements and ATC Multipliers" is used to define "near-zero-emissions vehicle" or "NZEV" and is incorporated by reference in 13 CCR sections 2013 and 2015.

California Air Resources Board, "California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains," adopted June 27, 2019, is used to define "rated energy capacity" and for Executive Officer determination of ZEV Purchase Exemption criteria and is incorporated by reference in 13 CCR sections 2013, 2013.1, 2015, and 2015.3.

Code of Federal Regulations, Title 40 section 1037.801, as last amended by U.S. EPA on June 17, 2013, is used to define "battery-electric vehicle" or "BEV" and is incorporated by reference in 13 CCR sections 2013 and 2015.

Code of Federal Regulations, Title 49 section 523.2. Title V of the Motor Vehicle Information and Cost Savings Act Vehicle Classification Definitions as it existed on June 3, 2022, is used to define "light-duty package delivery vehicle" and is incorporated by reference in 13 CCR section 2015.

Code of Federal Regulations, Title 49, Chapter V, Parts 565, 566, and 571 is used to define "Vehicle Identification Number" and is incorporated by reference in 13 CCR sections 2013 and 2015.

SAE, Recommended Practice SAE J1667 "Snap-Acceleration Smoke Test Procedure for Heavy-Duty Diesel-Powered Vehicles," as issued February 1996 is defined for the "smoke opacity test" used for odometer reading documentation and is incorporated by reference in 13 CCR sections 2013, 2013.3, 2014, 2015, and 2015.5.

These documents were incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to publish them in the CCR. In addition, some of the documents are copyrighted, and cannot be reprinted or distributed without violating the licensing agreements. The documents are lengthy and highly technical test methods and engineering documents that would add unnecessary additional volume to the Regulation. Distribution to all recipients of the CCR is not needed because the interested audience for these documents is limited to the technical staff at a portion of reporting facilities, most of whom are already familiar with these methods and documents. Also, the incorporated documents were made available by CARB upon request during the rulemaking action and will

continue to be available in the future. The documents are also available from college and public libraries or may be purchased directly from the publishers.

IV. Summary of Comments and Agency Response

Written comments were received during the 45-day comment period from September 2 through October 17, 2022, in response to the public hearing notice, and written and oral comments were presented at the October 27, 2022, Board Hearing. Written comments were received during the 15-day comment period, in response to the second public hearing notice, and written and oral comments were presented at the April 27-28, 2023, Board Hearing. Written comments submitted during comment periods can be viewed at this webpage, https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=acf2022. Oral comments can be found at the Board Hearing webcast archive available in English and Spanish at this webpage, <https://cal-span.org/>. Table IV-1 shows the comment period code for each of the comment periods along with a description.

Table IV-1. Comment Period Code and Description.

Comment Period Code	Comment Period Description
15-1	Written comments submitted during the first 15-days
15-2	Written comments submitted during the second 15-days
45d	Original (45-day) Proposal
OT1	Oral Testimony Comments at the first Board Hearing
OT2	Oral Testimony Comments at the second Board Hearing
WT1	Written comments submitted at first Board Hearing
WT2	Written comments submitted at second Board Hearing

The comment period code is used as a primary identifier followed by a dash then a sequential number in chronological order. The comment codes and sequential numbers are used as primary identifiers that relate comments to individuals or organizations who submitted them. Comment codes are shown below comment summaries and above agency responses in Chapter IV. The following tables can be used as a key to relate comment codes to the organizations and individuals who submitted them.

Table IV-2. Written Comments Received During the 45-Day Comment Period

Comment Code	Commenter's Name	Organization	Date Submitted
001-45d	Mier y Teran, Alejandra	Otay Mesa Chamber of Commerce	9/14/2022
002-45d	Sonnefeld, Joseph	Individual	9/15/2022
003-45d	Mann, Gurwinder	Individual	9/19/2022
004-45d	Borges, Mark	Individual	9/20/2022
005-45d	Jim Hilson	Individual	9/20/2022
006-45d	Jorge Lopez	Individual	9/21/2022
007-45d	Alexander Amort	Cascade Environmental, Limited Liability Company	9/22/2022
008-45d	Josh Grodin	Penske	9/23/2022

Comment Code	Commenter's Name	Organization	Date Submitted
009-45d	Jim G	Individual	9/22/2022
010-45d	Roger Ellis	Individual	9/27/2022
011-45d	Paul Raab	Individual	9/27/2022
012-45d	Jarrett Stoltzfus	Proterra	9/27/2022
013-45d	Jon Zamorano	Big Bear City Community Service District	9/28/2022
014-45d	Tenille Otero	Otay Water District	9/28/2022
015-45d	Elisabeth de Jong	Southern California Public Power Authority	9/29/2022
017-45d	Thomas Gleason	Individual	10/5/2022
018-45d	Jeff Becker	Individual	10/5/2022
019-45d	Mandie Spinelli	Individual	10/5/2022
020-45d	Paul Raab	Individual	10/5/2022
021-45d	Alessandra Magnasco	California Fuels & Convenience Alliance	10/6/2022
022-45d	Tim Cromartie	Environmental Justice League	10/6/2022
023-45d	Cory Peters	Best Drayage	10/6/2022
024-45d	Steven Vilata	Individual	10/6/2022
025-45d	Greg Wright	Best Drayage	10/6/2022
026-45d	Jana W.	Individual	10/6/2022
027-45d	Michael Tooley	Tooley Oil	10/6/2022
028-45d	William Mayo	Golden State Freight	10/6/2022
029-45d	Shane Gusman	California Teamsters	10/6/2022
030-45d	Faustino Arenas	Individual	10/7/2022
031-45d	Dan Maurer	Individual	10/7/2022
032-45d	Marcus Vierra	Individual	10/7/2022
033-45d	Courtney Roche Jr.	Roche Oil	10/7/2022
034-45d	Jeff Cox	Best Drayage	10/7/2022
035-45d	Chris Rodriguez	Individual	10/7/2022
036-45d	Juanita Morones	Individual	10/7/2022
037-45d	Jeremy Vannest	Vannest Trucking, Inc.	10/7/2022
038-45d	Leslee Baird	Individual	10/7/2022
039-45d	Patrick McNeece	McNeece Brothers	10/7/2022
040-45d	Lawrence Garwin	Individual	10/7/2022
041-45d	Jack Guzman	Guzman Enterprises, Incorporated	10/7/2022
042-45d	Tom Bair	Golden State Freight, Incorporated & Garrison Logistics, Incorporated	10/7/2022
043-45d	Mary Leslie	Los Angeles Business Council	10/7/2022
044-45d	Michael Conklin	Individual	10/7/2022
045-45d	Aldo Oviedo	Individual	10/8/2022
046-45d	Kimberly Sulsar	Individual	10/8/2022

Comment Code	Commenter's Name	Organization	Date Submitted
047-45d	Alfonso Campos	Individual	10/8/2022
048-45d	Mary Alyssa Rancier	Associated General Contractors of California	10/10/2022
049-45d	Colin Szehner	Individual	10/10/2022
050-45d	Amy Jo Sihto	El Dorado Almonds, Limited Liability Company	10/10/2022
051-45d	Tej Pahwa	Highway 49 Gas and Food	10/10/2022
052-45d	Stephanie Ferguson	United Pacific	10/10/2022
053-45d	Rajiv Jain	Bridgeport Transportation & Warehousing	10/10/2022
054-45d	Justin Parsons	Individual	10/10/2022
055-45d	Paul Rozenberg	Suburban Propane	10/10/2022
056-45d	David Atwater	Individual	10/10/2022
057-45d	Royd Baik	Individual	10/10/2022
058-45d	Bob Shepherd	California Caterpillar Dealers	10/10/2022
059-45d	JJ Rico	Tiger Lines, Limited Liability Company	10/10/2022
060-45d	Mark Dowsing	Individual	10/10/2022
061-45d	Samuel Belasco	Individual	10/10/2022
062-45d	Vicky Ng	Forward Logistics	10/10/2022
063-45d	Martin Keane	Individual	10/11/2022
064-45d	David VanMuyden	Individual	10/11/2022
065-45d	Trung Nguyen	Individual	10/11/2022
066-45d	Sarah Sachs	Ceres	10/11/2022
067-45d	Gary Rossiter	Don Pedro Pump	10/11/2022
068-45d	Wil Bentz	Best Drayage, Limited Liability Company	10/11/2022
069-45d	Angelyn Tornell	Best Drayage, Limited Liability Company	10/11/2022
070-45d	Nina Solari	Individual	10/11/2022
071-45d	Suzanne Homem	Individual	10/11/2022
072-45d	Kathy Hollis	Individual	10/11/2022
073-45d	Brenda Rightnour	Best Drayage, Limited Liability Company	10/11/2022
074-45d	Jessica Lamke Blasé	Individual	10/11/2022
075-45d	Steve Koretoff	Individual	10/11/2022
076-45d	Chris Camp	Individual	10/11/2022
077-45d	Chuck Greenwood	Individual	10/11/2022
078-45d	Guadalupe Valdovinos	Individual	10/11/2022

Comment Code	Commenter's Name	Organization	Date Submitted
079-45d	Don Barto	Individual	10/11/2022
080-45d	Fred Montgomery	Almont Orchards, Inc.	10/11/2022
081-45d	Patrick Mason	Individual	10/11/2022
082-45d	Leela Rao	Port of Long Beach	10/11/2022
083-45d	Assemblymember Blanca Rubio	Coalition of California Assemblymembers	10/11/2022
084-45d	Hiko Shimamoto	Individual	10/11/2022
085-45d	Assemblymember Blac Rubio	California State Assembly	10/11/2022
086-45d	Paul Ewing	RPAC, Limited Liability Company	10/11/2022
087-45d	Francisco Madrigal	Individual	10/11/2022
088-45d	Kelly Camp	Individual	10/11/2022
089-45d	Damon Conklin	League of California Cities	10/11/2022
090-45d	Marty Giovanetti	Assured Aggregates Company, Incorporated	10/12/2022
091-45d	Charles McCan	Individual, Lube Locker	10/17/2022
092-45d	Anonymous	California State Fleet	10/12/2022
093-45d	Amy Kay	Kay Construction	10/12/2022
094-45d	John Kay	Kay Construction	10/12/2022
095-45d	Ray Pingle	Sierra Club California	10/12/2022
096-45d	John Doe	California State Fleet	10/12/2022
097-45d	Ray Pingle	Sierra Club California	10/12/2022
098-45d	Deborah Ackerman	Best Drayage, Limited Liability Company	10/12/2022
099-45d	Danielle Neguloua	Individual	10/12/2022
100-45d	Jim Neal	Individual (2,354 form letter submissions)	10/12/2022
101-45d	Bryan Nelson	California Almond Community	10/12/2022
102-45d	Jeff Charter	Almond Alliance & Select Harvest United States of America	10/12/2022
103-45d	Darin Titus	Coalition (Multiple listed)	10/12/2022
104-45d	Mike McManus	Associated General Contractors San Diego	10/12/2022
105-45d	Suleiman Agnes	California Almond Community	10/12/2022
106-45d	Helen Tomao	California Almond Community	10/12/2022
107-45d	Andres Avelar	Almond Alliance & Select Harvest United States of America	10/12/2022
108-45d	Jose Gonzalez	Individual	10/12/2022
109-45d	Kevin Harshberger	Tricon Transportation, Inc.	10/12/2022
110-45d	Manuel Zamora	MC2 Transportation & Zamora Trucking	10/12/2022

Comment Code	Commenter's Name	Organization	Date Submitted
111-45d	Diana Trejo	Green Trucking Limited Liability Company	10/12/2022
112-45d	Evan L	Phoenix PDQ	10/12/2022
113-45d	Alfredo Barajas	PanAnchor	10/12/2022
114-45d	Susan Griffiths	Hyllion	10/12/2022
115-45d	Toby Slayman	Individual	10/12/2022
116-45d	Monica Rivera	Beattie's Trucking Group, Incorporated	10/12/2022
117-45d	Lauren Roberts	Rebel Oil Company, Incorporated	10/12/2022
118-45d	Gabriel Rodriguez	Flying Express, Incorporated	10/12/2022
119-45d	Dave Cortese	California State Senate, District 15	10/12/2022
120-45d	John Marlow	Clean Energy Fuels	10/12/2022
121-45d	Rick Beale	Almond Farmer	10/12/2022
122-45d	Sam Wilson	Union of Concerned Scientists	10/12/2022
123-45d	Sam Wilson	Union of Concerned Scientists	10/12/2022
124-45d	Louie Lopez	Individual	10/12/2022
125-45d	Raja Kumar	Individual	10/12/2022
126-45d	Scott Shimamoto	Mutual Express Company, Oakland	10/12/2022
127-45d	Lakhbir Bhambra	Individual	10/12/2022
128-45d	Paolo Beltran	City of Lakewood	10/12/2022
129-45d	Cathy Moorhead	City of Willits	10/12/2022
130-45d	Herbert Olivares	Individual	10/12/2022
131-45d	Ruben Aronin	ACF Advocacy Coalition	10/12/2022
132-45d	Michael Farmar	Individual	10/12/2022
133-45d	Bhupinder Ojla	Individual	10/12/2022
134-45d	Baron Bigler	Individual	10/13/2022
135-45d	Brandon McDonnell	Individual	10/13/2022
136-45d	Ron Cancilla	Individual	10/13/2022
137-45d	Aaron Shelton	Individual	10/13/2022
138-45d	Trinity Parreira	Individual	10/13/2022
139-45d	Mohammad Khan	Individual	10/13/2022
140-45d	Parmveer Singh	Individual	10/13/2022
141-45d	Lori Coburn	Individual	10/13/2022
142-45d	Parm Shahi	Individual	10/13/2022
143-45d	Chuck Helget	Republic Services	10/13/2022
144-45d	Gina Looney	Select Harvest	10/13/2022
145-45d	Kristy Delgadillo	OKA Logistics	10/13/2022
146-45d	Richard Damilano	Cherokee Freight Lines	10/13/2022
147-45d	Alissa Recker	Daimler Truck North America	10/13/2022
148-45d	Robert Spiegel	California Manufacturers & Technology Association	10/13/2022

Comment Code	Commenter's Name	Organization	Date Submitted
149-45d	Steve Slinkard	Individual	10/13/2022
150-45d	Kenia Zamarripa	San Diego Regional Chamber of Commerce	10/13/2022
151-45d	Margaret Staub	Individual	10/13/2022
152-45d	Erin Graziosi	Robinson Oil	10/13/2022
153-45d	Luis Roa	City of Hawaiian Gardens	10/13/2022
154-45d	Michael Murphy	Bay Area Air Quality Management District	10/13/2022
155-45d	Jason Machado	City of Cypress	10/13/2022
156-45d	Brett Hodgkiss	Vista Irrigation District	10/13/2022
157-45d	Mary Staub	Individual	10/13/2022
158-45d	Mike James	City of El Cajon	10/13/2022
159-45d	Francisco Olivares	Individual	10/13/2022
160-45d	Victor Navarro	Individual	10/13/2022
161-45d	Jeffery Bidwell	Individual	10/14/2022
162-45d	Greg Owen	Individual	10/14/2022
163-45d	James O'Neill	O'Neill Logistics	10/14/2022
164-45d	David Atwater	Individual	10/14/2022
165-45d	Bascomb Grecian	Individual	10/14/2022
166-45d	Dominick Lee	Pacific Coast Container, Incorporated	10/14/2022
167-45d	Mike Mohajer	Los Angeles Department of Public Works	10/14/2022
168-45d	Robert Ackerman	Individual	10/14/2022
169-45d	Mike Joyce	American Automotive Leasing Association	10/14/2022
170-45d	Theresa Romanosky	Association of American Railroads	10/14/2022
171-45d	Ashley Grijalva	Best Drayage	10/14/2022
172-45d	Allen Genetti	Chemical Transfer Co.	10/14/2022
173-45d	Dan Vander Pol	Oak Harbor Freight Lines	10/14/2022
174-45d	Ashley Remillard	Hexagon Agility, Inc.	10/14/2022
175-45d	Alex Oseguera	Waste Management	10/14/2022
176-45d	Rodrigo Saldivar	Individual	10/14/2022
177-45d	Chris McGlothlin	California Cotton Ginners and Growers Association / Western Agricultural Processors Association	10/14/2022
178-45d	Grace Castaneda	Best Drayage	10/14/2022
179-45d	Samantha Argabrite	City of Simi Valley	10/14/2022
180-45d	Staci Heaton	Rural County Representatives of California	10/14/2022

Comment Code	Commenter's Name	Organization	Date Submitted
181-45d	Macy Neshati	US Hybrid	10/14/2022
182-45d	Ramon Martinez	Individual	10/14/2022
183-45d	Will Barrett	American Lung Association	10/14/2022
184-45d	Edward Wondergem	SC Fuels	10/14/2022
185-45d	Mary Couchman	Individual	10/14/2022
186-45d	Brigitta Van Der Raay	Climate Reality Project, Santa Barbara	10/14/2022
187-45d	Juan Carlos Mariscal	Individual	10/15/2022
188-45d	Jason Cole	Individual	10/15/2022
189-45d	Andrea Cole	Individual	10/15/2022
190-45d	Dan DeWitt	Ed Staub & Sons	10/15/2022
191-45d	Nancy Such	Individual	10/15/2022
192-45d	Jed A. Hendrickson	Individual	10/15/2022
193-45d	Scott Moody	Individual	10/15/2022
194-45d	Brad Staub	Individual	10/15/2022
195-45d	Jatinder Deol	Individual	10/15/2022
196-45d	Hammad Khan	Individual	10/15/2022
197-45d	Mohammad Khan	Individual	10/15/2022
198-45d	David Molina	Individual	10/15/2022
199-45d	Christopher Lish	Individual	10/15/2022
200-45d	Glenn Choe	Toyota Motor North America	10/16/2022
201-45d	Earl Rizzo	Individual	10/16/2022
202-45d	Donald Wortley	Individual	10/16/2022
203-45d	Kulwinder Nagra	None	10/16/2022
204-45d	Dave Johnson	Individual	10/16/2022
205-45d	Frank H	Individual	10/16/2022
206-45d	David Gurrola	One Link Transport Inc.	10/16/2022
207-45d	Christine Wolfe	California Council for Environmental and Economic Balance	10/16/2022
208-45d	Paul Miller	Northeast States for Coordinated Air Use Management	10/17/2022
209-45d	Chris Busch	Energy Innovation: Policy & Technology	10/17/2022
210-45d	William McDonnell	Inland Empire Utilities Agency	10/17/2022
211-45d	Amanda Parsons DeRosier	Global Clean Energy	10/17/2022
212-45d	Tom Van Heeke	Rivian Automotive, Limited Liability Company	10/17/2022
213-45d	GaiParsons	Environmental Entrepreneurs	10/17/2022

Comment Code	Commenter's Name	Organization	Date Submitted
214-45d	Andy Byerly	Allison Transmission	10/17/2022
215-45d	Jerry Davis	Individual	10/17/2022
216-45d	Lucille Cadic	Air Liquide Advanced Technologies	10/17/2022
217-45d	Christina Hartz	Compressed Gas Association	10/17/2022
218-45d	Dana Hamilton	Advance Beverage Company	10/17/2022
219-45d	James Gonzalez	Independent Construction Company	10/17/2022
220-45d	Trevor Gasper	THOR Industries, Incorporated	10/17/2022
221-45d	Doug Allen	Individual	10/17/2022
222-45d	Nicole Collazo	Ventura County Air Pollution Control District	10/17/2022
223-45d	Daniel Hamilton	City of Oakland	10/17/2022
224-45d	Michael Ochs	Recreational Vehicle Industry Association	10/17/2022
225-45d	Pamela De Leo	Doug De Leo Welding, Incorporated	10/17/2022
226-45d	Jennifer Capitolo	California Water Association	10/17/2022
227-45d	Gary Arant	General Manager, Valley Center Metropolitan Water District	10/17/2022
228-45d	Davon Collins	U.S. Postal Service	10/17/2022
229-45d	Melodee Black	Southern California Edison	10/17/2022
230-45d	Rebecca Schenker	Gladstein, Neandross & Associates	10/17/2022
231-45d	William Barrett	American Lung Association	10/17/2022
232-45d	Cindy Muller	Individual	10/17/2022
233-45d	Nicole Looney	Sacramento Municipal Utility District	10/17/2022
234-45d	Alex Boesenberg	Municipal Equipment Maintenance Association	10/17/2022
235-45d	Nicholas Blair	Association of California Water Agencies	10/17/2022
236-45d	Madison Vander Klay	Silicon Valley Leadership Group	10/17/2022
237-45d	Janus Norman	California Cable and Telecommunications Assoc	10/17/2022
238-45d	Jessica Palmer	Navy Region Southwest / Department of Defense	10/17/2022
239-45d	Michael Lewis	Construction Industry Air Quality Coalition	10/17/2022
240-45d	Claire Buysse	International Council on Clean Transportation	10/17/2022
241-45d	David Lax	American Petroleum Institute	10/17/2022
242-45d	Daniel Barad	Sierra Club California	10/17/2022
243-45d	Nicholas Blair	Essential Public Service Providers	10/17/2022
244-45d	Josue Aguilar	Natural Resources Defense Council	10/17/2022
245-45d	Elizabeth Leeper	El Dorado Irrigation District	10/17/2022

Comment Code	Commenter's Name	Organization	Date Submitted
246-45d	Ramorino	Roadstar Trucking Incorporated	10/17/2022
247-45d	Dan Bogard	General Motors	10/17/2022
248-45d	Miles Heller	Air Products	10/17/2022
249-45d	Vincent Sullivan	Sullivan Petroleum Company Limited Liability Company and Sully's Food Stores Limited Liability Company	10/17/2022
250-45d	Tim Hester	Individual	10/17/2022
251-45d	Nick Staub	Ed Staub and Sons Petroleum	10/17/2022
252-45d	Manny Leon	California Alliance for Jobs	10/17/2022
253-45d	Ryan Kenny	Coalition of 42 Stakeholders	10/17/2022
254-45d	Marla Carlson	Individual	10/17/2022
255-45d	Timothy Blubaugh	Truck & Engine Manufacturers Association	10/17/2022
256-45d	Margaret Edwards	National Star Route Mail Contractors Association	10/17/2022
257-45d	Sandra Brown	Individual	10/17/2022
258-45d	Kathleen Hollowell	Boyett Petroleum	10/17/2022
259-45d	Elizabeth Bourbon	Valero	10/17/2022
260-45d	Eva Plajzer	San Diego County Water Authority	10/17/2022
261-45d	Kerry Shapiro	California Construction and Industrial Materials Association	10/17/2022
262-45d	East Peterson-Trujillo	Individual	10/17/2022
263-45d	Steven Poncelet	Truckee Donner Public Utility District	10/17/2022
264-45d	Sourabh Pansare	Phillips 66 Company	10/17/2022
265-45d	Richard Abel	Concerned Citizen & Taxpayer	10/17/2022
266-45d	Sarah Taheri	San Diego Gas and Electric	10/17/2022
267-45d	Kayla Robinson	Coalition of Waste Management Providers	10/17/2022
268-45d	Erin Bednar	Individual	10/17/2022
269-45d	Hannah Davidson	Hidden Valley Lake Community Services District	10/17/2022
270-45d	Tanya DeRivi	Western States Petroleum Association	10/17/2022
271-45d	Andy Schwartz	Tesla, Inc	10/17/2022
272-45d	Ginger Giddings	California Chamber of Commerce	10/17/2022
273-45d	Sam Appel	BlueGreen Alliance	10/17/2022
274-45d	Tracy Fidell	Port of Oakland	10/17/2022
275-45d	David Oliver	Caliber Strategies	10/17/2022
277-45d	Austin Avery	Turlock Irrigation District	10/17/2022
278-45d	Windmera Quintanar	City of Los Alamitos	10/17/2022

Comment Code	Commenter's Name	Organization	Date Submitted
279-45d	ZeeLaura Page	City of Pleasanton	10/17/2022
280-45d	Jeffrey Clarke	Natural Gas Vehicles for America	10/17/2022
281-45d	Laurel Moorhead	Transfer Flow	10/17/2022
282-45d	Nick Chiappe	California and American Trucking Associations	11/17/2022
283-45d	Katie Byrne	San Diego County Farm Bureau	10/17/2022
284-45d	Ryan Kocher	Knight-Swift Transportation	10/17/2022
285-45d	Brandon Beaudette	City of Santa Barbara	10/17/2022
286-45d	Rick Marshall	Brady Southern California, Inc	10/17/2022
287-45d	Vincet C.	Individual	10/17/2022
288-45d	Jaime Olaiz	Individual	10/17/2022
289-45d	Michael Doggett	MJ Tank Lines	10/17/2022
290-45d	John Kinsey	Wanger Jones Helsley Professional Corporation	10/17/2022
291-45d	Elizabeth de Jong	Southern California Public Power Authority	10/17/2022
292-45d	Priscilla Quiroz	Solid Waste Association of North America	10/17/2022
293-45d	Marina Del Pilar Avila Olmeda	Individual	10/17/2022
294-45d	Hoi-Fei Mok	City of San Leandro	10/17/2022
295-45d	David Roe	Individual	10/17/2022
296-45d	Elizabeth Stears	Advanced Energy Economy	10/17/2022
297-45d	Patrick Oconnor	National Association of Fleet Administrators Fleet Management Association	10/17/2022
299-45d	Michael Pimentel	California Transit Association	10/17/2022
300-45d	James Talavera	Los Angeles Department of Water and Power	10/17/2022
301-45d	Jack Kelly	Humboldt Petroleum	10/17/2022
302-45d	Jack Kelly	Peninsula Petroleum	10/17/2022
303-45d	Peter Dahling	Neste	10/17/2022
304-45d	Charles Darensbourg	Los Angeles County Public Works	10/17/2022
305-45d	Kristian Corby	California Electric Transportation Coalition	10/17/2022
306-45d	Alejandro Rodriguez	DLR AUTOTRANSPORTES Limited Liability Company	10/17/2022
307-45d	Brian Robb	Lion Electric	10/17/2022
308-45d	Ken Dewar	JB Dewar Inc.	10/17/2022
309-45d	Alison Torres	Eastern Municipal Water District	10/17/2022

Comment Code	Commenter's Name	Organization	Date Submitted
310-45d	Veronica Pardo	Resource Recovery Coalition of California	10/17/2022
311-45d	Tom Boyle	Individual	10/17/2022
313-45d	Joshua Miller	Accion Opportunity Fund	10/17/2022
314-45d	Josiah Young	The California Bus Association	10/17/2022
315-45d	Bobby Hernandez	Individual	10/17/2022
316-45d	Adam Browning	Forum Mobility	10/17/2022
317-45d	Sara Fitzsimon	California Hydrogen Business Council	10/17/2022
318-45d	Jessi Davis	SoCalGas	10/17/2022
319-45d	Todd Campbell	Clean Energy	10/17/2022
320-45d	Marisol Reyes	Individual	10/17/2022
321-45d	Noelle Mattock	City of Roseville	10/17/2022
322-45d	Cara Simag	Stericycle	10/17/2022
323-45d	Kim Mason	Individual	10/17/2022
324-45d	George Ruiz	Individual	10/17/2022
326-45d	Sarah Deslauriers	California Association of Sanitation Agencies	10/17/2022
327-45d	Tigran Agdaian	Breathe Southern California	10/17/2022
328-45d	Chelsea Lee	Advocacy Coalition Framework	10/17/2022
329-45d	Michael Geller	Manufacturers of Emission Controls Association Clean Mobility	10/17/2022
330-45d	Lily Mei	City of Fremont	10/17/2022
331-45d	Jeffrey Roe	Roe Oil Company, Inc.	10/17/2022
332-45d	Ruben Aronin	California Business Alliance for a Clean Economy	10/17/2022
333-45d	Roxana Ramirez	Metropolitan Water District	10/17/2022
334-45d	LEE BROWN	Western States Trucking Association	10/17/2022
335-45d	Quinn Piening	California Tow Truck Association	10/17/2022
336-45d	Saini Inderjit	Individual	10/17/2022
337-45d	Sean Edgar	CleanFleets.net	10/17/2022
338-45d	Brandon Garcia	California State Legislature	10/17/2022
339-45d	Justin Boman	California State Assembly – Mathis	10/17/2022
340-45d	Jose Aviles	Francisco Trucking	10/17/2022
341-45d	Matt Schrap	Harbor Trucking Association	10/17/2022
342-45d	Ali Fariya	Pacific Gas and Electric	10/17/2022
343-45d	Lisa McGhee	GreenPower Motors	10/17/2022
344-45d	Matt Klenske	Dalton Trucking Inc.	10/17/2022
345-45d	Annie Guzman	Valley Pacific Petroleum Services, Inc	10/17/2022
346-45d	Andress Alegre	Frank C. Alegre Trucking Inc	10/17/2022
347-45d	Tamara Ross	Individual	10/17/2022

Comment Code	Commenter's Name	Organization	Date Submitted
348-45d	Kimberly McCoy	Central California Asthma Collaborative	10/17/2022
349-45d	Lee Janger	Alliance for Vehicle Efficiency	10/17/2022
350-45d	Timothy Lipman	Union of Concerned Scientists	10/16/2022

Table IV-3. Oral Comments Presented at the October 27, 2022, Board Hearing

Comment Code	Commenter's Name	Organization
001-OT1	David Asti	Southern California Edison
002-OT1	Suzanne Seivright-Sutherland	California Construction and Industrial Materials Association
003-OT1	Nicholas Blair	Association of California Water Agencies.
004-OT1	Frank Harris	California Municipal Utilities Association
005-OT1	Emily Lemei	Northern California Power Agency
006-OT1	Elisabeth de Jong	Southern California Public Power Authority
007-OT1	Steven Poncelet	Truckee Donner Public Utility District
008-OT1	Ray Pingle	Sierra Club California
009-OT1	David Renschler	Municipal Equipment Maintenance Association
010-OT1	Katharine Larson	Sacramento Municipal Utility District
011-OT1	Tanya DeRivi	Western States Petroleum Association
012-OT1	John X. Mataka	Valley Improvement Projects & the Grayson Neighborhood Council
013-OT1	Jon Costantino	California Council for Economic and Environmental Balance
014-OT1	Jamie Angus	Griffith Company
015-OT1	Brian Van Hook	Griffith Company
016-OT1	Mike Tunnell	The American Trucking Associations
017-OT1	Josiah Young	The California Bus Association
018-OT1	Brad Meyer	NevCal Trucking
019-OT1	Sarah Deslauriers	The California Association of Sanitation Agencies
020-OT1	Staci Heaton	Rural County Representatives of California
021-OT1	Teresa Cooke	California Hydrogen Coalition
022-OT1	Mikhael Skvarla	City of Roseville
023-OT1	Tom Bair	Golden State Freight
024-OT1	Michael Caprio	Republic Services
025-OT1	Sara Flocks	California Labor Federation
026-OT1	Chris Shimoda	California Trucking Association
027-OT1	Sam Wilson	Union of Concerned Scientists

Comment Code	Commenter's Name	Organization
028-OT1	Mary Alyssa Rancier	Associated General Contractors of California
029-OT1	Sarah Taheri	San Diego Gas and Electric
030-OT1	Manny Leon	California Alliance for Jobs
031-OT1	Matt Broad	California Teamsters Public Affairs Council
032-OT1	Mariela Ruacho	American Lung Association
033-OT1	Elena Pieri	CR&R
034-OT1	Andrew Autwih	Western Propane Gas Association
035-OT1	Fariya Ali	Pacific Gas and Electric
036-OT1	LAURA PLASCENCIA	Valley improvement projects
037-OT1	Meli Morales	Environmental Health Coalition
038-OT1	Madison Vander Klay	Silicon Valley Leadership Group
039-OT1	Bill Magavern	Coalition for Clean Air
040-OT1	Veronica Pardo	Resource Recovery Coalition of California
041-OT1	Adam Browning	Forum Mobility
043-OT1	Maria Carmen Gonzalez	Peoples collective of environmental justice
044-OT1	JOCELYN DEL REAL	East Yard Communities for Environmental Justice
045-OT1	Andrea Vidaurre	People's Collective for Environmental Justice
046-OT1	Brenda Soto	People's Collective for environmental justice
047-OT1	Jose Avalos	Justice Collective
048-OT1	Daisy Lopez	Warehouse Worker Resource Center
049-OT1	Kevin Torres	Warehouse Worker Resource Center
050-OT1	Juliet Fuentes	Center for Resources of Warehouse Worker
051-OT1	CECILIA GARIBAY	Moving Forward Network
052-OT1	Lucia Aguilar	People's Collective for Environmental Justice
053-OT1	KRISTIAN CORBY	California Electric Transportation Coalition
054-OT1	JEANNINE PEARCE	Individual
055-OT1	Yasmine Agelidis	EarthJustice
056-OT1	Tania Gonzalez	People's Collective for Environmental Justice
057-OT1	Gregory Stevens	California Interfaith Power and Light
058-OT1	YASSI KAVEZADE	Sierra Club National
059-OT1	Alejandra Ruedas	East Yard Communities for Environmental Justice

Comment Code	Commenter's Name	Organization
060-OT1	Ruben Aronin	California Business Alliance for a Clean Economy and better world group
061-OT1	Orville Thomas	CALSTART
062-OT1	Taylor Thomas	East Yard Communities for Environmental Justice
063-OT1	Damon Conklin	League of California Cities
064-OT1	Alicia Aguayo	Environmental Justice Groups from SoCal
065-OT1	Angie Balderas	Sierra Club
066-OT1	Kathy Huang	Powerswitch Action
067-OT1	Jennifer Cardenas	Sierra Club
068-OT1	Sasan Saadat	Earthjustice
069-OT1	Paul Cort	Earthjustice
070-OT1	Doug Bloch	Teamsters Joint Council 7
071-OT1	Will Barrett	American Lung Association
072-OT1	Nicole Rice	California Natural Gas Vehicle Coalition
073-OT1	Janice Wong	Climate Reality Sacramento Chapter
074-OT1	Sam Appel	BlueGreen Alliance
075-OT1	Beverly Yu	State Building and Construction Trades Council of California
076-OT1	Dwight Hanson	U.S. Hybrid
077-OT1	Alex Oseguera	Waste Management
078-OT1	Priscilla Quiroz	Solid Waste Association of North America's Legislative Task Force
079-OT1	David Rothbart	Los Angeles County Sanitation Districts
080-OT1	Bob Shepherd	California Caterpillar dealers
081-OT1	Steve Jepsen	Southern California Alliance of Publicly Owned Treatment Works
082-OT1	Andy Schwartz	Tesla
083-OT1	Randy Lee	Inland Empire Utilities Agency's Board of Directors and General Manager
084-OT1	Robert Ferrante	Los Angeles County Sanitation Districts
085-OT1	Randa Abushaban	Orange County Sanitation District
086-OT1	Alison Torres	Eastern Municipal Water District
087-OT1	Curtis Paxton	Las Gallinas Valley Sanitary District in San Rafael
088-OT1	Craig Murray	Las Gallinas Valley Sanitary District in San Rafael
089-OT1	Leela Rao	Port of Long Beach
090-OT1	Todd Campbell	Clean Energy
091-OT1	Carol Kaufman	Metropolitan Water District of Southern California
092-OT1	Alejandra Mier y Teran	Otay Mesa Chamber of Commerce

Comment Code	Commenter's Name	Organization
093-OT1	Rex Hime	California Business Properties Association, Building Owners and Managers Association of California, NAIOP
094-OT1	Greg Zlotnick	San Juan Water District
095-OT1	Andrea Villarain	Los Angeles Department of Water and Power
096-OT1	Lisa McGhee	GreenPower Motors
097-OT1	Avi Mersky	American Council for an Energy-Efficient Economy
098-OT1	John Kinsey	Wanger Jones Helsley
099-OT1	Amber Coluso	Port of Los Angeles
100-OT1	Dan Potter	Daimler Truck North America
101-OT1	Austin Avery	Turlock Irrigation District
102-OT1	Omar Gonzales	Nikola Corporation
103-OT1	Alison Kerstetter	City of Sacramento
104-OT1	Ileagh MacIvers	Interfaith Power and Light
105-OT1	Margret Edwards	National Star Route Mail Contractors Association
106-OT1	Claire Buysse	International Council on Clean Transportation
107-OT1	East Peterson-Trujillo	Public Citizen
108-OT1	Sam Sukaton	California Environmental Voters based in San Bernardino, California
109-OT1	Alicia Appel	Encina Wastewater Authority in Carlsbad
110-OT1	Victoria Leistman	Clean Mobility Collective
111-OT1	Pearl McLeod	E2 Environmental Entrepreneurs
112-OT1	Camilla Getz	Center for Biological Diversity
113-OT1	Katie Patterson	San Joaquin Irrigation District
114-OT1	Olivia Seideman	Leadership Counsel for Justice and Accountability
115-OT1	Michael Geller	Manufacturers of Emission Controls Association Clean Mobility
116-OT1	Joe Rajkovacz	Western States Trucking Association
117-OT1	John Shears	Center for Energy Efficiency and Renewable
118-OT1	David Prescott	Hazard Construction Company
119-OT1	Derrick Robinson	Center on Policy Initiatives in San Diego
120-OT1	James Fahy	Mercedes-Benz Research and Development North America
121-OT1	Julia Levin	Bioenergy Association of California
122-OT1	Maurissa Brown	Greenlining Institute
123-OT1	Sofia Magallon	CAUSE

Comment Code	Commenter's Name	Organization
124-OT1	Jessica Cleaver	San Diego County Water Authority
125-OT1	Tim Sasseen	Ballard Power Systems for North America
126-OT1	Odette Moran	CAUSE
127-OT1	Ashley Remillard	Hexagon Agility
128-OT1	Cynthia Pinto-Cabrera	Central Valley Air Quality Coalition
129-OT1	Jim Korkosz	Las Virgenes Municipal Water District
130-OT1	Ryan Kenny	Clean Energy
131-OT1	Christina Angelides	Elemental Excelsior
132-OT1	Jose Luis De La Fuente	ATS Transportation Company
133-OT1	Kyle Heiskala	Environmental Health Coalition
134-OT1	Tyrone Thompson	Clean Star Products
135-OT1	Richard Skaggs	Omstar Environmental
136-OT1	Tim Cromartie	Environmental Justice League
137-OT1	Michael Munoz	Port Campaign for the Los Angeles Alliance for a new Economy
138-OT1	Elfonso Esquer	Multimodal Esquer Trucking
139-OT1	Robert Spiegel	California Manufacturers and Technology Association
140-OT1	Katie Litter	California Farm Bureau
141-OT1	Beverly Des Chaux	Electric Vehicle Association of the Central Coast
142-OT1	Melanie Beikman	Arizona Interfaith Power and Light
143-OT1	LaDonna Williams	All Positives Possible
144-OT1	Matt Zerega	Individual (Transportation Electrification Consultant)
145-OT1	Rebecca Schenker	Gladstein, Neandross, and Associates
146-OT1	Jack Symington	Los Angeles Cleantech Incubator
147-OT1	Chris McGlothlin	California Cotton Ginners and Growers Association and Western Agricultural Processors Association
148-OT1	Alessandra Magnasco	California Fuels and Convenience Alliance
149-OT1	Christina Marquez	International Brotherhood of Electrical Workers Local 569
150-OT1	Thomas Greene	Rancho California Water District
151-OT1	Jennifer Goodsell	Imperial Irrigation District
152-OT1	Jordan Brinn	Natural Resources Defense Council
153-OT1	Marissa Florez-Acosta	The City of San Bernardino Municipal Water Department
154-OT1	Joel Ervice	Regional Asthma Management and Prevention
155-OT1	Patricio Portillo	The Natural Resources Defense Council
156-OT1	Matthew Schrap	Harbor Trucking Association
157-OT1	Sean Edgar	Clean Fleets

Comment Code	Commenter's Name	Organization
158-OT1	Anthony Budicin	Western Municipal Water District
159-OT1	Dana Cervantes (Calling in for Laura Brown)	JG Boswell Company
160-OT1	Lauren Navarro	Environmental Defense Fund
161-OT1	Tim Blubaugh	Truck and Engine Manufacturers Association
162-OT1	Muhammed Patel	Individual
163-OT1	Faraz Rizvi	Asian Pacific Environmental Network
164-OT1	Halim Choucair	Individual

Table IV-4. Written Comment Received During the First Board Hearing

Comment Code	Commenter's Name	Organization
001-WT1	Walied Mohamed	Individual
002-WT1	Victoria Rodriguez	Enterprise Inc.
003-WT1	Frank Harris	California Municipal Utilities Association
004-WT1	Nicole Waxman	Airlines for America
005-WT1	Kye Whitmore	Union of Concerned Scientists
006-WT1	Will Garner	Placer County Department of Public Works
007-WT1	Allen Schaeffer	Diesel Technology Forum
008-WT1	Ileagh MacIvers	Interfaith Power and Light
009-WT1	Cassandra Carmichael	National Religious Partnership for Environment
010-WT1	Jeremy Smith	State Building & Construction Trades Council of California
011-WT1	Ann Amato	Sac Climate Coalition
012-WT1	Mikhael Skvarla	California Hydrogen Coalition
013-WT1	Sam Wilson	Union of Concerned Scientists
015-WT1	Suzanne Seivright-Sutherland	California Construction and Industrial Materials Association
016-WT1	East Peterson-Trujillo	Individual
017-WT1	Derrick Robinson	Individual
018-WT1	Jordan Brinn	Individual
019-WT1	Andrea Marpillero Colomina	GreenLatinos
020-WT1	Maneh Berenji	Individual
021-WT1	Jennifer Goodsell	Imperial Irrigation District
022-WT1	Rebecca Baskins	California Advanced Biofuels Alliance
023-WT1	Marc Narkus-Kramer	San Diego 350
024-WT1	Bob 08-45d	California Caterpillar Dealers
025-WT1	Margaret Edwards	National Star Route Mail Contractors Association
026-WT1	Heidi Harmon	Let's Green CA!
027-WT1	Colin Wilhelm	Lightning eMotors

Comment Code	Commenter's Name	Organization
028-WT1	Steven King	Environment California
029-WT1	Alfonso Esquer	Multimodal Esquer Inc.
030-WT1	James Fahy	Mercedes-Benz
031-WT1	Ryan Gallentine	Advanced Energy Economy
032-WT1	Alison Kerstetter	City of Sacramento
033-WT1	Muriel Strand	Individual
034-WT1	Nahndi Chiumya	United States Catholic Bishops
035-WT1	Richard J Jackson	University of California, Los Angeles
036-WT1	Judith Borcz	Climate Action California
037-WT1	Tom Greene	Rancho California Water District
038-WT1	Patricio Portillo	National Resource Defense Council
039-WT1	Rogelio Fernandez	Individual
040-WT1	Megan Whitman	Physicians for Social Responsibility
041-WT1	Eric White	National Association of Clean Air Agencies

Table IV-5. Written Comment Received During the 15-Day Comment Period

Comment Code	Commenter's Name	Organization	Date Submitted
001-15d	Jed Hendrickson	Individual	3/23/2023
002-15d	Dustin Dodds	California Business Affiliate	3/24/2023
003-15d	Darrell Zentner	Henner Tank Lines	3/24/2023
004-15d	Gil Ocegüera	RPU	3/27/2023
005-15d	Michael Lewis	Individual	3/28/2023
006-15d	Michael Lewis	Individual	3/28/2023
007-15d	Michael Lewis	Individual	3/28/2023
008-15d	Michael Lewis	Individual	3/28/2023
009-15d	Jessica Clabaugh	Individual	3/28/2023
010-15d	Emily Long	Tuolumne Utilities District	3/29/2023
011-15d	Andrew Cuzman	Individual	3/30/2023
012-15d	Shannon Orellana	con Logistics Group, Inc.	3/30/2023
013-15d	Anne McQueen	Individual	3/31/2023
014-15d	TAHA SALEH	Individual	3/31/2023
015-15d	Rick Thomas	Individual	4/1/2023
016-15d	Beatrice L	Individual	4/3/2023
017-15d	Stephen White	Individual	4/3/2023
018-15d	Diane Williams	City of Brentwood	4/3/2023
019-15d	Kathy Laderman	Individual	4/3/2023
020-15d	Kirk Wasson	Individual	4/3/2023
021-15d	Alissa Recker	Daimler Truck North America	4/4/2023
022-15d	Hernan Molina	City of West Hollywood	4/4/2023
023-15d	Rebecca Simonion	City of Clovis	4/4/2023
024-15d	Hugh Rafferty	Individual	4/4/2023

Comment Code	Commenter's Name	Organization	Date Submitted
025-15d	Mike Sims	Bonita Sunnyside Fire Protection District	4/4/2023
026-15d	Diane Piccioli	Truckee Sanitary District	4/4/2023
027-15d	Ryan McNeil	Fresno Mosquito and Vector Control District	4/4/2023
028-15d	Michelle Brown	West Valley Mosquito and Vector Control	4/4/2023
029-15d	Matthew Schragge	Twentynine Palms Water District	4/5/2023
030-15d	Becky Hopkins	City of Pleasanton	4/5/2023
031-15d	Damon Wyckoff	Calaveras County Water District	4/5/2023
032-15d	Jonathan Olson	County of Del Norte	4/5/2023
033-15d	Bob Sheppard	California Caterpillar Dealers	4/5/2023
034-15d	Bert Rapp	Ventura River Water District	4/5/2023
035-15d	Nancy Bartlett	Individual	4/5/2023
036-15d	Rhea Varley	City of Arcata	4/5/2023
037-15d	Will Gardner	County of Placer	4/5/2023
038-15d	Bryan White	Individual	4/5/2023
039-15d	Christopher Lish	Individual	4/5/2023
040-15d	Herb Niederberger	South Placer Municipal Utility District	4/6/2023
041-15d	Don Zdeba	Indian Wells Valley Water District	4/6/2023
042-15d	John McNamara	CR&R Environmental Services	4/6/2023
043-15d	Ken Broadway	City of Rocklin	4/6/2023
044-15d	Eric Grubb	Cucamonga Valley Water District	4/6/2023
045-15d	Jon Zamorano	Big Bear City Community Service District	4/6/2023
046-15d	Craig Baker	California Tow Truck Association	4/6/2023
047-15d	Frank Wolinski	Vista Irrigation District	4/6/2023
048-15d	Erin Graziosi	Robinson Oil Corp	4/6/2023
049-15d	Sarah Holyhead	County of Nevada Board of Supervisors	4/6/2023
050-15d	Michael Evans	Working people of California against over Regulation	4/6/2023
051-15d	Stacy Taylor	Mesa Water District	4/6/2023
052-15d	Mitch Crosby	Modoc County	4/6/2023
053-15d	Alessandra Magnasco	California Fuels & Convenience Alliance	4/6/2023
054-15d	Aaron Lagasse	Fleet Services County of Humboldt	4/6/2023
055-15d	Bradley Johnson	North Tahoe Public Utility District	4/6/2023
056-15d	Johanna Wojciak	Lion Electric	4/6/2023
057-15d	Edward McGlone	Einride	4/6/2023
058-15d	Robert Grantham	Rancho California Water District	4/6/2023

Comment Code	Commenter's Name	Organization	Date Submitted
059-15d	Jim Friedl	Conejo Recreation & Park District	4/6/2023
060-15d	Elizabeth Leeper	El Dorado Irrigation District	4/6/2023
061-15d	Patrick Ostly	North of River Sanitary District	4/6/2023
062-15d	David Huey	Contra Costa Water District	4/6/2023
063-15d	Morgan Caswell	Port of Long Beach and Port of Los Angeles	4/6/2023
064-15d	Michael O'Kelly	City of Bell Gardens	4/6/2023
065-15d	Ray Pingle	Sierra Club California	4/6/2023
066-15d	Katie Saliccioli	Ford	4/6/2023
067-15d	Brian McCarthy	Goleta West Sanitary District	4/6/2023
068-15d	Jennifer Goodsell	Imperial Irrigation District	4/7/2023
069-15d	Michael Ochs	Recreational Vehicle Industry Association	4/7/2023
070-15d	Michael Nguyen	Individual	4/7/2023
071-15d	Ka-Wing Poon	Southern California Edison	4/7/2023
072-15d	Austin Avery	Turlock Irrigation District	4/7/2023
073-15d	Andrew Schwartz	Tesla	4/7/2023
074-15d	Bert Kaufman	Range Energy	4/7/2023
075-15d	Bascomb Grecian	Individual	4/7/2023
076-15d	Kyle Berquist	Earthjustice	4/7/2023
077-15d	Paul Miller	Northeast States for Coordinated Air Use Management	4/7/2023
078-15d	Geoff Crook	Ceres, Inc.	4/7/2023
079-15d	Ellis Chiu	Los Angeles Department of Water & Power	4/7/2023
080-15d	Kent Swisher	North American Renderers Association	4/7/2023
081-15d	Danny Weldon	Individual	4/7/2023
082-15d	Harriett Leff	Individual	4/7/2023
083-15d	Bruce Mitchell	Individual	4/7/2023
084-15d	Brenda Lee	Individual	4/7/2023
085-15d	Tom Hazelleaf	Individual	4/7/2023
086-15d	Lana Touchstone	Individual	4/7/2023
087-15d	Paul Wermer	Individual	4/7/2023
088-15d	Samantha Macleod	Individual	4/7/2023
089-15d	Alan Solomon	Individual	4/7/2023
090-15d	Robert Cooper	Individual	4/7/2023
091-15d	Vic DeAngelo	Individual	4/7/2023
092-15d	Scott Underhill	Individual	4/7/2023
093-15d	Susan Walp	Individual	4/7/2023
094-15d	Nancy Garret	Individual	4/7/2023
095-15d	David Bezanson	Individual	4/7/2023

Comment Code	Commenter's Name	Organization	Date Submitted
096-15d	Darrell Brown	Individual	4/7/2023
097-15d	Nancy Schimmel	Individual	4/7/2023
098-15d	Judy Lukasiewicz	Individual	4/7/2023
099-15d	David Smith	Individual	4/7/2023
100-15d	Manny Leon	California Alliance for Jobs	4/7/2023
101-15d	Mike Rohrer	Individual	4/7/2023
102-15d	William Barrett	American Lung Association	4/7/2023
103-15d	Elizabeth Bourbon	Valero	4/7/2023
104-15d	Tenille Otero	Otay Water District	4/7/2023
105-15d	Prentiss Searles	American Petroleum Institute	4/7/2023
106-15d	Veronica Pardo	Resource Recovery Coalition of California	4/7/2023
107-15d	Noelle Mattock	City of Roseville	4/7/2023
108-15d	Larry Rennacker	ArrowTek	4/7/2023
109-15d	Rasto Brezny	Manufacturers of Emission Controls Association Clean Mobility	4/7/2023
110-15d	Roxana Ramirez	Metropolitan Water District	4/7/2023
111-15d	Robert Hassebrock	Weatherford	4/7/2023
112-15d	Kristian Corby	California Electric Transportation Coalition	4/7/2023
113-15d	Michael Taylor	National Association of Fleet Administrators Fleet Management Association	4/7/2023
115-15d	James Ciampa	Public Water Agencies Group	4/7/2023
116-15d	Jessica Palmer	Navy Region Southwest, Department of Defense	4/7/2023
117-15d	DeRivi, Tanya	Western States Petroleum Association	4/7/2023
118-15d	Dan Ferons	Santa Margarita Water District	4/7/2023
119-15d	James Johnston	Autocar, Limited Liability Company	4/7/2023
120-15d	Chris McGlothlin	California Cotton Ginners & Growers Assoc	4/7/2023
121-15d	Kenley Farmer	Airlines for America	4/7/2023
122-15d	Cara Simaga	SteriCycle	4/7/2023
123-15d	Timothy Blubaugh	Engine Manufacturers Association	4/7/2023
124-15d	Nick Blair	Association of California Water Agencies	4/7/2023
125-15d	Steven Poncelet	Truckee Donner Public Utility District	4/7/2023
126-15d	Vincent Sullivan	Individual	4/7/2023
127-15d	Thomas Boylan	Zero Emission Transportation Association	4/7/2023

Comment Code	Commenter's Name	Organization	Date Submitted
128-15d	Damon Conklin	Cal Cities	4/7/2023
129-15d	Benjamin Palmer	Enterprise Holdings	4/7/2023
130-15d	Jesus Martinez Ramirez	Santa Clarita Valley Water Agency	4/7/2023
131-15d	Dan Dunmoyer	California Building Industry Association	4/7/2023
132-15d	Ryan Kocher	Knight-Swift Transportation	4/7/2023
133-15d	Elisabeth de Jong	Southern California Public Power Authority	4/7/2023
134-15d	Robert Crawford	County of Ventura General Services Administration Fleet Services	4/7/2023
135-15d	Seivright-Sutherland, Suzanne	California Construction and Industrial Materials Association	4/7/2023
136-15d	James Takehara	City of Shasta Lake	4/7/2023
137-15d	Becky Bucar	Town of Truckee	4/7/2023
138-15d	Chris Shimoda	California Trucking Association	4/7/2023
139-15d	Sarah Taheri	San Diego Gas and Electric	4/7/2023
140-15d	Karen Goh	Mayor, City of Bakersfield	4/7/2023
141-15d	Tom Trott	Twain Harte Community Services District	4/7/2023
142-15d	Mike Heller	Rio Linda Elverta Recreation and Park District	4/7/2023
143-15d	Ed Ward	Individual	4/7/2023
144-15d	Pacal Cornejo-Reynoso	Eastern Municipal Water District	4/7/2023
145-15d	Tim Vander Pol	Peninsula Truck Lines, Inc.	4/7/2023
146-15d	Sarah Deslauriers	California Association of Sanitation Agencies	4/7/2023
147-15d	Michael Downs	Individual	4/7/2023
148-15d	Leslie Bryan	City of Redding	4/7/2023
149-15d	Matt Schrap	Harbor Trucking Association	4/7/2023
150-15d	Dominique Bertrand	Marina Coast Water District	4/7/2023
151-15d	Rebecca Baskins	California Advanced Biofuels Alliance	4/7/2023
152-15d	Orville Thomas	CALSTART	4/7/2023
153-15d	Anna Maubach	13 Joint Agricultural Industry Groups	4/7/2023
154-15d	Adam Browning	Electric Vehicle Realty, Terawatt Infrastructure, Forum Mobility	4/7/2023
155-15d	Nicole Looney	Sacramento Municipal Utility District	4/7/2023
156-15d	Jessica Cleaver	San Diego County Water Authority	4/7/2023
157-15d	Salpy Kabaklian-Slantz	City of Norwalk	4/7/2023

Comment Code	Commenter's Name	Organization	Date Submitted
158-15d	Mary Alyssa Rancier	Associated General Contractors of California	4/7/2023
159-15d	Samuel Bayless	Nikola	4/7/2023
160-15d	Lee Brown	Western States Trucking Association	4/7/2023
161-15d	Jim McCaslin	Individual	4/7/2023
162-15d	Chelsea Lee	ACF Advocacy Coalition Framework	4/7/2023
163-15d	Marisa Olguin	Vernon Chamber of Commerce	4/7/2023
164-15d	Marianna Contact	Individual	4/7/2023
165-15d	Carolina Herrera	County of Riverside	4/7/2023
166-15d	Yazmin Arellano	City of El Cajon	4/7/2023
167-15d	David Pérez Tejada	State Government of Baja California	4/7/2023
169-15d	Christine Wolfe	California Council for Economic and Environmental Balance	4/7/2023
170-15d	Madison Vander Klay	Silicon Valley Leadership Group	4/7/2023
171-15d	Jake Jacoby	Truck Renting & Leasing Association	4/7/2023
172-15d	Joe Dalum	Odyne Systems, Limited Liability Company	4/7/2023
173-15d	Fariya Ali	Pacific Gas and Electric	4/7/2023
174-15d	Todd Campbell	Clean Energy	4/7/2023
175-15d	Garen Kazanjian	Recology, Inc.	4/7/2023
176-15d	Nicole Rice	California Renewable Transportation Alliance	4/7/2023
177-15d	Laurel Moorhead	Transfer Flow, Inc.	4/7/2023

Table IVIV-6. Oral Comments Presented During the April 27-28, 2023, Board Hearing

Commenter Code	Commenter's Name	Affiliation
001-OT2	David Asti	Southern Cal Edison
002-OT2	Frank Harris	California Municipal Utilities Association
003-OT2	Yasmine Agelidis	Earthjustice
004-OT2	Manny Leon	California Alliance for Jobs
005-OT2	Suzanne Seivright-Sutherland	California Construction and Industrial Materials Association
006-OT2	David Renschler	Certified Public Fleet Professional, Municipal Equipment Manufacturers Association
007-OT2	Michael D. Taylor	National Association of Fleet Administrators Fleet Management Association
008-OT2	Jennifer Goodsell	Imperial Irrigation District

Commenter Code	Commenter's Name	Affiliation
009-OT2	Elisabeth de Jong	Southern California Public Power Authority
010-OT2	Noelle Mattock	City of Roseville
011-OT2	Nicholas Schneider	Georgetown Divide Public Utility District
012-OT2	Nick Blair	Association of California Water Agencies
013-OT2	Corey Peters	Best Drayage
014-OT2	Tom Bair	Golden State Freight
015-OT2	Chris McGlothlin	California Cotton Ginners Growers; Western Agricultural Processors Association
016-OT2	Cecilia Garibay	Moving Forward Network
017-OT2	Lucia Aguilar	People's Collective for Environmental Justice
018-OT2	Cindy Donis	East Yard Communities for Environmental Justice
019-OT2	Jocelyn Del Real	East Yard Communities for Environmental Justice
020-OT2	Emily Lemei	Northern California Power Agency
021-OT2	Sarah Deslauriers	California Association of Sanitation Agencies
022-OT2	Jan Victor Andasan	East Yard Communities for Environmental Justice
023-OT2	Whitney Amaya	East Yard Communities for Environmental Justice
024-OT2	Mark Neuburger	California Association of Counties
025-OT2	Adriana Gopar	Warehouse Worker Resource Center
026-OT2	Julieta Fuentes	Warehouse Worker Resource Center
027-OT2	Jose Avalos	PCES
028-OT2	Gem Montes	The Air I Breathe
029-OT2	Andrea Vidaurre	People's Collective for Environmental Justice
030-OT2	Jamila Cervantes	East Yard Communities for Environmental Justice
031-OT2	Fariya Ali	Pacific Gas and Electric
032-OT2	Delia Guzman	Warehouse Worker Resources Center
033-OT2	Kevin Torres	Warehouse Worker Resources Center
034-OT2	Daisy Lopez	Warehouse Worker Resources Center
035-OT2	Sinai Pantoja	People's Collective for Environmental Justice
036-OT2	Ada Trujillo	People's Collective for Environmental Justice
037-OT2	Elba Cordoba	People's Collective for Environmental Justice
038-OT2	Tania Gonzalez	People's Collective for Environmental Justice
039-OT2	Ivette Torres	People's Collective for Environmental Justice
040-OT2	Alondra Mateo	People's Collective for Environmental Justice
041-OT2	Katelyn Roedner Sutter	Environmental Defense Fund
042-OT2	Enrique Arroyo	Warehouse Worker Resources Center
043-OT2	Brenda Soto	People's Collective for Environmental Justice
044-OT2	Alberto Leon	People's Collective for Environmental Justice
045-OT2	Benjamin Luna	Individual
046-OT2	Heather Kryczka	National Resource Defense Council
047-OT2	Ben Palmer	Enterprise Holdings
048-OT2	Christina Scaringe	Center for Biological Diversity
049-OT2	Katharine Larson	Sacramento Municipal Utility District

Commenter Code	Commenter's Name	Affiliation
050-OT2	Orville Thomas	CALSTART
051-OT2	Saira Ramirez	People's Collective for Environmental Justice
052-OT2	Madison Vander Klay	Silicon Valley Leadership Group
053-OT2	Ray Pringle	Sierra Club California
054-OT2	Will Barrett	American Lung Association
055-OT2	Heidi Hannaman	California Special Districts Association
056-OT2	Sam Wilson	Union of Concerned Scientists
057-OT2	David Isen	Denali Water Solutions, Imperial Western Products
058-OT2	Staci Heaton	Rural County Representatives of California
059-OT2	Michael Tunnell	American Trucking Association
060-OT2	Lynnette Robb	Can the Ban
061-OT2	Michael Cuprio	Republic Services
062-OT2	Damon Conklin	League of California Cities
063-OT2	Jon Costantino	California Council for Economic and Environmental Balance
064-OT2	Susan Olavarria	Stericycle
065-OT2	Bill Magavern	Coalition for Clean Air
066-OT2	Jacob DeFant	Agricultural Council of California
067-OT2	Aravind Kailas	Volvo Group North America
068-OT2	Kristian Corby	California Electric Transportation Coalition
069-OT2	Chris Shimoda	California Trucking Association
070-OT2	Julia Levin	Bioenergy Association of California
071-OT2	Elaine Shen	South Coast Air Quality Management District
072-OT2	Ruben Aronin	Better World Group
073-OT2	Veronica Pardo	Reserve Recovery Coalition of California
074-OT2	Kelsey Genesi	Environmental Health Coalition
075-OT2	Ashley Gonzalez	Environmental Health Coalition
076-OT2	Adam Browning	Forum Mobility
077-OT2	Silvia Calzada	Environmental Health Coalition
078-OT2	Margarita Moreno	Environmental Health Coalition
079-OT2	Alicia Sanchez	Environmental Health Coalition
080-OT2	Monserrat Hernandez	Environmental Health Coalition
081-OT2	Meli Morales	Enviro
082-OT2	John McNamara	CR&R Environmental
083-OT2	Andy Schwartz	Tesla
084-OT2	Mike Monagan	Building Trades
085-OT2	Brian A. Giron Flores	Youth vs. Apocalypse
086-OT2	Dana Ignacio Lorenzo	Youth vs. Apocalypse
087-OT2	Teresa Bui	Pacific Environment
088-OT2	Michelle Gonzalez	Youth vs. Apocalypse
089-OT2	Amando Juarez Quintero	Youth vs. Apocalypse

Commenter Code	Commenter's Name	Affiliation
090-OT2	Sanaiya	Youth vs. Apocalypse
091-OT2	Susan Pham	Youth vs. Apocalypse
092-OT2	Michelle Gonzalez	Youth vs. Apocalypse
093-OT2	Ryan Kenny	Clean Energy
094-OT2	Lisa McGhee	Green Power Motor Company
095-OT2	Sheila M	Youth vs. Apocalypse
096-OT2	Mariah	Youth vs. Apocalypse
097-OT2	De'Avieus Hughes	Youth vs. Apocalypse
098-OT2	RaMauri Cash	Youth vs. Apocalypse
099-OT2	Julian Cluster	Youth vs. Apocalypse
100-OT2	Myla Grayson	Youth vs. Apocalypse
101-OT2	Carolyn Norv	Youth vs. Apocalypse
102-OT2	Linda Hutchins-Knowles	Mothers Out Front and Electric Vehicle Charging for All
103-OT2	Angeles Garcia	CAUSE
104-OT2	Kea Andrales	CAUSE
105-OT2	Oliver Martinez	CAUSE
106-OT2	Kristian Nunez	CAUSE
107-OT2	Sofi Magallon,	CAUSE
108-OT2	Lizbeth Gonzalez	CAUSE
109-OT2	Yoana Ibanez	CAUSE
110-OT2	Hedy Juarez	CAUSE
111-OT2	Odette Moran	CAUSE
112-OT2	Asn Ndiaye	Powerswitch Action
113-OT2	Derrick Robinson	Center on Policy Initiatives
114-OT2	Nicole Rice	California Renewable Transportation Alliance
115-OT2	Monica Embrey	Sierra Club
116-OT2	Yassi Kavezade	Individual
117-OT2	Evan Edgar	Compost Coalition
118-OT2	Curtis Paxton	Las Galinas Water District
119-OT2	Kevin Brown	Manufacturers of Emission Controls Association Clean Mobility
120-OT2	Michael Lopes	Lopes Trucking Service
121-OT2	Steven Poncelet	Truckee Donner Public Utility District
122-OT2	Steve Jepsen	Clean Water Southern California
123-OT2	Greg Kester	California Association of Sanitation Agencies
124-OT2	Carol Kaufman	Metropolitan Water District of Southern California
125-OT2	Joel Ervice	Regional Asthma Management and Prevention
126-OT2	Taylor Roschen	California Rice Commission
127-OT2	Ruy Laredo	Otay Water District
128-OT2	Marissa Flores-Acosta	San Bernardino Municipal Water District
129-OT2	Rebecca Baskins	California Advanced Biofuels Alliance

Commenter Code	Commenter's Name	Affiliation
130-OT2	Alessandra Magnasco	California Fuels and Convenience Alliance
131-OT2	Don Ngyen	Orange County Sanitation District
132-OT2	Thomas Boylan	ZETA
133-OT2	Michael Lewis	Construction Industry Air Quality Coalition
134-OT2	Steven King	Environment California
135-OT2	Samuel Sukaton	California Environmental Voters
136-OT2	Terry Wigglesworth	The Wigglesworth Company
137-OT2	Dave Robba	Ceres
138-OT2	John Lorman	Charter Communications
139-OT2	Jim Verburg	Western States Petroleum Association
140-OT2	John Shears	Center for Energy Efficiency and Renewable Technologies
141-OT2	Sasan Saadat	Earthjustice
142-OT2	Matthew Meyer	Cal Portland
143-OT2	Christina Marques	California State Association of Electrical Workers
144-OT2	Joani Woelfel	Far West Equipment Dealers Association
145-OT2	Maurissa Brown	The Greenlining Institute
146-OT2	David Rothbart	Los Angeles County Sanitation District
147-OT2	Woody Hastings	The Climate Center
148-OT2	Olivia Seideman	Leadership Council for Justice and Accountability
149-OT2	Craig Murray	Las Gallinas Valley Sanitary District
150-OT2	Nicholas Cardel	Wagner Jones Helsey Professional Corporation for Western States Trucking Association
151-OT2	Rebecca Schenker	Gladstein, Neandross & Associates
152-OT2	James Leach	Santa Margarita Water District
153-OT2	Suzanne Caflisch	BlueGreen Alliance
154-OT2	Katie Little	California Farm Bureau
155-OT2	David Fink	Los Angeles Business Council
156-OT2	Todd Campbell	Clean Energy
157-OT2	Enrique Rivas	Individual
201-OT2	Kurt Honold	Baja California's Secretary of Economy

Table IVIV-7. Written Comments Received During the April 27-28, 2023, Board Hearing

Commenter Code	Commenter's Name	Affiliation
001-WT2	Linda Hutchins-Knowles	Mothers Out Front California
002-WT2	Linda Hutchins-Knowles	Electric Vehicle Charging for All Coalition
003-WT2	William Barrett	American Lung Association
004-WT2	Elisabeth De Jong	Southern California Public Power Authority
005-WT2	Robert Ennis	Riverside Public Utility
006-WT2	Frank Harris	California Municipal Utilities Association

Commenter Code	Commenter's Name	Affiliation
007-WT2	Emily Navarro	Individual
008-WT2	Todd Clark	Individual
009-WT2	Manuel Cunha Jr.	Nisei Farmers League
010-WT2	Marcos Luna	Clean Energy Fuels
011-WT2	Jessica Fleming	Individual
012-WT2	Marcos Luna	Clean Energy Fuels
013-WT2	Steve Wopschall	Individual
014-WT2	Cittalli Islas	Individual
015-WT2	Alexa Moran	Individual
016-WT2	Kristie Eglsauer	Individual
017-WT2	Linda Hutchins-Knowles	Mothers Out Front California
018-WT2	John Lormon	Procopio
019-WT2	Ed Ward	Individual
020-WT2	Derrick Robinson	Center on Policy Initiatives
021-WT2	Ti Nguyen	Individual
022-WT2	Alejandro Amador	Casa Familiar
023-WT2	Andrea Marpillero-Colomina	Individual
024-WT2	Josue Aguilar	Natural Resources Defense Council
025-WT2	Brady Borcharding	FuelCell Energy Inc.
026-WT2	Chelsea Lee	ACF Advocacy Coalition
027-WT2	Lesly Gallegos	Casa Familiar
028-WT2	Alana Langdon	Nikola
029-WT2	Phillip Streif	Vandalia Bus Lines
030-WT2	Ashley Remillard	Hexagon Agility
031-WT2	Cassandra Carmichael	National Religious Partnership for Environment
032-WT2	Michael Lewis	Construction Industry Air Quality Coalition
033-WT2	Kathy Dervin	350 Bay Area
034-WT2	Sara Flocks	California Labor Federation
035-WT2	David Yow	Port of San Diego

CEQA and Environmental Analysis Issues

All comments related to the ACF EA or comments raising CEQA concerns are addressed in the ACF Final EA

(<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/acffinalea.docx>) and associated RTC

(<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/acfrtc.pdf>) documents.

Legal Issues

All legal related comments are addressed in Appendix A - Legal Comments and Responses.

45-Day Comment Period and First Board Hearing Public Comments with Agency Responses

1. Zero-Emissions Vehicle Technology Issues

a) Zero-Emissions Technology – General

Comment Summary: The commenters express concerns regarding ZEV's technological capabilities, emphasizing the need for a greater than replacement rate to meet operational needs compared to conventional trucks. They argue that heavy-duty ZEVs are not yet able to serve the transportation industry effectively and raise questions about their reliability and development progress. The commenters request that CARB assess the feasibility of manufacturing ZEVs with equal capacity and power to conventional vehicles, which would enable one-to-one replacements. Several commenters point out specific cases, such as garbage trucks, where ZEV technology is not ready for large-scale adoption. Some commenters state there is lack of evidence supporting the notion that ZEV development can achieve the necessary variety of vehicle configurations, sizes, and uses for fleets to comply with ACF within the proposed timelines.

Commenter: [005-45d, 010-45d, 018-45d, 018-OT1, 025-WT1, 029-WT1, 030-WT1, 048-45d, 054-45d, 055-45d, 059-45d, 063-45d, 065-45d, 087-OT1, 091-45d, 103-OT1, 105-OT1, 120-45d, 128-45d, 129-45d, 135-45d, 136-45d, 137-45d, 138-OT1, 141-OT1, 158-45d, 167-45d, 172-45d, 173-45d, 175-45d, 179-45d, 196-45d, 207-45d, 227-45d, 246-45d, 253-45d, 256-45d, 259-45d, 263-45d, 270-45d, 282-45d, 291-45d, 299-45d, 304-45d, 310-45d, 322-45d, 334-45d, 335-45d]

Agency Response: Changes were made in response to these comments. The ACF Regulation is phased in over two decades, includes flexibility options to comply and has extensions and exemptions. The ZEV Milestones Option schedule reflects that long range and specialized ZEVs are expected to take longer to come to market. Therefore, fleets do not have to replace their entire fleet all at once, they simply need to begin their transition to ZEVs if they are available and can meet their operational needs. The Regulation also includes many provisions to allow the continued use of ICE vehicles, such as the Non-repairable Vehicle Provision. In the case of an accident, fleets can purchase a used ICE vehicle with the same or newer model year engine as the non-repairable vehicle. Furthermore, a backup vehicle provision allows a fleet to utilize existing and to purchase used ICE vehicles to designate as backup vehicles. These backup vehicles can also be used for mutual aid.

An optional pathway for HPF and SLG is the ZEV Milestones Option which allows fleet owners to phase-in portions of their fleet as ZEVs regardless of vehicle age or mileage. The ZEV Milestones Option was designed to give a longer phase-in for Group 2 vehicles: work trucks, day cab tractors, pickup trucks, buses with three axles; and Group 3 vehicles: Sleeper cab tractors and specialty vehicles as shown on the table below.

Table IV-8 ZEV Milestones Option

Percentage of vehicles that must be ZEVs	10%	25%	50%	75%	100%
Milestone Group 1: Box trucks, vans, buses with two axles, yard tractors, light-duty package delivery vehicles	2025	2028	2031	2033	2035 and beyond
Milestone Group 2: Work trucks, day cab tractors, pickup trucks, buses with three axles	2027	2030	2033	2036	2039 and beyond
Milestone Group 3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042 and beyond

For both Milestone Group 2 and 3 ICE vehicles, the phase-in to a 100 percent ZEV fleet extends well beyond the 2036 end date for new combustion sales in California.

Exemptions address situations where a ZEV or NZEV is not available or if the available ZEV's duty cycle could not meet the daily mileage or hours of operation of another ICE vehicle in the fleet. Fleets subject to either the HPF or SLG Regulations can use the ZEV Purchase or the Daily Usage Exemptions to satisfy compliance requirements. The ZEV Purchase Exemption allows fleets to purchase a new ICE vehicle when ZEVs are not available in the needed configuration. If an OEM is not taking orders for a particular ZEV, the vehicle is not considered to be available. If the configuration is available as a BEV to purchase, but the range is unable to meet the fleet's operational needs, then the fleet can apply for the Daily Usage Exemption to purchase an ICE vehicle as a compliant replacement vehicle. If a ZEV is ordered one year ahead of the compliance date and the OEM cannot deliver an ordered ZEV to the fleet on-time, then the Vehicle Delivery Delay Extension allows a fleet owner to continue to use the ICE vehicle and remain in compliance until the ZEV intended to replace that ICE vehicle is delivered.

CARB disagrees that BEVs are not a one-to-one replacement for ICE vehicles because of weight or technological capability. BEVs designed with 100-mile range are about the same weight as a conventional diesel truck. Over time, ZEV performance will continue to improve while the weight of the ZEVs decreases and reaches parity with conventional trucks. As described in Chapter I.H.5. of the ACF ISOR, several data sources show most trucks

operating in California average less than 100 miles per day^{7,8} except for semi-trucks where most average less than 200 miles per day. Medium- and heavy-duty vehicles travel relatively short distances each day and have operations that are suitable for depot charging overnight as demonstrated by LER data and discussed in Chapter I.D.2. of the ACF ISOR. The Group 1 ZEV truck types in the Milestone Schedule have the capability of serving the operational functions of fleets today, without the need to replace their current trucks at a greater than one-to-one ratio.

As described earlier, the flexibilities provided by the Regulation, as well as the optional ZEV Milestone Schedule means that fleet owners have the flexibility to prioritize which ICE vehicle to replace with a ZEV. As an example, Ford's E-Transit van has a targeted range designed to fulfill a fleet's needs based on insight from 30 million miles of customer telematics data and has an available targeted range of 126 miles in the low-roof cargo van configuration.⁹ BEVs built today are capable of driving a wide range of up to 500-miles¹⁰ on one charge which meets the average needs of most local and regional trucking operations for a variety of vocational uses. Furthermore, NZEVs count as ZEVs up until the 2035 model year and there is at least one Class 8 NZEV that has a driving range of up to 1,000 miles — 75 miles is pure electric.¹¹ However, there may be some situations and edge use cases where a one-to-one replacement is not possible in the early years of ACF, likely because the vehicle is highly specialized or for weight sensitive applications. If currently available ZEVs are unable to fulfill the mileage requirements or primary functions of a fleet's operations, the ACF Regulation provides the Daily Usage Exemption which allows fleets to purchase an ICE vehicle as a compliant replacement vehicle. In addition, the Regulation delays the ZEV Milestones compliance date for trucks with a heavy front axle until 2030. The flexibility, provisions, and long ZEV phase-in schedule were carefully incorporated into the Regulation to ensure that fleets can continue to perform the primary functions of their operations and comply with the transition to a cleaner truck fleet. For additional information about vehicle weight concerns, please see responses in section "Zero-Emissions Technology – Vehicle Weight" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

⁷ California Air Resources Board, LER statewide aggregated data, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-02/Large_Entity_Reporting_Aggregated_Data_ADA.pdf, last accessed March 2022).

⁸ NACFE, Guidance Report: Medium-Duty Electric Trucks Cost of Ownership, 2018 (web link: <https://nacfe.org/wp-content/uploads/2018/10/medium-duty-electric-trucks-cost-of-ownership.pdf>, last accessed August 2022).

⁹ Ford Press Release. November 12, 2020. Leading The Charge: All-Electric Ford E-Transit Powers The Future Of Business With Next-Level Software, Services And Capability (web link: <https://media.ford.com/content/fordmedia/fna/us/en/news/2020/11/12/all-electric-ford-e-transit.html>, last accessed February 24, 2023).

¹⁰ Trucks.com, Everything We Know About the Tesla Semi Truck, 2019 (web link: <https://www.trucks.com/2019/09/05/everything-we-know-about-the-tesla-semitruck/>, last accessed August 2022)

¹¹ Freightwaves. Hyliion plans bigger battery to stay relevant in electric truck race. August 5, 2021. (web link: <https://www.freightwaves.com/news/hyliion-plans-bigger-battery-to-stay-relevant-in-electric-truck-race>, last accessed March 2023).

b) Zero-Emissions Technology – Limited Supply

Comment Summary: The commenters express concerns about the limited supply and long order times of many ZEVs, making them challenging to obtain.

Commenter: [009-WT2, 127-45d, 285-45d, 326-45d]

Agency Response: Changes were made in response to these comments. CARB incorporated extensions and exemptions into the ACF Regulation to alleviate any concerns about limited ZEV supply or lengthy delivery times. For example, the Vehicle Delivery Delay Extension provides fleets the flexibility to count an ICE as a ZEV for circumstances involving manufacturer delays of ZEV deliveries to the fleet owner. For example, the Vehicle Delivery Delay Extension provides fleets the flexibility to count an ICE as a ZEV for circumstances involving manufacturer delays of ZEV deliveries to the fleet owner. The Regulation also provides for the ZEV Purchase Exemption that allows fleets to purchase a new ICE vehicle instead of a ZEV, if a ZEV or NZEV configuration is not available due to supply constraints. The ZEV Purchase Exemption also allows fleets to purchase a newer ZEV or NZEV with a model year that differs by up to 18 months from the time the fleet owner submitted an exemption request. In other words, the fleet owner can purchase a 2026 model year ZEV if a ZEV Purchase Exemption request was submitted in July of 2024.

As described in Chapter I.B.10. of the ACF ISOR, California adopted the ACT Regulation to ensure that manufacturers sell ZEVs as an increasing part of their total truck sales in California starting with the 2024 model year. The ACT Regulation will ensure an abundant supply of ZEVs in California, with required sales expected to be about 320,000 by 2035, 780,000 by 2045, and 950,000 by 2050.

c) Zero-Emissions Technology – Availability

Comment Summary: The commenters argue that specific types of vehicles are not available to suit their operational needs and that many vehicles listed in Appendix J of the ACF ISOR may be open for order but not delivered in the ordered quantities. They claim that CARB's assertion of many commercially available ZEV trucks is incorrect, and that ZE truck production will not meet the demand when the ACF mandates begin. They emphasize concerns about vehicle availability at scale and the uncertainty of obtaining ZEVs in various classifications to remain compliant.

Commenter: [003-OT1, 004-WT1, 009-WT2, 025-WT1, 030-45d, 038-45d, 054-45d, 063-45d, 065-45d, 067-45d, 069-45d, 080-OT1, 089-45d, 103-45d, 104-45d, 105-OT1, 116-OT1, 120-OT1, 129-OT1, 134-45d, 137-45d, 148-45d, 152-45d, 179-45d, 194-45d, 220-45d, 232-45d, 234-45d, 237-45d, 243-45d, 252-45d, 253-45d, 256-45d, 259-45d, 260-45d, 278-45d, 279-45d, 281-45d, 282-45d, 283-45d, 290-45d, 292-45d, 294-45d, 295-45d, 308-45d, 322-45d, 323-45d, 330-45d, 333-45d, 347-45d]

Agency Response: Changes were made in response to these comments. The ACF Regulation includes several flexibilities in the form of extensions and exemptions that are designed to help a fleet comply in situations where certain vehicle types are not available to meet the primary functions or operational needs of a fleet. Specifically, the Daily Usage Exemption allows fleets to purchase a new ICE vehicle if currently available BEVs cannot meet the mileage or operational requirements of the original vehicle. In addition, the ACF Regulation

includes a ZEV Purchase Exemption which allows fleets to purchase a new ICE vehicle if a ZEV or NZEV is not available in the configuration needed to meet the primary intended function of the fleet. The ACF Regulation is structured such that SLG and HPF fleets would transition to a greater percentage of ZEVs well into the future (2042). The compliance schedule of the ACF Regulation gives fleets the flexibility in how ZEVs, particularly for high mileage and specialty vehicles, would be deployed.

CARB disagrees with the assertion that ZE truck production will not meet the demand of fleets subject to the ACF Regulation. As discussed in Chapter I.F. of the ACF ISOR, technology developments as well as the number of participating manufacturers, for BEVs and FCEVs have rapidly progressed over the last decade, which has led to the market introduction of ZEVs in every weight class. Within these weight classes, a wide range of vehicle configurations exist that can perform a variety of functions. As described in Chapter I.F.1. of the ACF ISOR, there are 148 models in North America where manufacturers are accepting orders or pre-orders; 135 models are actively being produced and are being delivered to the customer. For heavy-duty Class 7 and 8 ZEVs, there are 28 models currently available, eight of which are tractors and five more expected by the end of 2023. If manufacturers are unable to produce enough ZEVs at scale needed to meet market demand or produce ZEVs that can meet the operational needs of fleets, the provisions embedded in the Regulation will ensure that fleets can comply.

However, recent announcements by manufacturers support CARB's position that there will be a sufficient ZEV supply available for fleets to purchase. In 2020, major multinational truck manufacturers acknowledged the science-based need to decarbonize their products fully by 2040 and have individually asserted substantial midterm targets in 2030 to reach their 2040 targets. For example, Navistar committed to 50 percent by 2030 and 100 percent by 2040.¹² GM and Stellantis have each announced or released electric pickups and vans.^{13,14,15} Furthermore, Ford has announced that their entire commercial vehicle lineup in Europe will be ZE capable—all-electric or PHEV—by 2024, and entirely battery-electric by 2030.^{16,17,18}

Multinational OEMs and specialty upfitters are demonstrating and offering ZE and PHEVs across many specialized configurations beyond simple box and flatbed applications including

¹² Navistar, Vision And Strategy (web link: <https://www.navistar.com/about-us/vision-strategy>, last accessed February 2023).

¹³ GMC, Sierra Ev Denali Edition 1, 2023 (web link: <https://www.gmc.com/future-vehicles/sierra-ev-denali>, last accessed February 2023).

¹⁴ General Motors, BrightDrop-Electric first to last mile delivery products, 2023 (web link: <https://www.gobrightdrop.com/>, last accessed February 2023).

¹⁵ The Detroit News, 2023 Ram ProMaster commercial van preps for next year's battery-electric model, March 2022 (web link: <https://www.detroitnews.com/story/business/autos/chrysler/2022/03/09/2023-ram-promaster-van-preps-next-years-battery-electric-model/9430263002/>, last accessed February 2023)

¹⁶ Ford, F-150® Lightning™, 2023 (web link: <https://www.ford.com/trucks/f150/f150-lightning/2022/>, last accessed February 2023).

¹⁷ Ford, E-transit, 2023 (web link: <https://media.ford.com/content/fordmedia/fna/us/en/products/evs/e-transit/2022-ford-e-transit.html>, last accessed February 2023)

¹⁸ Ford, Ford's new science-based, Interim Carbon-Neutral Targets Highlight First Integrated Sustainability, Financial Report, March 31, 2021 (web link: <https://media.ford.com/content/fordmedia/fna/us/en/news/2021/03/31/ford-integrated-sustainability-financial-report.html>, last accessed January 2023).

armored cash-in-transit,¹⁹ arborist and utility bucket trucks,^{20,21,22} frame mounted and custom chassis truck cranes,^{23,24,25,26} front, side, rear and roll-off type refuse,^{27,28,29} vehicle

¹⁹ Loomis, Loomis orders 150 electric armored vehicles from Xos for the US market, 2023 (web link: <https://www.loomis.us/resources/press-releases-news/Loomis-orders-150-electric-armored-vehicles>, last accessed 2023).

²⁰ Terex, Terex Utilities Debuts Industry's First All Electric Bucket Truck, 2023 (web link: <https://www.terex.com/utilities/en/about/news/terex-utilities-debuts-industry-s-first-all-electric-bucket-truck>, last accessed February 2023).

²¹ WorkTruck, Con Edison, Lion Electric, and Posi-Plus Developing Electric Bucket Truck, 2021 (web link: <https://www.worktruckonline.com/10139523/electric-utility-bucket-truck-makes-clean-energy-breakthrough>, last accessed February 2023).

²² Trib Live, Pittsburgh's green fleet bolstered by 9 electric vehicles, including bucket truck, May 15, 2021 (web link: <https://triblive.com/local/electric-bucket-truck-coming-to-pittsburgh-thanks-to-electric-vehicles-grant-money/>, last accessed March 2023).

²³ International Cranes, New fully electric Böcker truck crane and work platform, September 7, 2022 (web link: <https://www.internationalcranes.media/news/New-fully-electric-Bocker-truck-crane-and-work-platform/8023128.article>, last accessed March 2023).

²⁴ PR Newswire, Zoomlion Produces the World's First Pure Electric Truck Crane, Takes the Lead in Environmental Protection Construction in Machinery Industry, May 2020 (web link: <https://www.prnewswire.com/in/news-releases/zoomlion-produces-the-world-s-first-pure-electric-truck-crane-takes-the-lead-in-environmental-protection-construction-in-machinery-industry-838304210.html>, last accessed March 2023).

²⁵ Plant and Equipment News, The World's First Licensable Electric Truck Crane From SANY, June 28, 2021 (web link: <https://www.plantandequipment.news/news/product-updates/the-worlds-first-licensable-electric-truck-crane-from-sany/>, last accessed March 2023).

²⁶ Heavy Lift News, The XCT25_EV Plug-In, Double Drive Hybrid Crane from XCMG, December 6, 2021 (web link: https://www.heavyliftnews.com/the-xct25_ev-plug-in-double-drive-hybrid-crane-from-xcmg/, last accessed March 2023).

²⁷ Scania, Scania at IFAT 2022 in Munich, May 31, 2021 (web link: <https://www.scania.com/group/en/home/newsroom/press-releases/press-release-detail-page.html/4278090->, last accessed March 2023).

²⁸ Scania, First fully electric crane truck for waste collection in Denmark, January 18, 2023 (web link: https://www.scania.com/group/en/home/newsroom/news/2023/first_fully_electric_crane_truck_for_waste_collection_in_denmark.html, last accessed March 2023).

²⁹ Motor Transport, Volvo to showcase FE-Electric 6x2 hook-lift rigid at Freight in the City Expo on 6 November, October 29, 2019 (web link: <https://motortransport.co.uk/blog/2019/10/29/volvo-to-showcase-fe-electric-6x2-hook-lift-rigid-at-freight-in-the-city-expo-on-6-november/>, last accessed March 2023).

recovery/towing,^{30,31} construction vocational dump and ready-mix concrete,^{32,33,34,35,36,37,38,39,40,41} heavy haul logging and mining transport,^{42,43,44} snow plows,⁴⁵ and work trucks with ePTO.⁴⁶ ZE and increasingly ZE-capable NZEVs are being used in emergency municipal fire and airport

³⁰ Hyzon Press Release. Hyzon Motors to Establish Australian Headquarters, 2022 (web link: <https://www.racv.com.au/content/dam/racv/documents/about-racv/our-business/newsroom/racv-press-release-hyzon-motors-jan-22.pdf>, last accessed March 2023).

³¹ Andretti Group. Newly Introduced Hydrogen Fuel Cell Tow Trucks, November 2022 (web link: <https://andretti1.com/hydrogen-fuel-cell-tow-trucks/>, last accessed March 2023).

³² UK Haulier, Fox Group first in the UK for Volvo FE Electric Tippers, November 16, 2021 (web link: <https://www.ukhaulier.co.uk/news/road-transport/fleet/fox-group-first-in-the-uk-for-volvo-fe-electric-tippers/>, last accessed March 2023).

³³ Electrive, Renault Trucks launches first construction BEV, March 3, 2021 (web link: <https://www.electrive.com/2021/03/03/renault-trucks-launches-first-construction-bev/>, last accessed March 2023).

³⁴ Recycling Lives, UK's first electric skip trucks to hit the roads (web link: <https://www.recyclinglives.com/news/general/first-uk-electric-skip-truck>, last accessed March 2023).

³⁵ Electrive, Unicon & Volvo Trucks collaborate on electric concrete mixers, February 14, 2022 (web link: <https://www.electrive.com/2022/02/14/unicon-volvo-trucks-collaborate-on-electric-concrete-mixers/>, last accessed March 2023).

³⁶ Liebherr, First fully electric 10 and 12 m³ truck mixers from Liebherr and Designwerk, March 26, 2020 (web link: <https://www.liebherr.com/en/deu/latest-news/news-press-releases/detail/first-fully-electric-10-and-12-m3-truck-mixers-from-liebherr-and-designwerk.html>, last accessed March 2023).

³⁷ PR Newswire, SANY battery electric truck mixers: when traditional concrete mixing goes green, September 27, 2020 (web link: <https://www.prnewswire.com/news-releases/sany-battery-electric-truck-mixers-when-traditional-concrete-mixing-goes-green-301138618.html>, last accessed March 2023).

³⁸ Lectura Press, Putzmeister launches the first zero-emissions truck-mounted concrete pump, August 23, 2022 (web link: <https://lectura.press/en/article/putzmeister-launches-the-first-zero-emissions-truck-mounted-concrete-pump/59003>, last accessed March 2023).

³⁹ Electrive, Tarmac orders electric mixer truck from Renault Trucks, June 30, 2022 (web link: <https://www.electrive.com/2022/06/30/tarmac-orders-electric-mixer-truck-from-renault-trucks/>, last accessed March 2023).

⁴⁰ Spanos, ENERGIA K42E: The new battery electric driven truck pump from CIFA, November 1, 2022 (web link: <http://www.spanos-group.com/energia-k42e-new-battery-electric-driven-concrete-truck-pump-cifa/>, last accessed March 2023).

⁴¹ Concrete Products, National Cement parent drives carbon emissions-free mixer project, May 15, 2018 (web link: <http://concreteproducts.com/index.php/2018/05/15/national-cement-parent-drives-carbon-emissions-free-mixer-project/>, last accessed March 2023).

⁴² Electrek, Tesla Semi electric trucks to power log-hauling program in Canada, April 8, 2021 (web link: <https://electrek.co/2021/04/08/tesla-semi-electric-trucks-power-log-hauling-program-canada/>, last accessed March 2023).

⁴³ TU Automotive, Scania Goes Logging with New 80-ton BEV Truck, November 11, 2021 (web link: <https://www.tu-auto.com/scania-goes-logging-with-new-80-ton-bev-truck/>, last accessed March 2023).

⁴⁴ Mining Digital, Leading companies power polar electric truck trial, November 16, 2021 (web link: <https://miningglobe.com/sustainability/leading-companies-power-polar-electric-truck-trial>, last accessed March 2023).

⁴⁵ The Scotsman. World-first electric gritter to clear snow on Queensferry Crossing, February 2019 (web link: <https://www.scotsman.com/news/transport/world-first-electric-gritter-clear-snow-queensferry-crossing-852725>, last accessed March 2023).

⁴⁶ American Journal of Transportation, ZF and Mercedes-Benz trucks showcase silent, emission-free eWorX power take-off for electric TrucksZF, May 25, 2022 (web link: <https://ajot.com/news/zf-and-mercedes-benz-trucks-showcase-silent-emission-free-eworx-power-take-off-for-electric-truckszf>, last accessed March 2023).

crash response,^{47,48,49,50,51} ZE ambulance as well as smaller ZE public safety and municipal vehicles^{52,53,54,55,56,57,58,59,60,61,62,63,64,65,66} and police cars.^{67,68,69,70} ZE Class 8 tractors and straight

⁴⁷PR Newswire, Zeus Electric Chassis Redefines The Fire Truck With New All-Electric Design, August 4, 2021 (web link: <https://www.prnewswire.com/news-releases/zeus-electric-chassis-redefines-the-fire-truck-with-new-all-electric-design-301348659.html>, last accessed March 2023).

⁴⁸ The Big Red Guide, Rosenbauer Showcases The First PANTHER 6x6 With Electric Driveline At Interschutz 2022, June 20, 2022 (web link: <https://www.thebigredguide.com/news/rosenbauer->, last accessed March 2023).

⁴⁹ Emergency One, E1 EV The Worlds First Fully Electric Fire Engine, 2023 (web link: <https://e1group.co.uk/e1-evo>, last accessed March 2023).

⁵⁰ West Midlands Ambulance Service, WMAS launches the first 100% electric emergency ambulance in the UK, October 1, 2020 (web link: <https://wmas.nhs.uk/2020/10/01/wmas-launches-the-first-100-electric-ambulance-in-the-uk/>, last accessed March 2023).

⁵¹ Oshkosh Airport Products, Striker® Volterra™, 2023 (web link: <https://www.oshkoshairport.com/innovations/striker-volterra>, last accessed March 2023).

⁵² Daily Mail, Transit vans will be turned into £100k electric ambulances to slash NHS' carbon footprint and fuel bills, August 2021 (web link: <https://www.dailymail.co.uk/news/article-9874973/Transit-vans-turned-electric-ambulances-slash-NHS-carbon-footprint-fuel-bills.html>, last accessed March 2023).

⁵³ Electrive, Zerro: First hydrogen ambulance with fuel cell Rex, February 13, 2021 (web link: <https://www.electrive.com/2021/02/13/zerro-londons-first-hydrogen-ambulance-with-fuel-cell-rex/>, last accessed March 2023).

⁵⁴ Electrek, UK's NHS unveils new hydrogen-electric ambulances at COP26, November 2, 2021 (web link: <https://electrek.co/2021/11/02/uks-nhs-unveils-new-hydrogen-electric-ambulances-at-cop26/>, last accessed March 2023).

⁵⁵ Toyota, Japanese Red Cross Kumamoto Hospital and Toyota to Begin Utilization Demonstration of the World's First Fuel Cell Electric Vehicle Mobile Clinic, March 31, 2021 (web link: <https://global.toyota/en/newsroom/corporate/35008661.html>, last accessed March 2023).

⁵⁶ Green Car Reports, Nissan electric ambulance curbs the tailpipe emissions, May 20, 2020 (web link: https://www.greencarreports.com/news/1128219_nissan-electric-ambulance-curbs-the-tailpipe-emissions, last accessed March 2023).

⁵⁷ Sustainability Times, A New Ambulance Made In Denmark Has Gone All Electric, January 19, 2019 (web link: <https://www.sustainability-times.com/sustainable-business/a-new-ambulance-made-in-denmark-has-gone-all-electric/>, last accessed March 2023).

⁵⁸ Electrek, Lightning eMotors and REV to produce electric ambulances, April 15, 2021 (web link: <https://electrek.co/2021/04/15/lightning-emotors-and-rev-to-produce-electric-ambulances/>, last accessed March 2023).

⁵⁹ PR Newswire, Demers Ambulances and Lion Electric Launch All-electric, Purpose-Built Ambulance, October 18, 2021 (web link: <https://www.prnewswire.com/news-releases/demers-ambulances-and-lion-electric-launch-all-electric-purpose-built-ambulance-301402381.html>, last accessed March 2023).

⁶⁰ Automotive World, Mercedes-Benz Vans is electrifying ambulance vehicles, March 26, 2021 (web link: <https://www.automotiveworld.com/news-releases/mercedes-benz-vans-is-electrifying-ambulance-vehicles/>, last accessed March 2023).

⁶¹ Vehicle Conversion Specialists, CS launches UK's first all-electric front-line ambulance, September 2022 (web link: <https://www.vcs-limited.com/vcs-launches-uks-first-all-electric-front-line-ambulance/>, last accessed March 2023).

⁶² Firehouse, AMR Awards Electric Ambulance Order to REV Group Company, December 2021 (web link: <https://www.firehouse.com/apparatus/press-release/21248621/rev-fire-group-amr-awards-electric-ambulance-order-to-rev-group-company>, last accessed March 2023).

⁶³ EMS1. REV announces alternative-fuel ambulance deals with AMR, U.S. government, Qatar nonprofit, December 2021 (web link: <https://www.ems1.com/ems-products/ambulances/articles/rev-announces->

trucks are being deployed into bulk applications including milk and related products.⁷¹ Even with the vast availability for ZEVs and NZEVs, portions of the Regulation exclude certain vehicles with two-engines, military tactical vehicles, historical vehicles, heavy cranes, emergency vehicles, dedicated snow removal vehicles, and test fleet vehicles.

Not only are ZEVs available in many models, but the ACT Regulation also requires manufacturers to sell ZEVs as a percent of total sales in California and covers everything from heavy-duty pickups to work trucks to the semi-trucks used in drayage and long-haul applications. Starting with the 2024 model year, truck manufacturers will be required to produce and sell ZEVs into California's market in growing numbers. The estimated number of medium- and heavy-duty ZEVs in California would increase beyond the ACT-only scenario from about 320,000 to about 510,000 in 2035, from about 780,000 to about 1,350,000 ZEVs by 2045, and from about 950,000 to about 1,690,000 ZEVs by 2050. In addition, ACF allows fleets to purchase an NZEV to meet their ZEV obligations, up until 2035. Finally, as previously noted, if a ZEV or NZEV is not available in a given configuration the fleet owner can receive an exemption to purchase an ICE vehicle.

Finally, NZEVs or PHEVs are an established and proven technology that many vehicles use and can be seen driving on our roadways daily. Medium- and heavy-duty NZEVs are also proven. A Department of Energy funded a project in 2015, called the Plug-In Hybrid Medium-Duty Truck Demonstration and Evaluation which designed, developed, validated,

alternative-fuel-ambulance-deals-with-amr-us-government-qatar-nonprofit-1qJgQO4WPIR09i9Q/, last accessed March 2023).

⁶⁴ Rosenbauer, Revolutionary Technology - Electric municipal vehicles, 2023 (web link: <https://www.rosenbauer.com/en/int/rosenbauer-world/vehicles/municipal-vehicles/rt>, last accessed March 2023).

⁶⁵ New York City. Climate Week: City Announces \$75 Million in new Investments for Electric Vehicles and Electric Vehicle Charging Infrastructure, September 2021 (web link: <https://www1.nyc.gov/office-of-the-mayor/news/639-21/climate-week-city-75-million-new-investments-electric-vehicles-electric>, last accessed March 2023).

⁶⁶ PRWeb Press Release. ROUSH CleanTech and First Priority Group Collaborate to Create Electric Emergency Response Vehicles, April 2021 (web link: https://www.prweb.com/releases/roush_cleantech_and_first_priority_group_collaborate_to_create_electric_emergency_response_vehicles/prweb17873992.htm, last accessed March 2023).

⁶⁷ GM Authority. 2022 Chevy Bolt EUV And Bolt EV Get Police Package, June 2021 (web link: <https://gmauthority.com/blog/2021/06/2022-chevy-bolt-euv-and-bolt-ev-get-police-package/#:~:text=The%20new%20police%20packages%20for,the%20interior%20and%20exterior%20lights>, last accessed March 2023).

⁶⁸ Electrek. Ford Mustang Mach-E passes Michigan State Police test, September 2021 (web link: <https://electrek.co/2021/09/24/ford-mustang-mach-e-passes-michigan-state-police-test/>, last accessed March 2023).

⁶⁹ CleanTechnica. Tesla Police Vehicle Brings Huge Monetary Savings To Westport, Connecticut, June 2021 (web link: <https://cleantechnica.com/2021/06/02/tesla-police-vehicle-brings-huge-monetary-savings-to-westport-connecticut/>, last accessed March 2023).

⁷⁰ Electrek. Police chief explains how Tesla Model Y patrol car will save them \$80,000, February 2023 (web link: <https://electrek.co/2023/02/06/police-chief-explains-tesla-model-y-patrol-car-will-save/>, last accessed March 2023).

⁷¹ Driven, New Zealand set to get first electric milk tanker after government funding boost, February 24, 2022 (web link: <https://www.driven.co.nz/news/new-zealand-set-to-get-first-electric-milk-tanker-after-government-funding-boost/>, last accessed March 2023).

produced, and deployed 296 PHEVs: 119 Class 6 through 8 trucks; 52 three-quarter-ton vans; and 125 half-ton pickup trucks all with positive results.⁷² Furthermore, Hyliion Holdings plans to sell a natural gas generator-powered hybrid powertrain with 75 miles of electric range and a driving range of up to 1,000 miles in California.⁷³

d) Zero-Emissions Technology – Battery Recycling

Comment Summary: The commenters state that investments in battery recycling will be necessary due to the ACF Regulation, questioning how the State will handle battery recycling from the influx of ZEVs. They request CARB to inform them of plans for managing hazardous waste disposal of ZEV batteries in coordination with the Department of Toxic Substances Control and EPA and that batteries must be replaced regularly.

Commenter: [048-45d, 054-45d, 059-45d, 060-45d, 063-45d, 083-45d, 085-45d, 093-45d, 094-45d, 137-45d, 164-45d, 180-45d, 286-45d, 334-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter VIII.B.6. of the ACF ISOR, BEV manufacturers are currently offering vehicles with warranties of eight or more years and up to 500,000 miles on their products. CARB estimates that a battery will require replacement when battery capacity is not sufficient for meeting daily range needs for a truck or bus, which is likely at the end of the vehicle's useful life with the exception for long haul tractors. Regulatory requirements for battery disposal, reuse, and recycling are outside the scope of this rulemaking, but are discussed at length in the EA RTC document, see Master Response 2 and responses to Comment Letter 83.

CARB expects that there will be a second life for used vehicle batteries, either again for EVs or for less demanding operations such as stationary storage. Some forecasts show the second-life EV battery market will reach \$7 billion in value by 2033 as a growing number of repurposed and battery diagnostician start-ups are starting to establish robust supply chains with automotive OEMs.⁷⁴ When second-life batteries degrade to the point that they can no longer provide a functional purpose, recyclable materials will be recycled and non-recyclable materials would be disposed of, both in accordance with applicable policies and standards.

e) Zero-Emissions Technology – Battery Technology Not Ready

Comment Summary: The commenters argue that BEV technology is not ready for fleet applications, requiring more time before implementing Regulations. They claim that using BEVs would necessitate more trucks to provide the same level of service.

⁷² Plug-In Hybrid Medium Duty Truck Demonstration and Evaluation. EPRI, Palo Alto, CA: 2015. 3002006566. (web link: <https://www.energy.ca.gov/sites/default/files/2021-05/CEC-600-2020-010.pdf>, last accessed March 2023).

⁷³ Freightwaves, Hyliion plans bigger battery to stay relevant in electric truck race. August 5, 2021. (web link: <https://www.freightwaves.com/news/hyliion-plans-bigger-battery-to-stay-relevant-in-electric-truck-race>, last accessed March 2023).

⁷⁴ Green Car Congress. IDTechEx forecasts second-life EV battery market to reach US\$7B by 2033, March 2023 (web link: <https://www.greencarcongress.com/2023/03/20230314-idtechex.html>, last accessed March 2023).

Commenter: [005-45d, 010-45d, 018-45d, 018-OT1, 030-WT1, 048-45d, 059-45d, 091-45d, 141-OT1, 173-45d, 175-45d, 196-45d, 227-45d, 256-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation has a technology-neutral approach for transitioning conventional vehicles to zero tailpipe emissions and does not specifically require either BEVs or FCEVs as compliance options. However, CARB disagrees with the claim that currently-available BEVs are not ready for fleet applications and would necessitate more trucks to provide the same level of service. As described in Chapter I.H.5. of the ACF ISOR, operational truck data shows that most Class 3 through 8 vocational trucks travel less than 100 miles per day. In addition, most of these vocational trucks have operations characterized by stable routes and home base locations that work well with the current state of battery technology. Today's BEVs are capable of ranges more than 100 miles to about 400 miles depending on the model as demonstrated by the BEVs currently available in the marketplace. As a signal to the capability of today's BEVs, several major delivery companies have already begun the process of incorporating battery-electric light-duty package delivery vehicles into their fleets, such as 100,000 ordered by Amazon, 10,000 ordered by UPS, 4,500 ordered by Walmart, 500 ordered by FedEx, and over 10,000 ordered by the U.S. Postal Service for placement throughout the United States.^{75,76,77,78,79}

CARB also disagrees with the assertion that more time is needed before implementing the ACF Regulation. The Regulation is structured such that fleets have the flexibility in how ZEVs will be deployed in their fleets. These flexibilities include extensions, exemptions, and vehicle useful life considerations that are designed to help a fleet comply. For example, if currently available ZEVs are unable to fulfill the mileage requirements or primary functions of a fleet's operations, the ACF Regulation provides the Daily Usage Exemption which allows fleets to purchase an ICE vehicle as a compliant replacement vehicle. The Regulation also includes a ZEV Purchase Exemption which allows fleets to purchase a new ICE vehicle if a ZEV or NZEV is not available in the configuration needed. In addition, the Regulation gradually phases in

⁷⁵ Amazon, Amazon's custom electric delivery vehicles are starting to hit the road, February 3, 2021 (web link: <https://www.aboutamazon.com/news/transportation/amazons-custom-electric-delivery-vehicles-are-starting-to-hit-the-road>, last accessed August 2022).

⁷⁶ United Parcel Service, UPS invests in Arrival, accelerates fleet electrification with a commitment to purchase up to 10,000 electric vehicles, January 29, 2020 (web link: <https://about.ups.com/ca/en/newsroom/press-releases/sustainable-services/ups-invests-in-arrival-accelerates-fleet-electrification-with-order-of-10-000-electric-delivery-vehicles.html>, last accessed August 2022).

⁷⁷ Walmart, Walmart To Purchase 4,500 Canoo Electric Delivery Vehicles To Be Used for Last Mile Deliveries in Support of Its Growing eCommerce Business, July 12, 2022 (web link: <https://corporate.walmart.com/newsroom/2022/07/12/walmart-to-purchase-4-500-canoo-electric-delivery-vehicles-to-be-used-for-last-mile-deliveries-in-support-of-its-growing-ecommerce-business>, last accessed August 2022).

⁷⁸ FedEx, Charging Ahead: FedEx Receives First All-Electric, Zero-Tailpipe Emissions Delivery Vehicles from BrightDrop, December 17, 2021, (web link: <https://newsroom.fedex.com/newsroom/brightdropev600/>, last accessed August 2022).

⁷⁹ United States Postal Service, USPS Places Order for 50,000 Next Generation Delivery Vehicles; 10,019 To Be Electric, March 24, 2022 (web link: <https://about.usps.com/newsroom/national-releases/2022/0324-usps-places-order-for-next-gen-delivery-vehicles-to-be-electric.htm>, last accessed August 2022).

the ZEV fleet requirements over several years with the optional Milestone pathway which allows fleet owners to choose the mix of vehicles that are best suited for BEV technology.

f) Zero-Emissions Technology – Battery Capacity

Comment Summary: The commenters assert that electric big rigs lack the battery capacity and charging efficiency to meet the needs of today's trucking industry.

Commenter: [339-45d]

Agency Response: No changes were made in response to these comments. CARB's LER survey data show most trucks operating in California average less than 100 miles per day and most day cabs average less than 200 miles per day. Battery-electric day cabs are already widely available and achieve TCO savings. The HPF Regulation also gives fleets the option to use NZEVs to meet ZEV compliance until 2035. Furthermore, if there are no BEVs that can fulfill the operational needs of a fleet, the ACF Regulation provides the Daily Usage Exemption that allows fleets to purchase a new ICE vehicle provided they can demonstrate their needs cannot be met.

Lastly, flexibilities built into the ZEV Milestones Option for HPF defers requirements for sleeper cab tractors until 2030 to allow more time for technology to advance and for costs to come down for higher mileage or weight sensitive applications. Worth noting, the ACF Regulation does not mandate any specific ZE technology over another. If fleets do not believe that battery-electric tractors can fulfill their operational needs, they can transition to FCEVs which have similar fueling times and range as conventional vehicles.

g) Zero-Emissions Technology – Charging Times

Comment Summary: The commenters state that electric trucks take too long to charge, which impacts driver productivity and results in the need for more truck drivers and additional trips. They also state that long charging times can have impacts on perishable agricultural commodities.

Commenter: [004-WT1, 083-45d, 085-45d, 092-OT1, 140-OT1, 153-45d, 164-45d, 256-45d, 279-45d, 282-45d, 290-45d, 335-45d]

Agency Response: No changes were made in response to these comments. The Regulation is structured such that fleets have the flexibility in how ZEVs will be deployed in their fleets. Specifically, the Daily Usage Exemption allows fleet owners to purchase a new ICE vehicle as a compliant replacement vehicle, if available BEVs cannot meet the daily usage requirements of any vehicle in the fleet.

The ACF Regulation does not mandate any specific ZE technology over another. If fleets do not believe that battery-electric trucks can fulfill the operational needs of their market segment, fleet owners are free to transition to FCEVs which have similar fueling times and range as conventional vehicles. For BEV technology, fleet owners have the choice to size their fleets' batteries to meet their needs either for a full day's work or they may opt for a smaller size battery then deploy opportunity charging at strategic locations and times. There is also a promising new MW charging standard that will provide charge rates of up to 3.75

MW that potentially enable charging of a 500-mile range battery pack in 20-30 minutes, with an active funded one MW demonstration project in progress.

Furthermore, charging breaks can be planned for and synced up with a drivers rest breaks. Caltrans's ongoing parking study will inform and assist funding programs to identify priority locations for new charger investments that will support publicly accessible charging and increase operator safety. In addition, improving signage to help drivers locate charging facilities is also being addressed.

h) Zero-Emissions Technology – Cold Weather

Comment Summary: The commenters claim that ZEVs are not practical in extreme cold weather, highlighting potential limitations of the technology.

Commenter: [234-45d]

Agency Response: No changes were made in response to these comments. While it is accurate that the current performance of ZEVs degrades under extreme cold conditions, the majority of California's population reside in moderate climates where the effects of extreme cold weather are less impactful. If fleet owners have concerns about operating BEVs in certain conditions, and a FCEV is unavailable, then the fleet owner can apply for a Daily Usage Exemption provided the vehicle is not a Class 7 or 8 BEV tractor or three-axle bus with a rated energy capacity of at least 1,000 kilowatt-hours or a Class 7 or 8 BEV that is not a tractor or three-axle bus with a rated energy capacity of at least 450 kilowatt-hours; or a Class 4 through 6 BEV with a rated energy capacity of at least 325 kilowatt-hours.

i) Zero-Emissions Technology – Commercial Vehicles

Comment Summary: The commenters indicate that some commercial vehicle segments will be more challenging to electrify than passenger cars, suggesting that different approaches may be needed.

Commenter: [329-45d]

Agency Response: No changes were made in response to these comments. The Regulation is structured in a way that provides flexibility for fleet owners to meet the ZEV phase-in requirements based on a fleet's mix of vehicle types and extends the compliance timeframe for vehicles that may take longer to electrify or are high mileage vehicles. The Regulation also has a number of exemptions, flexibilities, and vehicle useful life considerations which are designed to help a fleet comply.

j) Zero-Emissions Technology – Materials Mining

Comment Summary: The commenters express concerns about battery minerals and components being imported from China, impacting national security, and involving environmental impacts, child labor, and slave labor. They also mention concerns about the required mining and associated energy for battery production.

Commenter: [010-45d, 028-45d, 059-45d, 120-45d, 138-45d, 164-45d, 259-45d, 270-45d, 281-45d, 334-45d]

Agency Response: No changes were made in response to these comments. CARB evaluated impacts associated with mining for battery materials in the CEQA EA and these concerns are addressed in the EA RTC document, see Master Response 2.

k) Zero-Emissions Technology – Demonstrations

Comment Summary: The commenters state that claims of ZEV manufacturers do not meet reality when tested, particularly in refuse and utility fleets, where there is little experience with PTO and related equipment powered by current fleets. The commenters request that CARB conduct real-world demonstrations of commercially available Class 2b through 8 vehicles to identify challenge points and inform potential ACF adjustments.

Commenter: [321-45d, 342-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation has included several flexibilities in the form of extensions and exemptions that are designed to help a fleet comply in situations where certain vehicle types are not available to meet the primary functions or operational needs of a fleet. Specifically, the Daily Usage Exemption allows fleets to purchase a new ICE vehicle if currently available BEVs cannot meet the mileage or operational requirements of the original vehicle. In addition, the ACF Regulation includes a ZEV Purchase Exemption which allows fleets to purchase a new ICE vehicle if a ZEV or NZEV is not available in the configuration needed to meet the primary intended function of the fleet.

CARB cannot accommodate the request to conduct real-world demonstrations of commercially available vehicles, as it would be unfeasible for CARB to individually test all Class 2b through 8 ZEVs in a timely manner. However, CARB has provided a significant amount of funding, as part of the Low Carbon Transportation Investments, for advanced technology demonstration and pilot projects to help accelerate the next generation of advanced technology vehicles, equipment, or emission controls which are not yet commercialized. In addition, fleet owners have the option to use data logging devices and software to obtain real-world vehicle data about the energy usage that powers the trucks and PTO equipment. There are also optional ZEP Certification standards that manufacturers can use, but are required for ACT Regulation credits, which will help fleet owners make informed purchase decisions.

ZEV technology is advancing and will continue to improve over the decades-long phase-in of the Regulation. The ACF Regulation introduces ZEVs to a fleet gradually over a long period of time. For the Milestone Group 2 and Group 3 trucks that use specialty equipment, the first ZEV compliance requirements don't begin until 2027 and 2030, respectively.

l) Zero-Emissions Technology – Offroad Terrain

Comment Summary: The commenters argue that ZEVs cannot operate in difficult or offroad terrain and that unique duty cycles, far distances, PTO requirements, and payloads may be hindered by battery weight and in-field provisions not met by commercially available ZEV models.

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. While it is true that ZEVs may not be a good fit for some duty cycles today, ZEVs generally have superior torque to ICE vehicles. As the market matures over the long period of ACF Regulation phase-in, it is expected that ZEVs will be able to meet the same requirements as ICE vehicles in many applications. If currently available ZEV vehicles cannot meet the daily needs of a fleet, the ACF Regulation allows fleets to apply for a Daily Usage Exemption to acquire a vehicle that will fulfill a fleet's needs. This exemption allows the use of real-world energy usage instead of energy calculations from battery capacity to support an exemption request if needed. Additionally, the ACF Regulation includes all-wheel drive as a key characteristic under the ZEV Purchase Exemption when determining ZEV availability.

m) Zero-Emissions Technology – Range and Work Capacity

Comment Summary: The commenters state that ZEV technology is not ready for use due to limited range, work capacity, or capability to meet operational needs. They argue that electric trucks cannot maintain enough charge for a full work shift, ICEs are superior in loaded power and range, and ZEVs are not capable of performing the same job functions as current trucks. Commenters state that the limited range of EVs is not applicable for interstate operations. They also mention that available ZEVs do not meet GVWR, towing, or range specifications, and express concerns about inconsistencies in supply chains and disruptions in the timely delivery of goods due to inadequate range and performance of heavy-duty vehicles. The commenters suggest that the most suitable use case for capable ZEVs is Class 5 and lower vehicles with limited range requirements and sufficient overnight charging time.

Commenter: [004-45d, 004-WT1, 006-45d, 011-45d, 011-OT1, 016-OT1, 017-OT1, 019-45d, 021-45d, 025-WT1, 027-45d, 029-WT1, 033-45d, 037-WT1, 038-45d, 039-45d, 041-45d, 042-45d, 050-45d, 051-45d, 052-45d, 057-45d, 058-45d, 065-45d, 067-45d, 068-45d, 069-45d, 070-45d, 072-45d, 074-45d, 075-45d, 080-45d, 081-45d, 117-45d, 121-45d, 128-45d, 129-45d, 132-45d, 134-45d, 141-45d, 142-45d, 144-45d, 146-45d, 148-OT1, 149-45d, 152-45d, 153-45d, 157-45d, 167-45d, 173-45d, 179-45d, 184-45d, 187-45d, 190-45d, 194-45d, 204-45d, 205-45d, 207-45d, 219-45d, 232-45d, 233-45d, 234-45d, 249-45d, 251-45d, 256-45d, 258-45d, 259-45d, 260-45d, 272-45d, 278-45d, 279-45d, 282-45d, 284-45d, 285-45d, 290-45d, 292-45d, 295-45d, 301-45d, 302-45d, 304-45d, 308-45d, 310-45d, 314-45d, 322-45d, 339-45d, 347-45d]

Agency Response: Changes were made in response to these comments. The ACF Regulation has incorporated the Daily Usage Exemption to help fleets comply if available ZEV technology is not capable of meeting the primary functions and operational needs of a fleet. Specifically, the Daily Usage Exemption allows fleet owners to purchase a new ICE vehicle if available BEVs cannot meet the daily usage requirements, and FCEVs and NZEVs are not available to purchase. Fleet owners have the option to use real-world data from a BEV in a given application in comparison to the ICE vehicles in the fleet. FCEVs and NZEVs have similar fueling time and range as ICE vehicles and would not justify the need for an exemption if available to purchase. This exemption addresses fleet owner's concerns about ZEV range, work capacity, performance, and capability.

However, CARB disagrees that ZEVs are not capable of performing the same functions as most trucks. As described in Chapter I.H.5. of the ACF ISOR, operational truck data shows that most trucks operating in California average less than 100 miles per day. There are

multiple BEV medium- and heavy-duty non-tractors capable of a 100 to 200-mile range on a single charge available that meet the range and weight requirements for a majority of operations.⁸⁰ In addition, FCEVs are emerging as a ZEV technology that is capable of ranges and fueling times that are comparable to conventional vehicles.⁸¹ FCEVs have the feasibility of being integrated into regular fleet operations as they can provide similar capacity, range, and fueling capabilities as conventional vehicles.

CARB also disagrees with the assertion that BEVs will not be applicable for interstate operations. For example, a fully loaded battery-electric Tesla Semi, weighing just under 82,000 pounds, recently completed a 500-mile test run on a single charge in usual traffic conditions. This demonstration by the Tesla Semi shows that ZEV technology is advancing and will be capable of interstate transportation by 2030 (when the sleeper cab tractor phase-in requirement starts).

The ZEV Milestones Option is phased in based on ZEV suitability. Box trucks, vans, and light-duty package delivery vehicles as the first truck types (i.e., Group 1) required to transition. Vehicles in Group 2 and Group 3 are given more time to transition because they are expected to have higher daily mileage needs, have more varied use cases and fewer of these ZEV models are available today. Manufacturers are announcing the production of heavy-duty models capable of higher ranges that will be available in the market to meet the demand of Group 2 vehicles in 2027.

n) Zero-Emissions Technology – Emergency Response

Comment Summary: The commenters express concerns about the availability of EVs during emergency events, both declared and undeclared, as EVs cannot be independently powered or carry fuel without electricity, which may not be available during emergencies.

Commenter: [003-WT1, 056-45d, 083-OT1, 164-45d, 233-45d, 237-45d, 241-45d, 263-45d, 292-45d, 300-45d]

Agency Response: Changes were made in response to these comments. The ZEV requirements are phased in over several decades providing a smooth transition to ZEVs, and technology and infrastructure is expected to continue to improve. The Mutual Aid Exemption was modified to provide earlier access to the exemption. Mobile fueling for ZEVs may be an option for fleets working in the field using the same avenues as other necessary supplies or fuel for ICE vehicles during emergency events. If a fleet cannot be reasonably fueled with mobile fueling, fleets may apply for an exemption under the Mutual Aid Assistance provision of the ACF Regulation. This provision includes other criteria that would allow fleets to purchase new ICE vehicles for vehicles that may be called upon to respond to declared emergency events wherever they may be needed.

Additionally, emergency vehicles, as defined in the CVC section 165, are exempt from the requirements of the ACF Regulation.

⁸⁰ California HVIP, HVIP Eligible Vehicles, 2022 (web link: <https://californiahvip.org/vehiclecatalog/>, last accessed August 2022).

⁸¹ Hyundai, Hyundai's XCIENT Fuel Cell Hitting the Road in California, 2021 (<https://www.hyundainews.com/en-us/releases/3362>, last accessed August 2022).

o) Zero-Emissions Technology – Vehicle-To-Grid Technology Interferes with Emergency Resilience

Comment Summary: The commenters state that ZEVs may become a power source for the grid when energy availability is low, drawing down stored battery energy, which would compromise the ability of fleet vehicles to respond to emergencies.

Commenter: [269-45d]

Agency Response: No changes were made in response to these comments. While ZEVs possess capabilities that ICE vehicles do not have, including the ability to supplement grid energy and lower the risk of customer outage, it is up to fleet owners to manage fleet operations to mitigate risk. The Regulation does not have any requirements for ZEVs to be used to supplement the grid. Additionally, fleets may choose to install energy storage on-site as a method to further mitigate risk.

p) Zero-Emissions Technology – Fuel Cell Technology

Comment Summary: The commenters express concerns about the readiness and feasibility of hydrogen technology, or request CARB to consider alternative compliance pathways for fleets transitioning to hydrogen fuel. They argue that focusing on battery-electric technology is not realistic and ask for pathways to incorporate hydrogen fuel cell technology into ACF. They point out issues related to FCEV supply, infrastructure, and suitability for long-haul operations. They also highlight concerns about maintaining two fueling infrastructures at a single facility and the lack of proven FCEV Class 8 tractors for hauling freight from remote origin points.

Commenter: [001-45d, 002-OT1, 011-45d, 015-WT1, 030-OT1, 092-OT1, 109-45d, 147-45d, 234-45d, 259-45d, 261-45d, 284-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation has a technology-neutral approach for transitioning conventional vehicles to zero tailpipe emissions and does not specifically require either BEVs or FCEVs as compliance options. This approach means that fleets that may not be able to fulfill their needs with one ZEV technology may use any alternative ZEV technology so long as it meets the criteria outlined in the ACF Regulation language. It is ultimately up to individual fleets to determine which ZEV technology is right for them. While FCEV options, supply, and infrastructure are currently limited compared to ICE vehicles, it is expected that this will change over the course of the ACF Regulation's long period of phase-in. For additional information regarding ZEV availability, including for that of FCEVs, please refer to responses in section "Zero-Emissions Technology – Availability" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

q) Zero-Emissions Technology – Manufacturer Orders

Comment Summary: The commenters state that the manufacturers they rely on to supply their specific agricultural equipment will be inundated with equipment orders due to the low ZEV variety.

Commenter: [004-45d, 010-45d, 177-45d, 272-45d]

Agency Response: No changes were made in response to these comments. Not all agricultural equipment will need to be replaced immediately due to the long phase-in period of the ACF Regulation, allowing ZEV variety to increase over time. Additionally, the ZEV Milestones Option allows fleets to have some flexibility in how they wish to introduce ZEVs to their fleet so long as they meet the ZEV threshold, allowing fleets to place relevant orders and receive equipment in a timely manner. If ZEV equipment delivery is delayed due to circumstances beyond the fleet's control, fleets may have the option of retaining operation of existing equipment by applying for the Vehicle Delivery Delay provision of the ACF Regulation.

r) Zero-Emissions Technology – Large Companies Prioritized

Comment Summary: The commenters suggest that larger companies with greater capital will be prioritized by ZEV manufacturers, potentially disadvantaging small businesses.

Commenter: [021-45d, 033-45d, 148-OT1, 157-45d, 165-45d, 251-45d, 258-45d, 301-45d, 302-45d, 308-45d, 331-45d]

Agency Response: No changes were made in response to these comments. The Regulation has provisions to address if manufacturers prioritize large orders placed by large corporations over smaller orders. Starting with the 2024 vehicle model year, the ACT Regulation will require manufacturers to produce and sell ZE medium- and heavy-duty trucks which is expected to grow the ZEV market rapidly for all businesses, regardless of capital or size. During the interim, the ACF Regulation contains the Vehicle Delivery Delay provision. This provision, under the Model Year Schedule, would allow fleets to delay retiring vehicles until the replacement ZEV is delivered. Under the ZEV Milestones Option, this provision would allow a fleet to remain in compliance until ZEVs are delivered.

s) Zero-Emissions Technology – Non-Exhaust Emissions

Comment Summary: Commenter states that ZEVs weigh more than comparable ICE vehicles which will increase entrained road dust emissions or increase tire PM emissions.

Commenter: [270-45d]

Agency Response: No changes were made in response to these comments. Please refer to the EA RTC document, responses to Comment Letters 48-2, 261-6, and 270-3 for a discussion on PM from non-exhaust emissions. It is incorrect to assume ZEVs are always heavier than a comparable ICE vehicle. Today, BEVs with 100-mile range weigh about the same as a conventional vehicle. While some ZEVs may currently weigh more than their ICE vehicle counterparts, the long phase-in of requirements under the ACF Regulation may bring ZEV weight closer in line with ICE vehicles due to benefits from improved battery density, body material improvements, and general lightweighting.

t) Zero-Emissions Technology – Power Take-Offs

Comment Summary: The commenters claim that no ZEVs currently offer a solution to replace their trucks with specific PTO requirements, highlighting a gap in available technology.

Commenter: [024-WT1, 219-45d, 260-45d]

Agency Response: No changes were made in response to these comments. Several ZEV models are available on the market with PTO equipment, such as trash trucks and bucket trucks. It is expected that as ZE technology matures, additional options for PTO equipment or transmission will become available. If a ZEV configuration cannot replace a vehicle being retired, fleets may choose to utilize the ZEV Purchase Exemption to purchase a new ICE vehicle. Fleet owners may also take advantage of the Daily Usage Exemption, if the ZEV cannot meet the operation needs of an ICE vehicle in the same configuration.

u) Zero-Emissions Technology – Wastewater Services

Comment Summary: The commenters assert that ZE technology is not yet available to essential public wastewater service providers at the level needed to ensure uninterrupted, reliable essential services.

Commenter: [151-OT1, 309-45d, 326-45d]

Agency Response: No changes were made in response to these comments. The long phase-in period of the ACF Regulation allows fleets to slowly introduce and test available ZEVs in the market to familiarize themselves with the technology and plan future ZEV integration. As the ZEV market improves, additional ZEV models may be introduced with capabilities like that of ICE vehicles. Current ZEVs may fulfill some of a fleet's needs as the data gathered from Large-Entity Reporting indicates that most vehicles travel less than 100 miles per day. Fleets may choose to purchase NZEVs to fulfill their obligations until 2035 or utilize the ZEV Milestones Option Fleets for the flexibility to plan which vehicles to replace ZEVs. Fleets with mutual aid agreements may also choose to apply for the Mutual Aid Assistance provision to retain up to 25 percent of vehicles as ICE vehicles.

If no vehicle configuration is available to fulfill the needs of a wastewater fleet, the fleet may choose to apply for the ZEV Purchase Exemption provision to purchase a new ICE vehicle if a ZEV is not available. If a vehicle configuration is available but performance cannot meet the needs of the fleet, the fleet may choose to apply for the Daily Usage Exemption to purchase a new ICE vehicle so long as at least 10 percent of the fleet is composed of ZEVs.

v) Zero-Emissions Technology – Rural Communities

Comment Summary: The commenters express concerns about the adequacy of ZE technology for waste collection vehicles in rural communities, suggesting it may not be ready by the time regulatory requirements become effective.

Commenter: [180-45d]

Agency Response: No changes were made in response to these comments. There are currently more than six ZE waste collection vehicles commercially available with additional models expected to be available by the first milestone under the ZEV Milestones Option in 2027. Additionally, if a waste collection vehicle has a heavy front axle, this milestone date is pushed to 2030. If a ZE waste collection vehicle with adequate range still does not exist by this time, rural waste collection fleets may choose to apply for exemptions under the Daily Usage Exemption provision. For additional information on flexibility options, please see

responses in section “Zero-Emissions Technology – Wastewater Services” in “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

w) Zero-Emissions Technology – Rental Vehicles

Comment Summary: The commenters mention the absence of specialized vehicles with PTO systems and the infeasibility of renting electric heavy-duty vehicles like water trucks and dump trucks.

Commenter: [024-WT1]

Agency Response: No changes were made in response to these comments. Please see the response in “Zero-Emissions Technology – Power Take-Offs” in this section regarding PTO availability concerns. The ACF Regulation is phased-in slowly over a long period of time, so rental companies may choose to utilize the ZEV Milestones Option for the flexibility to convert less specialized equipment first while introducing more specialized ZEVs later when the market is more mature and additional options for ZEVs become available. Fuel infrastructure for ZEVs may similarly become more widespread as the Regulation moves forward, potentially improving the feasibility of renting vehicles like water trucks or dump trucks. Rental fleets may also choose to purchase NZEVs to remain in compliance with the ACF Regulation until 2035. NZEVs are operated similarly to ICE vehicles but with the ability to operate without emissions for a number of miles.

Fleets may also assist renters in setting up mobile or temporary fueling options to operate ZE specialized vehicles offsite, if feasible, to make specialized ZEVs more attractive to renters.

x) Zero-Emissions Technology – Vehicle Safety Concerns

Comment Summary: The commenters raise safety concerns regarding electric trucks, such as the inability to shut off or de-electrify during loading and the risk of static electricity discharge while loading or carrying flammable materials.

Commenter: [164-45d, 197-45d]

Agency Response: No changes were made in response to these comments. If a fleet can show that operating ZEVs may violate safety standards that they are subject to, the fleet may apply for an exemption under the ZEV Purchase Exemption provision. CARB is not currently aware of any additional safety risks during the operation of electric trucks versus conventional trucks. If safety becomes an issue during the implementation of the ACF Regulation, necessary action will be taken to ensure the safety of operators and the public.

y) Zero-Emissions Technology – Infrastructure Buildout Safety Concerns

Comment Summary: Commenters cite increased health and safety risks associated with the infrastructure buildout resulting from ZEV deployment under ACF.

Commenter: [259-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation includes a ZEV Infrastructure Delay Extension if there are unexpected health and

safety risks present during infrastructure buildout, allowing fleets additional time to resolve any safety issues with fuel infrastructure.

z) Zero-Emissions Technology – Vehicle Operation Safety Concerns

Comment Summary: Some commenters highlight concerns stemming from vehicles running out of energy during usage, potentially affecting the safety of operators or the public.

Commenter: [058-45d, 334-45d, 335-45d]

Agency Response: No changes were made in response to these comments. ZEVs, like ICE vehicles, will typically notify operators when stored energy is low and will cease operation in a manner that reserves enough energy for emergency situations. Fleets may also choose to utilize the ZEV Milestones Option to slowly phase-in ZEVs in roles where they are appropriate. As the ZEV market matures over the implementation of the ACF Regulation, additional ZEV models may become available that alleviate the concerns of fleets. If no ZEV is available that can replace an ICE vehicle's role, fleets may choose to apply for the Daily Usage Exemption to remain in compliance without jeopardizing their fleet's operations.

aa) Zero-Emissions Technology – Service Quantity and Quality

Comment Summary: The commenters are concerned about a lack of a skilled technician workforce able to support maintenance of ZEV and acknowledges it will take time to develop. One of the commenters further claims that because there might be a lack of qualified technicians, this could cause fleets to be inoperable which the commenter then assumes smaller fleets would get the work instead, thus leading to more emissions.

Commenter: [116-45d, 207-45d, 239-45d, 246-45d, 269-45d]

Agency Response: No changes were made in response to these comments. They are out-of-scope and speculative. However, CARB agrees that there is a need to shift the existing workforce and recruit new additional skilled and trained technicians to support ZEV and other clean transportation technology adoption in the medium- and heavy-duty market as it expands. The technology is generally the same as in light-duty vehicles and can be planned for to support the ZEV market expansion. There are multiple efforts already underway in the light-duty space which are working to address the commenters' concerns. This includes training and certification for EVITP, given legislative mandates pursuant to AB 118. Workforce training and development projects are being funded by CEC and CARB that are promoting skill building, upskilling, retraining, and an expansion of the workforce across the clean transportation sector, including EV charging and fueling infrastructure. One specific example is the Inclusive, Diverse, Equitable, Accessible, and Local ZEV Workforce Pilot Project. This project also has a focus on preparing dislocated, unemployed, and new workforce entrants for ZEV careers to further broaden the scale and impact of the clean transportation workforce statewide, with a specific focus on low-income and disadvantaged communities. It also includes a focus on public transit and driver workforce training. CARB is also working with our partners to implement clean mobility investments as part of the Funding Plan for Clean Transportation Incentives that allow for a more inclusive, local workforce development as the transition to ZE occurs and methods of building the green economy evolve. CARB disagrees that additional transitional alternatives, besides NZEVs, are

needed to allow infrastructure and workforce skill sets to catch up as the process of building the ZEV and broader clean transportation workforce is already well underway.

While technicians will need to be trained over time to create an effective servicing arm, the ACF Regulation introduces ZEVs into fleets steadily over a long period of time, allowing a workforce adequate time to be trained and become effective in their duties. CARB expects that as manufacturers ramp up their production of ZEVs, trained and competent technicians will be available to service the ZEVs.

bb) Zero-Emissions Technology – Reliability of Smaller Manufacturers

Comment Summary: The commenters question the reliability and longevity of smaller or startup OEMs despite their models being considered "commercially available."

Commenter: [272-45d]

Agency Response: No changes were made in response to these comments. Starting 2024, vehicle manufacturers must sell medium- and heavy-duty ZEVs as an increasing percentage of annual sales under the ACT Regulation and more models will become available. Fleets have flexibility to purchase vehicles from any manufacturer in accordance with the Regulation. Large, well-established OEMs offer a wide range of ZEVs from which fleets may purchase the vehicles they need to comply with the ACF Regulation. Additionally, SLG fleets are not required to sell or retire any vehicles. The Regulation includes flexibility for fleets to make ZEV purchase decisions according to their priorities. To the extent that smaller manufacturers have the only ZEVs available to purchase by a fleet, the Regulation includes protections such as requiring manufacturer ZEV offerings be ZEP Certified which includes warranty requirements to help provide a fleet owner certainty.

cc) Zero-Emissions Technology – Variability of Day-to-Day Operations

Comment Summary: The commenters note that the Regulation does not address the variability of day-to-day operations for specialty, construction, equipment rental, and critical service maintenance vehicles.

Commenter: [003-WT1, 017-OT1, 058-45d, 164-45d, 205-45d, 239-45d, 256-45d, 259-45d, 263-45d, 304-45d]

Agency Response: No changes were made in response to these comments. The flexibility in the Regulation allows fleet owners to choose which trucks to purchase as ZEVs and best fit their operations. Fleet owners also have the option to purchase NZEVs instead of ZEVs until 2035. NZEVs have same fueling and operating characteristics as ICE vehicles but with the ability to operate without emissions for a number of miles. The Regulation also includes the Daily Usage Exemption to address situations where available BEVs cannot meet the needs of the fleet's typical duty cycle. Fleet owners can use data from any 30-day period from the prior year to support their exemption request and have the option to use real world data from ZEVs to support their request.

dd) Zero-Emissions Technology – Maintenance of Older Vehicles

Comment Summary: The commenters point out that the ACF ISOR does not evaluate the potential unintended negative consequences of trucking fleets maintaining their existing vehicles longer if ZEVs are unable to meet specific operational requirements. This scenario could result in fleets holding onto older, less environmentally friendly vehicles for extended periods.

Commenter: [255-45d]

Agency Response: No changes were made in response to these comments. The HPF model year schedule is aligned with the useful life requirements specified in SB 1 and cannot be made more restrictive. However, the Regulation also includes the ZEV Milestones Option that provides considerable flexibility to fleet owners to phase-in ZEVs as an increasing percentage of the fleet. The Regulation also includes exemptions that allows fleet owners to replace an older ICE vehicle with a new ICE vehicle in situations where the required ZEV configuration is not available, or the ZEV is unable to meet the functions and operational needs of the fleet such as the ZEV Purchase Exemption and the Daily Usage Exemption. For these reasons, fleet owners are not likely to hold on to less environmentally friendly vehicles.

SB 1 provides fleet owners with certainty about the “useful life” of their vehicles by establishing a timeframe before such vehicles can be retired, replaced, retrofitted, or repowered through new or amended Regulations. The useful life period is specified as the later of either (a) 13 years from the model year that the engine and emissions control systems are first certified or (b) (when the vehicle travels 800,000 vehicle miles traveled or 18 years from the model year that the engine and emissions control systems are first certified for use, whichever is earlier). However, CARB recently approved the HD I/M Regulation to control emissions more effectively from non-gasoline on-road heavy-duty vehicles with a GVWR greater than 14,000 pounds operating in California. The HD I/M Regulation requires affected heavy-duty vehicles to perform periodic emissions testing twice a year to show compliance at specified intervals to ensure that the emissions control systems maintain the same efficiency as the vehicle ages. Combining periodic vehicle testing with other emissions monitoring and expanded enforcement strategies, the HD I/M Regulation will ensure that vehicle’s emissions control systems are properly functioning when traveling on California’s roadways. As prices continue to decline and fleets realize lower operational costs associated with ZEVs, fleets may choose to turn over their vehicles early (rather than hold on to them longer) to realize the significant cost savings.

ee) Zero-Emissions Technology – Vehicle Weight

Comment Summary: The commenters express concerns about the weight of ZEVs, stating that the added weight impacts payload capabilities, road conditions, and overall vehicle performance. Moreover, they argue that pairing battery weight with existing payload specs often exceeds axle GVWR, forcing a choice between retaining operation time and payload capacity, and that choosing payload could lead to a 25 to 65 percent reduction in operation time.

Commenter: [011-45d, 020-45d, 023-45d, 029-WT1, 034-45d, 035-45d, 036-45d, 042-45d, 068-45d, 092-OT1, 098-45d, 128-45d, 129-45d, 132-OT1, 136-45d, 138-45d, 146-45d, 151-

45d, 153-45d, 167-45d, 173-45d, 175-45d, 178-45d, 179-45d, 205-45d, 259-45d, 260-45d, 261-45d, 264-45d, 270-45d, 278-45d, 279-45d, 282-45d, 287-45d, 304-45d, 310-45d, 322-45d, 334-45d]

Agency Response: No changes were made in response to these comments. As described in Chapter I.H.5. of the ACF ISOR, weight is not a major concern for ZEVs because the data clearly shows that for most operations in the medium-duty truck sector, the freight tends to “cube out” before weight overload becomes a constraint. According to the North American Council for Freight Efficiency, vehicle weight for Class 3 through 6 medium-duty EV applications do not present a significant risk for fleet operators because they have sufficient freight weight margins or have alternate choices in vehicle designs and GVWR ratings. Weight is also not a major concern for most operations using Class 7 and 8 tractors. This is because most tractors, or about 88 percent, operate in the dry van general freight market segment. According to North American Council for Freight Efficiency, these operations never travel at maximum weight because their trailers will reach the volumetric capacity “cube out” before reaching weight capacity “gross out,” or because their routes and cargo patterns are not conducive to traveling with a full trailer.

As discussed in the Chapter I.H.5. of the ACF ISOR, AB 2061 allows ZEVs and NZEVs to exceed California maximum weight limits by 2,000 pounds which addresses some of the vehicle weight and payload capacity concerns of ZEV technology for weight limited loads in California. Additionally, weight is less of a concern for FCEVs as they have comparable range to combustion vehicles and weigh less than long-range BEVs with bigger batteries.⁸² The different available ZEV technology options, BEV or FCEV, allow for fleet owners to select the technology that best fits the range and weight requirements of a fleet’s operations. Furthermore, as described in Chapter I.H.5. of the ACF ISOR, battery technology is rapidly evolving which is resulting in a continued trend of higher battery energy density and lower battery weight and volume. As for FCEVs, hydrogen’s greater energy density is well suited for longer range applications. These ZEV options, BEV or FCEV, allow fleet owners to select the technology that best fits the range and weight requirements of a fleet’s operations. Fleet owners may also opt to use shorter range trucks with supplemental fueling at strategic locations.

However, CARB recognizes that some operations will require trucks to travel at maximum GVWR. To the extent that a fleet owner can demonstrate BEV range in the application is not enough to meet their daily needs, the Daily Usage Exemption allows fleet owners to purchase a new ICE vehicle. If the BEV range is lower while operating in the same operation conditions on similar assignments as ICE vehicles, including when fully loaded, the capability of the BEV would be used to justify the exemption. In addition, there are a number of flexibilities incorporated into the Regulation that accompany a long phase in schedule of compliance requirements that provide fleet owners considerable flexibility in how they transition to ZEVs. The Regulation is structured such that the truck types targeted in the Milestones Option for Group 1 ZEVs are used in operations that are well suited for the current state of technology. These truck types consist of box trucks, vans, and light-duty

⁸² North American Council for Freight Efficiency, Making Sense of Heavy-Duty Hydrogen Fuel Cell Tractors, 2021 (Web link: <https://nacfe.org/wp-content/uploads/2020/12/NACFE-Guidance-on-Hydrogen-Fuel-Cell-Tractors-FINAL-121620.pdf>, last accessed January 2022).

package delivery vehicles which have operations characterized by stable routes and home base locations. Day cab tractor requirements do not begin until 2027 and sleeper-cab and specialty truck requirements do not begin until 2030. Specialty trucks are Class 8 trucks with a heavy front axle or perform their primary function while stationary. NZEVs may also be purchased in lieu of ZEVs until 2035. The first compliance requirement for sleeper cab tractors in the Regulation's Milestones Option begins in 2030. This timeline provides sufficient time for ZEV technology to continue to improve. And if the recent demonstration, as predicted by the Tesla Impact Report, of the Tesla Semi traveling 500 miles on a single charge and weighing just under 82,000 pounds is evidence of the continued advancements of ZEV technology, then the weight of a ZEV should not be a concern by 2030.⁸³

ff) Zero-Emissions Technology – Vehicle Weight on Federal Highways

Comment Summary: Commenter raises concern that the 2,000-pound weight limit increase for ZEVs and NZEVs referenced by staff is not allowed on federal highways outside California and will necessitate additional vehicles, which will statistically adversely impact highway safety.

Commenter: [334-45d]

Agency Response: No changes were made in response to these comments. CARB disagrees that the 2,000-pound weight increase is limited to operations within California. Title 23 U.S. Code, Ch. 1, §127 (Vehicle Weight Limitation – Interstate System) allows natural gas and BEVs an increase of 2,000 pounds, up to 82,000 pounds GVWR, on federal highways, and therefore will not change impacts on highway safety as the commenter asserts.⁸⁴ Additionally, the Regulation provides the Daily Usage Exemption which offers fleet owners the ability to purchase a new ICE vehicle if an existing BEV is unable to meet the fleet's operational needs.

gg) Zero-Emissions Technology – Motorcoach Weight and Luggage Capacity Issues

Comment Summary: Commenters state that motor coaches operating at maximum gross vehicle road weight capacity would have reduced luggage capacity and difficulties servicing the same number of riders as ICE vehicles.

Commenter: [017-OT1, 314-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation has included several flexibilities such as extensions, exemptions, and vehicle useful life considerations that are designed to help a fleet comply. In addition, the Regulation gives fleets the option to use the milestone pathway which provides fleet owners flexibility in managing their fleet. For the motorcoach industry, buses are included in Group 2 vehicles and don't have a compliance requirement until 2027. CARB is confident that ZEV technology

⁸³ Tesla, 2020 Impact Report, 2020 (web link: https://www.tesla.com/ns_videos/2020-tesla-impact-report.pdf, last accessed August 2022).

⁸⁴ Federal Highway Administration, The Consolidation Appropriations ACT, 2019, (weblink: https://ops.fhwa.dot.gov/freight/pol_plng_finance/policy/fastact/tswprovisions2019/index.htm, last accessed May 2023)

will continue to improve and be able to provide the motorcoach industry with suitable ZEV options. However, the Regulation provides the Daily Usage Exemption which offers fleet owners the ability to purchase a new ICE vehicle if an existing BEV is unable to meet the buses operational needs.

2. Infrastructure and Grid Concerns

a) Grid Capacity and Resilience – Additional Grid Planning and Analysis Needed

Comment Summary: The commenters highlight CEC's lack of plans for uninterrupted electricity and the potential for grid collapse in response to the ACF Regulation and claims that electric supply growth would need to be higher than what the state has been able to achieve in any single year in the past. Commenters request CARB to work with officials from relevant agencies to conduct a feasibility study addressing grid upgrade costs, potential ratepayer increases, and timelines before adopting the Regulation. They also seek information on how the increased state electrical power demand will be met to accommodate the proposal.

Commenter: [001-45d, 021-WT1, 039-45d, 041-45d, 052-45d, 054-45d, 060-45d, 063-45d, 075-OT1, 083-45d, 085-45d, 104-45d, 115-OT1, 117-45d, 137-45d, 140-OT1, 162-45d, 177-45d, 189-45d, 207-45d, 249-45d, 252-45d, 258-45d, 260-45d, 270-45d, 286-45d, 308-45d, 322-45d, 331-45d, 335-45d]

Agency Response: No changes were made in response to these comments. State agencies are planning and coordinating on electrical infrastructure needed to support widespread electrification. The Regulation is being phased in over several decades and the expanding electricity needs can be planned for. By 2035, medium- and heavy-duty ZEVs will account for about 3 percent of total electricity demand statewide and less than two percent on peak between 5:00 PM and 8:00 PM. CARB is working with CEC and sharing data with them for long term planning efforts.⁸⁵

The ACF Regulation is structured such that SLG fleets, drayage trucks, and HPF fleets would transition to a greater percentage of ZEVs well into the future and electrification is not expected to happen all at once. CARB understands the concerns commenters raise and acknowledges there will need to be expanded electricity generation, transmission, and distribution over the next 15 years. California's electric grid will be capable of meeting additional demand from ACF, and new electric loads will place downward pressure on electric rates by spreading the high fixed costs of electricity generation to additional customers. See "Master Response 1 - Response to Comments on the Draft Environmental Analysis" for an assessment of grid impacts the response to Comment 270-10.

Several studies have shown no major technical challenges or risks have been identified that would prevent a growing ZEV fleet at the generation or transmission level, especially in the

⁸⁵CEC, CED 2022 Hourly Forecast - CAISO - Planning Scenario, January 2023 (web link: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=248359&DocumentContentId=82768>, last accessed January 2023).

near-term.⁸⁶ Additionally, based on historical growth rates, sufficient energy generation and generation capacity is expected to be available to support a growing EV fleet. State agencies have a history of planning for distribution upgrades and are further refining models and approaches to account for increased load from BEVs such as through CEC's AB 2127 Electric Vehicle Charging Infrastructure Assessment,⁸⁷ Integrated Energy Policy Report Electricity Demand Forecast,⁸⁸ CPUC Integrated Resource Planning and Long-Term Procurement Plan process, and CAISO transmission planning process. These multiple studies and processes evaluate demand and reliability needs of the overall electric system, local reliability needs specific to areas with transmission limitations, and flexibility needs like the resources required for renewable energy integration. The primary agencies will continue to evaluate and refine likely sources of load.

In addition to the completed long-term planning and analysis, coordination and strategizing is ongoing with other key agencies like the CTC, Caltrans, GO-Biz, and others to ensure the grid is prepared for electrification loads. Increasing electric loads from BEVs can be managed with charging during off-peak periods and with demand response signals to reduce load during peak periods. Further, BEVs are expected to eventually provide grid services by taking advantage of the onboard battery storage, notably by providing backup power to homes and community buildings at times of electric grid power outages, or by potentially providing two-way power flow to the grid allowing BEVs to become energy resources for utilities.

Historically, the state's electric grid has expanded and evolved as consumer demand for electricity services has grown, including with the recent emergence of EVs. California's existing grid and approved investments occurring now will allow the state to handle millions of EVs in the near-term, and projections show the broader western grid can handle up to 24 million light-duty, 200,000 medium-duty, and 150,000 heavy-duty EVs without requiring any additional power plants.^{89,90} Longer term, transitioning medium- and heavy-duty vehicles to electrification is achievable with a gradual build out of clean energy resources – more gradual than during times of peak electricity sector growth in the past given EV loads can be distributed over non-peak hourly periods. With the Regulation, the increase in demand is predictable and can be planned for.

⁸⁶ US DRIVE. Summary Report on EVs at Scale and the U.S. Electric Power System. U.S. Driving Research and Innovation for Vehicle Efficiency and Energy Sustainability (DRIVE), 2019 (web link: <https://www.energy.gov/eere/vehicles/articles/summary-report-evs-scale-and-us-electric-power-system-2019>, last accessed March 9, 2023).

⁸⁷ California Energy Commission, Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment, 2021 (web link: <https://efiling.energy.ca.gov/getdocument.aspx?tn=238853>, last accessed August 2022).

⁸⁸ California Energy Commission, Transportation Energy Demand Forecast, 2021 (web link: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=240934>, last accessed August 2022).

⁸⁹ Pacific Northwest National Laboratory 2020. Kintner-Meyer, Michael, et al, Electric Vehicles at Scale – Phase I Analysis: High EV Adoption Impacts on the Western U.S. Power Grid. Pacific Northwest National Laboratory, 2020 (web link: https://www.pnnl.gov/sites/default/files/media/file/EV-AT-SCALE_1_IMPACTS_final.pdf, last accessed March 9, 2023).

⁹⁰ Muratori et al 2021. Matteo Muratori et al, "The rise of electric vehicles—2020 status and future expectations," 2021 (web link: <https://iopscience.iop.org/article/10.1088/2516-1083/abe0ad/pdf>, last accessed March 9, 2023).

Through cross-agency collaboration and data sharing, CEC staff are developing new tools and energy models such as the HEVI-Load model for heavy-duty EV infrastructure projections and the EDGE Tool to study regional distribution capacity. The various modeling approaches help predict likely sources of BEV loads throughout the state, including along highways and in more remote regions, and will allow for proactive planning while balancing utility distribution upgrade costs. Finally, SB 1020 would require State agencies to report on the reliability of the grid annually and identify gaps in achieving grid and local reliability.

For additional detailed information, please see responses to issues raised in sections “Grid Capacity and Resilience – Grid Capacity” and “Grid Capacity and Resilience – Grid Reliability” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

b) Grid Capacity and Resilience – Grid Capacity

Comment Summary: The commenters raise numerous concerns about the grid's capacity and the supply of electricity, particularly during peak demand and emergencies, and its ability to support the ACF Regulation. They mention the risk of increased grid strain, blackouts, and failures due to the Regulation's implementation, and express doubts about whether the grid can support charging fleets during peak times. Commenters also question CARB's ability to demonstrate the grid's capacity to support the proposed number of charging stations for trucks, especially during heat advisories and other extreme events.

Commenter: [003-OT1, 005-45d, 009-WT2, 010-45d, 010-WT1, 019-45d, 028-45d, 028-OT1, 064-45d, 065-45d, 068-45d, 073-OT1, 091-45d, 116-45d, 116-OT1, 118-OT1, 135-45d, 151-OT1, 152-45d, 164-45d, 172-45d, 180-45d, 187-45d, 188-45d, 190-45d, 207-45d, 227-45d, 237-45d, 258-45d, 265-45d, 268-45d, 274-45d, 301-45d, 339-45d]

Agency Response: No changes were made in response to these comments. In addition to the response to “Grid Capacity and Resilience - Additional Grid Planning and Analysis Needed,” which outlines the grid forecasting and procurement process and notes that the ACF Regulation will account for about 3 percent of total electricity demand statewide by 2035, significant investment has been approved to ensure sufficient grid capacity is available. In 2022 CPUC approved the 2021 Preferred System Plan, which authorized procurement of \$49 billion in electric system upgrades by 2032 for the IOUs, representing about 40,500 MW of new renewable generation and storage resources, and requiring only limited transmission upgrades.⁹¹ For comparison, in 2021 California’s installed in-state generation nameplate capacity was 81,691 MW with about 30 percent of supply imported.⁹² Under the CPUC process, as new needs are identified, additional procurement can be authorized. California’s POUs are also investing heavily in grid operations.

Another key capacity and adequacy metric is the peak demand from heavy-duty vehicles. In addition to the latest Energy Demand Forecast, CEC conducted a ZEV demand analysis for

⁹¹ California Public Utilities Commission 2022, Decision Adopting 2021 Preferred System Plan Rulemaking 20-05-003, 2021 (web link: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M449/K173/449173804.PDF>, last accessed August 2022).

⁹² California Energy Commission, 2021 Total System Electric Generation, 2021 (weblink: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation>, last accessed August 2022).

the initial AB 2127 Report published in 2020 using the aggregated hourly charging load profiles of nine commercial vehicle type categories defined under CARB's Draft 2020 Mobile Source Strategy scenario.⁹³ The charging profiles varied significantly with use-case and travel requirement and the total estimated aggregate peak demand was about 2000 MW at 5:00 P.M., without any smart charging assumptions. California's grid demand varies throughout the year, but a typical summer daily peak is about 44,000 MW (with an all-time system peak of 52,000 MW in September 2023) representing a peak impact of only 4.5 percent in an unmanaged scenario. However, an unmanaged charging scenario is unrealistic because charging costs would be much higher than necessary compared to charging outside the 4:00 P.M. to 9:00 P.M. peak and therefore avoiding high time of day charges. The updated and refined forecast accounts for charge management and shows much smaller impacts. Since California's electric grid is designed for peak summer usage representing a few percent of the hours per year, adding load outside the peak hours carries a negligible impact to the grid overall. Smart charging systems can help ensure that only critical charging is done during peak hours and that most charging occurs during non-peak hours. EV charging and demand response strategies, along with vehicle grid services, will minimize the risk of grid blackouts from vehicle loads and minimize the risk of lost labor time, wages and charging costs.

Another study, by LBNL, noted that full national electrification will add about 15 percent to summer peak loads with heavy-duty electrification representing about one-third of that amount. The study also noted that the impact of additional load due to rapid national electrification is modest and not without historical precedence. It demonstrated that under full electrification scenarios (including transportation, buildings, and industry) electricity demand would grow at a lower rate from 2020 to 2050, 2.2 percent, than the highest historical demand growth in history from 1975-2005, 2.6 percent, this data was presented by LBNL at the CARB Medium- and Heavy-Duty Zero-Emissions Vehicle Fueling Infrastructure Forum in June 2021.⁹⁴ In addition, the ability to add significant renewable energy capacity while both decarbonizing the electric grid and growing load has been demonstrated through the 2010's in California. Ultimately, at the individual project level, the impact on the neighborhood electrical distribution network must be analyzed and addressed by the local utility.

Several current and historical actions help to ensure grid capacity and reliability with the ACF Regulation. CPUC opened a new proceeding to modernize and prepare the grid in anticipation of multiple distributed energy resources. With this new proceeding, CPUC aims to evolve grid capabilities to integrate distributed energy sources, optimize grid resources, maintain grid reliability, and provide reasonable rates. In addition to grid-level resources, state efforts have supported local generation that avoids the need for transmission upgrades through rapid growth of the distributed solar generation like the California Solar Initiative of SB 1 (Murray, Stats. 2006, ch. 132). In addition, steps to commercialize clean energy microgrids that support the critical needs of vulnerable populations impacted by grid

⁹³ California Energy Commission, Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment, 2021 (web link: <https://efiling.energy.ca.gov/getdocument.aspx?tn=238853>, last accessed August 2022).

⁹⁴ ACF ISOR Appendix E, Medium- and Heavy-Duty Zero Emission Vehicle Fueling Infrastructure Forum, Paving the Way Panel, June 2, 2021 (web link: <https://www.youtube.com/watch?v=SojYFB9fshI>, last accessed April 2023).

outages are ongoing. In 2021, CPUC approved development of the Microgrid Incentive Program and PG&E, SCE, and SDG&E held a series of stakeholder workshops to shape development of the new program. Several projects are underway under this initiative as part of SB 1339. Another key policy that helps support grid capacity are time-of-use rates, which provide signals to consumers in the form of electricity rate changes at different times of the day. Commercial rates that vary by hour mirror the cost of providing electricity and provide a key economic signal to encourage fueling at times when net demand is low, such as mid-morning through early afternoon or overnight. This signal shifts charging away from key peak periods and lowers the potential cost of fueling.

In addition, recent Federal legislation contains opportunities for additional support. The IIJA also known as the 'Bipartisan Infrastructure Law', provides approximately \$350 billion for Federal highway programs over a 5-year period (fiscal years 2022 through 2026), invests roughly \$65 billion to upgrade the power infrastructure, creates a new Grid Deployment Authority, invests in research and development for advanced transmission and electricity distribution technologies, and promotes smart grid technologies that deliver flexibility and resilience.⁹⁵ It also invests in demonstration projects and research hubs for next generation technologies like advanced nuclear, carbon capture, and clean hydrogen. The IRA also includes tax credits that support electrification and other measures.

c) Grid Capacity and Resilience – Grid Reliability

Comment Summary: The commenters state that California's power grid is currently unreliable and therefore incapable of supporting the proposed transition to ZEVs under the ACF Regulation. They express concerns about the impact of grid stress on their ability to charge vehicles, citing instances of blackouts, power shutoff events, and the grid being strained beyond its capacity and note CAISO short term deficit forecasts. The commenters suggest that CARB and CPUC should ensure the grid's reliability before requiring fleets to purchase ZEVs, and they emphasize the need to address grid issues before implementing the EV mandate. Additionally, they mention that CAISO had to ask EV owners not to charge their vehicles due to stress on the electric grid shortly after the Advanced Clean Cars II Regulation was passed, further highlighting the grid's current limitations.

Commenter: [009-WT2, 014-45d, 021-45d, 026-45d, 027-45d, 033-45d, 038-45d, 039-45d, 048-45d, 051-45d, 056-45d, 057-45d, 113-OT1, 117-45d, 139-OT1, 161-45d, 163-45d, 164-OT1, 167-45d, 170-45d, 176-45d, 184-45d, 188-45d, 189-45d, 204-45d, 207-45d, 232-45d, 251-45d, 259-45d, 265-45d, 268-45d, 269-45d, 281-45d, 292-45d, 295-45d, 302-45d, 347-45d]

Agency Response: No changes were made in response to these comments. Grid reliability is ensured via multiple regulatory requirements across a wide range of organizations and agencies. NERC sets reliability standards that ensure the effective and efficient reduction of reliability risks nationally. CPUC sets state standards for IOUs and most POUs follow the guidelines voluntarily as well. CARB does not have the authority to set reliability standards.

⁹⁵ Federal Highway Administration, U.S. Department of Transportation, National Electric Vehicle Infrastructure Formula Program, 2022 (web link: <https://www.federalregister.gov/d/2022-12704>, last accessed February 2023).

CPUC studies and sets standards for the probability of a power outage, called the loss of load expectation, which sets the allowable risk of an outage from equipment failure at one day per 10 years.⁹⁶ Utilities track and report outage frequency and duration annually. Also, a 15 percent resource adequacy requirement provides a buffer for the daily electricity demand forecasts to ensure stability.⁹⁷ Resource adequacy requirements are increasing to further reduce outage risk. The long-term planning processes ensure that new generation to meet demand will be built and tens of billions in investments have already been authorized by the CPUC.

As fire risk in California has grown, CPUC and IOUs have employed a number of power outages to mitigate the risk of accidental ignition from damaged utility equipment. A wide variety of environmental and economic influences affect the timing and length of PSPS and similar events, including the state of vegetative cover and moisture content, wind speed, temperature, and subjective decision-making by a utility company. While CPUC considers PSPS outage events as safety-related (as opposed to an unplanned outage from an equipment failure or traffic accident), all grid outages create uncertainty for vehicle fueling of all types. Therefore, understanding how utilities are addressing and mitigating supply disruptions is critical.

CPUC has directed the establishment of PSPS event policies to guide the behavior of the major IOUs, such as PG&E, SCE, and SDG&E. Efforts are underway at the major IOUs to address PSPS impacts on charging infrastructure, including improving communication, studying feasibility of grid-independent EV charging stations (e.g., mobile charging stations), and EV charging with backup generation. Improving communication both before and during potential or active de-energization events regarding the location and accessibility of charging stations near impacted areas can lessen impacts. Designing charging infrastructure to include energy storage and clean back-up power generation can also play an important role during emergencies. CPUC with CEC's support, leads ongoing efforts to develop standards, protocols, guidelines, methods, rates, and tariffs that serve to support and reduce barriers to microgrid deployment and increase resiliency. CPUC Decision 20-06-017, for example, has the potential to build support for distributed generation using localized microgrids that provide resiliency during power loss events, such as PSPS events and other declared emergencies.⁹⁸ The expectation is that the frequency and duration of planned PSPS events will gradually diminish as the grid is hardened to wildfires such as through undergrounding and vegetation management.

Outside of PSPS events, the utility industry follows reliability, outage, and resource adequacy standards from various regulators like NERC as well as CPUC and other sources. In addition,

⁹⁶ California Public Utilities Commission, Electric System Reliability Annual Reports, 2022 (web link: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/electric-reliability/electric-system-reliability-annual-reports>, last accessed August 2022).

⁹⁷ California Public Utilities Commission, Resource Adequacy Homepage, 2022 (web link: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/resource-adequacy-homepage>, last accessed August 2022).

⁹⁸ California Public Utilities Commission, Decision 20-06-017: Actions to Accelerate Microgrid Deployment and Other Resiliency Solutions, June 11, 2020 (web link: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K748/340748922.PDF>, last accessed August 2022).

utilities have adopted short-term reliability standards to help monitor unscheduled power outages locally, such as outages from storms, car accidents with utility -poles, or equipment failures. These reliability standards for frequency and duration are stringent and allow for an acceptable outage risk of typically one to two hours per year.

CARB recognizes the state is implementing multiple goals simultaneously, such as decarbonization, water-use efficiency and fire threat abatement, and reliability is actively and adaptively being managed during this transformation. For example, fire hardening by undergrounding powerlines is ongoing, certain once-through cooling requirements have been delayed, Diablo Canyon Nuclear Power Station is scheduled to remain functional longer, and emergency demand response and generation programs have been created in response to extreme climate variability. The suite of shorter-term actions, combined with effective messaging across all agencies and organizations, is key to ensuring a high level of reliability. For additional information on meeting capacity needs, please see responses to issues raised in section "Grid Capacity and Resilience – Grid Capacity" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

d) Grid Capacity and Resilience – Grid Capacity During Emergencies and for Essential Services

Comment Summary: The commenters express concern about grid reliability and insufficiency during natural disasters or other emergency events, and the potential impact on essential services and critical infrastructure like airports, hospitals, and water treatment facilities. They argue that the Regulation does not consider the power grid's vulnerability in such circumstances, which may result in hindered essential services and prioritized restoration of critical infrastructure, especially if critical support and maintenance vehicles are unable to fuel. Commenters also mention the general insufficiency and unreliability of the electric power grid in their service areas, potentially compromising essential public services if vehicles cannot be charged.

Commenter: [004-WT1, 024-WT1, 056-45d, 124-OT1, 237-45d, 245-45d, 272-45d]

Agency Response: Changes were made in response to these comments. Emergency use provisions, including the mutual aid provision, were enhanced to provide greater flexibility. Any vehicle, regardless of fuel type, must be fueled to be used, whether for evacuation or any other use. Refueling risks from emergency power loss are similar for conventional vehicles. For example, diesel powered vehicles may also run out of fuel, or the tank may be low at the time of an emergency, and liquid fueling stations require electricity to operate. These considerations are not new or unique to ZEVs.

e) Grid Capacity and Resilience – Grid Reliability and Availability Statewide

Comment Summary: The commenters state concerns about the impact of EV chargers on the power grid, including overloading transformers, potential transformer explosions, and the need for more transformers and power plants in neighborhoods. They also mention significant delays in PG&E territory due to load capacity issues and the risk of concentrated charging stations causing problems at weak spots on the grid. Commenters inquire about

CARB's plans to guarantee grid reliability and capability for fleet sites requiring fast charging locations, as well as addressing the lack of integrated capacity in utility territories.

Commenter: [011-45d, 020-OT1, 120-45d, 166-45d, 207-45d, 223-45d, 246-45d, 282-45d]

Agency Response: No changes were made in response to these comments. Potential for neighborhood distribution system impacts can vary based on local substation, circuit, transformer, and feeder designs. Utilities will upgrade the electrical system over the coming decades and through duration of the Regulation and will facilitate expansion of electrical service where needed. Utilities monitor the age, health and load limits of transformers and replace or upgrade transformers as conditions change which increases system capacity and prevents catastrophic failures. Occasionally specific projects may face delays due to local grid limitations and infrastructure delay provisions provide requisite flexibility for unusual situations. Distributed energy resources like solar and storage are strategies that can be used to reduce costs and improve reliability. In addition, the CEC's EVSE Deployment and Grid Evaluation or EDGE Tool investigates local distribution impacts that allow utilities to identify and plan for local impacts early.

f) Grid Capacity and Resilience – Public Agency Data Sharing and Transition Plan Requirement

Comment Summary: The commenters request that CARB share location-specific data collected from the ACT LER with utilities to help them plan for grid capacity investments. They also recommend that the Regulation include a requirement for fleets to develop and report ZEV transition plans to CARB or utilities that can inform State agency and utility transportation electrification and system planning.

Commenter: [001-OT1, 035-OT1, 207-45d, 229-45d, 297-45d, 342-45d]

Agency Response: No changes were made in response to these comments. State agencies and utilities are already examining the impact of transportation electrification on the electrical grid and sharing information to inform planning. Staff at CEC, CPUC and CAISO regularly meet to proactively discuss, analyze, and coordinate local and regional grid impacts. The State agencies continue to refine models, tools, and detailed data sets. Pursuant to AB 2700, CARB, CEC, and CPUC will share information already gathered by CARB through Regulations with the state's utilities to support grid planning and infrastructure investments. However, planning agencies and utilities will still need to project where and when new load will be needed to serve the loads.

Adding a requirement for fleets subject to the Regulation to submit a one-time plan for a specified period, such as ten years, would be non-binding, would increase the administrative burden for fleet owners and staff. Fleet plans to deploy ZEVs are partly dependent on the information the utilities can provide the fleet owner. For example, if the utility identifies some site locations are relatively easy to upgrade and identifies barriers at other locations, it will change the feasibility of a statewide plan and the fleet strategy. Fleets and utilities will need to work together and adapt strategies over time. To the extent possible, fleets of all sizes, but especially those adopting large numbers of ZEVs, should contact their local utilities early and often. Utilities have dedicated funds for technical assistance and provide advisory services to customers adopting EVs far in advance of vehicle purchase or delivery. Utilities can help customers determine on-site infrastructure needs such as power requirements and

the number and type of chargers required on the customer side of the meter. Additionally, the utility can suggest load management strategies to maximize charging efficiency and lower customer bills.

As part of the ZEV Infrastructure Delay Extension, a fleet owner who is experiencing a delay in obtaining site power will be required to submit information on their preliminary site capacity evaluations for all sites where their fleets are domiciled. Although this is an initial snapshot and not necessarily a long-term projection, the data collected and shared pursuant to AB 2700 will be enough to start the conversation between a fleet and their electric utility and inform grid planning.

g) Grid Capacity and Resilience – Grid Reliability Outside of California

Comment Summary: The commenters suggest CARB must also account for power grids outside of the state because interstate fleets are required to comply with the Regulation. Commenter states CARB must evaluate emissions impacts from increased demand for electricity generation out of state that is imported to California, due to California's reliance on imported power as the second largest importer in the nation.

Commenter: [009-WT2, 259-45d, 322-45d]

Agency Response: No changes were made in response to these comments. The commenter incorrectly assumes that the Regulation applies to fleets operated or controlled exclusively outside of California. The ACF Regulation only applies to vehicles that are owned, operated, or directed to operate in California. Notwithstanding that response, national electrical reliability and demand growth is already closely regulated and tracked to ensure extremely high levels of availability, although this is outside CARB's regulatory scope. Reliability for the bulk national electric grid is regulated by NERC, which oversees six regional reliability coordinators that encompass all the interconnected power systems of Canada, the contiguous United States, and a portion of Mexico. California's grid is located within the Western Interconnection, which covers the Pacific Ocean to the Rocky Mountain states. NERC also sets robust standards for physical and cyber security protection. NERC is subject to oversight by the U.S. Federal Energy Regulatory Commission. This body of standards and oversight, including the annual NERC Long Term Reliability Assessment, ensures a reliable national electric grid as demand grows, including from electrification. CARB will continue to track impacts of electrification. In addition, California imports approximately 30 percent of its electric consumption and the Renewable Portfolio Standards, which set progressively cleaner renewable energy requirements, apply to these resources as well and will ensure out of state generation meets clean energy standards.

h) Grid Capacity and Resilience – Public Building Retrofits in Smaller Communities

Comment Summary: The commenter states that the electric provider in their small community is not equipped to handle the impact of retrofitting buildings, such as schools and government agencies, as required by the ACF Regulation.

Commenter: [013-45d]

Agency Response: No changes were made in response to these comments. Load serving entities are required to meet certain reliability and planning requirements. The installation of chargers may require electrical upgrades to existing buildings and all utilities must support

growth. CARB is coordinating with CEC and CPUC to ensure rural parts of California have access to adequate electrical supplies with regulatory compliance extensions available for unusual circumstances. In the event there are delays beyond fleet owner's control, the Infrastructure Delay Extension can provide more time, up to five years for the utility to make the upgrades.

i) Grid Capacity and Resilience – Estimation of Natural Gas Power Plants Needed

Comment Summary: The commenter states that 1,000 natural gas power plants will need to be built every year for the next 10 years to support the EVs deployed as a result of the ACF Regulation.

Commenter: [020-45d]

Agency Response: No changes were made in response to these comments. The comment suggests that power generation for the electric grid will need to grow exponentially and presumes the demand will be met by natural gas power plants to meet the new demand from the implementation of the ACF Regulation, which is an extreme over estimation and goes against policy objectives. CEC modeled the demand from the Regulation and found that by 2035, medium- and heavy-duty ZEVs will account for about three percent of total electricity demand statewide and less than two percent on peak between 5:00 P.M. and 8:00 P.M.⁹⁹ Furthermore, the 2022 Scoping Plan Scenario includes existing natural gas-power plants, along with other renewable and zero-carbon resources selected by the RESOLVE model, to meet increased electricity demand and reliability needs through 2045. Carbon capture and sequestration was included on existing natural gas generation in the electricity sector to achieve 85 percent below 1990 emission levels by 2045 as codified in AB 1279.¹⁰⁰ In addition, in a July 22, 2022, letter from Governor Newsom to Board Chair Liane Randolph, the administration made it clear that State agencies must plan for an energy transition that avoids the need for new natural gas plants to meet our long-term energy goals. For more information, please see the EA RTC, response to Comment Letter 270-10.

j) Grid Capacity and Resilience – Formal Public Agency Agreement Needed for Grid Upgrades

Comment Summary: The commenter requests that CARB enter into a formal arrangement with partner agencies to improve interagency coordination on energy infrastructure. They also ask for timely upgrades to the grid to support ZEVs and suggest that a feasibility study be conducted to determine the costs, potential ratepayer increases, and timeline for completing the upgrades before the Regulation is adopted.

Commenter: [207-45d]

⁹⁹ CEC, CED 2022 Hourly Forecast - CAISO - Planning Scenario, January 2023 (web link: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=248359&DocumentContentId=82768>, last accessed January 2023).

¹⁰⁰ CARB, 2022 Scoping Plan For Achieving Carbon Neutrality, November 16, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf, last accessed January 2023).

Agency Response: No changes were made in response to these comments. However, CARB, CEC, CPUC, California State Transportation Agency, CTC, Caltrans, GO-Biz, and the Department of General Service signed onto a Statement of Intent which outlines and formalizes the significant coordination already occurring between California's agencies to ensure the demand for charging stations and hydrogen fueling will be met. The principles of cooperation contained in the Statement of Intent include ensuring equity in infrastructure development and deployment, data sharing between agencies, regular and meaningful communication between agencies, joint grant solicitations where feasible and robust engagement with fleets and other stakeholders to the Resolution. CARB has been coordinating planning and feasibility with sister agencies for years.

k) Grid Capacity and Resilience – Link Grid Readiness to Regulatory Requirements

Comment Summary: The commenter states that the ACF ISOR does not recognize the challenges highlighted in the 2022 Scoping Plan and suggests that more coordination is needed among various stakeholders for transportation electrification to be successful. They propose building a mechanism into the ACF Regulation or implementation plan that links grid readiness to regulatory requirements.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter I.G. of the ACF ISOR, grid and infrastructure challenges as well as inter-agency coordination are described in detail. The Regulation coordinates with the clean-air goals outlined in the 2022 Scoping Plan and other key planning documents. The ACF Regulation phases in over multiple decades which, when coupled with infrastructure delay provisions, allows sufficient time for any necessary grid upgrades, so no additional mechanisms are required. For an overview of cross-agency collaboration, please see responses to issues raised in section "Grid Capacity and Resilience – Additional Grid Planning and Analysis Needed" in "Infrastructure and Grid concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

l) Grid Capacity and Resilience – Vehicle-to-Grid Technology Concerns

Comment Summary: Commenter states that allowing bidirectional charging, when ZEVs become a power source for the grid when energy availability is low, excuses electric utilities from making the upgrades already needed to their infrastructure; and can interfere with emergency operations if vehicles do not have full charges when needed.

Commenter: [269-45d]

Agency Response: No changes were made in response to these comments. California is strategizing to unlock the vast storage potential of ZEVs through the use of vehicle to electricity load support. Significant work in standards, hardware and software remains to move beyond early demonstration projects and allow the technology to improve grid resiliency. Grid planning efforts do not assume the mandatory use of vehicle to grid technology to support reliable operations or to avoid key infrastructure upgrades, although owners may save significantly by opting to participate in potential programs. In addition to bidirectional strategies, there are other distributed energy technologies and efforts that can improve grid reliability for ZEV chargers, such as microgrids, load management through co-

sited storage, on-site renewables, and automated load management software. Availability of time-of-use rates and demand response programs, exploring broader vehicle-to-grid alternatives, and including export capabilities, are additional options to consider. Simple strategies can be deployed to ensure emergency vehicle availability such as keeping higher states of charge even during system peaks or onsite backup generation or energy storage.

m) Infrastructure Availability – General

Comment Summary: The commenters state that the Board must ensure equally accelerated deployment of fueling and charging infrastructure to support reduced emission vehicle mandates. They express concerns about the current insufficient and unreliable infrastructure for ZEVs, emphasizing that there is no place to charge a semi-truck and that the ACF Regulation does not guarantee adequate infrastructure for freight operations. Commenters also mention that infrastructure development can take years to complete and stress the importance of not relying solely on the private sector for infrastructure development.

Commenter: [001-45d, 003-OT1, 004-45d, 004-WT1, 006-45d, 006-WT1, 010-WT1, 011-45d, 011-OT1, 012-WT1, 013-OT1, 014-45d, 016-OT1, 017-OT1, 021-45d, 021-OT1, 025-WT1, 027-45d, 030-45d, 030-WT1, 033-45d, 037-WT1, 038-45d, 039-45d, 041-45d, 042-45d, 049-45d, 051-45d, 052-45d, 057-45d, 059-45d, 061-45d, 068-45d, 069-45d, 070-45d, 075-OT1, 080-OT1, 090-45d, 092-OT1, 103-45d, 105-OT1, 108-45d, 109-45d, 110-45d, 116-OT1, 117-45d, 120-OT1, 124-45d, 125-45d, 125-OT1, 128-45d, 129-45d, 135-45d, 136-45d, 138-45d, 139-45d, 143-45d, 146-45d, 147-45d, 148-45d, 150-45d, 152-45d, 153-45d, 155-45d, 157-45d, 157-OT1, 161-45d, 161-OT1, 164-OT1, 167-45d, 168-45d, 175-45d, 179-45d, 184-45d, 188-45d, 189-45d, 190-45d, 191-45d, 194-45d, 197-45d, 198-45d, 204-45d, 207-45d, 223-45d, 227-45d, 228-45d, 230-45d, 232-45d, 239-45d, 243-45d, 246-45d, 249-45d, 251-45d, 253-45d, 255-45d, 256-45d, 258-45d, 259-45d, 265-45d, 268-45d, 270-45d, 272-45d, 279-45d, 281-45d, 282-45d, 283-45d, 284-45d, 288-45d, 295-45d, 301-45d, 302-45d, 304-45d, 308-45d, 320-45d, 322-45d, 323-45d, 324-45d, 330-45d, 331-45d, 335-45d, 339-45d, 342-45d, 347-45d]

Agency Response: Changes were made in response to these comments. Infrastructure delays are accounted for in the Regulation, and additional time and access criteria were provided to account for potential delays in completion of infrastructure installation projects. However, no other changes were made in response to ensuring infrastructure deployments. The Regulation is phased in over 20 years, and CARB is collaborating with other State agencies including CEC, CPUC, and GO-Biz, along with IOUs and POUs to actively plan for this transition. ZEV infrastructure for medium- and heavy-duty vehicles is in fact commercially available today for BEVs and FCEVs and there is no reason ZEV infrastructure should not be deployed by businesses in the same way other fuels are.

There continues to be increasing interest and investment in ZEV charging infrastructure for heavy-duty vehicles across all levels of government and the public, which is critical to the widespread adoption of ZEVs. The federal government recently enacted legislation providing significant support for ZEVs. The IRA of 2022, Pub. L. 117-169, 136 Stat. 1818, 2090 (2022) provides significant tax credits for new and used ZEVs (extending the credit for 10 years for up to \$7,500 for new vehicles and adding a credit up to \$4,000 for used light-duty vehicles), EV charging infrastructure (up to \$1,000 credit for residential installations and up to \$30,000 credit for commercial installations), and other support for clean transportation technology. As

one of these two new programs, NEVI provides \$5 billion as the first major Federal funding program that focuses on a nationwide development of EV charging infrastructure.

In addition to federal investment, CARB is working in tandem with CEC to invest in the charging infrastructure and technologies needed to transition the on-road mobile source sector to ZEV throughout the state through its Clean Transportation Plan. CEC and CARB are also supporting strategic regional planning efforts (i.e., Regional Transportation Plans/Sustainable Communities Strategies) to support adoption of ZEVs. CEC is the primary State agency leading this transition and is building a corridor of conveniently located direct-current fast chargers to allow drivers of ZEVs, including trucks, with the freedom to travel throughout the state. As of December 2022, the State currently supports approximately 80,000 public and shared EV charging stations, including over 8,500 direct-current fast chargers, with additional investments underway to meet the 2025 goal of 250,000 public and shared EV charging stations as directed by Executive Order B-48-18. Pursuant to AB 2127, CEC is required to publish a biennial report on the charging needs of five million ZEVs by 2030 and will adjust the level and degree of investments based on the reports' findings. These efforts have been bolstered by recent legislation, such as AB 2700 that require the state's public electric utilities and private electrical corporations to develop plans to meet the need for ZEVs based on data provided by CEC.

Significant investments have been made to support medium- and heavy-duty vehicles. EnergIZE, CEC's block grant project for medium- and heavy-duty ZEV infrastructure, provides financial incentives to increase the deployment of commercial ZE medium- and heavy-duty vehicle infrastructure. EnergIZE representatives have collaborated closely with CARB's on-road vehicle program staff to complement available funding, such as HVIP. Each IOU has medium- and heavy-duty programs to help fund direct-current fast charging stations, including infrastructure on the customer side of the meter and the chargers themselves. Importantly for customers not receiving service through these medium- and heavy-duty programs, each IOU created new ZEV Infrastructure Rules, implemented pursuant to AB 841, that ensure that the cost of upgrades completed on the utility side of the meter will not be borne by the ZEV customer but by all ratepayers. With the ability to fund more off-road and non-road vehicle infrastructure through recent general fund appropriations, CEC staff will begin exploring ways to partner infrastructure funding with other programs, such as CARB's Clean Off-Road Equipment Voucher Incentive Project.

Additionally, CTC is working alongside CEC and other State agencies on SB 671 to determine the five most polluting freight corridors as well as priority freight corridors that would most benefit from ZEV infrastructure. In addition, the Assessment will identify potential freight ZE infrastructure projects, and barriers and recommended solutions related to the transition to ZE freight. The SB 671 Assessment will help guide future funding opportunities to specifically target the priority corridors.

Another resource that will be useful is the Medium- and Heavy-Duty Electric Vehicle Infrastructure Load, Operations and Deployment modeling tool. This tool will analyze where infrastructure should be located based on several factors, such as most used truck routes and vehicle types (agriculture included). Further, CEC has funded medium- and heavy-duty ZEV Blueprint planning grants for numerous industries, including those handling heavy machinery, concrete mixers, and logging materials. Once the blueprints are developed, CEC can take

lessons learned from the plans to inform future grant funding opportunities to better meet the needs of those industry sectors. Completed projects will also be eligible for deployment funding under a separate CEC grant funding opportunity.

In addition to these public efforts, private efforts are also underway. For example, OEMs have partnered up with different fueling companies with private investments to install infrastructure across North America. Truck manufacturers have backed up their ZEV production targets with private investment in rolling out infrastructure necessary for the success of these vehicles including the Daimler led team's \$650 million for the West Coast, Southeast Coast, and Texas;¹⁰¹ Volvo's team of their dealerships to create a California charging corridor¹⁰² alongside Pilot/Flying-J to electrify truck stops nationally¹⁰³; Hyundai partnerships to install hydrogen fueling from the San Pedro ports into Texas¹⁰⁴; and Nikola's initial Southern California hydrogen fueling stations and hydrogen supply agreements as a step toward their a national network¹⁰⁵. GM has partnered with Pilot/Flying-J to roll out 2,000 cobranded public fast charging points as well¹⁰⁶.

Private investment is creating ZEV infrastructure in California and beyond including public charging, electrified truck stops, depots, and all-inclusive "vehicle-as-a-service" packages

¹⁰¹ Daimler Truck Press Release. Daimler Truck North America, NextEra Energy Resources and BlackRock Renewable Power Announce Plans To Accelerate Public Charging Infrastructure For Commercial Vehicles Across The U.S. January 2022. (web link: <https://media.daimlertruck.com/marsMediaSite/en/instance/ko/Daimler-Truck-North-America-NextEra-Energy-Resources-and-BlackRock-Renewable-Power-Announce-Plans-To-Accelerate-Public-Charging-Infrastructure-For-Commercial-Vehicles-Across-The-US.xhtml?oid=51874160>, last accessed March 2023).

¹⁰² Volvo Press Release. Volvo Trucks Constructing California Electrified Charging Corridor for Medium- and Heavy-Duty Electric Vehicles, July 2022. (weblink: <https://www.volvotrucks.us/news-and-stories/press-releases/2022/july/constructing-california-electrified-charging-corridor-for-medium-and-heavy-duty-electric-vehicles/>, last accessed March 2023).

¹⁰³ Flying J Press Release. Pilot Company and Volvo Group Partner to Build Charging Network for Medium- and Heavy-Duty Electric Trucks (web link: <https://pilotflyingj.com/press-release/20462>, last accessed March 2023).

¹⁰⁴ Albuquerque Journal. NM to be part of 'clean freight corridor', September 2022 web link: <https://www.abqjournal.com/2535134/nm-to-be-part-of-clean-freight-corridor.html>, last accessed March 2023).

¹⁰⁵ Forbes. Nikola To Run Hydrogen Production, Fuel Cell Truck Stations Under 'HYLA' Brandy. January 2023 (web link: <https://www.forbes.com/sites/alanohnsman/2023/01/25/nikola-to-run-hydrogen-production-fuel-cell-truck-stations-under-hyla-brand/?sh=61bea4c32612>, last accessed March 2023).

¹⁰⁶ Flying J Press Release. GM and Pilot Company to Build Out Coast-to-Coast EV Fast Charging Network (web link: <https://pilotflyingj.com/press-release/19335>, last accessed March 2023).

including examples from Einride¹⁰⁷, Highland Electric^{108,109}, Prologis¹¹⁰, TerraWatt's multistate I-10 electrification¹¹¹, Thompson Truck Centers¹¹², Volvo/Mack¹¹³, WattEV^{114,115,116}, ZEEM^{117,118}, and others. There are also similar efforts in Europe where examples include a project by a Total/Air Liquide partnership developing a major hydrogen corridor from Benelux port facilities through France and Germany¹¹⁹ and another project by BP Pulse creating a Rhine-Alpine charging corridor through Germany¹²⁰.

¹⁰⁷ FreightWaves. Einride EV truck network to launch near Port of LA, November 2022. (web link: <https://www.freightwaves.com/news/einride-to-build-ev-truck-charging-facility-near-port-of-la>, last accessed March 2023).

¹⁰⁸ Electrive.com. Highland Electric Fleets coordinates V2G programme with electric school buses, August 2022 (web link: <https://www.electrive.com/2022/08/28/highland-electric-fleets-coordinates-v2g-programme-with-electric-school-buses/>, last accessed March 2023).

¹⁰⁹ Daimler Truck Press Release. Highland Electric Fleets and Thomas Built Buses Sign Agreement to Make Electric School Buses an Affordable Option Today, March 2022 (web link: <https://northamerica.daimlertruck.com/PressDetail/highland-electric-fleets-and-thomas-built-2022-03-17>, last accessed March 2023).

¹¹⁰ Prologis Press Release. Prologis Announces Major EV Truck Installations in Southern California November 2022 (web link: <https://www.prologis.com/news-research/press-releases/prologis-announces-major-ev-truck-installations-southern-california>, last accessed March 2023).

¹¹¹ Business Wire Press Release. TeraWatt Developing I-10 Electric Corridor, the First Network of Electric Heavy-Duty Charging Centers, October 2022 (web link: <https://www.businesswire.com/news/home/20221020005252/en/TeraWatt-Developing-I-10-Electric-Corridor-the-First-Network-of-Electric-Heavy-Duty-Charging-Centers/>, last accessed March 2023).

¹¹² InsideEVs News. Nikola Gets Order For 10 Nikola Tre With An Option For Up To 100, December 2021. (web link: <https://insideevs.com/news/556723/nikola-tre-loi-100-trucks/>, last accessed March 2023).

¹¹³ Volvo Press Release – North America. Mack Launches Vehicle-as-a-Service (VaaS) Program for Battery Electric Vehicles, February 2022 (web link: <https://www.volvogroup.com/en/news-and-media/news/2022/feb/mack-launches-vehicle-as-a-service-vaas-program-for-battery-electric-vehicles.html>, last accessed March 2023).

¹¹⁴ WattEV. WattEV to Provide 20 Zero-Emission Trucks to Major Shipping and Logistics Partner, December 2022 (web link: <https://www.wattev.com/post/wattev-to-provide-20-zero-emission-trucks-to-major-shipping-and-logistics-partner>, last accessed March 2023).

¹¹⁵ WattEV. WattEV To Electrify TTSI Heavy-Duty Truck Fleet. July 2021 (web link: <https://www.wattev.com/post/wattev-to-electrify-ttsi-heavy-duty-truck-fleet>, last accessed March 2023).

¹¹⁶ WattEV. WattEV Breaks Ground on 21st Century Truck Stop, December 2021. (web link: <https://www.wattev.com/post/wattev-breaks-ground-on-21st-century-truck-stop>, last accessed March 2023).

¹¹⁷ FleetOwner. Zeem's electric FaaS helps fleet meet customers' zero-emission needs, December 2022 (web link: <https://www.fleetowner.com/emissions-efficiency/article/21256088/fleet-finds-ways-to-meet-shippers-zeroemission-needs-with-zeems-ev-fleetasaservice>, last accessed March 2023).

¹¹⁸ Business Wire. Zeem Solutions Launches First Electric Vehicle Transportation-As-A-Service Depot, March 2022 (web link: <https://www.businesswire.com/news/home/20220330005269/en/Zeem-Solutions-Launches-First-Electric-Vehicle-Transportation-As-A-Service-Depot>, last accessed March 2023).

¹¹⁹ Air Liquide Press Release. Air Liquide and TotalEnergies join forces to develop a network of over 100 hydrogen stations for heavy duty vehicles in Europe, February 2023 (web link: <https://www.airliquide.com/group/press-releases-news/2023-02-02/air-liquide-and-totalenergies-join-forces-develop-network-over-100-hydrogen-stations-heavy-duty>, last accessed March 2023).

¹²⁰ BP Global Press Release. bp pulse builds Europe's first public charging corridor for electric trucks along major logistics route, January 2023 (web link: <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-pulse-build-europes-first-public-charging-corridor-for-electric-trucks-along-major-logistics-route.html>, last accessed March 2023).

POUs are also investing in EV charging infrastructure. Most notably, the Los Angeles Department of Water and Power has been authorized to spend a maximum of \$40 million per fiscal year from 2019 to 2029 to reach 10,000 chargers by 2022; 25,000 by 2025; and 28,000 by 2028.

Finally, new business models are being developed as medium- and heavy-duty vehicle infrastructure begins to roll out through public and private investment. These include:

- Charging as a service: The fleet would pay a monthly or yearly subscription fee to avoid paying the upfront costs of equipment, installation, and permitting. The infrastructure can be either owned by the service provider or the customer.
- Shared revenue: Under this model, the charging company will install the stations for the fleet and take on the costs, then collect the revenue the stations receive from drivers charging their vehicles. This cost and revenue could also be split between the fleet and the ZEV charging contractor.
- Trucking-as-a-service: This model eliminates the upfront costs for fleets. For a monthly or yearly fee, it offers drivers and small fleets access to a service provider's heavy-duty battery-electric trucks and would include charging and maintenance. Drivers would reserve a truck and when ready would use it for their own routes and then return it when finished or upon a low battery. This model also allows a truck to be swapped with a fully charged one while waiting for a full charge on the original vehicle.
- Utility programs: Utilities are offering incentive or rebate programs for EVSE. A typical example would involve the utilities performing a design-build and installation of ZEV infrastructure. These programs usually obtain a commitment from the fleet to operate and maintain the equipment for a certain period, usually ten years, and enroll in time of use rate periods for businesses. This would be similar to a turnkey approach.

n) Infrastructure Availability – Drivers Park Truck at Home

Comment Summary: The commenters state that installing infrastructure for charging is not possible, practical, or cost-effective when drivers take trucks home at the end of the workday and cannot burden drivers with infrastructure responsibilities.

Commenter: [014-OT1, 219-45d]

Agency Response: No changes were made in response to these comments.

As discussed in Chapter VIII.B.5. of the ACF ISOR, non-tractor trucks were assumed to depot charge until 2030 as most of these vehicles have ample opportunity to refuel at a parking lot or depot during downtime. After 2030 as more vehicles transition to ZE, a portion of the non-tractor fleet is assumed to use retail charging to address more variable operations.

Staff recognize it is not uncommon for drivers to take smaller trucks home, which can be fueled with the same chargers as electric cars. Some ZEVs already come with features to track where and how much electricity is used so that employees can be reimbursed. In some cases, there may be some changes in fleet management practices that can optimize ZEV infrastructure location and cost.

Staff disagree with the concept that drivers would be responsible for installing infrastructure at home to fuel a work truck. Staff disagree with the concept that drivers would be

responsible for installing infrastructure at home to fuel a work truck. Per the ACF Regulation, the regulatory responsibilities fall on the fleet owner who needs to ensure that their fleet as a whole is in compliance. They have numerous options to ensure access to infrastructure in situations where the vehicle currently returns with the driver to their home including relying on public charging enroute, paying for installation of a charger at the driver's home rather than at the fleet's depot, modifying their operations so vehicles will remain at the fleet's depot, among other options. In addition, staff notes that per analysis in the ACT Regulation, infrastructure installed at homes is typically lower cost than infrastructure at a centralized depot, although there are some tradeoffs including loss of potential LCFS revenue generation.¹²¹ Given the breadth of options available to fleets, staff disagrees with the commenter's assertion that infrastructure is not feasible when the when drivers take home or it will be cost prohibitive.

o) Infrastructure Availability – Fast Charging

Comment Summary: The commenters express concerns about the lack of available fast charging infrastructure, stating that direct-current or Level 3 quick charging infrastructure is needed near fleet locations and charging ZEVs will affect their hours of service.

Commenter: [058-45d, 139-45d, 164-45d, 272-45d]

Agency Response: No changes were made in response to these comments. Depot charging for BEVs is the optimal choice for many fleets subject to the Regulation and fleet owners have flexibility in determining which trucks to deploy as ZEVs first. As discussed in Chapter I.G. of the ACF ISOR, conventional fuel suppliers are working with industry to develop fast charging solutions at, or near, truck stops. The Regulation does not distinguish between BEV or fuel cell technologies, and as more of these trucks become available, high-speed hydrogen refueling infrastructure will increasingly be an option with the ability to fill a 70-kilogram tank in seven minutes. Hydrogen station developers are currently adding hydrogen fueling to several retail heavy-duty diesel stations. Efforts are ongoing to provide balanced charging and fueling opportunities for affected fleets. Faster chargers with speeds up to 350 kW are being deployed in the field today and work is underway to develop and demonstrate chargers that exceed one MW, up to 3.75 MW, which would allow even the largest vehicles to recharge in well under an hour and potentially in as little as 20 minutes. PG&E has an EV Fast Charge program that is designed to enable public fast charging and complements State and privately funded initiatives within their territory. The \$22 million program runs through 2025 and aims to install approximately 50 plazas for direct-current fast charging in corridor and urban sites. PG&E would pay for and build the infrastructure from the electric grid to the fast-charging equipment.

p) Infrastructure Availability – Leased Facilities

Comment Summary: The commenters state that they lease or rent their facilities and are unable to install charging infrastructure.

¹²¹ California Air Resources Board, Attachment C: Updated Costs and Benefits Analysis for the Proposed Advanced Clean Trucks Regulation, 2020 (web link: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2019/act2019/30dayattc.pdf>, last accessed May 2023).

Commenter: [006-45d, 008-45d, 282-45d, 289-45d, 313-45d, 322-45d]

Agency Response: No changes were made in response to these comments. AB 2565 makes a term in a lease, contract, security instrument, or other instrument affecting the lease of a commercial or residential property void and unenforceable if it prohibits or unreasonably restricts the installation of an EV charging station in a lessee's designated parking space. CARB plans to provide education and outreach to landlords to advise them of the future requirements so they can be prepared. In addition, as more ZEVs are deployed property owners and parking providers will need to support charging installation if they want to retain tenants. CARB continues to meet with warehouse owners regarding the necessity of including charging and fueling infrastructure as an amenity at their warehouses.

q) Infrastructure Availability – Outside of California

Comment Summary: The commenters state that ZEV infrastructure is unavailable outside of California, burdening long-haul out-of-state operations that originate in California.

Commenter: [230-45d, 256-45d, 259-45d]

Agency Response: No changes were made in response to these comments. The commenter incorrectly assumes that the Regulation applies to fleets operated or controlled exclusively outside of California. The ACF Regulation only applies to vehicles that are owned, operated, or directed to operate in California. Notwithstanding that response, the HPF Regulation took into consideration the feasibility of interstate truck operation when establishing the ZEV Milestone Schedule which gives long-haul trucks until 2030 to begin their phase in.

Cross-jurisdictional planning is important for a robust charging system, especially for long-haul vehicles. One example of multi-state planning is the West Coast Clean Transit Corridor Initiative which is an ongoing effort among 16 utilities to support the development of heavy-duty EV charging facilities along Interstate 5 (I-5), from San Diego to British Columbia. Following an initial June 2020 report outlining conceptual charging sites, the west coast utilities are conducting grid readiness assessments in preparation for infrastructure installations and upgrades that will support vehicle charging capacities of at least 3.5 MW. As of June 2020, 27 conceptual charging sites would be located about 50 miles apart along I-5 (and other interstate highways) with a 2025 target for initial station operations. The stations would be primarily suitable for medium-duty trucks with the ability to expand as the market and technology develops. Concurrently, 41 additional sites would be located at similar intervals and expanded in the same manner along arterial highways.

In support of the initiative, Portland General Electric completed the first commercial public charging station designed for medium- and heavy-duty EVs in Portland, Oregon. The site debuted with eight charging stations ready for MW-level charging, which is a rate four times faster than most fast-charging options currently available and capable of recharging a delivery vehicle in as little as 20 minutes.

ZEV infrastructure build out rates are occurring at unprecedented levels due to federal stimulus dollars and private investment. This buildout is occurring across the nation in

strategic locations. As one of the new BIL programs, the NEVI Formula Program¹²² provides \$5 billion as the first major Federal funding program that focuses on a nationwide development of EV charging infrastructure. Although the NEVI Program is geared toward light-duty public charging, pull through access and higher clearance access requirements could allow for larger EVs to utilize the charging stations.

In addition, the Regulation allows for NZEVs to be counted as ZEVs until the 2035 model year and have similar fueling time and access to conventional fuels as ICE vehicles.

r) Infrastructure Availability – Publicly Accessible

Comment Summary: The commenters assert that retail infrastructure is not ready or available in line with the Regulation timeline, suggesting that CARB should develop public infrastructure or delay the Regulation, and include a provision addressing situations with no public or retail infrastructure.

Commenter: [002-WT1, 021-45d, 024-WT1, 026-OT1, 063-45d, 080-OT1, 083-45d, 085-45d, 093-45d, 094-45d, 156-OT1, 167-45d, 170-45d, 207-45d, 253-45d, 282-45d, 286-45d, 289-45d, 313-45d, 322-45d]

Agency Response: No changes were made in response to these comments. CARB does not develop public or private infrastructure and is not the body with the authority to set public infrastructure standards. Long-haul and intrastate trucking operations do have a need for a publicly available charging and hydrogen fuel network. The State has made, and continues to make, significant investments in medium- and heavy-duty ZEV infrastructure, including roughly \$2 billion over the past two fiscal years. This includes investments through the EnergIIZE block grant with multiple funding lanes to address various vehicle and vocation segments. Funding opportunities have also supported planning blueprint creation, transit agencies, drayage trucks, public retail stations, and other innovative use cases. Each IOU has a variety of medium- and heavy-duty ZEV programs that can help pay for infrastructure on the customer side of the meter up to and including the chargers themselves. In addition, California seaports and some third-party infrastructure providers are currently developing public retail charging infrastructure. Lastly, fleets that utilize rental vehicles may use depot charging solutions in addition to retail charging buildout this decade.

CARB staff are confident the ACF Regulation targets fleets best suited for electrification while allowing flexibility over a longer time horizon for the more challenging use cases. The ACF Regulation is structured to phase in ZEV deployments where they are best suited to begin accelerating the transition to ZEVs in all truck market segments. This approach also considers infrastructure planning and network development strategies that will complement market expansion. Based on funding availability and efforts already underway by entities to provide retail charging, in addition to the exemptions and extensions provided in the ACF Regulation, fleets already have the flexibility and time needed to address retail infrastructure availability issues.

¹²² Federal Highway Administration, U.S. Department of Transportation, National Electric Vehicle Infrastructure Formula Program, 2022 (web link: <https://www.federalregister.gov/d/2022-12704>, last accessed February 2023).

s) Infrastructure Availability – Rural and Remote Area Accessibility

Comment Summary: The commenters express concerns about the feasibility of ZEV infrastructure installation at facilities with no grid connection, temporary locations like parking lots, or rural areas with limited utility or grid connections. They mention the infeasibility of electric heavy construction rental vehicles at remote sites and the inefficiency of diesel generators for charging, which do not result in emissions reductions. Commenters also raise concerns about potential delays in emergency response times in remote areas and the limited access to required infrastructure for farmers in remote and rural areas.

Commenter: [007-45d, 014-45d, 020-OT1, 054-45d, 058-45d, 060-45d, 063-45d, 080-OT1, 083-45d, 085-45d, 093-45d, 094-45d, 104-45d, 113-OT1, 137-45d, 140-OT1, 167-45d, 219-45d, 239-45d, 304-45d, 322-45d, 339-45d]

Agency Response: Changes were made in response to these comments. Staff developed a ZEV infrastructure site electrification delay provision that extends compliance for fleet owners who are experiencing delays in obtaining grid power to their site due to circumstances outside of their control. A fleet owner may also consider off grid generation and storage solutions, or temporary mobile ZEV fueling options for some of their sites. Grid improvements are urgently being conducted to mitigate risk, including in rural areas. CPUC has directed impacted utilities to implement mitigation strategies during outages. Several examples include creating local community microgrids, incentivizing solar and storage for households with medical needs in designated high fire risk areas, and potentially pre-positioning backup generation equipment such as trailers with full batteries in key locations, like charging hubs.

Private industry is seeing a market for providing dispatchable charging solutions for more remote locations, such as construction sites in rural areas. In mid-2022, General Motors started producing hydrogen fuel cell powered Mobile Power Generators that can be used to fast charge EVs at power ranging from 60 to 600 kW. CAISO also conducts studies on local grid distribution risks that may serve as a resource to know where to target rural resiliency efforts. In addition, CEC has analyzed the availability of public chargers across California. The analysis examined the location and distance vehicle owners would need to travel to publicly charge in time and miles. The ongoing work has a light-duty vehicle focus but there is significant overlap with medium-duty vehicles and serves as foundation for additional study. The ongoing Caltrans truck parking study will also provide valuable insights into rural needs. AB 841 provides that rural projects will not face potentially expensive utility grid upgrade costs for their projects. In addition, the federal infrastructure bill provides significant funding targeted for rural infrastructure that can augment State efforts.

t) Infrastructure Availability – Incentivized Through Regulatory Requirements and Government Agency Coordination

Comment Summary: The commenters state that the Regulation will provide certainty to spur investment in infrastructure for medium- and heavy-duty ZEVs. They acknowledge that fueling or charging infrastructure is a challenge but believe it can be solved with proactive measures from CARB, CEC, CPUC, and other State agencies.

Commenter: [041-OT1, 044-OT1, 122-OT1, 141-OT1, 149-OT1, 297-45d, 316-45d]

Agency Response: No changes were made in response to these comments. The approved Regulation will provide more certainty for investors to support the market for ZEV charging and fueling and recognize coordination is important. Many State agencies are working together to address the growing need for ZE fueling infrastructure in California, with the focus on efforts that will benefit ZE medium- and heavy-duty fleets. These agencies include CARB, GO-Biz, CEC, CPUC, CBSC, IBank, SGC, and Caltrans, where CEC is the primary agency tasked with supporting ZEV fueling infrastructure.

3. Alternative Fuels and Combustion Vehicles

a) Alternative Fuels and Combustion Vehicles – General Comments

Comment Summary: The commenters state that the ACF Regulation should include reduced-emission fuel types and an extended compliance timeline until battery technology advances. They suggest that CARB reevaluate its stance on combustion engines for a diversified energy approach and ensure parity with clean technologies like biofuels. Commenters recommend exempting biofuels and incentivizing carriers to switch to renewable fuels for a seamless transition, as opposed to mandating EVs after 2024. They claim that low or negative CI fuels offer cost-effective GHG reduction options and request a reevaluation of ACF to include interim technologies until 2030 for High Priority Fleet and drayage truck operations.

Commenter: [007-WT1, 025-WT1, 049-45d, 075-OT1, 135-OT1, 146-45d, 241-45d, 256-45d, 282-45d, 284-45d, 350-45d]

Agency Response: No changes were made in response to these comments. The commenter is suggesting an approach that is already included in this Regulation's Legal Baseline and would not achieve any new NO_x or GHG emissions reductions. The HD Omnibus Regulation achieves the maximum feasible emissions reductions from ICE engines starting in 2024 and the LCFS Regulation requires the maximum reduction in CI of transportation fuels. CARB cannot double count the same emissions benefits that is already required by Regulation and claim it is achieving something new. This Regulation goes beyond combustion to seek further emissions reductions than existing Regulations and achieves new emissions benefits through the gradual phase-in of proven ZEV technologies beyond those already expected from existing Regulations.

The commenter claims continued use of biofuels in ICE vehicles would result in lower overall costs than the Regulation but fails to realize the true cost of producing biofuels is higher than fossil fuel counterparts. The LCFS requires fuel providers to lower CI of the transportation fuels they sell. The higher costs of producing the fuel are reduced by the credits paid for by fuel suppliers to comply with the Regulation and make the renewable fuel available at a price at the pump that is generally comparable to the conventional fuel counterpart. As discussed in Chapter II.E.1. of the ACF ISOR, particularly Figure 47, ZEVs offer the lowest cost and the greatest emissions benefits compared to both diesel and CNG vehicles. If the actual cost of producing RD or renewable CNG without LCFS credits was added to the analysis for CNG vehicles it would only make their cost even higher and the cost of ZEVs even more favorable. The commenter cannot double count by claiming emissions benefits from renewable fuels that are a result of the LCFS Regulation, and if the commenter wants to claim emissions benefits of using renewable fuel without including it in the LCFS Regulation, then the full costs of producing the renewable fuels needs to be included in the cost analysis.

The Regulation requires increasing numbers of ZEVs over the next two decades which will allow for ZEV technologies to improve and for infrastructure to get built, as well as allow the use of NZEV as defined in the Regulation (until 2035 MY) that can further ease range anxiety and soften the transition from ICE vehicles to ZEV. In the event that a ZEV (or NZEV until 2035) is not available or the fleet owner qualifies for the Daily Usage Exemption, the fleet owner can purchase a new ICE vehicle of any type provided it is certified to California emissions standards.

Together, low-carbon fuels, including hydrogen and electricity, as well as ZEV technologies can achieve a carbon neutral transportation ecosystem. This Regulation is a vehicle emission strategy and is expected to affect the types of transportation fuels in a way that supports CARB's other plans and programs. LCFS is a transportation-fuels performance standard that requires increasingly low carbon fuel alternatives for the types of fuels demanded by California's transportation sector. The LCFS supports both the transition to ZEVs and the decarbonization of legacy ICE vehicles currently on the road. This Regulation also helps support the build-out of California's newest transportation ecosystem, ZEVs that use low carbon fuels including electricity and hydrogen.

b) Alternative Fuels and Combustion Vehicles – Compressed Natural Gas is Cleaner Than Diesel

Comment Summary: The commenter states that CNG would be a good transition alternative while the ZEV tech and infrastructure is being developed, and that they are cleaner than diesel.

Commenter: [029-WT1, 284-45d]

Agency Response: No changes were made in response to these comments. The commenter's assertion that CNG is cleaner than diesel is unsupported by any data and all engines sold in California must be certified to the HD Omnibus standards starting in 2024. The intent of the Regulation is to transition fleets to ZEV consistent with Governor Newsom's Executive Order N-79-20 and to meet public health needs identified in both the State SIP Strategy and the Climate Change Scoping Plan. Please refer to Chapter II.E.1. of the ACF ISOR for a discussion of issues associated with the operations and emissions characteristics of CNG-fueled vehicles. As discussed in Chapter IX.B.8. of the ACF ISOR, the number of Class 2b through 8 CNG vehicles projected for 2025 is relatively small at approximately one percent of California's inventory. Expanding the market for CNG fleets could lead to stranded CNG fueling infrastructure assets as the ZEV market expands and more models become available. Also as stated in Chapter II.E.I. of the ACF ISOR, CNG vehicles operate at a 15 to 20 percent lower fuel economy than their diesel counterparts and after factoring in upstream methane emissions, natural gas trucks are more harmful to the climate than diesel trucks.^{123,124} Methane is a powerful GHG, and studies show that less than two percent leakage from

¹²³ CEC Energy Almanac, Transportation Natural Gas in California, 2016 (web link: https://ww2.energy.ca.gov/almanac/transportation_data/cng-lng.html, last accessed August 2022).

¹²⁴ International Council on Clean Transportation, A comparison of NOx emissions from heavy-duty diesel, natural gas, and electric vehicles, 2021 (web link: <https://theicct.org/sites/default/files/publications/low-nox-hdvs-compared-sept21.pdf>, last accessed August 2022).

pipelines and CNG fueling infrastructure can negate gains from lower tailpipe CO₂ emissions than diesel.

Lastly, the 200 Truck Study is a comprehensive, multi-year, four-phase program, conducted by the University of California at Riverside and West Virginia University who collaborated to test more than 200 heavy-duty vehicles, making it one of the world's largest efforts to test in-use heavy-duty vehicle tailpipe emissions. Data from the 200 Truck Study shows real-world emission data for a number of vehicles certified to the 0.2 g per bp-hr. NO_x standard, where refuse diesel vehicles operated slightly above the standard while natural gas diesel trucks were more than 300 percent of the standard.¹²⁵ Regardless of the fuel type, combustion-powered vehicles regularly produce emissions above their certified levels. The HD Omnibus rulemaking and HD I/M program will help mitigate this, but ultimately ZEV are the only technology which cannot become high emitters.

c) Alternative Fuels and Combustion Vehicles – Allow Postal Service to use Natural Gas Vehicles

Comment Summary: The commenter suggests the Postal Service has predictable alternative fuel consumption and routes that their service contractors can rely on which makes those infrastructure investments less risky stating that “transportation companies have greater confidence that these alternative fuel trucks can be deployed and their cost recouped over the contract term and have been able to invest in the more expensive trucks that utilize RNG or CNG by financing those costs over multiple years and locking in long-term fuel agreements often at prices lower than the prevailing cost of diesel.”

Commenter: [256-45d]

Agency Response: No changes were made in response to these comments. As explained in Chapter IV.A.7(a) of the ACF FSOR, as the master response to cost comments, the TCO including incremental ZEV purchase cost predicts that many businesses will experience net benefits from ownership and operation of ZEVs. It is worth noting that the Postal Service's predictable routes and energy demand can similarly reduce risks associated with developing ZEV infrastructure in the same way as the commenter describes for RNG or CNG.

d) Alternative Fuels and Combustion Vehicles – Allow an “Optional Low NO_x” Combustion Vehicle Combusting Biomethane to Count as a “NZEV”

Comment Summary: The commenters state that the proposed Regulations should allow for flexibility, permitting the optional addition of an ICE vehicle meeting the outdated “optional Low NO_x” standard while combusting exclusively biomethane, something that they call a “NZEV” in lieu of a ZEV without a sunset provision. They emphasize the importance of the ACF Regulation's implementation, expressing concerns that the current draft might create gaps in achieving its intended goals. The commenters request that existing near-zero-

¹²⁵ Leonard et al. January 2023. In-Use Emissions Testing and Activity Profiles for On-Road Heavy-Duty Vehicles: Summary of 200 Heavy-Duty Vehicle Emissions Testing Program from the University of California, Riverside and West Virginia University (web link: <https://www.energy.ca.gov/publications/2023/use-emissions-testing-and-activity-profiles-road-heavy-duty-vehicles-summary-200>, last accessed March 2023).

emissions carbon negative solutions, such as RNG vehicles, be included in the Regulation as flexibility options. They also suggest that ICE vehicles powered by RNG be considered the same as NZEVs if they meet specific emissions standards. Additionally, they request an early adopter pathway for fleets that have already invested in low-carbon fuels and low-NOx technology.

Commenter: [010-WT1, 034-OT1, 120-45d, 167-45d, 174-45d, 216-45d, 234-45d, 253-45d, 270-45d, 281-45d, 284-45d, 304-45d, 310-45d, 326-45d]

Agency Response: No changes were made in response to these comments. The Board has already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such ICE engines. Renewable fuels used in transportation are a result of the LCFS Regulation and cannot be double counted and starting 2024 all engines sold in California will need to meet the emissions standards of the emissions standards most stringent engine standard required due to the HD Omnibus Regulation and cannot be double counted. Staff interprets most commenters usage of the term “NZEV” to refer to an outdated meaning of an ICE vehicle using biomethane with an engine certified to the older “optional low NOx” standard.

As described in Chapter I.F. of the ACF ISOR, NZEVs are defined as vehicles capable of operating as a ZEV for a certain number of miles as established in Title 13, CCR section 1963(c)(16) which count as a ZEV under this Regulation until 2035. Essentially, NZEVs are PHEVs powered by both an ICE and battery-electric powertrain that are capable of operating like a ZEV for a minimum number of miles. The commenters also incorrectly assume that engines certified to the older “optional low NOx” standard would meet the HD Omnibus standard starting in 2024 which is counter to the results of the recent 200 Trucks Study.

The 200 Truck Study found that real-world operational characteristics, such as idle time and duty cycles, as well as deteriorating emission control systems can lead to real-world ICE vehicle emissions that are often much higher than their certification standard. For example, the study found that engines certified to the older “optional low-NOx” standards repeatedly referenced by commenters in fact emit levels of NOx up to 6.5 times higher than the standards while in-use.¹²⁶ In contrast, newer 2024 engines certified to California’s HD Omnibus Regulation are anticipated to emit in-use levels of NOx that are at most, 1.5 to two times the certification standard because of the increased stringency of the HD Omnibus Regulation. That Regulation primarily requires new 2024 conventional ICEs to certify to a 0.05 gram of NOx per brake horsepower-hour (g/bhp-hr.) standard and new 2027 and later conventional internal combustion engines to certify to a 0.02 g/bhp-hr. NOx standard. requires engine manufacturers to demonstrate compliance with those standards over substantially longer periods, and to use test methods that more accurately reflect the emissions performance of conventional internal combustion engines in the real world.

¹²⁶ Leonard et al. January 2023. In-Use Emissions Testing and Activity Profiles for On-Road Heavy-Duty Vehicles: Summary of 200 Heavy-Duty Vehicle Emissions Testing Program from the University of California, Riverside and West Virginia University (web link: <https://www.energy.ca.gov/publications/2023/use-emissions-testing-and-activity-profiles-road-heavy-duty-vehicles-summary-200>, last accessed March 2023).

Specifically, the HD Omnibus Regulation establishes emissions standards measured over test conditions that reflect sustained engine operations at low engine loads, such as engine idling, where conventional engines, such as the engines mentioned by the commenters, are least able to control NOx emissions.

Furthermore, any low carbon fuels, such as RNG, which are produced and sold because of the LCFS Regulation would not result in new emissions benefits by including these fuels in the Regulation. The LCFS sets a statewide declining target to reduce the CI of transportation fuels by 20 percent by 2030. The emissions benefits associated with the LCFS Regulation have already been accounted for in the regulatory baseline. When estimating the benefits of the LCFS Regulation and its amendments, staff recognized that the LCFS Regulation by itself would not be sufficient to encourage manufacturers to begin producing ZEVs because it would mean manufacturers would need to switch to a new vehicle propulsion technology and a new fuel ecosystem rather than continue with status quo.

e) Alternative Fuels and Combustion Vehicles – Require “Optional Low NOx” Combustion Vehicles Combusting Biomethane When Zero-Emission Vehicles Are Not Available

Comment Summary: The commenters urge CARB to reevaluate its assessments and support of alternative fuels as a transitional solution when ZEVs are inadequate or unavailable. They advocate for embracing diverse technology options to achieve early emissions reductions and recommend that ACF consider alternative compliance options like natural gas/RNG vehicles during the transition to ZEVs.

Commenter: [015-WT1, 167-45d, 216-45d, 261-45d, 329-45d, 342-45d]

Agency Response: Changes were made in response to these comments. Alternative fuel engines and renewable fuels that are a result of the LCFS Regulation are already part of the baseline and do not result in any new emissions benefits. The 15-day modifications to the Regulation now require any new ICE vehicle purchased under the ZEV Purchase and Daily Use Exemptions to be certified to California’s emissions standards and emissions related requirements. This means regulated fleets would not be able to purchase higher emitting federally certified engines to operate in their California fleet if granted exemptions. Starting 2024, California standards are the lowest emissions feasible for ICE vehicles due to the HD Omnibus Regulation. This means that fleet owners can purchase an alternative fueled vehicle if it meets the standards when granted these exemptions. Furthermore, the Board approved the Waste and Wastewater Fleet Option for vehicles using biomethane in a narrow extension for qualified fleets even though no new emissions benefits can be claimed by the use of biomethane, and the change would result in fewer NOx and GHG benefits from these vehicles.

Furthermore, any low carbon fuels, such as RNG, which are produced and sold because of the LCFS Regulation would not result in new emissions benefits by including these fuels in the Regulation. The LCFS sets a statewide declining target to reduce the CI of transportation fuels by 20 percent by 2030. The emissions benefits associated with the LCFS Regulation have already been accounted for in the regulatory baseline. When estimating the benefits of the LCFS Regulation and its amendments, staff recognized that the LCFS Regulation by itself would not be sufficient to encourage manufacturers to begin producing ZEV because it

would mean manufacturers would need to switch to a new vehicle propulsion technology and a new fuel ecosystem rather than continue with status quo.

f) Alternative Fuels and Combustion Vehicles – Low Carbon Intensity Fuels (General)

Comment Summary: The commenters emphasize the potential benefits of renewable fuels, such as biofuels from organic waste, RD, biodiesel, and RNG, for achieving lower CI and faster GHG reductions than battery-electric and hydrogen vehicles. They highlight that these fuels can leverage existing infrastructure and offer greater consumer choice, while also suggesting that using biogas generated from waste and wastewater fleets could lead to greater emissions reductions than ZEVs.

Commenter: 167-45d, 216-45d, 253-45d, 259-45d, 264-45d, 321-45d]

Agency Response: No changes were made in response to these comments. The board already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines.

The LCFS Regulation already requires low carbon transportation fuels and is the reason these fuels are cost competitive at the pump. The GHG emission benefits of renewable fuels resulting from the LCFS Regulation cannot be double counted as achieving something new. Although low CI fuels are highly valued in the LCFS market, these fuels do not achieve any more reductions than meeting the statewide benchmark. CARB's LCFS Regulation requires fuel producers and importers to reduce the average statewide CI of transportation fuels and includes a credit mechanism to provide flexibility to regulated parties to meet the applicable standards. In this way, the LCFS Regulation is already working to reduce lifecycle GHG emissions from transportation fuels as commenters note and would not generate additional GHG reductions. RD and biodiesel blends used in ICE engines continue to emit criteria pollutants where ZEVs do not. On the other hand, increasing ZEV deployment will result in eliminating tail pipe pollution, will achieve new GHG reductions, and will reduce total energy use due to their greater efficiency.

As discussed in Chapter II.D of the ACF ISOR, low-carbon fuels are important in the transition to carbon neutrality, but their supply is limited, and they will be increasingly directed towards other end uses and as a feedstock for hydrogen. The development of the average blend of biofuels and biogas in fossil diesel, gasoline, and natural gas based on current policies and projected supply was analyzed and, due to a number of factors, including competing demand from other sectors and high cost of production, researchers found it is not feasible to supply sufficient low-carbon biofuels such as residues and waste-based biodiesel, ethanol, or biomethane to substantially displace fossil fuels in combustion engine cars.¹²⁷ As discussed

¹²⁷ Bieker, George. A Global Comparison of the Life-Cycle Greenhouse Gas Emissions of Combustion Engine and Electric Passenger Cars. 2021 (web link: <https://theicct.org/publication/a-global-comparison-of-the-life->

in the 2022 Scoping Plan, these limited supplies will be increasingly directed towards harder to decarbonize sectors and to other end uses besides transportation, which will reduce the available supply for on-road transportation.¹²⁸ For a full discussion on lifecycle emissions, please see the EA RTC, Master Response 4 and response to Comment Letter 270-4. The primary focus of this Regulation is to transition to ZE for the medium- and heavy-duty on-road sector, because requirements improving the emissions performance of ICE vehicles is already being achieved through the HD Omnibus Regulation and the LCFS Regulation.

g) Alternative Fuels and Combustion Vehicles – Treat Renewable Natural Gas Vehicles as Zero-Emissions Vehicles

Comment Summary: The commenters state that California's future fleet policies should include natural gas and RNG technologies for their potential to reduce emissions and diversify energy options. They argue that the solid waste industry, which already has a large percentage of natural gas vehicles, should be allowed alternative compliance pathways using RNG. They highlight RNG's net positive environmental impact, as it removes more carbon dioxide than it emits, and suggest that RNG-powered trucks should be treated as ZEVs when suitable ZEV options are unavailable. They also note that public infrastructure for RNG is already in place for CNG vehicles, which could eliminate the need for diesel trucks. The commenters emphasize the need for flexibility to focus on market-ready technologies, such as RNG, and request an assessment of the CI and lifetime emissions of bridge technologies like RNG to achieve near-term greenhouse gas emissions reductions.

Commenter: [007-WT1, 010-WT1, 033-OT1, 078-OT1, 114-45d, 167-45d, 175-45d, 216-45d, 223-45d, 241-45d, 253-45d, 261-45d, 280-45d, 281-45d]

Agency Response: Changes were made in response to these comments. The waste and wastewater provision gives some fleets more time to use biomethane in their existing CNG vehicles. The commenter asserts there would be emissions benefits realized by including natural gas and RNG technology in the ACF Regulation; however, the Board already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines including alternative fuel engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. Together, they result in the most stringent emissions standards for ICEs and maximize the use of low carbon fuels in such engines. The benefits of these existing Regulations are part of the baseline and cannot be double counted. Therefore, natural gas and RNG technologies would not result in any additional emissions benefits from inclusion in the ACF Regulation.

It would not be appropriate to count RNG-fueled vehicles as ZEVs because such vehicles have tailpipe emissions, cannot meet the definition of ZEVs, and are consequently not equivalent to ZEVs. It would not be appropriate to count RNG-fueled vehicles as ZEVs because such vehicles have tailpipe emissions, cannot meet the definition of ZEVs, and are

cycle-greenhouse-gas-emissions-of-combustion-engine-and-electric-passenger-cars/, last accessed January 2023).

¹²⁸ CARB, 2022 Scoping Plan For Achieving Carbon Neutrality, November 16, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf, last accessed January 2023).

consequently not equivalent to ZEVs. The Regulation already considers alternative fuel engines as a compliance strategy when exemptions are granted to purchase ICE vehicles.

Biomethane with negative CI scores is limited to dairy/swine manure facilities and in some cases biomethane-derived from the anaerobic digestion of organic waste; those facilities capture methane that would otherwise be released into the atmosphere. Although low-CI biomethane is available, this fuel is fungible and can be directed towards other sectors or end-uses. As discussed in Chapter II.D.1. of the ACF ISOR, California has the potential to produce approximately 90.6 billion cubic feet per year of biomethane from dairy, landfill, municipal solid waste, and wastewater treatment facility sources¹²⁹ which represents only four to five percent of California's total annual consumption¹³⁰. Although renewable biomethane will continue to play a role in some fleets and for legacy vehicles, the 2022 Scoping Plan shows these limited biofuels will need to be directed towards harder to decarbonize sectors such as existing buildings and for industrial processes that require high heat; or can be used in the transportation sector as hydrogen for FCEV and electricity for BEVs.

Staff disagrees with the commenter's assertion that new infrastructure would not be required if the CNG vehicle fleet was expanded. As explained in Chapter IX.B.8. of the ACF ISOR, California's CNG truck population is relatively small at about one percent of California's heavy-duty sector and the infrastructure built for this small number of vehicles is not expansive. Any significant increase in CNG trucks would require expanding CNG fueling infrastructure. Any newly installed infrastructure would not be able to be fully utilized in its economic life as the fleet transitions to ZEVs, which would result in stranded assets and higher costs for no benefits.

h) Alternative Fuels and Combustion Vehicles – Low Carbon Intensity Fuels (Renewable Diesel)

Comment Summary: The commenters state that California's future fleet policies should include advanced diesel, ICE technologies, and renewable fuels, such as RD and biodiesel blends, as they offer near-zero-emissions while utilizing renewable biofuels. They argue that these technologies provide greater emissions reductions and leverage existing infrastructure compared to EVs. The commenters request flexibility when using RD, highlighting its immediate advantages, and request the inclusion of diverse technologies in the proposed ACF Regulation to assist California in reaching its emissions reduction objectives. The commenters state that when using 100 percent RD, diesel vehicles of all model-years can provide up to six times more GHG emissions reductions than medium- and heavy-duty EVs powered by U.S. grid average electricity.

Commenter: [007-WT1, 010-WT1, 022-WT1, 091-45d, 146-45d, 148-OT1, 211-45d, 223-45d, 241-45d, 259-45d, 264-45d, 284-45d, 303-45d]

¹²⁹ STEPS Program UC Davis, Jaffee et al. "The Feasibility of Renewable Natural Gas as a Large-Scale, Low Carbon Substitute Contract No. 13-307, 2016 (web link: <https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/13-307.pdf>, last accessed August 2022).

¹³⁰ US EIA website on data for natural gas consumption by end use. (web link: https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm, last accessed August 2022).

Agency Response: No changes were made in response to these comments. The board already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. The benefits of these existing Regulations are part of the baseline and cannot be double counted.

Fueling with 100 percent RD can only be guaranteed for unique situations, such as on-site fueling or when delivered directly to customers. Although, low CI fuels are highly valued in the LCFS market, these fuels do not achieve any more reductions than meeting the statewide benchmark. Comparing the grid-average CI to the statewide declining CI benchmark for diesel fuel is more appropriate for a statewide Regulation. The 2023 LCFS benchmark for diesel fuel is 89 gCO₂e/MJ and the average CI in California for grid electricity used as a transportation fuel is 81 gCO₂e/MJ.¹³¹ This means that electricity as a transportation fuel is already cleaner than diesel on a MJ-to-MJ basis. Additionally, BEV are three to four times more efficient at putting the MJ to work than equivalent ICE vehicles,¹³² therefore a BEV emits even less GHGs on a fuel cycle basis than an equivalent ICE vehicle running on diesel. Regardless, the combustion of biofuel still emits toxic pollution which causes cancer, premature death and has other adverse health impacts.^{133,134} Furthermore, the 2022 Scoping Plan assumes RD from fats, oils and greases, if held constant at the total, presently announced in-state refining capacity will cap out at approximately two billion gallons well below the current demand and barely meeting the post ACF demand from the medium- and heavy-duty sectors.^{135,136} Furthermore, these renewable fuel supplies will be increasingly directed towards harder to decarbonize sectors and to other end uses besides transportation, which will reduce the available supply for on-road transportation.¹³⁷

¹³¹ California Air Resources Board. 2023 Carbon Intensity Values for California Average Grid Electricity Used as a Transportation Fuel in California and Electricity Supplied Under the Smart Charging or Smart Electrolysis Provision (web link:

https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/2023_elec_update.pdf, last accessed March 2023).

¹³² California Air Resources Board, LCFS Guidance 20-04 Requesting EER-Adjusted Carbon Intensity Using a Tier 2 Pathway Application Energy Efficiency Ratio, 2020 (web link: https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/guidance/lcfsguidance_20-04.pdf, last accessed January 2022).

¹³³ Environmental Science & Technology, *Ambient and Emission Trends of Toxic Air Contaminants in California*, 2015 (web link: <https://pubs.acs.org/doi/full/10.1021/acs.est.5b02766>, last accessed May 2022).

¹³⁴ California Air Resources Board, *Overview: Diesel Exhaust & Health | California Air Resources Board*, (web link: <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>, last accessed March 2022).

¹³⁵ CARB, 2022 Scoping Plan For Achieving Carbon Neutrality, November 16, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf, last accessed January 2023).

¹³⁶ CARB, Updated Advanced Clean Fleets Inventory Analysis, 2023

¹³⁷ CARB, 2022 Scoping Plan For Achieving Carbon Neutrality, November 16, 2022 (web link: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf, last accessed January 2023).

i) Alternative Fuels and Combustion Vehicles – Low Carbon Intensity Fuels (Renewable Propane)

Comment Summary: The commenters state that the proposed amendments focus on electricity as the sole low-carbon fuel for ZEVs, overlooking other viable options including renewable propane, which has a lower CI than grid electricity for transportation. They emphasize that low-carbon alternatives like propane are readily available for straight truck operations without additional vehicle modifications, while a ZEV fleet would require adjustments due to charging times.

Commenter: [055-45d, 256-45d]

Agency Response: No changes were made in response to these comments. The Board already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. The benefits of these existing Regulations are part of the Regulation's Legal Baseline and cannot be double counted. Although, low CI fuels are highly valued in the LCFS market, these fuels do not achieve any more reductions than meeting the statewide benchmark. Also explained in the general response, the cost to produce low CI fuels is reduced by LCFS and Federal Renewable Fuel Standard incentives creating a false sense of affordability.

The CI for renewable propane is around 30 gCO₂e/MJ which is lower than for grid electricity used as a transportation fuel. However, for the same reasons explained in the general response on low CI fuels, the cost to produce and the quantity of available feedstocks to produce renewable fuels, makes a full transition to low CI fuels infeasible. California's electrical power is generated from natural gas, hydroelectric, and renewable energy sources, with the latter increasingly making up larger portions due to California's Renewable Portfolio Standard and SB 100. Over time California's grid should continue to decarbonize, as mandated. Finally, BEVs are three to four times more efficient at putting the MJ to work than equivalent ICE vehicles.

The commenter notes that a ZEV fleet would require adjustments due to charging times. This Regulation is structured to phase-in the most feasible fleets to ZE first, such as those that return to a depot to charge overnight thus charging needs can be met with a minor adjustment — to plug the vehicle in overnight. Over time as more ZEV public infrastructure is available, then longer mileage trucks will be required to make their switch to ZE. Furthermore, FCEVs allow utilizing the same fueling patterns as ICE vehicles. Furthermore, FCEVs allow utilizing the same fueling patterns as ICE vehicles.

j) Alternative Fuels and Combustion Vehicles – Low Carbon Intensity Fuels (Renewable Hydrogen)

Comment Summary: Commenter states that ACF should allow for compliance with H₂ICE in commercial trucking as it is a viable option in some vocations where current BEV technology is not feasible. They advocate for embracing diverse technology options to achieve early emissions reductions and recommend that ACF consider alternative compliance options like

hydrogen blended fuel in ICE vehicles during the transition to ZEVs. The commenter suggests that CARB should include transitional technologies like H2ICE and e-fuels in the Regulation to help bridge the transition until ZEV technology is feasible.

Commenter: [010-WT1, 075-OT1, 135-OT1, 217-45d, 234-45d, 241-45d, 248-45d, 329-45d, 342-45d, 349-45d]

Agency Response: No changes were made in response to these comments. The board already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. The benefits of these existing Regulations are part of the baseline and cannot be double counted.

The LCFS Regulation has a provision that allows for “capacity credits” which help bridge the increasing demand for hydrogen during the transition from ICE vehicles to FCEV. ZEVs are already feasible and available as explained in the section on ZEV technology. Further, H2ICE are not bridging technologies, they are ICE vehicles burning alternative fuels. H2ICE vehicles would be covered under the HD Omnibus Regulation and can be used for compliance with that rule. Also, these vehicles can be purchased by fleets covered in this rule when ZEVs are unavailable or do not meet a fleet’s daily usage needs, or if the fleet is meeting their Milestone Schedule if they opted into that compliance pathway. This is assuming the H2ICE can meet the standards to be California certified ICE engines, or when fleet owners using the ZEV Milestones Option purchase used or new ICE vehicles subject to the ICE Vehicle Additions requirements of HPF Regulation.

Also discussed in Chapter I.F. of the ACF ISOR, NZEVs are defined as vehicles capable of operating as a ZEV for a certain number of miles as established in title 13, CCR section 1963(c)(16). Essentially, these vehicles are PHEVs powered by both an ICE and battery-electric powertrain that are capable of operating like a ZEV for a limited time. NZEVs are considered a bridge technology, which will assist in the development of the full ZEV market as they have the same electric drivetrain components and can help with range anxiety while ZEV fueling and charging infrastructure is built out.

k) Alternative Fuels and Combustion Vehicles – Overreliance on Fuel Cell Vehicles

Comment Summary: The commenter refers to figure ES-2 in the CARB report “2022 Annual Evaluation of Fuel Cell Electric Vehicle Deployment and Hydrogen Fuel Station Network Development” Annual Evaluation which forecasts new station development leveling off after 2028 and this is justification to allow for H2ICE vehicles. These projections indicate a critical need to ease overreliance on FCEV as an effective alternative to BEVs after 2028.

Commenter: [234-45d]

Agency Response: No changes were made in response to these comments. Staff disagree that FCEVs are over-relied upon. Staff analysis in the ACF ISOR and SRIA is a reasonable estimate of potential outcomes of BEV and FCEV deployment and is not a forecast. ZEVs are

treated equally in the Regulation and over time the market will adjust as conditions change. Staff analysis was informed by the LER data which showed most non-tractors drive less than 100 miles in a single day, and most day cab tractors drive less than 200 miles per day. FCEVs are already commercially available with similar fueling times and range as ICE vehicles. BEV tractors are also available that have recently demonstrated 500 miles of range on a single charge. Staff expect both technologies to have a role, but the market will ultimately determine what proportion of the fleet is NZEV, BEV, or FCEV.

The report the commenter references does not reflect the requirements of the ACF Regulation and does not factor in other state's adoption of the ACT Regulation, and is focused on light-duty ZEV deployments. Also, the report and figure cited by the commenter to support their claim is a snapshot of AB 8 which requires CEC to co-fund the development of hydrogen fueling stations until there are at least 100 stations operating in the state. CEC surpassed this goal by committing funding as early as 2020 to more than 150 stations through the AB 8 program, with the milestone of 100 stations projected to be achieved by 2024. These stations are rated for dispensing hydrogen into 10kg or smaller hydrogen tanks, which are more than adequate for a smaller truck. These developments will also build the hydrogen ecosystem for medium- and heavy-duty vehicles by expanding the generation, transportation, and distribution networks for hydrogen. As more manufacturers bring larger FCEV products to market, demand for medium- and heavy-duty stations will grow as well. Although successful, this program only represents a small window and snapshot in time, not an entire picture or projection for hydrogen station buildout. Over time the buildout of ZEV infrastructure is expected to keep pace with expected ZEV deployments to meet the needs of the market as it grows.

I) Alternative Fuels and Combustion Vehicles – Workforce Transition Support

Comment Summary: The commenter suggests including lower-emitting combustion technologies in ACF to ensure a more inclusive workforce during California's transition to ZE. They emphasize the importance of transitional technologies that leverage ICE technology, utilizing existing skill sets in the workforce trained to maintain fossil fuel engines. The commenter contends that low-emissions ICE technologies can serve as a steppingstone for both application demands and workforce retraining and reskilling, allowing skill sets to catch up to electricity and hydrogen needs.

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. ICE engines and the workforce that currently support them would not gain any knowledge or experience with electric drivetrains or their supply chains by continuing to service ICE vehicles. As explained in the Chapter I.F. of the ACF ISOR, NZEVs as defined in the Regulation are considered a bridge technology, which will assist in the development of the full ZEV market as they have the same electric drivetrain components. These vehicles provide flexibility to meet applications that are not currently well-suited for full ZEVs and promote the development of ZE component supply chains, training, and education as well as provide an opportunity for fleets to gain experience with electric drivetrains without range anxiety. Furthermore, the transition to ZE is over two decades which is ample time to finish out a career in the ICE

vehicle maintenance field. Lastly, even after full implementation of the Regulation there will still be about half of California's medium- to heavy-duty fleet using ICE technologies. Transitional technologies that utilize ICE technology are redundant and unnecessary.

Important to note, CARB staff are also working closely with several State agencies, such as CEC and the California Workforce Development Board, on how to not only advance workforce training and development in our existing projects, but to also identify gaps and collaborate on focus areas to enhance training and career pathways. For example, CARB is working closely with the CEC through an interagency agreement (\$1-2M) to implement a total of 14 small and large ZEV training programs throughout the state that broadly support various types of ZEV and infrastructure training programs and technologies. Seven of these projects help support the heavy-duty sector by offering training opportunities and upskilling in ZEV technologies, commercial licensing and logistics jobs, transit and school bus technologies, operations and deployment of a changing infrastructure, and servicing alternative fuel vehicles. To date, CARB has carved out a total of \$4.575 million investment funding specifically for workforce training and development programs: One effort is the development of an Adult Education and Vocation Schools ZEV Training Solicitation (\$1.5M) which offers funding to support or expand existing ZEV trainings and programs in adult education and vocational schools to train low income/disadvantaged community residents in clean transportation principles and applications and to strengthen or develop ZEV and infrastructure curriculum. There are potential opportunities for heavy-duty ZEV training, funding, and partnerships through this effort. Funding has also been carved out to develop new or expand an existing pre-apprenticeship program through an interagency agreement with CEC (\$1.075M). The objective is to provide skill-building opportunities and pathways to clean transportation jobs, including supporting high-road job training principles, expanding on-the-job skills, and connecting students to paid apprenticeship and other jobs opportunities that tie into the heavy-duty sector. There are potential opportunities for transit funding, training, and partnerships through the CARB/CEC IAA for this effort.

m) Alternative Fuels and Combustion Vehicles – Rule Conflicts with Organic Waste Diversion

Comment Summary: Commenter states this technology forcing Regulation creates conflict with public agencies and their ratepayers that faithfully invested in statutory compliance to mitigate methane and divert organics from landfills, or SB 1383. The commenters request that in relation to fleets implementing SB 1383, consideration should be given to all fleets involved in the provision of these services.

Commenter: [024-OT1, 180-45d, 207-45d, 253-45d, 280-45d, 292-45d, 304-45d, 309-45d, 310-45d, 321-45d, 326-45d]

Agency Response: A change was made in response to these comments. However, staff disagrees with the comment that the Regulation conflicts with SB 1383 for the same reasons as discussed in Chapter II.D.1. of the ACF ISOR. SB 1383 establishes, among other things, a statewide organic-waste diversion target of 75 percent reduction of landfilled organic waste by 2025, when compared to 2014-levels. SB 1383 does not require the use of biomethane to fuel combustion vehicles. Since the Staff Report was released, the Board provided direction for staff to recognize the statutory compliance obligations for some waste and wastewater fleets to mitigate harmful methane emissions by diverting organics from landfills, and to

provide more time for these fleet's transition to ZEV. Although organic diversion can be interpreted more broadly to include agricultural and forestry waste, staff's interpretation and the Board's direction was to focus on those fleets involved in diverting organics to facilities that have invested in anaerobic digestion technologies, such as those at wastewater treatment facilities or stand-alone digesters. The Regulation was modified to include new provision that allows waste and wastewater fleets to delay their ZEV transition until 2030 for existing CNG vehicles operating exclusively on biomethane, thus giving more time to transition biomethane production to other hard to decarbonize sector or to produce hydrogen for FCEVs.

n) Alternative Fuels and Combustion Vehicles – Support Biomethane Market

Comment Summary: Commenter states support for the use of biogas as a renewable source of fuel for vehicles and equipment in California. They suggest that CARB should incentivize the use of low-carbon fuels from organic waste to meet the requirements of various plans such as SB 1383 and Forest Carbon Plan. The commenter requests CARB recognize the investment made by early adopters of low-NOx technology, specifically SB 1383 fleets. The commenter recommends delayed implementation and availability for SB 1383 fleets and other early adopters. They propose that CARB recognize biomethane from wastewater facilities as a renewable source of fuel for transportation purposes. The commenter also recommends that CARB support expanding the use of RNG to replace diesel vehicles as part of ACF.

Commenter: [072-OT1, 078-OT1, 079-OT1, 109-OT1, 121-OT1, 158-OT1, 167-45d, 304-45d]

Agency Response: Changes were made in response to these comments. The Board approved a change to add a waste and wastewater provision that allows additional time for fleets that are using biomethane in their trucks additional time for the biomethane to be directed to hard-to-decarbonize sectors or to produce hydrogen for use in FCEVs which aligns with the Scoping Plan and SB 1440.

The California biomethane market needs to be expanded but not at the expense of deploying ZEVs where feasible. ZEVs using low-carbon fuels are the most effective way to reduce emissions from the transportation sector. Most of the biomethane used in California's transportation sector is not produced from California-sourced municipal organic waste and California's market for biomethane in transportation fuels is saturated. Biomethane is used in the transportation sector mainly because of the LCFS and federal Renewable Fuel Standard. Biomethane is unlikely to be cost competitive with fossil gas without programs like the LCFS. The current incentive structure has supported methane reduction projects both in California and throughout the United States, and there is a need to continue to incentivize deployment of these projects, particularly this decade. Producing hydrogen from the biomethane is a proven technology that can optimize both objectives, incentivizing methane capture and powering ZEV. Finally, the potential to create low carbon fuels from California's organic

waste products is limited and these fuels will increasingly be directed towards harder to decarbonize sectors than over the road transportation.¹³⁸

Staff are also mindful of the importance of backsliding on GHG reductions. It is anticipated that while biomethane demand in the transportation sector is expected to decline over time, biomethane can displace fossil fuels in other sectors on the path to carbon neutrality. Also recognizing that biomethane can still play a key role as a feedstock for hydrogen production used in future transportation ecosystems.

Although outside the scope of this Regulation, changes are being proposed for the LCFS Amendments which is a separate rulemaking that could align the deliverability requirements of biomethane with those of other fuels in the program.

4. Emissions Inventory Issues

a) Emissions Inventory – Methodology Comments

Comment Summary: The commenters state the electricity to power ZEVs must also be ZE and have concerns about transferring emissions from mobile to stationary sources. The commenters claim that ZEVs do not reduce carbon emissions because power grids rely on carbon-based fuels.

Commenter: [059-45d, 135-OT1, 202-45d]

Agency Response: No changes were made in response to these comments. Actions to reduce emissions from all sectors of the economy, not only the transportation sector, will need to occur to meet targets called for in CARB's SIP and Scoping Plan. California's electrical power is generated from natural gas, hydroelectric, and renewable energy sources, with the latter increasingly making up larger portions due to California's Renewable Portfolio Standard and SB 100, which over time will become increasingly decarbonized. Furthermore, ZE technologies, including ZEVs, are more efficient than combustion technologies and will be increasingly put to work to drive down carbon emissions across all economic sectors on our path towards climate neutrality. ICE vehicles, in contrast, are considerably less efficient, can become high emitters, and their emissions tend to increase with age.

For more information on the environmental analysis, please refer to the Final EA, Chapter 4.0, Section B, Impact 6-2: Long-Term Operational-Related Impacts on Energy Demand for more information.

b) Emissions Inventory – Upstream Emissions

Comment Summary: The commenters argue that the emissions inventory doesn't address upstream emissions impacts or lifecycle emissions of heavy-duty vehicles, rendering CARB's analysis inadequate. They urge CARB to perform a lifecycle emissions analysis on ZEVs compared to conventional fuels and criticize the EA for failing to assess battery-electric and FCEVs' total emissions. They cite a study that concludes biomethane has the lowest GHG

¹³⁸ CARB, 2022 Scoping Plan For Achieving Carbon Neutrality, November 16, 2022. (web link: <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>, last accessed March 2023).

emissions and advocate for a full lifecycle analysis of all emissions associated with covered transportation fuels.

Commenter: [167-45d, 241-45d, 253-45d, 259-45d, 270-45d, 281-45d, 282-45d, 290-45d, 319-45d, 334-45d, 349-45d]

Agency Response: No changes were made in response to these comments. CARB has fulfilled its statutory obligations by conducting a full and robust EA, which included evaluations of upstream fuel cycle emissions, lifecycle emissions, low-carbon fuels, BEV and battery production, and electricity generation. Furthermore, California has a number of separate requirements on transportation fuel production and feedstock collection to reduce upstream emission impacts. Additional information on lifecycle emissions analysis on ZEVs compared to liquid fuels is provided in Chapter IV.3. of this FSOR. For more information on lifecycle analysis and upstream emissions see CEQA EA Master Response 4 and RTC 270-4.

c) Particulate Matter Emissions from Tire Wear

Comment Summary: The commenters suggest that the Regulation focuses primarily on tailpipe emissions without considering tire wear emissions, which are reportedly 400 times greater than real-world tailpipe emissions. They express concern about the worsening situation with EVs due to their increased weight.

Commenter: [028-OT1]

Agency Response: No changes were made in response to these comments. This comment is addressed in the EA RTC, response to Comment Letter 48-2.

5. Additional/Alternative Analysis Issues

a) 100 Percent ZEV Sales by 2040 Feasibility Analysis

Comment Summary: The commenters state that there is no assessment in ACF regarding the technical feasibility of converting all new truck sales to ZEVs by 2040, the cost-effectiveness of trucking fleets to only purchase ZEVs beginning in 2040.

Commenter: [161-OT1, 255-45d]

Agency Response: No changes were made in response to these comments. The commenter's assertion that there is no cost-effectiveness or technical feasibility analysis of the 100 percent ZEV sales requirement by 2040 is incorrect. Staff's analysis included cost-effectiveness analysis through 2040, which shows that the TCO for ZEVs is favorable by 2036 compared to ICE vehicles. See the Cost Analysis chapter of the ACF ISOR, the SRIA, and the updated analysis in Appendix B of the ACF 15-Day Notice. Chapter I.F. of the ACF ISOR describes the state of the ZEV market, including the existence of the ACT Regulation which requires manufacturers to sell an increasing proportion of their annual sales in California as ZEVs, and sufficiently demonstrates the technological feasibility of the ACF requirement. The ACF ISOR evaluated cost-effectiveness for trucking fleets purchasing ZEVs during the entire analysis period including 100 percent ZEV purchases starting in 2040 in Chapter VIII., these calculations were updated to reflect the shift to 100 percent by 2036 as part of the ACF 15-Day Notice package in Appendix B.

b) ISOR Alternatives 7 and 8 Analysis

Comment Summary: The commenter argues that CARB's rejection of Alternatives 7 and 8 in the ACF ISOR was based on narrow readings of the ACF objectives. Specifically, they claim that CARB did not fully consider the lifecycle GHG emissions differences of fuel alternatives, including RNG (biomethane), when rejecting Alternative 7, which proposes early action credit for adopters of biomethane vehicles. Additionally, the commenter notes that CARB did not provide an explanation of how ACF would reduce PM10 from tire wear in comparison to existing vehicles. The commenter suggests weight sensitive applications would require larger fleet sizes to do the same work and therefore increase tire and brake wear and associated PM2.5 and PM10 emissions. The commenter states the ACF ISOR claims Alternatives 7 and 8 would not achieve the goal of maximizing transportation electrification while resulting in no additional NOx, but the future use of FCEV also would not appear to meet this objective.

Commenter: [261-45d]

Agency Response: No changes were made as a result of this comment. The commenter incorrectly states that CARB assumed the ACF Regulation would reduce tire wear. The Executive Summary of the ISOR describes ZEVs and NZEVs will reduce brake wear due to regenerative braking and not tire wear.

The commenter suggests that Chapter IX.B. of the ACF ISOR, Alternatives 7 and 8, would reduce PM10 emissions from tire wear when compared to the Regulation. The analysis assumed PM emissions from tire wear were similar enough between comparable ZEVs and ICE vehicles that further distinction was not warranted. Please refer to the EA RTC, responses to Comment Letters 48-2, 261-6, and 270-3 for a more detailed discussion on PM from tire wear as part of the Regulation's EA. The commenter suggests fleets would require more ZEVs to do the same work as their replacement ICE vehicles. The Regulation's optional ZEV Milestone schedule gives fleets until 2030 to transition trucks with a heavy front axle. Also, it was not assumed that weight differences between BEV and comparable ICE vehicles would necessitate a greater than one to one replacement. Please refer to the section on "Zero-Emissions Vehicle Technology Issues – Zero-Emissions Technology-General" in this section for more information.

The commenter also incorrectly states that FCEVs would not achieve the goal of maximizing transportation electrification and would not reduce NOx. This statement is unsupported. FCEVs and BEVs are defined as ZEVs which do not emit NOx or other exhaust pollution.

c) Focus Zero-Emission Vehicle Requirements on Return to Base Concept Alternative Analysis

Comment Summary: The commenters believe that CARB misinterpreted their suggested Alternative proposals for ACF that include a NOx-focused clean combustion strategy for early years, a level playing field for private and federal fleets using a purchase mandate similar to the public sector requirements, a return-to-base alternative that focuses on fleets that can rely wholly on depot charging, and a near-zero carbon liquid fuels alternative that allows a compliance pathway for challenging fleets and vehicles. The commenters state CARB staff incorrectly asserted their proposals would limit ZEV deployment, stating they were designed to enable a feasible and cost-effective level of ZEV deployment supported by real-world evidence over an achievable timeline, yielding actual, sustainable real-world

emissions reductions. The commenters feel that CARB should have included an alternative that assesses commercial vehicles leading to significant NOx reductions in the next decade while scaling up ZEV deployment beyond what is required for ACT, which would meet CARB's goals for ACF in a more cost-effective manner.

Commenter: [207-45d]

Agency Response: Changes were made in response to these comments. The Board directed a change to provide a longer phase-in for CNG powered trucks operated by waste and wastewater fleets who exclusively use biomethane, to recognize investments these fleets have made to reduce methane from landfills and put it to work. Because the biomethane use is already part of the LCFS Regulation, this change would delay achieving new GHG reductions and the delay in ZEV adoption would result in delaying NOx reductions from these fleets. This alternative is closer to what the commenter was requesting.

However, we disagree with the commenter's assertion that their alternatives were mischaracterized. Feasible alternatives were evaluated, and other concepts were dismissed. A discussion of the reasons why staff rejected these proposals are presented in Chapter IX.B. of the ACF ISOR. As described in the Staff Report, the Board already adopted the LCFS Regulation to increase the use of low carbon fuels and adopted the HD Omnibus Regulation to maximize the emissions reductions from ICE engines. Together, they result in the most stringent emissions standards for ICE engines and maximize the use of low carbon fuels in such engines. The benefits of these existing Regulations are part of the baseline and cannot be double counted. Repeating these existing requirements in this Regulation would achieve nothing new.

The commenter requests CARB consider standards that rely on continued use of biofuels along with what the commenters describe as the cleanest combustion engines. The Draft EA considered this as Alternative 2 which is described on pages 154 through 156, but ultimately rejected this Alternative because it would fail to meet most of the basic project objectives, while not avoiding a significant environmental impact.

Staff acknowledges the emissions reduction benefit of low CI liquid biofuels that are available because of the LCFS Regulation, but these benefits cannot be double counted nor claimed to be new GHG reductions and generally do not reduce criteria pollutants like NOx. Additionally, there are supply restrictions in scaling up California-sourced biofuel production, given limitations to low-carbon feedstocks at the scale needed if the Regulations were not adopted. Given these limitations, biofuel supplies should be focused on other sectors that are harder to decarbonize as described in the Scoping Plan.

The analysis in the Staff Report also recognized that the HD Omnibus Regulation set the maximum feasible emissions reductions from new ICE engines sold in California starting in 2024 and those benefits are also reflected in the Baseline and would not result in new emissions benefits regardless of the fuel type used. These emissions benefits cannot be double counted either.

d) Infrastructure Funding Gap Analysis

Comment Summary: The commenters suggest that CARB should conduct a gap analysis for infrastructure funding, which includes an assessment of the amount of available funding, the

amount CEC is currently spending, and an evaluation of what is needed to support the deployment of ZEVs.

Commenter: [013-OT1]

Agency Response: No changes were made in response to these comments. The full cost of the Regulation without grants and rebates is reflected in the SRIA and updated in Chapter VIII. of the ACF ISOR, and finally in the ACF 15-Day Notice package as Appendix B. The Regulation is not predicated on securing any future grant or rebate programs, so no additional analysis is needed.

e) Mobile Fueling Emissions Analysis

Comment Summary: The commenters recommend that CARB conduct a comprehensive evaluation of the emissions associated with additional mobile fueling before implementing the requirements for mobile fueling.

Commenter: [291-45d]

Agency Response: Changes were made to define “mobile ZEV fueling provider” to mean an entity that provides the service of, or is engaged in the sale, rental, or lease of equipment for the purpose of, delivering hydrogen fuel or electricity directly from a mobile vehicle or portable equipment into another vehicle’s fuel tank or battery for other than the dispenser’s own consumption. Although utilizing a mobile ZEV fueling provider might be a compliance response for some fleets, it would be speculative to assume when, where, and if this compliance option might be exercised; therefore, modeling any emissions impacts would be unduly speculative. Therefore, no changes were made in response to this comment.

f) Fuel-Neutral Performance Standard Analysis

Comment Summary: The commenters state that CARB should conduct a multi-technology analysis to evaluate the feasibility of a fuel neutral performance-based standard in achieving emissions reductions targets set by the ACF Regulation on a faster timeline. They argue that phasing out liquid fuel vehicles entirely would limit flexibility, undermine incentives for technological innovation, and impose significant costs on fleet owners and customers of goods. Instead, the commenter suggests setting emissions reductions targets and creating a framework for different technologies to compete in achieving these goals.

Commenter: [011-OT1, 259-45d, 349-45d]

Agency Response: No changes were made in response to these comments, for the same reasons discussed in Chapter IX.D. of the ACF ISOR. The Regulation does not prescribe any specific technology or any equipment – rather, it allows regulated entities to acquire affected categories of any medium- and heavy-duty vehicles that have demonstrated that they emit zero emissions of criteria or GHG emissions and BEV and FCEV technologies have demonstrated this capability. The commenter suggests the Regulation is “based on the false and unsupported premise that ICE vehicles cannot achieve the same or better standard of performance as ZEV, notwithstanding numerous promising developments in carbon capture and other innovations in emissions reductions technologies.” Please refer to CEQA EA Master Response 4 for response to emissions reductions from low-carbon fuels, and Master Response 5 for a discussion on the use of low-NOx engines in comparison to ZEV, and RTC

259-1 in response to carbon capture and sequestration, and in this document in the section on clean-combustion and low carbon fuels.

g) Zero-Emissions Vehicle Technological Feasibility, Availability, and Cost Analysis

Comment Summary: The commenter requests that CARB engage a team of experts and stakeholders to determine the availability and cost of vehicles needed to comply with the ACF Regulations, including technological feasibility of producing vehicles that will replace ICE vehicles on a one-to-one basis with the same capacity and power, and submit the report for public scrutiny.

Commenter: [286-45d]

Agency Response: No changes were made in response to these comments. The ACF ISOR is the document that assesses technological feasibility and cost impacts of the Regulation and was developed in conjunction with experts and with stakeholder input through an extensive public process and was submitted for public scrutiny consistent with the requirements of the APA. Through this process the Regulation was crafted to give fleet owners flexibility to manage their own purchase decisions and phase ZEVs in over a long timeframe. The Regulation also includes provisions to address a number of fleet specific circumstances, such as when a ZEV may not be available to purchase in a given configuration, demonstrated daily usage needs cannot be met with available ZEVs, or the fleet needs to retain a portion of the fleet as ICE vehicles to respond to mutual aid emergencies; any of these three options would allow a fleet owner to continue purchasing ICE vehicles.

h) Other Emergency Vehicle Configuration Analysis

Comment Summary: The commenters state that the ACF ISOR does not explain why only emergency vehicles defined in CVC section 165, and not any other configurations, must be afforded an exemption.

Commenter: [255-45d]

Agency Response: No changes were made in response to these comments. CARB does not have authority to regulate emergency vehicles as defined in CVC section 165 but does for other vehicles not covered by that definition. For the rationale on why only emergency vehicles defined in CVC section 165 are not covered by the Regulation, see section 2015(c) of Appendix H-2 to the ACF ISOR. There is no reason to believe that all other vehicles cannot be transitioned to ZEVs. Even though not required, ambulances, fire engines, and police vehicles are already being offered by manufacturers as ZEVs.

6. Cost Comments

a) Costs – Cost of the Regulation

Comment Summary: The commenters state that the cost of the Regulation is excessive and may have negative effects on the economy, cost of living, vulnerable communities, businesses, or transportation system. Some commenters believe that the analysis of costs is not accurate or adequate. Consequences cited include fleets going out of business, loss of jobs, increased costs for customers, and more investment in vehicles and infrastructure. Some

commenters believe that the analysis of costs does not include the cumulative cost of all CARB Regulations.

Commenter: [001-45d, 004-45d, 004-WT1, 011-OT1, 018-OT1, 027-45d, 033-45d, 038-45d, 039-45d, 041-45d, 051-45d, 052-45d, 058-45d, 083-45d, 084-45d, 085-45d, 089-45d, 090-45d, 098-45d, 103-45d, 117-45d, 128-45d, 138-OT1, 150-45d, 152-45d, 153-45d, 155-45d, 157-45d, 164-45d, 168-45d, 175-45d, 184-45d, 190-45d, 191-45d, 193-45d, 200-45d, 207-45d, 228-45d, 232-45d, 233-45d, 239-45d, 251-45d, 253-45d, 254-45d, 257-45d, 258-45d, 259-45d, 278-45d, 290-45d, 292-45d, 295-45d, 297-45d, 301-45d, 302-45d, 308-45d, 323-45d, 324-45d, 331-45d, 334-45d, 335-45d, 339-45d, 347-45d]

Agency Response: No changes were made in response to these comments. CARB's economic analysis performed in Appendix C-1 to the ACF ISOR, Chapter VIII of the ACF ISOR, and Appendix B to the ACF 15-day changes was prepared pursuant to the requirements of the APA and SB 617. This analysis included direct costs on affected businesses including upfront costs, operating costs, and other miscellaneous costs associated with transitioning medium- and heavy-duty vehicles from ICE vehicles to ZEVs.

Staff analysis was developed through a lengthy public process. Staff held workgroup meetings on December 9, 2020, September 9, 2021, and February 11, 2022, to discuss costs associated with ZEVs and their infrastructure. Through these meetings, staff solicited feedback on data sources to use, updated our assumptions discussing CARB's economic analysis for the Regulation, and solicited public input on appropriate sources. CARB also performed literature reviews to identify sources discussing ZEV costs. Through this process, CARB was able to ensure the analysis was using up-to-date information which reflects the current state of the truck market and future projections on ZEV costs.

As discussed in Appendix B to the ACF 15-day changes, staff's updated analysis includes the impacts of the IRA.¹³⁹ On August 16th, 2022, President Joe Biden signed the IRA. This landmark piece of federal legislation establishes several provisions which will reduce costs of medium- and heavy-duty ZEVs and will accelerate the ZEV market. Some of the most significant provisions include tax credits of up to \$40,000 per ZEV or 30 percent of each BEV charger, \$3 billion dollars to convert the U.S. Postal Service fleet to ZE, up to \$45/kWh for the production of batteries in the US, \$3 billion in grants and \$20 billion in loans to support ZE manufacturing in the U.S. These provisions encourage significant investments in ZEV manufacturing and accelerate ZEVs into the market. The fleet-focused provisions improve the TCO and lowers upfront cost for vehicle as well as infrastructure. Several studies have been

¹³⁹ Public Law No: 117-169 (Aug. 16, 2022) 136 Stat. 1818.

recently released which discuss the positive impact the IRA will have on the heavy-duty ZEV market.^{140,141,142,143}

When factoring in upfront costs including vehicles and infrastructure, operating costs including fuel and maintenance, and other miscellaneous costs, Appendix B to the ACF 15-day changes found the Regulation is expected to result in a cumulative net savings to the State of \$48.0 billion to 2050. Note that these cost savings do not include an additional \$26 billion in expected health savings by 2050. These cost savings are due to a combination of factors. While ZEVs are expected to cost more upfront due to higher vehicle and infrastructure costs, there is an expected decrease in operating costs due to lower fuel costs, decreased maintenance expenses, and revenue from California's LCFS Regulation. This results in a lower TCO for ZEVs versus their ICE counterparts. As ZEV costs will decline over time, the savings ramp up. These findings are aligned with numerous other studies assessing

¹⁴⁰ Environmental Defense Fund, Inflation Reduction Act gives truck electrification a dose of adrenaline, 2022 (web link: <https://blogs.edf.org/energyexchange/2022/09/12/inflation-reduction-act-gives-truck-electrification-a-dose-of-adrenaline/>, last accessed January 2023).

¹⁴¹ The International Council on Clean Transportation, Analysing the Impact of the Inflation Reduction Act on Electric Vehicle Uptake in the United States, 2023 (web link: <https://theicct.org/wp-content/uploads/2023/01/ira-impact-evs-us-jan23.pdf>, last accessed February 2023).

¹⁴² Rocky Mountain Institute, The Inflation Reduction Act Will Help Electrify Heavy-Duty Trucking, 2022 (web link: <https://rmi.org/inflation-reduction-act-will-help-electrify-heavy-duty-trucking/>, last accessed January 2023).

¹⁴³ Roush, Inflation Reduction Act 2022 Impact Study, 2022 (web link: <https://blogs.edf.org/climate411/files/2022/09/2022-09-EDF-Roush-IRA-MHD-Final-1.pdf>, last accessed January 2023).

costs of heavy-duty trucks released in recent years.^{144,145,146,147,148,149,150,151,152,153,154} CARB's analysis considered the cumulative impact of related Regulations including the Phase 2 GHG, HD Omnibus, HD I/M, and LCFS. An alternative method to evaluate the Regulation is the cost-benefit ratio which compares the net benefits of the rule versus its costs. As calculated in Appendix B to the ACF 15-day changes, the cost-benefit ratio for the ACF analysis is 1.6 representing significantly higher benefits than costs. This cost-benefit ratio is greater than the "Accelerated ZEV Transition" and "Cleaner Combustion" alternatives modeled. CARB's analysis also included a number of sensitivity analyses as described in Chapter VIII of the ACF ISOR which evaluated the impact that changing assumptions regarding vehicle costs, fuel costs, LCFS credit prices, and the split between BEVs and FCEVs would have on the Regulation's total cost.

In addition to assessing the costs to businesses directly affected by the Regulation, CARB's analysis assessed the macroeconomic impacts of the Regulation on the overall California economy. This analysis included the impact of cost passthrough associated with both costs and cost savings. Broadly, CARB estimates the ACF Regulation would be unlikely to have a

¹⁴⁴ Atlas Public Policy, Assessing Financial Barriers to Adoption of Electric Trucks, 2020 (web link: <https://atlaspolicy.com/wp-content/uploads/2020/02/Assessing-Financial-Barriers-to-Adoption-of-Electric-Trucks.pdf>, last accessed August 2022).

¹⁴⁵ CleanTechnica. Tesla Police Vehicle Brings Huge Monetary Savings To Westport, Connecticut, June 2021 (web link: <https://cleantechnica.com/2021/06/02/tesla-police-vehicle-brings-huge-monetary-savings-to-westport-connecticut/>, last accessed March 2023).

¹⁴⁶ Environmental Defense Fund, Technical Review of Medium-Duty and Heavy-Duty Electrification Costs for MY 2027-2030, 2022 (web link: https://blogs.edf.org/climate411/files/2022/02/EDF-MDHD-Electrification-v1.6_20220209.pdf, last accessed March 2023).

¹⁴⁷ ERM, Investment Reduction Act Supplemental Analysis: Analysis of Alternative Medium- and Heavy-Duty Zero-Emission Vehicle Business-As-Usual Scenarios, 2022 (web link: <https://www.erm.com/contentassets/154d08e0d0674752925cd82c66b3e2b1/edf-zev-baseline-technical-memo-addendum.pdf>, last accessed January 2023).

¹⁴⁸ Hydrogen Council, Path to Hydrogen Competitiveness – A Cost Perspective, 2020 (web link: https://hydrogencouncil.com/wp-content/uploads/2020/01/Path-to-Hydrogen-Competitiveness_Full-Study-1.pdf, last accessed August 2022).

¹⁴⁹ ICF International, Comparison of Medium-Duty and Heavy-Duty Technologies in California, 2019 (web link: https://caletc.aodesignsolutions.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf, last accessed August 2022).

¹⁵⁰ McKinsey, Preparing the World for Zero-Emission Trucks, 2022 (web link: <https://www.mckinsey.com/~media/mckinsey/industries/automotive%20and%20assembly/our%20insights/preparing%20the%20world%20for%20zero%20emission%20trucks/preparing-the-world-for-zero-emission-trucks-f.pdf>, last accessed March 2023).

¹⁵¹ North American Council for Fuel Efficiency, Regional Haul, 2019 (web link: <https://nacfe.org/regional-haul/>, last accessed August 2022).

¹⁵² North American Council for Fuel Efficiency, Viable Class 7/8 Electric, Hybrid, and Alternative Fuel Tractors, 2019 (web link: <https://nacfe.org/future-technology/viable-class-7-8/>, last accessed August 2022).

¹⁵³ University of California Los Angeles, Zero-Emission Drayage Trucks – Challenges and Opportunities for the San Pedro Bay Ports, 2019 (web link: https://innovation.luskin.ucla.edu/wp-content/uploads/2019/10/Zero_Emission_Drayage_Trucks.pdf, last accessed August 2022).

¹⁵⁴ Union of Concerned Scientists, Ready to Work – Now is the Time for Heavy-Duty Electric Vehicles, 2019 (web link: <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>, last accessed August 2022).

significant impact on the California economy. Overall, the change in the growth of jobs, state GDP, and output is projected to not exceed 0.2 percent of the Baseline.

In summary, CARB performed a thorough analysis which evaluated the impacts of the ACF Regulation on California's economy in accordance with State law and with ample opportunity for stakeholders to comment. This analysis found the Regulation is expected to result in net cost savings to California fleets as transitioning to ZEVs will lower transportation costs over time. This reduction is due to a combination of operational savings and declining upfront costs over time.

b) Costs – Zero-Emissions Vehicle Costs

Comment Summary: The commenters express concern that ZEVs are currently unaffordable for many due to their high cost compared to combustion-powered vehicles. They note that ZEVs may require significant incentives and tax credits to be economical at the point-of-sale, which could place a financial burden on fleet owners. Some commenters disagree with the idea that the cost of ZEVs will come down over time.

Commenter: [003-45d, 006-45d, 019-45d, 025-45d, 028-45d, 028-OT1, 031-45d, 038-45d, 048-45d, 053-45d, 054-45d, 055-45d, 059-45d, 060-45d, 063-45d, 063-OT1, 066-OT1, 068-45d, 070-OT1, 089-45d, 092-45d, 096-45d, 098-45d, 104-45d, 109-45d, 120-45d, 120-OT1, 135-45d, 158-45d, 159-45d, 161-45d, 162-45d, 172-45d, 173-45d, 175-45d, 180-45d, 182-45d, 187-45d, 188-45d, 189-45d, 194-45d, 200-45d, 204-45d, 219-45d, 220-45d, 223-45d, 227-45d, 230-45d, 232-45d, 259-45d, 264-45d, 265-45d, 268-45d, 269-45d, 274-45d, 279-45d, 284-45d, 291-45d, 295-45d, 299-45d, 322-45d, 324-45d, 335-45d, 339-45d, 347-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter VIII of the ACF ISOR, CARB analyzed the direct costs of the Regulation including vehicle costs for both ICE vehicles and ZEVs. As discussed in section "Costs – Cost of the Regulation" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," staff's analysis was developed through a lengthy public process. Staff discussed vehicle cost assumptions in workgroup meetings held on December 9, 2020, and September 9, 2021, as well as at numerous individual meetings with stakeholders. CARB also performed literature reviews to identify sources discussing ZEV costs. CARB's analysis in the ACF ISOR reflects the results of this public process.

As discussed in Chapter VIII of the ACF ISOR, CARB's analysis found that purchases of most BEVs and FCEVs will cost more than their ICE counterparts in the near future. However, declining battery and component costs in addition to economies of scale are expected to lower the incremental costs of ZEVs as the market expands. The analysis performed in the SRIA and ISOR was robust and included expected cost changes for both combustion-powered vehicles as well as ZEVs. For ICE vehicle projections, staff's analysis in the SRIA and ISOR included the projected impacts of the Phase 2 Greenhouse Gas Regulation and the HD Omnibus Regulation, and this analysis was updated in Appendix B to the ACF 15-day changes to include the recently adopted Federal Clean Truck Plan. For ZEVs, CARB's analysis performed a bottom-up calculation based on recent studies from the U.S. Department of Energy, the National Academies of Sciences, Engineering, and Medicine, and others projecting expected component costs, component sizing, and indirect costs over time. The results of this analysis showed ZEVs are expected to cost more than their ICE counterparts until at least 2030. After that point, some ZEVs are expected to reach purchase price parity

with their diesel counterparts as costs for ZEVs continue declining while combustion-powered costs increase over time. CARB's findings are corroborated by numerous other studies evaluating ZEV prices over time.^{155,156,157,158,159,160,161,162,163,164,165,166}

In addition to purchase costs, the ACF Regulation evaluated the TCO of ZEVs versus ICE vehicles in Appendix G to the ACF ISOR. This analysis was performed by comparing gasoline, diesel, natural gas, battery-electric, and hydrogen fuel cell vehicles in six applications on a per-vehicle basis. These comparisons were performed in 2025, 2030, and 2035. In this analysis, the results showed the TCO for BEVs appear cost competitive with the established combustion technologies by 2025 in a variety of use cases. Significant savings are shown for battery-electric in the walk-in van, refuse truck, and day cab categories, even in the early years. FCEVs also appear to be competitive with combustion-powered technologies in the 2025 to 2030 timeframe for some vehicle types. Despite the higher upfront costs associated with vehicle costs and infrastructure, cost savings from lower fuel costs and LCFS revenue

¹⁵⁵ Atlas Public Policy, Assessing Financial Barriers to Adoption of Electric Trucks, 2020 (web link: <https://atlaspolicy.com/wp-content/uploads/2020/02/Assessing-Financial-Barriers-to-Adoption-of-Electric-Trucks.pdf>, last accessed August 2022).

¹⁵⁶ Environmental Defense Fund, Technical Review of Medium-Duty and Heavy-Duty Electrification Costs for MY 2027-2030, 2022 (web link: https://blogs.edf.org/climate411/files/2022/02/EDF-MDHD-Electrification-v1.6_20220209.pdf, last accessed March 2023).

¹⁵⁷ ERM, Investment Reduction Act Supplemental Analysis: Analysis of Alternative Medium- and Heavy-Duty Zero-Emission Vehicle Business-As-Usual Scenarios, 2022 (web link: <https://www.erm.com/contentassets/154d08e0d0674752925cd82c66b3e2b1/edf-zev-baseline-technical-memo-addendum.pdf>, last accessed January 2023).

¹⁵⁸ Hydrogen Council, Path to Hydrogen Competitiveness – A Cost Perspective, 2020 (web link: https://hydrogencouncil.com/wp-content/uploads/2020/01/Path-to-Hydrogen-Competitiveness_Full-Study-1.pdf, last accessed August 2022).

¹⁵⁹ The International Council on Clean Transportation, A meta-study on purchase costs for zero-emission trucks, 2022 (web link: <https://theicct.org/wp-content/uploads/2022/02/purchase-cost-ze-trucks-feb22-1.pdf>, last accessed March 2023).

¹⁶⁰ ICF International, Comparison of Medium-Duty and Heavy-Duty Technologies in California, 2019 (web link: https://caletc.aodesignsolutions.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf, last accessed August 2022).

¹⁶¹ McKinsey, Preparing the World for Zero-Emission Trucks, 2022 (web link: <https://www.mckinsey.com/~media/mckinsey/industries/automotive%20and%20assembly/our%20insights/preparing%20the%20world%20for%20zero%20emission%20trucks/preparing-the-world-for-zero-emission-trucks-f.pdf>, last accessed March 2023).

¹⁶² North American Council for Freight Efficiency, Guidance Report: Medium-Duty Electric Trucks Cost of Ownership, 2018 (web link: <https://nacfe.org/wp-content/uploads/2018/10/medium-duty-electric-trucks-cost-of-ownership.pdf>, last accessed August 2022).

¹⁶³ North American Council for Fuel Efficiency, Regional Haul, 2019 (web link: <https://nacfe.org/regional-haul/>, last accessed August 2022).

¹⁶⁴ North American Council for Fuel Efficiency, Viable Class 7/8 Electric, Hybrid, and Alternative Fuel Tractors, 2019 (web link: <https://nacfe.org/future-technology/viable-class-7-8/>, last accessed August 2022).

¹⁶⁵ University of California Los Angeles, Zero-Emission Drayage Trucks – Challenges and Opportunities for the San Pedro Bay Ports, 2019 (web link: https://innovation.luskin.ucla.edu/wp-content/uploads/2019/10/Zero_Emission_Drayage_Trucks.pdf, last accessed August 2022).

¹⁶⁶ Union of Concerned Scientists, Ready to Work – Now is the Time for Heavy-Duty Electric Vehicles, 2019 (web link: <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>, last accessed August 2022).

result in a positive TCO. The TCO for ZEVs is expected to further decrease over time as costs continue to decline. Staff note that numerous sources were updated in CARB's cost analysis between the release of the TCO paper in 2021 and the release of the ACF SRIA and ISOR in 2022. The TCO analysis for ZEVs in comparison to ICE vehicles did not change significantly due to these changes and as a result, the findings remain the same.

The initial economic analysis in the ACF ISOR does not include the effects of the IRA.¹⁶⁷ The IRA has multiple provisions which address the purchase costs of heavy-duty ZEVs, including tax credits available to the fleet of up to \$40,000 per ZEV, up to \$45/kWh to produce batteries in the US, \$3 billion in grants and \$20 billion in loans to support ZE manufacturing in the US. Analysis performed by analysts at ERM International Group shows factoring in the effects of the \$40,000 Qualified Commercial Clean Vehicle Tax Credit alone accelerates purchase cost parity by five to 12 years with most models reaching parity from 2023 to 2028. Further reductions in purchase price due to the IRA may be possible due to other credits which have not been modeled. Numerous opportunities exist to defray these upfront costs and capture operational savings. HVIP and other commercial technology incentive programs aim to increase market penetration by reducing incremental costs, and therefore purchase price, while recognizing the long-term cost savings of operating a ZEV and stretching the benefits of State resources. However, CARB recognizes that circumstances vary by fleet and vehicle type, and we are continuously reassessing incentive amounts or mechanisms. Staff welcomes fleets to collaborate with us through our annual public process on funding. Simultaneously, truck financing models are evolving to better suit the nascent ZEV market, and new business models such as truck-as-a-service are appearing. These models allow fleets to operate ZEVs with a similar monthly payment to existing ICE vehicles by amortizing the upfront costs over time and capturing operational savings.

In summary, CARB's analysis found that, while ZEVs cost more than ICE vehicles currently, upfront costs are expected to keep declining and are forecasted to reach parity in the near future partly due to the IRA. On a TCO basis, ZEVs are expected to have a positive TCO in numerous applications over the course of this decade due to operational savings and declining upfront costs. Higher upfront costs are being addressed today through a combination of funding programs, financing, and innovative business models such as truck-as-a-service.

c) Costs – Infrastructure Costs

Comment Summary: The commenters raise concerns about the significant infrastructure costs required to support the deployment of ZEVs, including the costs for chargers, necessary site upgrades, and utility-side upgrades. Some believe that these costs are underestimated or omitted and cite examples of equipment or sites that incur higher costs. The commenters also question where the funding for these costs will come from, given that the infrastructure requirements far exceed the State's ability to fund and support them. Some also criticize utilities for using project approvals for ZEVs to make unnecessary distribution upgrades and power line undergrounds that should be paid for through normal business operations. The commenters highlight that rural infrastructure projects will incur additional costs, and some note that they will have to install infrastructure for leased sites. Some also request

¹⁶⁷ Public Law No: 117-169 (Aug. 16, 2022) 136 Stat. 1818.

information on the costs associated with building new generation or transmission to support the increased electrical demand. The commenters do not believe that infrastructure costs will decline over time.

Commenter: [006-45d, 011-45d, 013-45d, 014-45d, 014-OT1, 021-45d, 024-WT1, 028-45d, 042-45d, 048-45d, 058-45d, 080-OT1, 091-45d, 092-45d, 096-45d, 104-45d, 117-45d, 156-45d, 162-45d, 164-45d, 167-45d, 170-45d, 173-45d, 179-45d, 223-45d, 239-45d, 259-45d, 269-45d, 270-45d, 278-45d, 279-45d, 294-45d, 299-45d, 321-45d, 330-45d, 335-45d]

Agency Response: No changes were made in response to these comments. As discussed in Legal Response to Comment section II.B, the Regulation does not require fleets to install infrastructure, nonetheless CARB analyzed the direct costs of the Regulation including infrastructure for BEVs in Chapter VIII of the ACF ISOR.

CARB's infrastructure cost analysis is described in Chapter VIII of the ACF ISOR and uses a combination of real-world data from charger deployments and site construction for infrastructure. Charger costs were calculated using data from ICCT based on established trends for light-duty chargers with appropriate charger sizes being used for heavy-duty vehicles. Site infrastructure costs were calculated using actual data from numerous CARB and CEC funded heavy-duty ZEV pilot projects – this methodology was suggested by numerous stakeholders during workshops during regulatory development. These costs include all necessary work to prepare a site for BEV infrastructure including trenching, laying conduit, panel upgrades, permitting, and other associated costs. The ACF ISOR bases its analysis on the average cost calculated as is appropriate for a statewide estimate, but as displayed in Figure 65 of the ACF ISOR, infrastructure costs per site vary significantly.

Staff's analysis did not assume funding would be used for infrastructure and instead assumed the fleet would either pay for and install infrastructure at their own depots or use retail charging or refueling stations where infrastructure costs are embedded in the fuel cost the fleet would pay. Given that incentives are currently being offered by CEC and many of the state's utilities, fleets may see lower costs and CARB's analysis may be conservative. As described in the responses in section "Costs – Cost of the Regulation" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," despite the higher upfront vehicle and infrastructure costs, ZEVs are expected to have a positive TCO. And as described in the responses in section "Costs – Zero-Emissions Vehicle Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," numerous new solutions to defray upfront costs associated with vehicles and infrastructure are emerging such as financing solutions and truck-as-a-service models. These models address many concerns raised by commenters regarding costs associated with infrastructure.

d) Costs – Not a One-to-One Replacement

Comment Summary: The commenters state ZEVs will cost more to operate due to not being a one-to-one replacement for existing vehicles and that more vehicles will be needed to perform the same work, and this should be addressed in the SRIA.

Commenter: [282-45d, 291-45d]

Agency Response: No changes were made in response to these comments. Staff disagrees with commenter's assertion that ZEVs will not be able to replace ICE vehicles on a one-to-

one basis over the timeframe of the Regulation. The ACF Regulation's requirements are phased in over the course of the next two decades, providing flexibility for fleet owners to focus on vehicles that are most suitable for electrification first. The ZEV Milestones Option delays initial ZEV requirements for day cab tractors and work trucks until 2027, and delays sleeper cab and specialty vehicles until 2030. The data collected from fleets reporting for LER shows that nearly all straight trucks do not do more than 100 miles a day, and most day cab tractors operate less than 200 miles per day. ZEVs that are available today already can meet these range needs and technology is continuing to improve. Fuel cell trucks are also available today and more are expected in the near future. They have similar range, fueling times, and operational characteristics as ICE vehicles. Given the expected improvements in ZEV technology, and numerous technology options available such as lightweighting, fast charging, and hydrogen fuel cells, there is insufficient evidence to support the assertion that multiple ZEVs will be required to replace a single ICE vehicle. Exemptions are included in the case where a ZEV that meets the fleet's daily usage needs is not available.

e) Costs – State and Local Government Issues

Comment Summary: The commenters state that the Regulation will increase costs for local governments, leading to increased taxes, rates, or use of the city's general fund to recoup costs. They argue that local governments have less purchasing power and a two-year budget cycle that does not align with the Regulation's requirements, making ZEV purchases more expensive. Commenters are concerned about having to comply with the purchase requirements while also fulfilling their duty to spend public funds responsibly, resulting in a waste of public funds to solely comply with the Regulation.

Commenter: [014-45d, 089-45d, 101-OT1, 103-OT1, 129-45d, 179-45d, 180-45d, 274-45d, 279-45d]

Agency Response: No changes were made in response to these comments. The SLG requirements of the Regulation were designed to align with typical public fleet purchasing patterns by basing the requirements on the year the purchase order occurs consistent with existing practices and stakeholder comments. The purpose of the Regulation is to achieve criteria and GHG emissions reductions and is a cost-effective way to achieve needed health benefits to protect communities.

CARB's analysis and numerous other studies show these vehicles will have a positive TCO during the course of this Regulation. As a result, the total cost to the fleet is not expected to increase; rather, public fleets are expected to see a net cost decrease. Based on this analysis, the Regulation would not lead to rate increases or loss of services among public agencies as the commenter suggests.

f) Costs – Assembly Bill 5 Burden

Comment Summary: The commenters state that AB 5 is already putting an additional burden on the trucking industry, and adopting another Regulation will further strain truckers, brokers, and contractors.

Commenter: [028-OT1, 048-45d]

Agency Response: No changes were made in response to these comments. AB 5 established California law which requires businesses to classify their workers as employees or independent contractors. The ACF Regulation does not change AB 5 requirements. Any

burdens due to AB 5 implementation are outside the scope of the Regulation. CARB recognizes the ACF Regulation will add upfront costs for vehicles and infrastructure in the near-term; however, the costs are offset from savings on fuel and maintenance, resulting in a favorable TCO in most cases. In addition, the Regulation is expected to result in a net savings to fleets overall through the course of the Regulation.

g) Costs – Battery Disposal

Comment Summary: Commenter states that CARB fails to discuss costs for recycling and disposal of EV batteries and the potential environmental hazards that may result from recycling and disposal.

Commenter: [270-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter VIII of the ACF ISOR, costs associated with battery disposal were evaluated. CARB found that battery disposal may be a cost or cost saving depending on the state of the battery at the end of its life in the vehicle. These batteries can still be used for non-vehicular applications such as energy for grid storage. Alternatively, these batteries can also be recycled, and critical materials can be recovered for reuse in other applications. At this point, it is unclear how much value remains in the vehicle's battery at the end of its useful life, but it is speculative to claim there are additional costs which must be accounted for which exceed the battery's remaining value given it can still be used for other applications. For further discussion on battery recycling, please see the EA RTC document, Master Response 2, and responses to Comment Letter 83.

h) Costs – Passthrough to California Economy

Comment Summary: The commenter states that the SRIA underestimates economic impacts on communities due to price passthrough, especially low-income communities, from passthrough of higher vehicle and consumer costs.

Commenter: [259-45d, 322-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter VIII of the ACF ISOR, CARB's cost analysis included the direct costs of the Regulation to businesses directly affected by the Regulation as well as macroeconomic impacts of the Regulation on the overall California economy. This analysis included the impact of cost passthrough associated with both costs and cost savings. Broadly, CARB estimates the Regulation would be unlikely to have a significant impact on the California economy. Overall, the change in the growth of jobs, state GDP, and output is projected to not exceed 0.2 percent of the Baseline. Overall, the Regulation would result in a cost savings, and passthrough to communities should be beneficial since the overall economic impact to fleets is positive.

i) Costs – Electricity Costs

Comment Summary: The commenters state that the Regulation will increase electricity costs, which will have a significant impact on low-income households.

Commenter: [051-45d, 052-45d, 147-OT1, 223-45d, 347-45d]

Agency Response: No changes were made in response to these comments. Staff's analysis used a combination of actual electricity rate schedules produced by the utilities, demand forecasts from CEC, and projections from the EIA to estimate future electricity costs. Broadly, the cost of electricity from depot charging is less expensive than diesel fuel and electricity from retail charging is similar to diesel. The impact of projected electricity demand and usage are incorporated into CEC projections. As discussed in Chapter VIII of the ACF ISOR, many BEVs and associated EVSE are able to set timers which allow fleets to charge their vehicles during off-peak periods and ultimately save the fleet money.

Similarly, staff disagrees with the assertion that the ACF Regulation will broadly cause increased electricity rates. To the contrary, research suggests that uptake of medium- and heavy-duty ZEVs may decrease electricity costs for all ratepayers as ZEVs can increase utilization of generation assets during off-peak hours.^{168,169} Given this information, the commenter's assertion that the ACF Regulation will increase electricity costs is speculative and baseless.

j) Costs – Avoiding Peak Electricity Costs

Comment Summary: The commenters express concerns about the inefficiency and additional costs of charging ZEVs outside of peak hours, as it would require staff to return to work after 9:00 PM to plug in all vehicles.

Commenter: [269-45d]

Agency Response: As discussed in Chapter VIII of the ACF ISOR, many BEVs and associated EVSE can set timers which allow fleets to charge their vehicles during off-peak periods. This allows fleets to avoid peak electricity costs without having to dedicate staff time to plugging in chargers and ultimately save the fleet money. Fleets are using this technology already in real-world applications.¹⁷⁰

k) Costs – Additional Labor Costs

Comment Summary: The commenters suggest that significant investments are necessary for workforce development for ZEVs. They also state that the costs of labor will increase for agencies.

Commenter: [059-45d, 278-45d, 279-45d, 291-45d, 299-45d, 335-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter VIII of the ACF ISOR, staff modeled additional costs for transitional costs and workforce development recognizing the inherent additional costs associated with transitioning to a new technology. These costs include the cost of training the workforce to

¹⁶⁸ E3, EVGrid: Electric Vehicle Grid Impacts Model, 2019 (web link: <https://www.ethree.com/tools/electric-vehicle-grid-impacts-model-2/>, last accessed May 2023).

¹⁶⁹ M.J. Bradley and Associates, MJB&A Analyzes State-Wide Costs and Benefits of Plug-in Vehicles in Five Northeast and Mid-Atlantic States, 2017. (web link: <https://www.mjbradley.com/reports/mjba-analyzes-statewide-costs-and-benefits-plug-vehicles-five-northeast-and-mid-atlantic>, last accessed May 2023).

¹⁷⁰ Houbbadi A, Trigui R, Pelissier S, Redondo-Iglesias E, Bouton T. Optimal Scheduling to Manage an Electric Bus Fleet Overnight Charging. *Energies*. 2019; 12(14):2727. (web link: <https://doi.org/10.3390/en12142727>, last accessed February 2023).

work with new BEVs and FCEVs. Workforce development costs decline over time as the current new technology becomes accepted over time and is the new business-as-usual.

l) Costs – Residual Values

Comment Summary: Commenter does not agree with our economic model because it assumes most of the equipment has no value and its replacement cost is not a regulatory burden but rather a capital necessity not attributable to the rule itself.

Commenter: [239-45d]

Agency Response: No changes were made in response to these comments. As described in Chapter VIII of the ACF ISOR, staff incorporated residual values into the rulemaking analysis. All vehicles have a residual value that declines over time from 100 percent of the vehicle's purchase price to eventual zero percent when the vehicle is 25 years old. The analysis includes the economic impact of turnover under the Legal Baseline as well as accelerated turnover due the ACF Regulation and past turnover due to Regulations such as the Truck and Bus Regulation.

CARB does not agree with the claim that vehicles' replacement costs in the baseline are a regulatory cost. Vehicles are a depreciating asset which inherently lose value over time as the vehicle ages. This is true regardless of any CARB Regulations and it is incorrect to assume vehicles can continue to operate indefinitely in absence of Regulation.

m) Costs – Low-Carbon Fuel Standards Assumptions

Comment Summary: The commenters state that the LCFS Regulation should be excluded from the analysis since the program is considered unreliable, and some fleets cannot access credits. They argue that the LCFS credit price is below the claimed value, and as more Regulations require the use of low-carbon fuels, the credit price will continue to decrease.

Commenter: [207-45d, 291-45d, 303-45d]

Agency Response: No changes were made in response to these comments. The LCFS is an approved Regulation that has been in place for over a decade. Fleets who own their own EVSE are able to generate credits and sell them on the LCFS market to generate revenue which can offset their fuel cost. As discussed in Chapter VIII of the ACF ISOR, staff made assumptions regarding where the use of LCFS revenue was appropriate. LCFS revenue was not included for fleets expected to be using public infrastructure such as retail charging or hydrogen infrastructure as it is speculative to assume that station operators will pass through these savings to fleet operators. This assumption may be overly conservative as station operators will have an incentive to use LCFS credits to lower their fuel prices in a competitive retail fueling market. LCFS revenue was included for fleets who perform depot charging as in these cases the fleet would be able to receive the LCFS revenue. Assuming fleets will ignore revenue from an existing market condition that is a result of Regulation would not be appropriate.

LCFS credit prices are inherently volatile. To provide more information to the public, Chapter VIII of the ACF ISOR contains sensitivity analyses showing the effects of changing various assumptions will have on the cost of the overall Regulation. One of the scenarios modelled was lowering the credit price of the LCFS Regulation substantially. This alternative scenario

showed that even with a lower credit price, the Regulation as a whole would result in lower costs to California fleets. This result remains true with the Updated Cost and Benefits Analysis released as part of the ACF 15-Day Notice.

n) Costs – Maintenance Costs

Comment Summary: Commenter states assumed maintenance cost reductions for ZEVs are speculative.

Commenter: [291-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter VIII of the ACF ISOR, ZEVs are modeled to have a lower maintenance cost than ICE vehicles as these vehicles have fewer moving parts, less scheduled maintenance requirements like oil and air filter changes and have reduced usage of parts such as brakes. This relationship is well documented for light-duty vehicles and similar trends are expected to occur for heavy-duty vehicles. Note that costs for battery replacements and fuel cell stack refurbishments are classified as “midlife costs” and were accounted separately.

o) Costs – Reporting Costs

Comment Summary: The commenters state that administrative costs for reporting and recordkeeping requirements for HPF should be accounted for in the regulatory analysis.

Commenter: [247-45d]

Agency Response: No changes were made in response to these comments. CARB accounted for costs associated with reporting and recordkeeping in the cost analysis as discussed in Chapter VIII of the ACF ISOR.

p) Costs – Small Fleets

Comment Summary: The commenters state that the Regulation will negatively impact small fleets and small, family-owned businesses, potentially putting them out of business. They explain that smaller fleets may not be able to afford the cost of new vehicles, ZEVs, or necessary supporting infrastructure, and as a result, the Regulation will give larger carriers a competitive advantage, forcing smaller operators out of business. Some commenters similarly assert that smaller public fleets will be at a disadvantage in their ability to comply with the Regulation because of the costs.

Commenter: [014-OT1, 018-OT1, 025-OT1, 030-45d, 031-45d, 033-45d, 037-45d, 039-45d, 044-45d, 046-45d, 052-45d, 053-45d, 066-OT1, 087-45d, 108-45d, 110-45d, 111-45d, 112-45d, 115-45d, 116-45d, 117-45d, 118-45d, 124-45d, 133-45d, 145-45d, 150-45d, 157-45d, 164-OT1, 165-45d, 182-45d, 195-45d, 203-45d, 225-45d, 249-45d, 250-45d, 251-45d, 258-45d, 274-45d, 287-45d, 288-45d, 289-45d, 301-45d, 302-45d, 308-45d, 313-45d, 320-45d, 323-45d, 331-45d, 336-45d, 339-45d, 340-45d]

Agency Response: No changes were made in response to these comments. This response is focused on small fleets affected by the HPF and SLG requirements.

The Regulation contains numerous provisions to ensure small public fleets can meet their regulatory requirements. The SLG requirements incorporate a three-year exemption for fleets with 10 or less vehicles as well as fleets located in designated low population counties. These provisions allow fleets more time to prepare for ZEV adoption and allow them to learn

lessons from larger agencies who are acting first. As part of the ACF 15-Day changes to the ACF Regulation, SLG fleets can purchase NZEVs equally in place of ZEVs, which provides more flexibility and lower cost compared to full ZEVs. In addition, the ACF 15-Day changes allow public fleets access to the ZEV Milestone requirements which provides additional time to electrify work trucks and specialty vehicles which public fleets use. These provisions, combined with the lower costs ensure that this transition accommodates small public fleets.

The HPF requirements are focused on businesses well-suited to electrify. Small fleets are not directly regulated but may be affected if they operate under common ownership and control of a fleet owner subject to the HPF requirements. The Regulation is structured to ensure the regulatory burden is placed on the controlling party who needs to determine a pathway to achieve the Regulation's requirements. Strategies which can be used include offering incentives to smaller fleets under common ownership and control to convert to ZE, offering advantageous contracts to fleets utilizing ZEVs, preferentially hiring fleets which use ZEVs over fleets who have not electrified, and other creative solutions. This framework allows a transition to ZEV technologies while minimizing the regulatory burden smaller fleets will face as a result of this Regulation.

q) Costs – Stranded Natural Gas Assets Related to Senate Bill 1383

Comment Summary: The commenters express concern about the potential stranding of recent investments in natural gas vehicles and infrastructure. Some commenters specifically mention assets built recently to support organic waste diversion requirements of SB 1383.

Commenter: [022-OT1, 024-OT1, 078-OT1, 127-OT1, 167-45d, 234-45d, 292-45d, 321-45d]

Agency Response: Changes were made in response to these comments. As described in more detail in the responses in section "Waste and Wastewater Fleets – Include Exemption until 2033" in "Exemptions and Extensions – Waste and Wastewater Fleets" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," CARB introduced a new Waste and Wastewater Fleet Option in the ACF 15-day changes that provides additional time for fleets implementing organic waste diversion programs pursuant to SB 1383. As a result of this provision, ZEV requirements for these fleets will not start until 2030. This provision allows additional time to move produced biogas from the transportation sector to hard-to-decarbonize sectors or to produce green hydrogen which aligns with the Scoping Plan and SB 1440.

However, staff notes the ACF Regulation is phased-in over the upcoming decades and provides time for fleets to transition to ZEVs. The ACF Regulation provides all fleets the option to operate their vehicles for their full useful lives, which by extension ensures that infrastructure can continue to be utilized.

r) Costs – Supply Chain Issues

Comment Summary: The commenters state that the Regulation will have negative impacts on the transportation sector, supply chains, and the cost of living in California. They also state the existing or future supply chain issues will increase costs of ZEVs or ZEV infrastructure, or that the Regulation will exacerbate these issues. They express concern that the Regulation will exacerbate existing and future supply chain issues, such as high inflation, chip shortages, and the COVID-19 pandemic, which will impact the movement of critical goods like food, water, and medical supplies. Additionally, the commenters assert that the Regulation will

lead to freight being diverted away from California. Commenters state a rapid transition to BEVs and FCEV risks raw material shortages and supply chain vulnerabilities from geopolitical rivals.

Commenter: [001-45d, 001-WT1, 021-45d, 025-WT1, 026-45d, 027-45d, 033-45d, 038-45d, 039-45d, 042-45d, 051-45d, 052-45d, 055-45d, 057-45d, 058-45d, 059-45d, 065-45d, 067-45d, 068-45d, 069-45d, 072-45d, 074-45d, 075-45d, 080-45d, 086-45d, 101-45d, 102-45d, 103-45d, 104-45d, 105-45d, 106-45d, 107-45d, 117-45d, 121-45d, 132-45d, 132-OT1, 134-45d, 135-45d, 138-45d, 139-45d, 141-45d, 142-45d, 143-45d, 144-45d, 148-45d, 148-OT1, 149-45d, 150-45d, 152-45d, 157-45d, 161-45d, 184-45d, 188-45d, 189-45d, 190-45d, 197-45d, 198-45d, 204-45d, 232-45d, 246-45d, 249-45d, 254-45d, 257-45d, 258-45d, 259-45d, 265-45d, 268-45d, 282-45d, 283-45d, 291-45d, 295-45d, 299-45d, 301-45d, 302-45d, 308-45d, 313-45d, 331-45d, 339-45d, 347-45d]

Comment Summary: CARB fails to assess or address impacts to its own economy, much less the national economy, as the result of one state accelerating electric or fuel cell freight transport that would cease to be reliable or functional outside its geographically confined network of charging infrastructure and support systems. In particular, CARB does not address how consumers will be impacted by higher costs of food and goods as the costs of replacing existing vehicles with ZEVs are passed through to customers. Nor does CARB recognize, much less attempt to quantify, the economic impact of supply-chain disruptions and bottlenecks likely to occur if fleet owners are forced to retire their existing vehicles before they can procure ZE replacements and if fleet owners acquire ZEV vehicles that are not supported by adequate infrastructure outside the State.

Commenter: [259-45d]

Agency Response: No changes were made in response to these comments. CARB disagrees with the speculative assumption that the Regulation will cause supply chain disruptions as commenters suggest, and notes that to the extent the commenters assume the ACF Regulation requires that they purchase ZEV vehicles outside of California, they are incorrect, because the ACF Regulation only applies to vehicles that are owned, operated, or directed to operate in California.

The ACF Regulation phases in ZEVs over the next two decades and the Regulation's requirements are designed to align with technological feasibility. The Regulation's structure ensures that existing trucks can continue to operate for their full useful life and ZEVs are gradually introduced into the fleet. In addition, the Regulation contains numerous provisions such as the ZEV Purchase Exemption, the Infrastructure Construction Delay Extension, and the 5-Day Pass which ensure the requirements are feasible and events outside of fleet's control can be addressed. The ZEV Milestones Option provides additional time and flexibility for day cab and sleeper cab tractors, recognizing necessary public infrastructure which will be needed to facilitate interstate goods movement. Through this regulatory structure, the ACF Regulation ensures goods can continue moving through California without disruption.

Manufacturers and other suppliers are making significant domestic investments to bolster the supply chain in part due to the recently passed IRA. The IRA strengthens domestic supply chains by incentivizing production of materials and components critical to decrease the United States' carbon emissions in line with declared goals. These investments are already occurring at the same time manufacturers are identifying ways to produce key components

with less or no use of critical materials. This current trajectory is expected to continue, which alleviates raised concerns regarding supply chain disruptions due to the transition to ZEVs. The IRA is also a clear signal for the nationwide move to ZEVs, and multiple states have already adopted the ACT Regulation with many others committed to transitioning to ZEVs.

s) Costs – Greater Benefits than Estimated

Comment Summary: Commenter states that economic benefits are also likely to be greater than CARB estimates because learning curves for battery technologies should reduce the price differential between car and truck batteries more quickly than modeled.

Commenter: [209-45d]

Agency Response: No changes were made in response to these comments. CARB acknowledges that cost-savings may be greater than projected, but due to inherent uncertainty, are unable to predict how costs may decline directly as a result of the Regulation. As a result, the analysis may be overly conservative and greater savings are possible.

t) Costs – Response to Comments by the California Trucking Association and American Trucking Association Regarding the Total Cost of Ownership Document

Comment Summary: Commenter states the TCO document needs to be revised to incorporate the following comments.

- Fast charging infrastructure: Infrastructure rated at 500 kW or above is unlikely to exist today or in the near future. Staff should analyze cost based on currently available infrastructure.
- Ownership period: Staff should evaluate a range of truck ownership periods.
- Energy efficiency: Real-world efficiency of Class 8 drayage trucks is lower than modeled, with data suggesting a value of 2.8 kWh/mi.
- ZEV prices: Commenter states ZEV prices are unlikely to decline to the values described in the TCO paper given current prices listed today.
- Electricity fuel taxes: Taxes for electricity need to be explicitly included.
- Fuel costs: An analysis of the impact of ACF on fuel tax revenue is needed due to the potential for losses in tax revenue and the impact on associated services.
- Electricity prices: Data from CEC's Demand Scenarios should be used to estimate electricity prices.
- Retail electricity prices: Higher electricity prices are shown on the CARB source provided. In addition, staff should evaluate the differences between retail light-duty and heavy-duty electricity prices.
- Diesel/natural gas efficiency: MPG values appear incorrect as they decline over time; due to the Phase 2 GHG Regulation, MPG values should go up over time.
- LCFS revenue: Commenter disagrees that it is reasonable to assume fleets will use owned chargers and claim LCFS credits. Commenter also asks to assess the impact of capacity credits in the LCFS rulemaking.
- Sleeper cab infrastructure: Infrastructure costs for retail charging should be explicitly modeled.

- Residual value: Staff's assumption that residual values are the same as diesel differs from the assumption in the ACT rulemaking that residual values are half of an equivalent diesel.
- Dwell times: Dwell time should be included in the TCO equation.
- Impact of payload decreases: The impact of payload decreases should be included.

Commenter: [282-45d]

Agency Response: No changes were made in response to these comments. The assumptions in CARB's analysis were appropriate as described in further detail below:

Fast charging infrastructure: First, staff notes the analysis is not predicated on any individual study including the cited study from LBNL, but on the total information available regarding ZE trucks. The ACF Regulation is designed to align with expected retail charging buildout. In the early years of the Regulation, staff expects fleets to deploy ZEVs in lower mileage applications where their needs can be met with solely depot charging and over time, more vehicles will use retail charging as it becomes available as shown in Table 40 in the ACF ISOR. Some applications such as sleeper cab tractors have delayed requirements to allow time for infrastructure to be built out.

Ownership period: The purpose of calculating the costs of a single truck over its SB 1-defined useful life is to evaluate the costs in a scenario that captures all costs over the vehicle's lifetime. In an alternative scenario where multiple fleets operate the same truck, the total cost will remain the same, but the costs will be apportioned between each fleet.

Energy efficiency: Staff recognizes the efficiency of all vehicles will vary based on their actual duty cycle. Staff's estimate of 2.1 kWh/mi is based on dynamometer testing of a ZE tractor operated in a variety of duty cycles. This data is collaborated by a recent study performed as part of the Volvo LIGHTs project which was funded as part of the California Climate Investments.¹⁷¹ The data collected shows that the energy usage of both BEVs and diesel-powered trucks vary, but in all cases BEVs have significantly higher efficiency than diesel. The efficiency of BEVs is expected to further improve as this technology is relatively undeveloped and there remains significant room for improvements. Specifically for Class 8 BEVs, the data collected showed values of 1.7-2.2 kWh/mi which is in line with CARB's estimate.

ZEV prices: As described in more detail in the responses in section "Costs – Zero-Emissions Vehicle Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," staff's analysis forecasted expected ZEV costs over time using available literature sources. CARB acknowledges the inherent uncertainty in projecting future prices, but historic trends to date and trends in the light-duty market show a rapid decline in prices for ZEVs. This is due to a combination of economies of scale, decreasing component costs, and manufacturers ramping up production for mass production. The ACT and ACF Regulations provide assurance to manufacturers and other participants in the ZEV market, which will help ensure these price reductions occur.

¹⁷¹ CalStart, The Zero-Emission Freight Revolution: California Case Studies, 2022 (web link: <https://cdn.lightsproject.com/downloads/volvo-lights-website-content-news-resource-evs35-zero-emission-freight-revolution-report.pdf>, last accessed January 2023).

Electricity fuel taxes: As described in Chapter VIII of the ACF ISOR, staff modeled various taxes on electricity for BEVs including 3.53 percent for Utility User Taxes and \$0.0003/kWh for the Energy Resources Fee. In the TCO paper, a flat fee of five percent was added to the calculated utility rates.

Fuel costs: As part of the ACF SRIA and ISOR, staff assessed the impact the ACF Regulation would have on fuel taxes on a statewide basis. Performing an assessment on an individual vehicle is less valuable to policymakers than the effect of the Regulation as a whole.

Electricity prices: CARB used data from the ACT LER to estimate what portion of vehicles would be able to charge overnight. Based on the data reported for different vehicle types, vehicles which could not charge overnight were assumed to use other options such as utilizing retail charging or pursuing FCEVs. This granular data is an appropriate data source for use in the ACF Regulation.

Retail electricity prices: The cost values shown in the TCO paper represent the value at the time of writing which was mid-2021. The retail charging values were updated for the release of the ACF ISOR and ACF SRIA. Retail charging costs fluctuate over time similar to other fuel, however historically electricity prices have been far more stable than petroleum-based fuels such as gasoline and diesel.

Diesel/natural gas efficiency: The fuel efficiency values in the TCO paper represent fuel economy estimates from an earlier version of EMFAC. Values in the ACF SRIA and ISOR have been updated to a more recent version of EMFAC which shows ICE vehicle fuel economies increasing over time as shown in Chapter 8.3 of Appendix C-1 to the ACF ISOR. This difference is due to uncertainty in how increased ZEV penetration from the ACT Regulation and other ZEV programs will impact the expected GHG reductions in the Phase 2 GHG Regulation. Given that the credits generated by ZEVs can be used to offset the requirements of the Phase 2 GHG Regulation, the expected fuel economy of ICE vehicles will vary based on the assumptions used.

LCFS revenue: As described in the response in section "Costs – Low-Carbon Fuel Standard Assumptions" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," CARB's assumptions for LCFS credits are appropriate. This analysis assumes BEVs using depot charging will receive LCFS credits, but fleets relying on retail refueling or recharging will not receive LCFS credits. Assessing the impact of capacity credits in the LCFS Regulation is out of the scope of this rulemaking given that at time of writing, no such credits are available for heavy-duty vehicles. To the extent that these credits are incorporated in a future LCFS rulemaking, they would be assessed at that point.

Sleeper cab infrastructure: Retail charging is similar to gasoline and diesel where the consumer pays a single price for the fuel which includes all associated costs of supplying the fuel. For this reason, electricity costs for retail charging are higher than electricity costs for depot charging as the retail charging cost includes the costs of land acquisition, installation of the infrastructure, site maintenance, and profit. In comparison, a fleet that is utilizing depot charging would bear all these costs separately from their electricity rate. Including a separate cost for retail charging infrastructure is effectively double counting and is not representative of costs that fleet owners would actually experience.

Residual value: Staff updated its assumptions between the ACT and ACF Regulations to reflect new data and as a result, many assumptions have changed. Residual values are the net result of a variety of different factors based around fleet demand for used vehicles. Residual values of ZEVs are an unknown quantity, but several factors were used to judge their potential magnitude versus diesel. ZEV technology is advancing rapidly which may lead to a loss of value of used vehicles versus new ZEVs. ZEVs will be required to comply with the ACF Regulation while the majority of diesel trucks will be mostly phased out of regulated fleets. ZEVs cost less to operate than ICE vehicles, which should command a premium in the used vehicle market but will require infrastructure which may dissuade some purchasers. Only California and other states which have adopted the ACT Regulation are guaranteed to see ZEV sales from manufacturers, so latent ZEV demand from other states which have not adopted the ACT Regulation may drive up used ZEV prices. All in all, it is unclear which factors will predominantly affect the residual values of ZEVs versus diesel vehicles, so an assumption that they will remain similar is appropriate.

Dwell times: First, monetizing dwell times does not make sense in numerous operations where vehicles are already expected to have downtime. As demonstrated in data collected in the ACT LER, many types of fleets park their vehicles overnight and can recharge their vehicles without increasing their dwell time. Options are expected for fleets utilizing retail charging which can minimize dwell time. FCEVs are becoming widely available and are expected to be able to be refueled in a similar timeframe to diesel trucks. Fast charging for BEVs is progressing with charging speeds of up to 500 kW available today, and work is underway to commercialize charging at speeds above one MW. Fleets will have numerous options available and can match their technology choice to their needs, including their dwell time considerations.

Impact of payload decreases: please see responses in section “Zero-Emissions Technology – Vehicle Weight” in “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses” which outline how numerous options exist to address weight issues. Battery technology is continuing to improve, and FCEVs can be deployed without impacts to the vehicle’s payload. Similar to the above response for “Dwell Times,” fleets will have numerous options available and can match their technology choice to their needs, including their payload considerations.

u) Costs – Response to Comments from National Association of Fleet Administrators Fleet Management Association Regarding Vehicle Cost

Comment Summary: Commenter states the SRIA is deficient and misled the Board due to relying on outdated studies to evaluate vehicle cost and has failed to provide references for stakeholders to evaluate the information.

Commenter: [297-45d]

Agency Response: No changes were made in response to these comments. CARB engaged in a years-long public process to develop the ACF Regulation’s cost analysis. This included releasing documents for discussion and updating sources to be used in the SRIA and ISOR economic analyses. The TCO document commenter references, was included as Appendix G to the ACF ISOR, was released as a part of this iterative process. The TCO document was initially published as part of the September 9, 2021, public workshop on the ACF Regulation to discuss staff’s preliminary findings on ZEV costs. All references associated with the TCO

paper are located in the paper itself or the associated workshop and have been available for the past three years.

The ACF SRIA and ISOR use updated sources for developing vehicle cost estimates. All sources are described in Chapter VIII of the ACF ISOR, section "New and Used Vehicle Prices," are referenced, include hyperlinks to the source document, and are available as part of the rulemaking record. All stakeholders have had access to this data and at no point did staff withhold data from the public or the Board. While there is inherent uncertainty with future cost projections of ZEVs, numerous studies performed by third parties show similar results to CARB's analysis regarding comparisons between ICE vehicles and ZEVs. While staff recognizes inflation is a concern currently, it impacts both ICE vehicles and ZEVs and to imply that ZEVs are disproportionately affected is speculative and presented without any supporting data.

v) Costs – Response to Comments from National Association of Fleet Administrators Fleet Management Association Regarding Response to Department of Finance Comments on Upfront and Ongoing Costs

Comment Summary: Commenter states CARB did not appropriately respond to comments from DOF. Commenter requests CARB split costs for public fleets between upfront costs and ongoing costs and to justify the statement that, "We expect the change in costs for State and local government fleets would be proportional to the number of vehicles in each fleet. However, larger fleets may have additional cost savings opportunities per vehicle due to their size."

Commenter: [297-45d]

Agency Response: No changes were made in response to these comments. Staff disagrees with the assertion that CARB failed to respond to comments from DOF or misled DOF in the responses to questions. First, contrary to the commenter's claim, staff separated upfront and operating costs for government agencies in Chapter VIII of the ACF ISOR, section "Fiscal Impacts" for both costs to State and local government. The data is consistent with CARB's statement that while upfront costs are expected to be higher, operating costs are expected to lead to lower overall costs. CARB's statement that larger agencies have additional opportunities for cost savings reflects the fact that larger agencies have access to economies of scale not available to smaller agencies. Larger agencies can make bulk purchases, negotiate lower prices with their higher buying power, and have greater flexibility to phase-in ZEVs. The fact that larger entities have more opportunities for cost savings via economies of scale is well understood economic principle and is not a novel or controversial fact. Additionally, the Board approved modifications to the SLG Regulation that were reflected in the 15-day changes to exempt the smallest agencies with 10 or less trucks until January 1, 2027, and provided access to the ZEV Milestones Option and purchase of NZEVs for all SLG fleets to increase flexibility.

w) Costs – Response to Comments from National Association of Fleet Administrators Fleet Management Association Regarding Response to Department of Finance Comments on Exemptions

Comment Summary: Commenter states CARB did not appropriately respond to comments from DOF and misled DOF by stating “the proposed Regulation has been updated since the SRIA to include a number of exemptions or extensions to minimize concerns where certain vehicle configurations may not be available as a ZEV, or if there are extended delays in receiving a ZEV” as CARB’s response does not reflect regulated fleet’s concerns with the newly included exemptions and extensions.

Commenter: [297-45d]

Agency Response: No changes were made in response to these comments. Staff disagrees with the assertion that CARB failed to respond to comments from DOF or misled DOF in the responses to questions. Staff disagree with the comment that CARB misled DOF by stating the Regulation has been updated with a number of exemptions to minimize concerns where certain vehicle configurations may not be available as a ZEV. Given that the ZEV Purchases Exemption and Infrastructure Delay Extensions did not exist when the ACF SRIA was submitted to DOF, this response is a factual statement which provides valuable insight into changes. In addition, since the release of the ACF ISOR, staff have made further changes in response to stakeholder feedback including adding new pathways in these exemptions as part of the ACF 15-Day changes to the ACF Regulation. Given this information, CARB’s statement in response to DOF is factually correct regardless of whether the commenters believe the discussed exemptions address their own concerns.

x) Costs – Response to Comments from the California Bus Association

Comment Summary: Commenter states the cost of a motorcoach is not the same as a truck and should be treated differently and requires a more nuanced approach, stating that incentive “programs such as HVIP and Carl Moyer, are available to help incentivize fleet transition, however to ask our operators to shell out 50 percent more than they currently do for their buses without taking into consideration the facts... particular to the industry, is a recipe for the demise of the over the road motor coach.” The commenter is referring to the loss of luggage space for BEV motorcoach and range concerns in the facts addressed above statement.

Commenter: [314-45d]

Agency Response: No changes were made in made in response to this comment. Staff analyzed the costs of motorcoaches as part of the rulemaking’s economic analysis. Similar to other ZEVs, ZEV motorcoaches are expected to have higher upfront costs and lower operating costs versus other vehicles. The Regulation contains the Daily Usage Exemption which addresses situations where the available ZEVs cannot meet the fleet’s needs and allows the purchase of an ICE vehicle. Under the ZEV Milestone pathway, three-axle buses such as motorcoaches are on the Group 2 schedule recognizing additional time may be necessary for ZEV technology to be fully viable in this category. Over time, improved battery technology and proliferation of fast charging stations are expected to remedy many of the challenges raised. Applications with high mileage and weight considerations such as some

motorcoaches are ideal use case for FCEVs which are an eligible pathway for fleets in the ACF Regulation.

HVIP and other commercial technology incentive programs aim to increase market penetration by reducing incremental costs, and therefore purchase price, while recognizing the long-term cost savings of operating a ZEV and stretching the benefits of State resources. However, we recognize that circumstances vary by fleet and vehicle type, and we are continuously reassessing incentive amounts or mechanisms. We welcome fleets to collaborate with us through our annual public process.

7. Definition Issues

a) Add Definition "Direct" or "Direct the Operation of"

Comment Summary: The commenters request that CARB provide a clear definition for the terms "direct" or "direct the operation of"

Commenter: [200-45d]

Agency Response: No changes were made in response to these comments. The term "to direct" is a well understood term that is used in the ACF Regulation as it is generally defined in dictionaries.

b) Definition of "California Fleet" Regarding Declared Emergency Events and Mutual Aid

Comment Summary: The commenters request that the "California fleet" definition be revised to exclude vehicles operating solely in response to emergency events or mutual aid requests.

Commenter: [291-45d]

Agency Response: No changes were made in response to these comments. Public entities from outside California are not subject to the Regulation, and private entities that are responding to emergency events would be exempt under the HPF Regulation Section 2015.3 (f) Exemptions Pursuant to Declared Emergency Events.

c) Definition of "California Fleet" Regarding Interstate Fleets and Temporary Trips into or through California

Comment Summary: The commenters suggest modifying the "California fleet" definition to exclude temporarily present vehicles, transitory vehicles, those on long-haul routes, or those with only one day of presence in the state, to avoid unfairly impacting fleet ZEV requirements. They express concerns about the California fleet definition, stating it is problematic for interstate fleets and inconsistent among fleet types.

Commenter: [145-OT1, 282-45d, 284-45d, 322-45d]

Agency Response: Changes were made in response to these comments. The "5-Day Pass" was added to address interstate temporary vehicle use, allowing a fleet to operate a vehicle in California for five consecutive days one time per calendar year per vehicle. In addition, the restriction on vehicles that enter California one time was removed from the definition for "California fleet" and was applied to only fleets following the ZEV Milestones Option of the HPF Regulation. This restriction was not necessary for those using the Model Year Schedule because no new trucks may be added to the California fleet unless they are ZEVs, and it is

not needed for the SLG Regulation. The rationale for why this is appropriate can be found in the ACF 15-Day Notice. However, no changes were made to the definition of California fleet as the definition is consistent among fleet types; the definition applies to all fleets subject to the Regulation, regardless of industry or makeup.

d) Definition of “California Fleet” Regarding Continual Compliance Management / Gamesmanship

Comment Summary: The commenters state that continually managing fleet-wide compliance is impractical due to continuous fleet size changes and ask for clear language on compliance, fleet definitions, and the time of year for evaluating fleet compliance in the ACF Regulation. The commenters express concerns about potential gamesmanship, stating that a fleet moving a non-ZEV or ZEV into California for one day should not be required to purchase additional ZEVs or be relieved of their obligation based on a single-day entry.

Commenter: [147-45d]

Agency Response: No changes were made in response to these comments. To establish fair and equitable requirements for all regulated fleets and to avoid potential gamesmanship, fleet owners are required to report changes to their fleet within 30 days. The Regulation requires the fleets to be in compliance every day of the year which is a requirement consistent with other CARB Regulations. Fleet owners that use the Model Year Schedule must remove vehicles that have exceeded their useful life by the end of the same calendar year and may not bring any new ICE vehicles into the fleet after the initial report in 2024. Exceptions only apply for exemptions that have been approved and reported in TRUCRS. Failure to apply for or wait for confirmation of approval is a violation. With the ZEV Milestones option, compliance is based on the number of ZEVs in the fleet as a percentage of the total California fleet. The fleet must remain in compliance with the ZEV milestones if newly adding a vehicle to the California fleet by operating it in California for the first time in a given year. The addition to the fleet must be reported within 30 days. A vehicle that comes into California in the middle of the year for a couple of months and does not return the rest of the year is still counted as part of the California fleet until the end of the calendar year. This approach prevents a fleet owner from bringing 12 different vehicles into California in sequence for one month at a time and claiming that only one vehicle operated in California that year. The intent was to make sure that vehicles sold, scrapped, or otherwise no longer owned or that no longer exist would reduce the number for purposes of the Milestones calculation; these vehicles would be removed from the California fleet size immediately for purposes of compliance. However, it was not intended to reduce the fleet size for vehicles still owned by the same fleet that are transferred out of state but are brought back to operate in California in the same or subsequent calendar year. Transferring a vehicle out of state and permanently allocating it to local operation somewhere else, then bringing it back to operate in California after it was transferred out of state, is not considered removing a vehicle from the California fleet by definition in the Regulation because the fleet owner is still eligible to continue operating that vehicle in the state. Indicating a vehicle is transferred out of state is effectively telling CARB the vehicle will not be operated in California the following year. Therefore, these vehicles would not be removed from the California fleet count until the end of the calendar year for purposes of the ZEV Milestones Calculation.

e) Definition of "California Fleet" Regarding Sold Vehicles

Comment Summary: The commenters request clarification on section 2015.2(b), asking if in-scope vehicles sold during the calendar year are excluded from the "California fleet" count compliance, regardless of replacement.

Commenter: [284-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires the "California fleet" to be in compliance throughout the year, regardless of the selling or buying of vehicles, and requires fleet owners to report changes to their fleet, including any recently sold or purchased vehicles, within 30 days. A vehicle that is operated in California continues to be counted as a vehicle that operated in California during the calendar year. This approach prevents fleet owner from bringing 12 different vehicles into California in sequence for 1 month at a time and claiming that only one vehicle operated in California that year. The intent was to make sure that vehicles sold, scrapped, or otherwise no longer owned or that no longer exist, would reduce the number for purposes of the Milestones calculation; these vehicles would be removed from the California fleet size immediately for purposes of compliance. However, it was not intended to reduce the fleet size for vehicles that are still owned that are transferred out of state that could be brought back to operate in California in the same or subsequent calendar year. Transferring a vehicle out of state and permanently allocating it to local operation somewhere else, then bringing it back to operate in California after it was transferred out of state, is not considered removing a vehicle from the California fleet by definition in the Regulation because the fleet owner is still eligible to continue operating that vehicle in the state. Indicating a vehicle is transferred out of state is effectively telling CARB the vehicle will not be operated in California the following year. Therefore, these vehicles would not be removed from the California fleet count until the end of the calendar year for purposes of the ZEV Milestones Calculation.

f) Definition of "California Fleet" Regarding Vehicles Purchased with Incentive Funds

Comment Summary: The commenters mention section 2015(n) lacks explicit information on incentivized vehicles purchased before January 1, 2024, and request that ACF take a stronger stance to allow any incentivized vehicle to count towards the "California fleet."

Commenter: [284-45d]

Agency Response: No changes were made in response to these comments. The Regulation does not control nor set funding policy criteria. Those policies and criteria are determined by the legislation or policies established by the funding program administrators. The language in the Regulation regarding funding establishes a mechanism for funding programs to provide funding to fleets that comply with the ZEV Milestones Option if the funding program guidelines allow it. The January 1, 2024, start date references when such funded vehicles would be excluded from the compliance calculation to ensure the emission benefits are not double counted during the contract period specified in the funding program.

g) Definition of "California Fleet" Regarding Vehicle Purchase Commitments

Comment Summary: The commenters request that the "California fleet" definition exclude vehicles committed to before ACF Regulation adoption but delivered after, such as lease commitments made before the Regulation was proposed.

Commenter: [322-45d]

Agency Response: No changes were made in response to these comments. The "Vehicle purchase" or "purchase" definition references the placement of an order vehicle and describes vehicle commitments, including lease agreements with a contract term of one year or more. Section 2015.1(a)(1) of the HPF Regulation, which discusses the Model Year Schedule provision, states that new ICE vehicles may be added to the California fleet if the vehicle was purchased on or before the effective date of the Regulation. The ZEV Milestones Option allows ICE vehicles to be added to the fleet after the initial report, pursuant to the ICE Vehicle Additions requirements of the Regulation. Fleet owners may add 2010 to 2023 model year engines at any time whether or not they were purchased before the rule became effective. Similarly, a 2024 model year engine purchased before the Regulation took effect could also be reported as part of the California fleet after the initial report provided that it is a California certified engine.

h) Definition of Common Ownership and Control

Comment Summary: The commenters request that CARB modify the definitions of "common ownership or control" and "controlling party" to provide clarity, specifically addressing terms such as "in combination," "manages," "serves," and "directs or otherwise manages day-to-day operations." They argue that the current definitions lack clarity and are unworkable for today's trucking industry, as it is difficult to determine truck ownership status, truck owner business status, or truck count for implementing a ZEV purchase. They suggest focusing on exclusive, long-term relationships and aligning the definitions with the Truck and Bus Regulation and HVIP. Furthermore, they express concern that the Regulation's current definitions create unreasonable and incoherent classes of vehicles regulated separately under the ACF Regulation.

Commenter: [229-45d, 282-45d, 290-45d, 334-45d]

Agency Response: A change was made in response to these comments. The definition for "controlling party" was modified to specify that the term is applicable to managing day-to-day operations of vehicles, rather than fleets, because the definition of common ownership or control on which the controlling party definition is based applies to vehicles rather than fleets. This change is necessary for consistency and to prevent more than one reasonable and logical interpretation of the criteria. However, no change was made in response to these comments regarding the definition of "common ownership or control." The applicability criteria encompass fleet owners or controlling parties with combination fleets operated under common ownership or control totaling more than 50 vehicles to maintain a level playing field with other regulated parties who own their trucks and compete for the same business, and because they are positioned to have visibility and control over the fleet as a whole that the owner-operators of these vehicles do not have. It is necessary to specify that the applicability criteria apply to the total fleet of vehicles, not just the California fleet, because total fleet size

is an indicator of financial means to make the capital investments needed. The purpose of the definition of "common ownership or control" is to define it as being owned or managed on a day-to-day basis by the same person or entity. Vehicles managed by the same directors, officers, or managers, or by distinct corporations that are controlled by the same majority stockholders are under common ownership or control, even if their titles are held by different business entities or they have different taxpayer identification numbers. Furthermore, a vehicle is under an entity's control if the vehicle is operated using that entity's state or federal operating authority or other registration. Vehicles owned by different entities but operated using common or shared resources to manage the day-to-day operations using the same motor carrier number, displaying the same name or logo, or contractors whose services are under the day-to-day control of the same entity are under common ownership or control. Common ownership or control of a federal government vehicle shall be the primary responsibility of the governmental agency that is directly responsible for the day-to-day operational control of the vehicle. Common ownership or control includes relationships where the controlling party has the right to direct or control the vehicle as to the details of when, where, and how work is to be performed or where expenses for operating the vehicle, such as fuel or insurance, are shared. Common ownership or control does not include agreements for individual loads that are competitively bid and issued to the lowest qualifying bid.

i) Definition of Configuration

Comment Summary: The commenters ask for an expansion of the "configuration" definition, proposing that it includes not only the primary function but also other features such as capacity, off-road capability, 4x4 drive, ground clearance, GVWR, refueling speed, operating run time, PTO, and specialized specifications. They request that the definition incorporates the Clean Air Act's definition of "complete vehicle" and the related definition from 40 CFR § 1037.801, as well as adding "and operation" after "primary intended function." They provide specific redlines for section 2015(b), suggesting to add: "'Configuration' means a unique combination of basic vehicle inertia weight, axle ratio and spacing, cargo body type, payload capacity as applicable, and is designed to achieve a specified performance output."

Commenter: [015-WT1, 210-45d, 261-45d, 326-45d]

Agency Response: Changes were made in response to these comments. The definition of "configuration" was modified to simplify the definition to mean the primary intended function for which a complete vehicle is designed, or as determined by the body permanently attached to the chassis of an incomplete vehicle. Reference to equipment integrated on the body was removed to prevent unintentionally including auxiliary or equipment for secondary uses in the definition. Examples were included to specify terms commonly understood by those directly affected by the Regulation that would exemplify the defined term, and examples of commonly understood equipment terms that would not be included in the definition were provided.

j) Definition of Designated Contact Person

Comment Summary: The commenters suggest that CARB define "designated contact person" as the individual to whom all notifications are sent, ensuring that entities can respond to CARB contacts in a timely manner. They provide an example of audit notices

being sent to both the registered vehicle owner and the designated contact person to highlight the importance of having a clear point of contact.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. The purpose of the requirement for the fleet to provide the designated contact person's information is to allow CARB to communicate with the fleet about assistance with compliance, reporting issues, exemption requests and making clarification or corrections to errors or incomplete information. While CARB enforcement personnel are aware of the commenter's request for the designated contact person to be included on all notifications, the contact may or may not be used by enforcement when sending audit requests or other enforcement actions. However, it might be helpful to know that a records request is not the first contact CARB enforcement makes with a fleet during an audit; CARB enforcement will make contact with the fleet using contact information found in DMV records, TRUCRS, or on a company's website, using whatever information is available to verify the appropriate person will be contacted before sending a records request.

k) Definition of Emergency Event

Comment Summary: The commenters suggest modifying the definition of "emergency event" to allow public agency general managers or ranking officers to declare such events, include responses affecting public health and safety or governed by other regulatory orders, and base the duration on immediate threats to public safety. They recommend considering the Stationary and Portable Airborne Toxic Control Measures for modeling types of emergencies and defining "emergency" and "emergency vehicle" within ACF. They also request broadening the definition to include non-Governor and public official declared events. They also state that the CARB Executive Officer should not be the entity that decides when an emergency is over because the duration of emergency situations is based on "immediate threat to public safety," which may require cleanup and repair activities.

Commenter: [014-45d, 207-45d, 210-45d, 269-45d, 309-45d]

Agency Response: No changes were made in response to these comments. The language does not specify that the Executive Officer would decide when such events end. The dates specified by the declaring body or the contract with the responsible emergency management entity would determine the end date. It is necessary to specify that emergencies must be declared events by the U.S. President, a State Governor, or other local governing body because those are the entities that have authority to declare such events. The duration of each declared emergency is unique and cannot be predicted in advance and the period of time vehicles need to be used to respond to emergencies is established in the declaration or in supporting contracts in response to the declaration. CARB's Executive Officer doesn't make the decision when a declared emergency event has ended; whoever declared the emergency event would be the one to end it. The intent of provisions relying on this definition is to alleviate immediate threats to public safety while establishing a specific time period when the emergency operation has ended for each unique event.

l) Definition of Emergency Operations / Emergency Support Vehicle

Comment Summary: The commenters request changes to the "emergency operations" definition, including operations of emergency support vehicles at the request of first

responders and clarifying "routine operations" to include "planned maintenance or construction." They disagree that "routine operation to prevent public health risks" should not constitute emergency operation and propose aligning the definition with the In-Use Off-road Diesel-Fueled Fleet Regulation. The commenters request the definition include vehicles dispatched by a local, State, federal, or other responsible emergency management agency or public utility during any emergency and to prevent an emergency. Some commenters recommend that the definition of emergency support vehicle be modified to add: "or by a utility to restore utility service disrupted by a declared emergency event" to the definition. Some commenters state the definition should allow for non-emergency operation if time critical to prevent future or near-term emergencies.

Commenter: [207-45d, 210-45d, 226-45d, 229-45d, 310-45d, 291-45d, 342-45d]

Agency Response: No changes were made in response to these comments. This definition is necessary to set forth the circumstances during which authorized emergency support vehicles, in addition to vehicles claiming exemptions for emergency use, can provide emergency response services. It is necessary to limit operations to alleviating immediate threats to public health or safety and only when responding to declared emergency events because many fleets have emergencies, they routinely respond to within their normal service territories and are activities that are part of the normal daily operation and how the fleet is managed. The intent of this definition is to limit operations to extraordinary circumstances to enable nimble response to major declared emergencies, not to cover issues that fleets deal with on a daily basis, nor to cover routine maintenance prevention activities. There is no reason a ZEV could not be appropriately dispatched to support a routine maintenance or repair activity within the fleet. The list of event types points to existing California Government Code definitions for various conditions of emergency for simplicity and to align with existing definitions. Events that occur routinely, or are scheduled maintenance activities to prevent potential emergencies, are not included because they are planned daily operations that are part of normal business practices or services and should not be exempt due to foreseeable occurrences. The definition of an "Emergency support vehicle" does allow for those that have been dispatched by a local, State, or federal agency that is used in emergency operations. Routine operations to prevent public health risks do not constitute emergency operations. This is consistent with other in-use on-road CARB Regulations, and the off-road Regulation's definition of emergency operations also excludes routine maintenance or construction to prevent public health risks.

m) Definition of Fleet Owner

Comment Summary: The commenters ask for adjustments to the "fleet owner" definition regarding leased vehicle ownership, aligning with the ACT definition regarding assignment of fleet ownership to lessees if their lease agreements contain terms of at least one year; that for entities that lease at least 50 vehicles pursuant to "full service" or "operating" leases, the fleet owner for purposes of compliance should be the entity that operates such vehicles under its own motor carrier authority; is responsible for operational DOT-related safety obligations; is responsible for operating said vehicles in accordance with all State and federal laws (e.g., hours of service, commercial driver's license requirements, etc.); or has control over the use and operation of the vehicle (i.e., the lessee). Commenter suggests modifications to the "High Priority" definition (by which it appears they mean "fleet owner")

based on the context of the comment) to exclude small operators with service clients that have revenues over \$50 million.

Commenter: [008-45d, 150-45d, 169-45d]

Agency Response: No changes were made in response to these comments. The original proposal already specified that the lessee is considered the "fleet owner" if the lease agreement is for one year or more, as it is in the fleet information reporting requirement of the ACT Regulation. This could be the case even for the lease of fewer than 50 vehicles if the fleet owners own, operate, or direct the operation of at least 50 vehicles in total, and whether under a "full service" or "operating" lease, or not. A determination was made that lease agreements of one or more years indicated sufficient control over the vehicle by the fleet owner. Additionally, the original proposal already specified in the definition of "common ownership or control" that vehicles owned by different entities but operated using common or shared resources to manage the day-to-day operations using the same motor carrier number, displaying the same name or logo, or contractors whose services are under the day-to-day control of the hiring entity are under common ownership or control. Therefore, the "fleet owner" would be the person who demonstrates such common ownership or control. However, even small operators with \$50 million or more in total gross annual revenue fall under the established threshold for companies that have the financial means to make the capital investments in ZEVs and associated infrastructure in the early transition. Therefore, being a small operator does not, in and of itself, change the designation of fleet ownership. The complete rationale for Scope and Applicability and Fleet Applicability is discussed in Sections 2015(a)(1) and 2015(a)(1)(A-D) of Appendix H-2 to the ACF ISOR.

n) Definition of Heavy Front Axle

Comment Summary: The commenters state that Class 8 solid waste collection vehicles would meet the definition of heavy front axle but that they are excluded from front axle weight limits specified in CVC subsection 35551.5(b), and commenter is unsure if CARB intends solid waste collection vehicles to be included in ZEV Milestones Option Group 3 specialty vehicles because they have heavy front axles as the Regulation defines.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. Any Class 8 vehicle with a heavy front axle, as defined in the Regulation, would be included in the "specialty vehicle" definition. If a Class 8 refuse truck has a heavy front axle, regardless of the exclusion from axle weight limits specified in CVC subsection 35551.5(b), it would be included.

o) Definition of Minimum Useful Life

Comment Summary: The commenters request reworking the "minimum useful life" definition to align with upcoming U.S.EPA sliding scale definition. Some commenters suggest changing the minimum useful life definition from "the model year that the engine and emissions control system in a vehicle was first certified for use by CARB or U.S. EPA" to "from the model year that is listed on the emission control label of the engine" because the current definition can be misinterpreted to mean that the useful life is based on the model year

standard the engine was certified to meet. Commenter requests allowed useful life miles are extended to one million miles.

Commenter: [053-45d, 125-45d, 127-45d, 130-45d, 238-45d, 247-45d]

Agency Response: No changes were made in response to these comments. California law as set forth in SB 1 sets the minimum useful life of commercial vehicles, including the engine model year to which it applies. The Regulation is consistent with the requirements of SB 1.

p) Definition of Near-Zero-Emissions Vehicle

Comment Summary: The commenters request a complete and clear definition of NZEVs in ACF instead of pointing to other California code references. Some commenters state that the current NZEV definition is limited to "vehicles powered by an ICE and a battery-electric powertrain capable of operating like a ZEV for 'a limited time'," yet other technologies, like mobile carbon capture, can potentially provide equivalent or more emissions reductions than NZEVs, and requests that these technologies be appropriately accounted for and incentivized in ACF.

Commenter: [207-45d, 275-45d, 342-45d]

Agency Response: No changes were made in response to these comments. The NZEV definition in the Regulation is aligned with existing requirements for California's GHG Phase 2 Regulation and the ACT Regulation and was selected to ensure continued improvement and advancement towards full ZEVs. The purpose is not to include all vehicles that could operate with less emissions than a typical ICE vehicle. The definition was selected because of PHEV technology's potential to operate with zero-emissions for some or most of the time the vehicle is operated which results in the needed criteria and GHG reductions and as a bridging technology to full ZEVs. Including ICE with carbon-capture technology on board would not reduce criteria pollutants and is speculative at this time.

q) Definition of Near-Zero-Emissions Vehicle – Lower All-Electric Range Requirement

Comment Summary: The commenters state that minimum all-electric range requirements should align with customer and fleet operator needs, as higher range requirements may increase costs without providing additional benefits.

Commenter: [030-WT1, 120-OT1]

Agency Response: No changes were made in response to these comments. The NZEV definition in the Regulation is aligned with existing requirements for California's GHG Phase 2 Regulation and the ACT Regulation and was selected to ensure continued improvement and advancement towards full ZEVs. Higher electric range requirements help advance development of battery-electric systems. Nothing in the Regulation prevents fleets from purchasing NZEVs with lower all-electric range if they are utilizing the ZEV Milestones Option and are meeting their ZEV Milestones, though the vehicles would not count toward the fleet's compliance obligation.

r) Definition of Renewable Natural Gas Vehicle

Comment Summary: The commenters request adding a definition for biomethane vehicles, which includes criteria such as: fleet owners must use these vehicles for organic waste, solid waste, and recyclable materials collection; vehicles that exclusively use biomethane for fueling; and vehicles operating or contracting with California biomethane production facilities. Commenters also state the ICE vehicle definition should exclude vehicles powered by SB 1383 compliant biomethane, and they advocate discouraging ICE vehicles running on diesel, gasoline, or fossil natural gas.

Commenter: [175-45d, 304-45d]

Agency Response: No changes were made in response to these comments. Biomethane powered vehicles are CNG vehicles that use biomethane as a fuel. These are still powered, by definition, with ICEs. The Regulation language already includes a Waste and Wastewater Fleet Option with appropriate criteria for vehicle, fleet, and fuel inclusions that cover most of the commenter's suggested edits.

s) Definition of Vehicle Purchase

Comment Summary: The commenters seek clarification on the term "immediate delivery" in the definition of "vehicle purchase," pointing to a potential conflict with page 92 of the ACF ISOR, which acknowledges that Class 4 and above vehicles are typically manufactured in stages and that the process can take up to a year or more.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. The inclusion of "immediate delivery" means as soon as the manufacturer is able to assemble the vehicle and the term is to ensure fleet owners are making a good faith effort to place ZEVs in service as soon as possible. The purpose is to close a loophole where an owner can place an order on paper but with an intentionally delayed delivery date. The board recognizes that it can take several years to receive a vehicle that is ordered for immediate delivery and accounts for that in the Vehicle Delivery Delay Extension.

t) Definition of Specialty Vehicle

Comment Summary: The commenters request that ready-mix concrete trucks and solid waste collection vehicles be consistently categorized, asking for their inclusion in the specialty vehicle definition. They suggest modifying the "Specialty vehicle" category to encompass vehicles with complex specifications unique to the service area, such as medium/heavy-duty Class 4 through 8 booms for aerial/overhead work, extended duty cycle PTO-driven equipment, augers, cranes, water filtration, vacuum equipment, fumigation sprayers, and communication devices.

Commenter: [015-WT1, 170-45d, 261-45d, 310-45d]

Agency Response: No changes were made in response to these comments. The specialty vehicle definition includes any Class 8 vehicle with a heavy front axle, or a Class 8 vehicle designed to carry cargo and configured to perform work that can only be done while the vehicle is stationary and the auxiliary mechanism to perform that work is an integral part of the vehicle design. Vehicles meeting that definition include cement trucks, solid waste collection vehicles, drilling rigs, among many others. No changes were made to address the

specific inclusions of booms, PTO equipment, augers, cranes, water filtration, vacuum equipment, sprayers, or communication devices, because including others would undermine the objectives of the Regulation and would introduce a large loophole in the Regulation because of how expansive the suggested change is. Other exemptions and extensions address situations where ZEVs of certain configurations are not available to purchase or cannot meet a fleet's daily usage needs. For example, the ZEV Purchase Exemption allows fleets to purchase a new ICE vehicle when ZEVs are not available in the needed configuration, and the Daily Usage Exemption allows fleets to purchase a new ICE vehicle if available ZEVs cannot meet the duty cycle for the same truck configuration.

8. 100 Percent ZEV Sales Issues

a) 100 Percent ZEV Sales Requirement and Fleet Size Applicability Thresholds

Comment Summary: Commenters are suggesting moving the 100 Percent ZEV Sales requirement to 2036, lowering the HPF fleet size applicability threshold below the originally proposed 50 trucks down to 10 tractors, and moving all tractors from ZEV Milestones Group 3 to Group 2, or otherwise earlier than originally proposed. The commenters support adopting Alternative 2 of the ACF ISOR which would simultaneously lower the fleet size threshold, accelerate the ZEV Milestones timelines for tractors, and move up the 100 Percent ZEV Sales requirement to 2036. They state these changes will make the Regulation more stringent, create more jobs, provide economic, health, and air quality benefits, while protecting against driver misclassification.

Commenter: [005-WT1, 008-WT1, 008-OT1, 011-WT1, 012-OT1, 013-WT1, 016-WT1, 017-WT1, 018-WT1, 019-WT1, 020-WT1, 023-WT1, 025-OT1, 026-WT1, 027-OT1, 028-WT1, 029-45d, 029-OT1, 031-OT1, 031-WT1, 032-OT1, 035-WT1, 036-OT1, 036-WT1, 038-WT1, 039-OT1, 040-45d, 040-WT1, 043-45d, 043-OT1, 044-OT1, 045-OT1, 046-OT1, 048-OT1, 049-OT1, 052-OT1, 055-OT1, 056-OT1, 058-OT1, 059-OT1, 060-OT1, 061-OT1, 064-OT1, 066-OT1, 067-OT1, 069-OT1, 070-OT1, 071-OT1, 074-OT1, 075-OT1, 100-45d, 104-OT1, 106-OT1, 107-OT1, 108-OT1, 110-OT1, 111-OT1, 112-OT1, 114-OT1, 117-OT1, 119-45d, 119-OT1, 122-OT1, 122-45d, 123-45d, 123-OT1, 125-OT1, 126-OT1, 128-OT1, 131-45d, 131-OT1, 133-OT1, 137-OT1, 146-OT1, 149-OT1, 152-OT1, 154-OT1, 160-OT1, 162-OT1, 163-OT1, 183-45d, 186-45d, 199-45d, 209-45d, 212-45d, 213-45d, 231-45d, 240-45d, 242-45d, 244-45d, 262-45d, 273-45d, 296-45d, 327-45d, 328-45d, 332-45d, 338-45d, 350-45d]

Agency Response: Changes were made in response to these comments. The Board approved shifting the 100 percent sales requirement for ZEVs to 2036 reflected in the ACF 15-day changes. This modification reflects the Board's intent to expedite the transition to ZEVs, to achieve criteria pollutant reductions, GHG benefits, and meeting targets established by executive orders.

The fleet size for tractors was not lowered to 10 because the initial upfront cost to purchase ZEVs is higher than for ICE vehicles. The approximately 4,000 smaller fleets impacted typically have limited access to capital and are more likely to purchase used vehicles. Additionally, retail infrastructure for ZEVs is currently limited in availability. The Board decided the timing for bringing in smaller fleets requires additional study. Once a robust secondary market for ZEVs is established by the end of this decade, smaller fleets will be better positioned to transition to ZEVs.

No changes were made to accelerate HPF Milestone Schedule for Group 3 to start in 2027. The ZEV market for Group 3 vehicles is expected to take the longest to develop, and tractors in this category are more likely to be involved in regional or long-haul operations that rely on an extensive regional and interstate ZEV fueling and charging network that needs time to develop. However, BEV technology is rapidly improving and NZEVs are available in this category that have a range of about 1,000 miles. NZEVs count as ZEVs up until model year 2035. The Board already adopted the State Implementation Plan that includes a Zero-Emissions Truck Measure that is due to be considered by the Board in 2028. This measure will evaluate various strategies that could facilitate a smoother and more equitable transition to ZEVs for these truck owners. The Board will be evaluating the most effective proposals as part of the 2028 SIP. For more information, please refer to the February 10, 2023, Memorandum to the Board.¹⁷²

b) Implement 100 Percent ZEV Sales Four Years Earlier

Comment Summary: The commenters suggest moving the Regulation's timeline four years earlier to protect children's health. Commenter: [035-WT1]

Agency Response: Changes were made in response to these comments. Staff interpret this comment to apply to the 100 percent sales requirement. The initially proposed Regulation was modified by shifting the 100 percent sales requirement for ZEVs to 2036 instead of 2040 as reflected in the ACF 15-day changes.

c) Require 100 Percent ZEV Sales by 2035

Comment Summary: Commenters are requesting to move the proposed 100 Percent ZEV Sales requirement to 2035.

Commenter: [082-OT1, 271-45d]

Agency Response: Changes were made in response to these comments. The initially proposed Regulation was modified by shifting the 100 percent sales requirement for ZEVs to 2036 instead of 2040 as reflected in the ACF 15-day changes. This is directionally the same as the suggestion.

d) 100 Percent ZEV Sales Requirement for Out-of-State Vehicle Purchases

Comment Summary: The commenters state that the 100 Percent ZEV Sales requirement lacks clarity regarding the treatment of out-of-state vehicle purchases that are brought into California and how the ACF Regulation would apply to third-party sales.

Commenter: [207-45d]

Agency Response: Changes were made in the response to these comments. Language was modified to include the requirement to purchase new California certified engines when exemptions are granted. Also, when adding ICE vehicles to the California fleet under the ZEV Milestones Option the engines must be 2010 to 2023 model year, and any additions of 2024

¹⁷² CARB, Advanced Clean Fleets Regulation High Priority Fleet Size Analysis, 2023 (web link: https://ww2.arb.ca.gov/sites/default/files/2023-02/HPF%20Fleet%20Size%20Board%20Memo_ADA.pdf, last accessed March 2023).

model year or later engines must be California certified. The 2010 or newer requirement was selected to remain consistent with the requirements of the Truck and Bus Regulation. CARB is not regulating fleets operating outside of California, however, any fleets intending to conduct business in California must adhere to California laws and Regulations for the vehicles they will operate as part of their California Fleet to reduce the emissions that occur here.

9. Drayage Truck Requirements Issues

a) Drayage – Add Near-Zero-Emissions Vehicles and Plug-In Hybrid Electric Vehicles

Comment Summary: The commenters request specific flexibilities for NZEVs or PHEVs to be included in the drayage fleet. Commenters specifically request CARB provide credits for NZEVs or PHEVs to meet the drayage truck requirement, like the high priority or government requirements. The commenters state that NZEVs should also be able to generate ZEV credits in the drayage section of the Regulation to reduce costs and achieve greater near-term air quality benefits. Finally, to allow post 2010 low-NOx engines retrofitted with batteries to become PHEVs or NZEVs and be permitted for drayage operation and implementing zero-only operation in defined zones at or near the applicable seaport or railyard location.

Commenter: [076-OT1, 114-45d, 181-45d, 284-45d]

Agency Response: No changes were made in response to these comments. Additional NZEV or PHEV flexibilities are not needed in the drayage sector due to the phase-in of ZEV requirements. Introducing a crediting mechanism would introduce unnecessary complexity to the Regulation as PHEVs and NZEVs are bridging technologies and would not be allowed in the drayage sector beyond 2035. In addition, the drayage truck requirements provide fleets with the flexibility to continue to utilize legacy combustion trucks as they transition toward ZEVs. Furthermore, allowing NZEVs would delay the emissions benefits of the drayage requirements since they would be allowed to operate through their SB 1 useful life limits or until 2035, whichever comes first. The Regulation includes an accelerated timeline for transitioning drayage trucks to ZEVs to help reduce the high cumulative exposure burdens of toxic air contaminants and criteria air pollutants that communities nearby seaports and railyards experience.

b) Drayage – Alternative Analyses

Comment Summary: The commenters state that additional analyses are needed before moving forward with drayage truck requirements. Two unique analyses requested by the commenters include limiting the drayage truck requirements for the seaport to near-dock rail operations only and analyzing the impacts on different drayage fleet sizes.

Commenter: [282-45d, 341-45d]

Agency Response: No changes were made in response to these comments. The requested additional analyses would not provide information that would result in changes to the Regulation. The drayage truck requirements are part of a comprehensive strategy that would accelerate the widespread adoption of ZEV in the heavy-duty truck sector and eliminate the health impacts associated with emissions from these trucks, including eliminating exposure to diesel PM, a toxic air contaminant. It requires drayage fleets to deploy ZEVs starting in 2024

and would establish a clear end date for heavy-duty ICEs operating in the drayage sector by 2035. As discussed in Chapter VIII.E.2. of the ACF ISOR, overall costs to an example small business drayage truck owner-operator subject to the drayage truck requirements were modeled. The commenters suggested analyses would not provide additional information that would achieve the same health protective benefits.

c) Drayage – Cost of the Regulation

Comment Summary: The commenters state the high cost of ZEVs, and the drayage truck requirements will negatively impact seaport businesses and increase the costs to consumers. Commenters state the cost of the Regulation is too high, and CARB analysis on the TCO is incorrect due to faulty assumptions regarding the LCFS program, and there will be negative consequences for the economy, businesses, or the transportation system. Specifically, that the higher costs will result in some companies going out of business, and job losses along the entire supply chain.

Commenter: [023-OT1, 036-45d, 073-45d, 162-45d, 163-45d, 187-45d, 274-45d, 284-45d, 341-45d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in sections “Costs – Costs of the Regulation,” “Costs – Passthrough to the California Economy,” “Costs – LCFS Assumptions,” and “Drayage – Supply Chain Issues,” “Costs – Supply Chain Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.” As described in those responses, CARB performed a thorough analysis in accordance with State law to evaluate the economic impact of the ACF Regulation. When factoring in upfront costs including vehicles and infrastructure, operating costs including fuel and maintenance, and other miscellaneous costs this analysis found the Regulation is expected to result in a cumulative net savings to the State of \$48.0 billion from 2024 to 2050, with the drayage portion by itself expected to save \$7.4 billion. Note that these cost savings do not include the \$28.5 billion in expected health savings to 2050.

These cost savings are due to a combination of factors. While ZEVs are expected to cost more upfront due to higher vehicle and infrastructure costs, there is an expected decrease in operating costs due to lower fuel costs, decreased maintenance expenses, and revenue from California’s LCFS Regulation. This results in a lower TCO for ZEVs versus their ICE counterparts. As ZEV costs will decline over time, the savings ramp up. CARB also prepared numerous sensitivity analyses to assess the impact of different assumptions would have on the cost of the Regulation.

CARB’s cost analysis included the direct costs of the Regulation to businesses directly affected by the Regulation as well as macroeconomic impacts of the Regulation on the overall California economy. This analysis included the impact of cost passthrough associated with both costs and cost savings. Broadly, CARB estimates the Regulation would be unlikely to have a significant impact on the California economy. Overall, the change in the growth of jobs, state GDP, and output is projected to not exceed 0.2 percent of the Baseline. Overall, the Regulation would result in a cost savings, and cost passthrough to consumers should be beneficial since the overall economic impact to trucking fleets is positive.

As described in more detail in section “Costs – LCFS Assumptions” in “Cost Comments” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses,” the costs did not assume fleet owners relying on retail charging or refueling would receive LCFS credits. CARB modeled only fleets using the own infrastructure installed at depots will be able to generate LCFS credits.

d) Drayage – Cost of the Regulation – Small Business Owners

Comment Summary: The commenters state that drayage fleets are small, family-owned businesses, and the cost of ZEVs and infrastructure will be too much and will cause them to go out of business. In addition, the commenters state that the costs to deploy ZEVs will put a disproportionate burden on small fleets that cannot afford ZE equipment, and that ZEVs are not currently affordable for many small companies and individuals even with the incentives being offered.

Commenter: [009-45d, 017-45d, 078-45d, 126-45d, 166-45d, 205-45d, 206-45d, 274-45d]

Agency Response: No changes were made in response to these comments. CARB’s analysis evaluated the impact of the Regulation on small fleets who would be affected by the drayage truck requirements of the ACF Regulation.

The drayage truck requirements are phased in over 11 years and allow drayage owners to continue using legacy combustion trucks as drayage trucks for the length of their useful life or until 2035. This ensures that legacy vehicles can continue to operate as ZEVs are phased-in over time.

The analysis in Chapter VIII the ACF ISOR and the ACF SRIA evaluated the direct costs to a drayage truck owner-operator subject to the Regulation’s requirements. This analysis assumed no incentives or grants for the owner-operator and that the owner-operator would rely on retail fueling and would not receive any LCFS credits. This analysis found that over the analysis period, the costs to the drayage owners transitioning to ZEVs as a result of the Regulation would be lower than in the baseline scenario operating a diesel vehicle. When factoring in new programs such as the IRA and various incentive programs at the state and local level available for small fleets, the cost to purchase and operate these ZEVs may be even lower than modeled in the ACF ISOR.

Numerous opportunities exist to defray these upfront costs and capture operational savings. HVIP and other commercial technology incentive programs aim to increase market penetration by reducing incremental costs, and therefore purchase price, while recognizing the long-term cost savings of operating a ZEV and stretching the benefits of State resources. However, CARB recognizes that circumstances vary by fleet and vehicle type, and we are continuously reassessing incentive amounts or mechanisms. CARB welcomes fleets to collaborate with us through our annual public process on funding. Simultaneously, truck financing models are evolving to better suit the ZEV market, and new business models such as truck-as-a-service are appearing which minimize the upfront investment needed. These models allow fleets to operate ZEVs with a similar monthly payment to existing ICE vehicles by amortizing the upfront costs over time and capturing operational savings. California has committed substantial funding solely for ZE drayage. Through HVIP, more than \$150 million remains in the drayage set-aside while the Governor’s January Budget proposal for fiscal year 2023-24 allocates an additional \$165 million for drayage trucks.

Additionally, the VW Environmental Mitigation Trust currently has over \$70 million in funding to replace compliant Class 8 freight and drayage trucks, dump trucks, waste haulers and concrete mixers MY 2012 and older with new ZE Class 8 trucks. All vehicles eligible for HVIP funding are also eligible in VW, and recent program changes will allow stacking VW funding with other funding programs, including HVIP, that do not claim NOx reductions.

e) Drayage – Daily Usage Exemption

Comment Summary: The commenter requests a daily use exemption for drayage trucks with longer routes. For example, a Daily Usage Exemption is needed because some drayage trucks currently travel four hundred miles or more round-trip route and back on a daily basis.

Commenter: [282-45d]

Agency Response: No changes were made in response to these comments. A daily use exemption for drayage trucks that have longer routes is not needed due to the flexibilities for drayage fleets to phase-in ZEVs. The drayage truck requirements allow fleets to continue to use legacy combustion drayage trucks within their useful life for longer routes as ZEV technology and statewide ZEV fueling infrastructure continues to develop. As discussed in Chapter I.E.4. of the ACF ISOR, approximately 33,500 drayage trucks service California's seaports and intermodal railyards annually, of which 28,700 are trucks that visit California's seaports and intermodal railyards an average of two or more times per week.¹⁷³ As of December 31, 2022, at the sunset of the previous Drayage Truck Regulation, there were over 140,000 compliant drayage trucks with 2010 or newer model year engines registered in the CARB DTR. These legacy trucks will likely continue to operate in the drayage sector, which should provide enough trucks to serve both the seaports and railyards.

f) Drayage – Definition – "Marine or seaport"

Comment Summary: The commenter requests to refine the "Marine or seaport" definition specifically to remove "or passengers" and "or surrounded by" in the current definition.

Commenter: [082-45d]

Agency Response: No changes were made in response to these comments. The "Marine or seaport terminals" definition minimizes loopholes for drayage trucks that operate at facilities within the boundaries or jurisdiction of a marine or seaport terminal. This definition is also consistent with the previous CARB Drayage Truck Regulation and provides consistency with those requirements.

g) Drayage – Expand the Drayage Truck Definition

Comment Summary: The commenter requests that the definition of a drayage truck be expanded to include additional vehicle types, specifically auto-carriers.

Commenter: [037-OT1]

¹⁷³ Proposed Advanced Clean Fleets Regulation Staff Report: Initial Statement of Reasons (ca.gov) 2023, (weblink: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/isor2.pdf>).

Agency Response: No changes were made in response to these comments. Auto-carriers are covered under the HPF requirements, which align more closely with the suitability of auto-carrier duty cycles and can address auto-carrier activities that occur both in and outside of California's seaports and railyards.

h) Drayage – Exemption – Non-Repairable Vehicle

Comment Summary: The commenter requests an exemption be added for trucks that experience a catastrophic engine failure or accident that could render existing drayage trucks useless, despite remaining useful life protection.

Commenter: [341-45d]

Agency Response: Changes were made in response to these comments. A provision was added for drayage truck owners to request and obtain an extension if a vehicle is non-repairable due to an accident or other circumstance beyond the drayage truck owner's control that damages the vehicle such that it is not repairable. This would allow a drayage truck owner to purchase and add to the CARB Online System a used vehicle with an ICE of the same or newer model year to replace a vehicle that is non repairable. The used vehicle would be able to operate until the end of the minimum useful life of the original vehicle.

i) Drayage – Exemption – Combustion Vehicles Ordered Pre-2024

Comment Summary: The commenter states that the January 1, 2024, deadline for drayage should allow for the registration of combustion vehicles purchased prior to the deadline that are not delivered until after the deadline.

Commenter: [001-45d]

Agency Response: No changes were made in response to these comments. The Regulation allows combustion trucks to be added to the CARB Online System as part of the legacy fleet until December 31, 2023. Allowing combustion trucks to be added beyond that circumvents the intent of the rulemaking of transitioning the drayage fleet toward ZEVs by 2035. In addition, the high concentration of drayage trucks operating at seaports and railyards results in higher levels of exposure of diesel toxics to nearby communities, so transitioning the drayage fleet to ZE operations as soon as possible accelerates the drayage ZEV fleet transition and related health benefits. Allowing additional combustion engines to be added after the end of 2023 and expanding the current combustion drayage fleet would only further delay much needed and overdue health benefits to these communities.

j) Drayage – Incentives

Comment Summary: The commenter requests that CARB describe specific measures it will implement to assist drayage truck owners to afford compliance with the Regulation.

Commenter: [274-45d]

Agency Response: No changes were made in response to these comments. The 2021 and 2022 State budgets include a total investment of \$10 billion over six years to reduce carbon dioxide emissions from the transportation sector by supporting ZEVs and ZEV infrastructure. This funding will be administered by CARB, CEC, the Caltrans, and GO-Biz. This funding builds on ZEV infrastructure investments made by the State for more than a decade. These investments focus on an equitable ZEV transition by continuing to find ways to support

disproportionately impacted communities. Specific details about the currently available funding programs can be found on the ACF Fact Sheet web page.¹⁷⁴ These funding programs are available to support the use of advanced technologies, and because funding programs only pay for early adoption not for compliance, more funding opportunities exist for those fleets that act early. Please see additional responses to issues raised in section “Drayage – Costs of the Regulation” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

k) Drayage – Infrastructure Availability

Comment Summary: The commenters state the lack of ZEV fueling infrastructure makes the drayage rule infeasible. The commenters state that the lack of charging infrastructure will cause delays in drivers making appointment times and long lines at the seaports, resulting in companies losing money. The commenter states that there currently isn't any infrastructure in Baja, California, to address drayage vehicles that cross the border to enter the seaport. Commenter states that the scale of the charging infrastructure necessary would be 65 to 160 MW.

Commenter: [026-OT1, 076-45d, 078-45d, 098-45d, 293-45d]

Agency Response: Changes were made in response to these comments. Infrastructure delays are accounted for in the drayage truck requirements, and an expanded infrastructure delay compliance extension was provided to account for potential delays in the completion of infrastructure installation projects. The Regulation is phased in over 11 years, and CARB is collaborating with other State agencies including CEC, CPUC, and GO-Biz, along with IOUs and POUs to actively plan for this transition.

In addition, other infrastructure efforts are ongoing to provide balanced charging and fueling opportunities for affected fleets. For example, faster chargers with speeds up to 350 kW are being deployed in the field today and work is underway to develop and demonstrate chargers that exceed one MW that would allow even the largest vehicles to recharge in well under an hour. PG&E has an EV Fast Charge program that is designed to enable public fast charging and complements State and privately funded initiatives within their territory. The \$22 million program runs through 2025 and aims to install approximately 50 plazas for direct-current fast charging in corridor and urban sites. PG&E would pay for and build the infrastructure from the electric grid to the fast-charging equipment.

Furthermore, as described in Chapter I.G.1.1. of the ACF ISOR, the infrastructure issues at ports of entry at the Southern border are similar to those in all areas of California with the exception of the potential for availability on the Mexican side of the border. The drayage truck requirement phase-in approach provides drayage fleets time to continue utilizing the legacy trucks while ZEV fueling infrastructure develops.

Please see responses to issues raised in section “Infrastructure Availability – General” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing

¹⁷⁴ Advanced Clean Fleets Regulation Summary | California Air Resources Board 2023, (weblink: <https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-Regulation-summary> last accessed March 2023.

Public Comments with Agency Responses” for a more detailed response to the general infrastructure concerns.

l) Drayage – Infrastructure Availability – Utility Delay

Comment Summary: The commenter states there is a long utility backlog for installing power for infrastructure.

Commenter: [163-45d]

Agency Response: Changes were made in response to these comments. The Infrastructure Delay Extension was expanded from one-year to two-years for construction related delays, allowing for a total of three years from the date a construction permit was obtained to delay ZEV deployments due to circumstances outside a fleet owner’s control during site construction. Additional criteria were added to the extension to address site-specific circumstances due to utility delays that cannot be supported by existing site power due to delays in obtaining grid power from the utility before construction starts. This type of delay could receive an initial extension of up to three years and could be extended another two years if delay conditions persist. Eligibility would be based on the date the fleet owner either executes a contract with the utility to build out the infrastructure project or the utility attests they will proceed with the project. The rationale for why this extension was expanded can be found in the description of changes to Chapter B.(C)., section 2014.2, in the ACF 15-Day Notice.

m) Drayage – Infrastructure Availability – Retail

Comment Summary: The commenters state that public or retail infrastructure is not ready, and the majority of the drayage fleet will rely on public-facing infrastructure. They state that the retail infrastructure is not sufficiently available, will take too long to install, might not be in the necessary locations along common drayage routes, or there isn't space at the seaports for charging infrastructure, specifically related to the drayage truck requirements, and will not be ready with Regulations starting in the 2024 timeline which will result in congestion or cargo delays, so should delay or not adopt Regulation until sufficient public infrastructure is available. Commenter states that drayage trucks need more flexibility, including infrastructure, because some park on public streets and cannot install chargers at home.

Commenter: [023-45d, 032-45d, 034-45d, 035-45d, 036-45d, 073-45d, 089-OT1, 111-45d, 112-45d, 115-45d, 116-45d, 118-45d, 126-45d, 145-45d, 151-45d, 156-OT1, 163-45d, 166-45d, 171-45d, 178-45d, 205-45d, 206-45d, 274-45d, 288-45d, 311-45d, 341-45d]

Agency Response: No changes were made in response to these comments. CARB expects the development of public or retail fueling infrastructure to be able to meet consumer demand at the same pace as the drayage truck ZEV requirements. Larger fleets will likely have access to on-site charging or refueling infrastructure at their facilities as business models shift toward ZE technology. For vehicles that do not have access to overnight parking facilities, there are several third-party infrastructure providers currently developing public retail charging infrastructure. The drayage truck requirements include compliance extensions to address delays in development of ZEV fueling infrastructure at these overnight parking and public retail charging facilities. In the near-term, owner-operators and smaller fleets will be able to continue using their combustion drayage trucks through the end of their useful life.

In addition, California has made, and continues to make, significant investments in medium- and heavy-duty ZEV infrastructure, including roughly \$2 billion over the past two fiscal years. This includes investments through the EnergiIZE block grant with multiple funding lanes to address various vehicle and vocation segments. Funding opportunities have also supported planning blueprint creation, transit agencies, drayage trucks, public retail stations, and other innovative use cases. In addition, some of California's major seaports and some third-party infrastructure providers are currently developing public retail charging infrastructure. Please see additional responses to issues raised in section "Infrastructure and Grid Concerns - Publicly Accessible" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

n) Drayage – Less Stringent Regulation

Comment Summary: The commenters request that CARB make the drayage truck requirements less stringent by pushing out the regulatory deadlines or aligning with the HPF Regulation or to push out the ZEV entry standard for drayage trucks until there is a sufficient supply of infrastructure.

Commenter: [032-45d, 053-45d, 073-45d, 077-45d, 108-45d, 110-45d, 150-45d, 185-45d, 206-45d, 274-45d, 311-45d]

Agency Response: No changes were made in response to these comments. The drayage truck requirements are phased in between 2024 through 2035. The transition allows the legacy combustion drayage trucks to continue to operate until they meet the limits of the useful life provision. The drayage truck requirements include infrastructure delay provisions to provide additional time for fleets when infrastructure development is delayed. In addition, due to the high volume and concentration of drayage trucks operating at California's seaports and railyards, which results in higher levels of cumulative toxic exposure to communities living nearby, an accelerated transition of drayage trucks to ZE operations is a critical component of the ACF Regulation in reducing the toxic diesel exposure to those communities.

o) Drayage – One Visit Requirement

Comment Summary: The commenters state concerns about the impact of the one visit per year requirement on the State's ability to handle cargo throughput and recommend removing it to add flexibility during unanticipated cargo surges. In addition, the requirement could negatively impact the transport of break-bulk material through the seaport because the drayage trucks that transport these materials are largely out-of-state trucks that utilize our day pass system.

Commenter: [082-45d, 089-OT1, 282-45d]

Agency Response: No changes were made in response to these comments. The annual visit requirement is necessary to ensure trucks that regularly visit seaports and railyards can continue to operate, while minimizing the impact of additional combustion trucks being added to circumvent the intent of the drayage truck requirements. The legacy trucks that visit at least one time per year will remain registered in the CARB Online System and will be allowed to continue operations throughout their useful lives.

As discussed in Chapter I.E.4. of the ACF ISOR, approximately 33,500 drayage trucks service California's seaports and intermodal railyards annually. As of 12/31/2022, at the sunset of the

previous Drayage Truck Regulation, there were over 140,000 drayage trucks with 2010 or newer model year engines registered in the previous CARB DTR. These additional or supplemental trucks are expected to support the drayage fleet during cargo surges at California's seaports or railyards if they visit at least once per year and do not exceed the useful life limitations.

p) Drayage – Out-of-State Trucks

Comment Summary: The commenter states that out-of-state drayage trucks are not provided relief in the drayage truck requirements, which will lead to inefficiencies in drayage operations and negatively impact consumers.

Commenter: [284-45d]

Agency Response: No changes were made in response to these comments. The drayage truck requirements apply equally to all drayage trucks that enter and operate in California's seaports and railyards. The drayage truck regulatory requirements are not anticipated to create a competitive advantage or disadvantage for out-of-state trucks that would result in inefficiencies or negatively impact consumers.

q) Drayage – Railyards

Comment Summary: The commenter states they are concerned that the Mira Loma railyard is excluded from the Regulation because it is in one of the most highly polluted areas in the State.

Commenter: [155-OT1]

Agency Response: No changes were made in response to these comments. Assuming that the commenter is referring to the Union Pacific Mira Loma Railyard, this railyard is included in the drayage truck requirements as an intermodal railyard.

r) Drayage – Reporting

Comment Summary: The commenters state concerns with reporting requirements.

Commenter requests an alternative reporting requirement like the CARB HD I/M Regulation process to avoid having to check compliance manually causing unnecessary terminal gate delays for terminals that do not have automated systems. In addition, they also request that terminals report to CARB directly, not through the seaport authority.

Commenter: [082-45d, 099-OT1]

Agency Response: Changes were made to address the comments on manual compliance checks. A change to the drayage reporting requirements in Section 2014.1(a)(7)(B) was added as an alternative reporting option to provide additional flexibility to seaport and marine terminals and intermodal railyards that do not have automatic reporting systems. This section was added to address stakeholder concerns that smaller seaports and railyards or specific terminals may be burdened by the reporting requirements.

No changes were made in response to the comments to change the requirements for terminals report directly to CARB, and not through the Seaport Authority. This requirement provides transparency for the seaport or railyard authorities on compliance, throughput, and drayage truck activities at the respective facilities.

s) Drayage – Regulation Not Feasible

Comment Summary: The commenters state that solutions for compliance are not available or that the drayage truck requirements are not feasible due to the state of the ZEV technology and infrastructure. Commenters state that the drayage truck requirements will destroy drayage trucking jobs and businesses. Commenters urge CARB to halt the Regulation, stating that previous seaport congestion will pale in comparison to what will happen if the industry cannot replace trucks after January 1, 2024.

Commenter: [072-45d, 075-45d, 077-45d, 079-45d, 080-45d, 089-OT1, 099-45d, 108-45d, 110-45d, 121-45d, 126-45d, 132-45d, 138-45d, 139-45d, 145-45d, 163-45d, 166-45d, 205-45d, 206-45d]

Agency Response: No changes were made in response to these comments. The drayage truck requirements are phased in through 2035. The operational characteristics and the availability of ZE Class 7 and 8 drayage trucks, and the Regulation's phase-in approach provides drayage fleets time to transition toward ZE technologies, while continuing to utilize the legacy fleet for longer moves as the ZEV technology and infrastructure develops. In addition, the drayage truck requirements provide flexibility through extensions for both a vehicle delivery and infrastructure delays to ensure that the technology and infrastructure is rolled out concurrently.

A list of currently commercially available heavy-duty Class 7 and 8 ZEVs may be found on CALSTART's Zero-Emission Technology Inventory website.¹⁷⁵ In addition, Chapter I.F. of the ACF ISOR provides an overview for both the current and anticipated availability of Class 7 and 8 ZE trucks and includes details for make, type, and commercial availability.

t) Drayage – Supply Chain Issues

Comment Summary: The commenters state the drayage truck requirements will negatively impact the drayage trucking industry and the overall supply chain, and subsequently raise the cost of goods. Commenters state that the drayage truck requirements could cause a mode shift from rail to trucks causing more diesel trucks to be on the road.

Commenter: [023-OT1, 025-45d, 032-45d, 067-45d, 070-45d, 071-45d, 073-45d, 076-45d, 077-45d, 166-45d, 171-45d, 205-45d, 274-45d, 288-45d, 341-45d]

Agency Response: No changes were made in response to these comments. CARB disagrees with the speculative assumption that the Drayage Regulation will cause supply chain disruptions as commenters suggest. The drayage truck requirements are not anticipated to create supply chain issues as trucks transition to ZEVs.

The Drayage Regulation phases in ZEVs over the next 11 years and the requirements are designed to align with technological feasibility. The regulatory structure ensures that existing legacy drayage trucks can continue to operate for their useful life and ZEVs are gradually introduced into the fleet. In addition, the Regulation contains numerous provisions such as the ZEV Delivery Delay Extension, and the Infrastructure Construction Delay Extension, which ensure the requirements are feasible and provide flexibility for events outside of a fleets

¹⁷⁵ CALSTART, Zero-Emission Technology Inventory, 2021 (web link: <https://globaldrivetozero.org/tools/zero-emission-technology-inventory/>, last accessed August 2022).

control. This regulatory structure ensures goods can continue moving through California without disruption.

Currently, manufacturers and other suppliers are making significant domestic investments to bolster the supply chain in part due to the recently passed IRA. The IRA strengthens domestic supply chains by incentivizing production of materials and components critical to decrease the United States' carbon emissions in line with declared goals. These investments are already occurring at the same time manufacturers are identifying ways to produce key components with less or no use of critical materials. This current trajectory is expected to continue, which alleviates raised concerns regarding supply chain disruptions due to the transition to ZEVs. Please see additional responses to issues raised in section "Cost – Supply Chain Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

It is speculative to assume that the Drayage Regulation will drive freight from trucks to rails given the expected lower costs. However, even if this was true, the recently adopted In-Use Locomotive Regulation will ensure that goods movement by train is significantly cleaner.

u) Drayage – Support

Comment Summary: Commenter is supportive of the process, stakeholder engagement, or actions in the rulemaking.

Commenter: [119-OT1]

Agency Response: No changes were made in response to these comments. Thank you for your comment.

v) Drayage – Truck or Driver Shortage

Comment Summary: The commenters state that drayage truck drivers are in shortage already as a result of labor issues with the recent Truck and Bus Regulation requirements and the addition of the drayage regulatory requirements could result in truck or driver shortages or force seaport drivers to seek employment outside California with fewer trucks available to serve the seaports and or railyards.

Commenter: [166-45d, 274-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter I.E.4. of the ACF ISOR, approximately 33,500 drayage trucks service California's seaports and intermodal railyards annually, of which 28,700 are trucks that visit California's seaports and intermodal railyards an average of two or more times per week.¹⁷⁶ As of December 31, 2022, at the sunset of the previous Drayage Truck Regulation, there were over 140,000 compliant drayage trucks with 2010 or newer model year engines registered in the CARB DTR. These legacy trucks will likely continue to operate in the drayage sector, which should provide enough trucks to serve both the seaports and railyards.

¹⁷⁶ Proposed Advanced Clean Fleets Regulation Staff Report: Initial Statement of Reasons (ca.gov) 2023, (weblink: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/isor2.pdf>).

w) Drayage – Useful Life

Comment Summary: The commenters state that CARB has not considered the back end of the useful life protection by requiring all drayage vehicles to be heavy-duty ZEVs starting in 2035. The commenter proposes that diesel trucks that are 12 years or older and have more than 800,000 miles should be stopped and checked for diesel particulate filters at the seaports. In addition, the commenter states that CARB is not properly accounting for the useful life requirements, since the proposal says that all drayage vehicles will need to be heavy-duty ZEVs starting in 2035. The commenter provided example: a 2022 engine would reach its initial useful life threshold in 2035 but should still have protection until that engine reached 18 years old in 2040 or the vehicle hit 800,000 miles.

Commenter: [140-45d, 341-45d]

Agency Response: No changes were made in response to these comments. Drayage trucks will be subject to the end of their useful life provision, as defined by SB 1, which defines a truck's useful life as the later of: (1) Thirteen years from the model year the engine and emission control system are first certified for use in self-propelled commercial motor vehicles by the State board or other applicable State and federal agencies, or (2) when the vehicle reaches the earlier of either 800,000 vehicle miles traveled or 18 years from the model year the engine and emission control system are first certified for use in self-propelled commercial motor vehicles by the State board or other applicable State and federal agencies.

Accordingly, the drayage truck requirements that allow existing drayage trucks to be used until they reach the above defined useful life period is consistent with State law. Drayage trucks 12 years and older would be required to report their mileage annually and may not exceed their minimum useful life to remain in the CARB Online System. Only a small number of legacy drayage trucks are expected to be operating at the end of 2034. These trucks will no longer be eligible to conduct drayage activities but can continue to operate in California in other capacities.

The proposal that diesel trucks that are 12 years or older and have more than 800,000 miles should be stopped and checked for diesel particulate filters at the seaports would not provide similar emission benefits or meet the overall goals of the Drayage Regulation and the HD I/M or Clean Truck Check Regulation will check the operations of diesel particulate filters.

x) Drayage – Useful Life in 2025

Comment Summary: The commenter states that there is no clear determination from CARB on the population of vehicles who will run out of useful life protection once DTR reporting begins in 2025.

Commenter: [341-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter III.C. of Appendix F to the ACF ISOR, the average age by which a typical drayage truck accrues 800,000 miles is approximately 15 years old, as determined from DMV

registration and California Vehicle Inventory and Use Survey.¹⁷⁷ Although a portion of the 2010-2012 MY trucks will be subject to the useful life limitations, the remaining legacy trucks will be eligible to continue to operate in the drayage sector, which should provide a sufficient number of trucks to serve both the seaports and railyards.

y) Drayage – Vehicle Exemptions for Auto Transports

Comment Summary: The commenters state concern about the vehicle exemption for auto transport vehicles.

Commenter: [155-OT1, 316-45d]

Agency Response: No changes were made in response to these comments. Auto-carriers are covered under the HPF requirements, which align more closely with the suitability of auto-carrier duty cycles and can address auto-carrier activities that exist outside of drayage service.

z) Drayage – Zero-Emissions Vehicle – Mileage is Not Feasible

Comment Summary: The commenters state that there are currently no ZEV models that can make a round trip shipment to the seaports. Commenter states that the extra charging time needed as a result will cause significant delays in deliveries.

Commenter: [023-45d, 024-45d, 025-45d, 032-45d, 034-45d, 036-45d, 053-45d, 067-45d, 074-45d, 076-45d, 077-45d, 078-45d, 079-45d, 099-45d, 101-45d, 102-45d, 105-45d, 106-45d, 107-45d, 138-45d, 139-45d, 151-45d, 177-45d, 182-45d, 205-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter I.E.4. of the ACF ISOR, drayage trucks are typically part of a dedicated fleet that primarily moves cargo to and from seaports and intermodal railyards to near-dock, local, or regional transloading facilities or warehouses to be stored or re-packaged before the cargo moves to the next destination and travel a limited number of miles daily and then return to a home base. Motor carrier facilities will likely provide on-site charging or fueling as drayage trucks begin to transition towards ZEV technology.

In addition, according to the I-710 Project Key-Performance Parameters for Drayage Trucks CALSTART 2013 survey, approximately 81 percent of drayage trucks that visit California's seaports report most trip distances under 60 miles.¹⁷⁸ This is consistent with other studies that have found that most drayage trucking companies being located within 10 miles of the port complex with operators typically completing three roundtrips per day, and 85 to 90 percent reporting only one shift per day.¹⁷⁹

¹⁷⁷ Proposed ACF Regulation - Appendix F: Emissions Inventory and Results Advanced Clean Fleets Regulation (ca.gov) 2023, (weblink: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/appf.pdf>).

¹⁷⁸ CALSTART, Performance Parameters for Drayage Trucks Operating at the Ports of Los Angeles and Long Beach, 2013 (web link: https://calstart.org/wp-content/uploads/2018/10/I-710-Project_Key-Performance-Parameters-for-Drayage-Trucks.pdf, last accessed August 2022).

¹⁷⁹ Port of Long Beach, Fueling the Future Fleet: Assessment of Public Truck Charging and Fueling Near the Port of Long Beach, 2021 (web link: <https://polb.com/download/379/zero-emissions/12744/final-polb-charging-study-12-sep-2021.pdf>, last accessed August 2022).

A list of currently available heavy-duty Class 7 and 8 ZEVs, that can meet the requirements of these drayage duty cycles, may be found on CALSTART's Zero-Emission Technology Inventory website.¹⁸⁰ In addition, Chapter I.F. of the ACF ISOR provides an overview for both the current and anticipated availability of Class 7 and 8 ZE trucks and includes details for make, type, and commercial availability.

aa) Drayage – Zero-Emissions Vehicle Technology

Comment Summary: The commenters state that ZEV technology will not be ready in 2024. The ZEV technology will not be ready for drayage applications due to limited range and load capabilities, number of trucks not available at scale or in a used market, availability of ZEV infrastructure, or the availability of ZEV service technicians.

Commenter: [023-45d, 024-45d, 032-45d, 034-45d, 078-45d, 082-45d, 099-OT1, 116-OT1, 134-45d, 141-45d, 142-45d, 144-45d, 149-45d, 166-45d, 205-45d, 206-45d, 274-45d, 284-45d, 311-45d, 341-45d]

Agency Response: No changes were made in response to these comments. The drayage truck requirements allow fleets to continue to use legacy combustion drayage trucks within their useful life limitations as the ZEV technology and statewide ZEV fueling infrastructure continues to develop. In the near-term, it is anticipated that the legacy drayage truck fleet will meet the demands of heavier loads or longer routes as the technology improves and the used ZEV market matures.

In addition, the drayage truck requirements include several flexibilities, such as the vehicle delivery delay and infrastructure extensions and the 11-year phase-in approach, which allows legacy trucks to continue operating until they exceed the useful life requirements while transitioning to a fully ZE drayage fleet by 2035.

As discussed in Chapter I.F. of the ACF ISOR, the technology developments as well as the number of participating manufacturers, for BEVs and FCEVs have rapidly progressed over the last decade, which has led to the market introduction of ZEVs in every weight class, including drayage applications. A list of currently available heavy-duty Class 7 and 8 ZEVs, that can meet the requirements of these drayage duty cycles, may be found on CALSTART's Zero-Emission Technology Inventory website.¹⁸¹ In addition, Chapter I.F. of the ACF ISOR provides an overview for both the current and anticipated availability of Class 7 and 8 ZE trucks and includes details for make, type, and commercial availability.

Furthermore, in 2020, major multinational truck manufacturers acknowledged the science-based need to decarbonize their products fully by 2040 and have individually asserted substantial midterm targets in 2030 to reach their 2040 targets. For example, Volvo Trucks stated a 50 percent target in 2030 globally with Daimler committing to 60 percent by 2030 and 100 percent by 2039; and Navistar committed to 50 percent by 2030 and 100 percent by

¹⁸⁰ CALSTART, Zero-Emission Technology Inventory, 2021 (web link: <https://globaldrivetozero.org/tools/zero-emission-technology-inventory/>, last accessed August 2022).

¹⁸¹ CALSTART, Zero-Emission Technology Inventory, 2021 (web link: <https://globaldrivetozero.org/tools/zero-emission-technology-inventory/>, last accessed August 2022).

2040¹⁸². Furthermore, Ford has announced that their entire commercial vehicle lineup in Europe will be ZE capable – all-electric or PHEV – by 2024, and entirely battery-electric by 2030.^{183,184,185}

CARB agrees that there is a need statewide for additional skilled and trained technicians to support ZEV and other clean transportation technology adoption in the medium- and heavy-duty market as it expands. The technology is generally the same as in light-duty vehicles and can be planned for to support the ZEV market expansion. There are multiple efforts already underway which are working to address the commenters' concerns. This includes training and certification for EVITP given legislative mandates pursuant to AB 118. Workforce training and development projects are being funded by CEC and CARB that are promoting skill building, upskilling, retraining, and an expansion of the workforce across the clean transportation sector, including EV charging and fueling infrastructure. One specific example is the Inclusive, Diverse, Equitable, Accessible, and Local ZEV Workforce Pilot Project. This project also has a focus on preparing dislocated, unemployed, and new workforce entrants for ZEV careers to further broaden the scale and impact of the clean transportation workforce statewide, with a specific focus on low-income and disadvantaged communities.

bb) Drayage – Zero-Emissions Vehicle – Weight Impacts

Comment Summary: The commenters state drayage ZEV weight will impact payload capability, resulting in more trucks on the road to do the same work and increased costs.

Commenter: [032-45d, 166-45d, 205-45d, 284-45d]

Agency Response: No changes were made in response to these comments. As discussed in Chapter I.H.5. of the ACF ISOR, AB 2061 allows ZEVs and NZEVs to exceed California maximum weight limits by 2,000 pounds which addresses some of the vehicle weight and payload capacity concerns of ZEV technology for weight limited loads. However, weight may only be an issue for about 10 percent of the largest trucks on the road and may only affect about two percent of the most common dry van tractor trailer combination at maximum weight.¹⁸⁶ Additionally, weight is less of a concern for FCEVs as they have comparable range to combustion vehicles and weigh less than long-range BEVs with bigger batteries.¹⁸⁷ The

¹⁸² Navistar, Vision And Strategy, 2023 (web link: <https://www.navistar.com/about-us/vision-strategy>. last accessed February 2023).

¹⁸³ Ford, F-150® Lightning™, 2023 (web link: <https://www.ford.com/trucks/f150/f150-lightning/2022/>, last accessed February 2023).

¹⁸⁴ Ford, E-transit, 2023 (web link: <https://media.ford.com/content/fordmedia/fna/us/en/products/evs/e-transit/2022-ford-e-transit.html>, last accessed February 2023).

¹⁸⁵ Ford, Ford's new science-based, Interim Carbon-Neutral Targets Highlight First Integrated Sustainability, Financial Report, March 31, 2021 (web link: <https://media.ford.com/content/fordmedia/fna/us/en/news/2021/03/31/ford-integrated-sustainability-financial-report.html>, last accessed January 2023).

¹⁸⁶ North American Council for Freight Efficiency, Lightweighting, 2021 (Web link: <https://nacfe.org/technology/lightweighting-2/>, last accessed August 2022).

¹⁸⁷ North American Council for Freight Efficiency, Making Sense of Heavy-Duty Hydrogen Fuel Cell Tractors, 2021 (Web link: <https://nacfe.org/wp-content/uploads/2020/12/NACFE-Guidance-on-Hydrogen-Fuel-Cell-Tractors-FINAL-121620.pdf>, last accessed August 2022).

different available ZEV technology options, BEV or FCEV, allow for fleet owners to select the technology that best fits the range and weight requirements of a fleet's operations.

10. High Priority Fleet Issues

a) High Priority Fleets – Adjust \$50 Million Threshold

Comment Summary: The commenters request adjusting or removing the HPF revenue threshold and suggest redefining "High Priority Fleets" to include only fleets with gross revenues over \$100 Million.

Commenter: [218-45d, 314-45d]

Agency Response: No changes were made in response to these comments. For rationale why \$50 Million was selected as an appropriate threshold for the HPF Regulation's applicability, see section 2015(a) of Appendix H-2 to the ACF ISOR. For the same reasons, no definition for "High Priority Fleets" specifying only fleets with gross revenues over \$100 Million was added to the Regulation.

b) High Priority Fleets – Add Credit Averaging, Banking, and Trading

Comment Summary: The commenters suggest including an ABT mechanism in the Regulation, allowing fleets to trade credits generated by purchasing ZEVs. Some commenters request CARB to focus on ZEV Milestones for Group 1 vehicles and use crediting and incentive mechanisms for Group 2 and 3 vehicles. Some commenters state that NZEVs should be granted an ABT crediting framework, providing credit proportionally less than the value of a full ZEV.

Commenter: [038-OT1, 082-OT1, 200-45d, 212-45d, 236-45d, 282-45d]

Agency Response: No changes were made in response to these comments. ABT credit trading systems, such as those included in the ACT Regulation, are complex to implement and track; this approach made sense for the ACT Regulation because only a small number of manufacturing entities with dedicated regulatory compliance staff were included in that Regulation and annual vehicle sales are in the thousands. However, the ACF Regulation would affect thousands of fleets with relatively small number of trucks that may not have staff dedicated to compliance. ABT systems at the fleet level would be difficult to understand, would increase the cost and burden of compliance tracking and reporting for fleets. For the same reasons, no changes were made to provide such a crediting mechanism for NZEV vehicles in the Regulation.

c) High Priority Fleets – End of Useful Life Zero-Emissions Vehicle Conversions

Comment Summary: The commenters propose allowing fleets to convert vehicles to ZEVs instead of requiring retirement at the end of their useful life and affirm that such conversions do not constitute tampering with emissions equipment.

Commenter: [247-45d]

Agency Response: No changes were made in response to these comments. The Regulation already allows for ZEV conversions. The Model Year Schedule language specifies that ICE vehicles must be removed at the end of the vehicle's minimum useful life; however, if an ICE vehicle is converted to a ZEV, it is no longer an ICE vehicle, and the requirement to remove it

from the fleet no longer applies. A conversion to a ZEV would be treated the same as a ZEV in the ZEV Milestones Option and as a ZEV purchase under the SLG purchase requirements. Legacy CARB anti-tampering requirements applicable to aftermarket parts and fuel conversions would still need to be met.

d) High Priority Fleets – Backup Vehicle Mileage Adjustments

Comment Summary: The commenters suggest updating the HPF backup vehicle provision by increasing the mileage threshold, applying the mile limitation only within California's borders, or implementing a tiered limit based on public agency service area size.

Commenter: [007-45d, 143-45d, 170-45d, 207-45d, 210-45d, 248-45d, 282-45d, 310-45d]

Agency Response: No changes were made in response to these comments. The provided threshold of 1,000 miles annually is reasonable for reasons described in Section 2015.3(a) of Appendix H-2 of the ACF ISOR and is consistent with other CARB Regulations. A tiered approach based on geographic service area would be difficult to implement and would increase complexity of the Regulation and implementation. A simple threshold is easier to implement and enforce, and the threshold selected is sufficient to provide backup vehicles flexibility for limited operations consistent with the intent of the exemption. Applying the mileage limitation to only within California borders would also add increased complexity in reporting, recordkeeping, tracking, and enforcement. Other provisions such as the 5-Day Pass were added to the Regulation to address vehicles that operate briefly within California's borders.

e) High Priority Fleets – Add Engine Hours Option

Comment Summary: The commenter suggests addition an hours-of-operation in California option in the definition of backup vehicles.

Commenter: [170-45d]

Agency Response: No changes were made in response to these comments. The backup vehicle exemption is intended to address vehicle operating limited mileage, not just limited operations within California's borders. A range limitation ensures that backup vehicles would have minimal emissions impact while ensuring simpler implementation and enforcement, and the addition of engine hours may compromise these traits. Fleets that need to operate temporarily within California may choose to utilize the 5-Day Pass provision for temporary mileage unrestricted operation within the state.

f) High Priority Fleets – Burden on Postal or Other Brokerage Operations

Comment Summary: The commenters state that ACF will burden brokerage operations in the transportation of mail due to the lack of equivalent ACF Regulations outside California and insufficient national charging infrastructure. They assert that brokers will be forced to contract with non-existent ACF-compliant fleets, small fleets, or owner-operators not subject to HPF requirements (resulting in reduced transportation capacity, increased costs, and inefficiencies), or transportation companies that have not invested in lower-emission technologies. The commenters also express concern that ACF will disrupt the surface transportation network of the U.S. Postal Service and hinder the mail flow as contractors within this network will be required to electrify as early as 2027 under HPF requirements.

They argue that out-of-state suppliers may cease entering the state, reroute to out-of-state destinations, or transfer trailers outside of California, disrupting interstate transportation of mail and interstate commerce.

Commenter: [025-WT1, 105-OT1, 256-45d]

Agency Response: No changes were made in response to these comments. The Regulation phases-in the ZEV requirements over two decades providing truck owners and brokers the ability to transition to ZEV fleets gradually. This time may allow technology and infrastructure availability to improve for long-haul applications. ZEVs have an expected favorable TCO, and fleets will need to transition to ZEVs to remain competitive. Federal support through various legislative packages and Regulations, including the IIJA, IRA, and national CTP will support and incentivize this interstate build-out and encourage other states to transition to ZEV technologies. Manufacturers have announced efforts to install interstate ZEV fueling networks, including hydrogen fueling, in multi-state regional shipping corridors. Finally, the ACT Regulation requiring manufacturers to sell increasing portions of their annual sales as ZEVs has been adopted by at least six other states already, and several states have expressed interest in adopting an ACF Regulation. This indicates a clear shift outside California toward ZEV technology.

g) High Priority Fleets – Competitive Disadvantages

Comment Summary: The commenters express concerns about fairness in the Regulation, arguing that it puts certain businesses at a competitive disadvantage. They state that the \$50 million gross revenue threshold and the 50-truck threshold for High Priority Fleets unfairly affect non-transportation sector businesses with less than 50 trucks whose revenue comes from multiple service sectors. The commenters also claim that the Regulation is biased against local, service-sector businesses, as their entire fleet of 34 trucks sit idle more often than they operate. Furthermore, they argue that the definition of high priority fleets based on the number of vehicles or amount of revenue creates a disadvantage for regulated fleets, which will have to rent more capable diesel vehicles from non-regulated fleets. They express concerns about the Regulation not covering brokers and load-board operations, as it creates a competitive disadvantage against large freight brokers and digital load boards. Finally, they point out that California-registered fleets are forced to adopt ZEVs, while out-of-state fleets are not, which also puts them at a competitive disadvantage in long-haul transport.

Commenter: [018-45d, 048-45d, 058-45d, 064-45d, 083-45d, 085-45d, 104-45d, 146-45d, 218-45d, 239-45d, 264-45d, 282-45d, 284-45d, 346-45d]

Agency Response: No changes were made in response to these comments. For discussion about why the applicability thresholds were selected, see Appendixes H-1 and H-2 of the ACF ISOR. The Regulation does not differentiate between business types, whether they are transportation or service sector, and instead focuses only on the vehicles and fleets that are best positioned to begin transitioning their vehicles to ZEVs. For additional information on why the current fleet size thresholds were selected, please see the Executive Officer's February 10, 2023, memo to the Board, sections Fleet Size Methodology, Fleet Size and Number of Fleets Regulated, and Other Considerations.

ZEVs can perform similar to ICE vehicles in many applications. The capabilities of ZEVs are expected to improve over time as the market matures. The Regulation requires increasing

percentages of ZEVs so renting ICE vehicles from non-regulated fleets would not help regulated fleets comply.

Brokers that direct the day-to-day operation of vehicles in California are included in the Regulation, but it would be inappropriate to place the burden of compliance on brokers or load-board operators that simply offer loads on a one-time basis, which may contract with a truck owner for a single day or single load.

Analysis shows ZEVs compare favorably with ICE vehicles in several applications including TCO and this is expected to continue to improve over time. All fleet owners will eventually need to transition to ZEVs and away from ICE vehicles to remain competitive.

Out-of-state fleets that operate or control the operation of vehicles in California are in fact subject to the Regulation if they meet the same applicability criteria as in-state fleets, so any businesses competing in California will need to transition to ZEVs for their California fleet.

CARB disagrees that the ACF Regulation unfairly imposes obligations on affected fleets. As discussed in the ISOR, existing trucks are significant emitters of criteria and toxic air contaminants and GHGs, and the ACF Regulation appropriately places the burden of reducing these emissions on the entities that are best suited to use ZEVs.

Finally, the Board approved the 2022 SIP where the Board has committed to implement ZE Trucks to transition the remainder of the California medium- and heavy-duty vehicle fleet to ZEVs, which would ensure all fleets in California are transitioning to ZEVs.

h) High Priority Fleets – Allow Near-Zero-Emissions Vehicles to Replace Zero-Emissions Vehicle

Comment Summary: The commenters state that CARB should permit NZEVs for ACF-regulated fleets through 2035, regardless of ZEV availability, to maintain consistency with ACT and provide the flexibility needed for purchasing decisions involving operational requirements, costs, and infrastructure.

Commenter: [115-OT1, 329-45d]

Agency Response: Changes were made in response to these comments. The commenter incorrectly states the HPF Regulation required regulated entities to buy NZEVs only when ZEVs were not available. However, the SLG Regulation previously required public fleets to purchase ZEVs first and only to purchase NZEVs when ZEVs were not available. This was changed to give public fleets the flexibility to purchase NZEVs until 2035 to meet their needs as part of the ACF 15-day changes and is consistent with the ACT Regulation in this regard.

i) High Priority Fleets – Clarify Applicability

Comment Summary: The commenters ask for clarification on HPF applicability, request that exempt vehicles be explicitly excluded from fleet counts, and that applicability total fleet vehicle counts should be based on vehicles operating in California rather than outside the state.

Commenter: [207-45d, 337-45d]

Agency Response: Changes were made in response to these comments. However, not all requests were accommodated. As part of the ACF 15-day changes, the Regulation language

in section 2015(a) has been updated to include additional clarification on revenue threshold and timeframe. The applicability remains unchanged with the same fleet size threshold to ensure a level playing field for comparable fleets and financial means to make the capital investments. The ZEV requirements only apply to the trucks operated in California.

j) High Priority Fleets – Keep 50 Vehicle Threshold

Comment Summary: The commenters state that lowering the threshold from 50 trucks down to 10 would only exacerbate many issues with ZEVs.

Commenter: [147-OT1]

Agency Response: No changes were made in response to these comments. The 50-truck threshold remains in the scope of the Regulation.

k) High Priority Fleets – Driver Misclassification

Comment Summary: The commenters highlight the issue of misclassified truck drivers working long hours to pay for their trucks and urge the Board to prevent misclassification within large fleets. They advise CARB to consider the exploitation of truckers when deciding on the Regulation.

Commenter: [074-OT1, 075-OT1]

Agency Response: No changes were made in response to these comments. The ACF Regulation clearly defines who is responsible for compliance with applicable provisions to ensure emissions benefits are realized. The Regulation clearly defines "fleet owner," "controlling party," and "common ownership and control" to ensure parties controlling the operation of vehicles under common ownership or control are treated the same as other large fleets that own all their vehicles. AB 5 established California law which requires businesses to classify their workers as employees or independent contractors. The ACF Regulation does not change AB 5 requirements. Any burdens due to AB 5 implementation are outside the scope of the Regulation.

l) High Priority Fleets – Extend Class 7 and 8 Tractor Timeline

Comment Summary: The commenters request that CARB include an alternative extended compliance timeline under the ZEV Milestones Option consistent with SB 1 and Section 43021 of the California Health and Safety Code (allowing full useful life) for Class 7 and 8 tractors involved in long-haul interstate transportation.

Commenter: [256-45d]

Agency Response: No changes were made in response to these comments. The Model Year Schedule already provides a full useful life. Fleets that would like the flexibility to plan when and how to introduce ZEVs into their operations may choose to comply with the ACF Regulation requirements using the ZEV Milestones Option. It is not possible to combine useful life with the ZEV Milestones Option without creating a loophole by which a fleet owner could delay purchases until right before 2030, then enjoy another 18 years of useful life from the vehicles, which would not achieve the goals of the Regulation nor the Governor's Executive Order N-79-20.

m) High Priority Fleets – Remove Health and Safety Code Waiver Requirement from Milestones

Comment Summary: The commenters state that the SB 1 useful life rights relinquishment as part of the ZEV Milestones Option should be removed from ACF.

Commenter: [207-45d, 253-45d, 256-45d, 337-45d]

Agency Response: No changes were made in response to these comments. High Priority Fleets must comply with the Model Year Schedule which is consistent with SB 1 useful life criteria. Starting 2024 any vehicle added to the fleet must be a ZEV and any vehicle in the fleet that exceeds its useful life must be removed from the California fleet. Alternatively, fleet owners can elect to use the ZEV Milestones Option to phase in ZEVs as a percentage of the California fleet. Compliance with this option provides flexibility to continue purchasing new or used ICE vehicles after 2024 so long as ZEV milestones are met. Staff expect this option to be selected by fleet owners if they determine it is a more cost-effective compliance strategy. This option is likely to be advantageous for fleets that normally replace vehicles well before end of minimum useful life or keep some specialized vehicles a long time. The commenter's suggestion was rejected because adding a useful life criterion for each truck on top of the ZEV Milestones Option for the entire California fleets would create an unworkable contradiction and would either create a giant loophole or would completely eliminate the flexibility it currently provides.

n) High Priority Fleets – Federal Fleet Obligations

Comment Summary: The commenters state that the ACF Regulation's requirements for federal fleets, including the U.S. Postal Service, to have the same compliance obligations as for-profit private fleets overlook their multiple statutory objectives, including the following, due to the scale of ZEV rollout that must take place or the retirement of ICE vehicles to comply with the ACF Regulation:

- The need for maximum degree of effective and regular postal services to rural areas where post offices are not self-sustaining.
- No small post offices be closed solely for operating at a deficit.
- Effective postal services be insured [sic] to residents of both urban and rural communities.

Commenter also states that the existing exemption and extension options would not be a good fit due to scale of the changes needed. Commenter also state that these obligations are contrary to CARB's own interests without stating what these interests would be.,

Commenter: [228-45d]

Agency Response: Changes were made in response to these comments. The ACF Regulation includes federal fleets because federal fleets are numerous and operated by various subdivisions. These vehicles contribute to Californian air pollution, climate pollution, and have outsized impacts in disadvantaged communities. Federal fleets are also able to lead the initial transition to ZEVs due to operating on fixed routes with frequent stops in neighborhoods. Federal fleets, under the Clean Air Act, section 118, are to be treated the same as the general vehicle population. For additional discussion about why federal fleets are included in the scope of the ACF Regulation, please see section 2015 in Appendix H-2 of

the ACF ISOR package. It is the objective of the ACF Regulation to reduce emissions from vehicles in scope of the Regulation.

Staff have greatly expanded the exemptions and extensions under the ACF Regulation to reduce burden on fleets. The ZEV Purchase Exemption now allows fleet specific applications for vehicle configurations that are not already approved in the list of unavailable vehicles maintained by the Executive Officer. Staff have also added a Vehicle Delivery Delay Extension in the event an ordered ZEV will not be delivered to the fleet in time. Additionally, the Infrastructure Delay Extension now includes an increased timeframe for delays if necessary and a provision if a utility determines that a site cannot be electrified in time to the extent needed by a fleet to reach compliance.

The Daily Usage Exemption has also been expanded to include all vehicles weight classes. While it may be difficult for a typical mail truck to qualify for this exemption while using the ZEV Milestones Option, other vehicle configurations utilized by the postal service may qualify under the expanded exemption.

Additional discussion regarding exemptions and extensions may be found in other sections of the FSOR.

o) High Priority Fleets – Hiring Requirement

Comment Summary: The commenters suggest that hiring entities should not be responsible for verifying compliance, and instead, the rental agency should provide documentation or a signed statement confirming non-applicability to the Regulation.

Commenter: [238-45d]

Agency Response: No changes were made in response to these comments. Hiring entities have direct control over the types of fleets and vehicles hired and therefore have the responsibility of ensuring that the fleets and vehicles hired for their fleet operations are compliant. This requirement is consistent with several existing CARB fleet Regulations such as the Truck and Bus Regulation. The requirement to verify compliance keeps ACF consistent with the same type of requirements in other Regulations. In this way, the hiring entity can keep using the same method and website to verify compliance whether the hired fleets are subject to the ACF Regulation, the Truck and Bus Regulation, or other fleet rules. If this requirement were to be removed, it would be difficult for the hiring entity to know whether to check compliance because the hiring entity would not necessarily know to which Regulation the hired fleet is subject.

p) High Priority Fleets – Increase Fleet Size Threshold for Bus Fleets

Comment Summary: The commenters request that the definition of “High Priority Fleets” be revised to include only those bus fleets with over 100 buses.

Commenter: [314-45d]

Agency Response: No changes were made in response to these comments. Please see section 2015(a)(1) in Appendix H-2 of the ACF ISOR package for a detailed explanation of why the 50-vehicle threshold was chosen. Buses, like any other vehicle, contribute to Californian air pollution, climate pollution, and have outsized impacts in disadvantaged communities. It is the objective of the ACF Regulation to reduce emissions from all vehicle types, including buses.

q) High Priority Fleets – Additional Time for Mergers

Comment Summary: The commenters propose allowing additional time for fleets to comply with Regulations after mergers.

Commenter: [143-45d, 282-45d]

Agency Response: Changes were made in response to these comments. Modifications were made allowing up to one year after a merger to comply with the requirements of the Model Year Schedule or ZEV Milestones Option. The single year period was determined to be sufficient time to finalize the merging of fleet vehicles, assess compliance needs, place orders for needed ZEVs, and/or adjust the fleet composition to remain in compliance.

r) High Priority Fleets – Excluding Exemptions in Milestone Calculations

Comment Summary: The commenters request that the ZEV Milestone calculation be based on the number of non-exempt ICE vehicles in a fleet, rather than the total number of ICE and ZEV vehicles.

Commenter: [342-45d]

Agency Response: No changes were made in response to these comments. Exemptions under the ZEV Milestones Option are granted when ZEVs cannot be placed anywhere within the fleet. Due to the nature of how exemptions are granted in the ZEV Milestones Option, excluding exempt vehicles in the fleet vehicle count would result in fleets permanently decreasing ZEV obligations in the long run, effectively resulting in a double exemption for fleets. To provide fleets with certainty regarding vehicles acquired through exemptions, the ZEV Milestones Option allows vehicles acquired through exemptions to be used to their full useful life under SB 1 to guarantee that fleets will not be burdened with having to replace relatively new vehicles in order to meet any milestone requirement.

s) High Priority Fleets – Exclude Mechanic Trucks from Group 1

Comment Summary: The commenters request that mechanic trucks based in rural and remote locations be excluded from the first phase-out proposed for Group 1.

Commenter: [159-OT1]

Agency Response: No changes were made in response to these comments. Staff interpret the term “mechanics truck” to mean trucks with a service body designed to transport tools and maintenance equipment to the job site and is not a van, bus, or box truck. Mechanics trucks fall under the work truck definition and would therefore be subject to the Group 2 schedule under the ZEV Milestones Option, which has later a compliance date compared to Group 1. The schedule is the same for the California fleet and does not vary by whether the fleet operates in a rural or urban location.

t) High Priority Fleets – Relax Group 1 Milestone Requirements

Comment Summary: The commenters request adjustments to Group 1 ZEV Milestone dates as follows: 10 percent by 2031, 25 percent by 2033, 50 percent by 2036, 75 percent by 2039, and 100 percent by 2042.

Commenter: [282-45d]

Agency Response: No changes were made in response to these comments. The goals outlined in Executive Order N-79-20 and CARB Resolution 20-19 requires that a 100 percent ZE last mile delivery fleet be achieved by 2035. These last mile delivery vehicles are categorized primarily within Group 1. To achieve the 2035 goal in a reasonable period, it is necessary begin the Regulation as early as possible, hence the 2025 start date for Group 1 vehicles. Pushing any milestone date back in Group 1 would fail to achieve this date. Delaying the milestone dates would also be contrary to the objectives of this Regulation while being less sufficient in meeting other objectives as outlined in the ISOR. Additional discussion for the timetable in the ZEV Milestones Option is provided in section 2015.2(a) of the rationale in Appendix H-2 of the ACF ISOR package.

u) High Priority Fleets – Exclude Transitory Interstate Vehicles from Zero-Emissions Vehicle Milestones

Comment Summary: The commenters argue that fleets using the ZEV Milestone pathway should not include transitory interstate vehicles in the fleet's total, as it places an excessive burden on interstate fleets for compliance reporting and ZE turnover targets and offers no path for IRP registered vehicles to be removed from the California fleet mid-year.

Commenter: [230-45d]

Agency Response: Changes were made in response to these comments. Transitory vehicles, or vehicles that operate in California for less than five consecutive days once per year, will now be exempt from the ZEV Milestones Option under the newly added 5-Day Pass provision.

v) High Priority Fleets – Motorhome Requirements

Comment Summary: The commenters ask about excluding motorhomes from the ZEV Milestones Option or request that CARB amends the "ZEV fleet milestone" section to offer a compliance option for motorhome fleets similar to specialty vehicles.

Commenter: [220-45d, 224-45d]

Agency Response: No changes were made in response to these comments. Motorhomes, while varying in their configuration, are typically bodies fitted to chassis cabs or vans with the exception of Class A motorhomes, which are similar to bus chassis, hence their inclusion in the ACF Regulation and the ZEV Milestones Option under Group 2. This is different from specialty vehicles under the ACF Regulation, which are vehicles that are typically produced in low volumes, on custom chassis, have heavy front axles, and may have significant power needs while stationary. Motorhomes are not always produced with unique/custom chassis and not all motorhomes will need significant power while stationary. As such, motorhomes do not necessarily belong in the specialty vehicle category.

w) High Priority Fleets – Reduce Flexibility Between Zero-Emissions Vehicle Milestone Groups

Comment Summary: The commenters suggest removing the option to procure ZEVs between tier categories, especially for Milestone Groups 2 and 3 vehicles, as they contribute disproportionately to emissions. This would prevent the exclusive deployment of cheaper, lighter-duty vehicles over higher-polluting, heavier-duty vehicles.

Commenter: [038-OT1, 102-OT1, 236-45d]

Agency Response: No changes were made in response to these comments. The flexibility to use any ZEV to comply with requirements is necessary to allow fleets to electrify in whatever order is best for their operations. The Board determined that the flexibility to manage the fleet was important to allow for a smooth transition and agreed this approach is the best balance between complexity and enforceability. The ability for some fleets to substitute lighter vehicles for heavier ones may result in an initial front-loading of lighter ZEVs in some fleets in the early years, but the balance will normalize over time as fleets complete conversion to ZEVs. It is important to note that any removal of an ICE vehicle with a ZEV results in an emissions benefit. The Board also recognized that several fleets are fairly homogenous, such as freight hauling tractor fleets or waste haulers where all of the vehicles they operate are Group 2 or Group 3 vehicles and the ZEV deployed in the early stages of the transition will simply be heavier trucks.

Additional discussion of the reason for allowing any ZEVs to count for compliance is provided in section 2015.2(c) of the rationale, Appendix H-2 of the ACF ISOR package. Additional information on why this flexibility to use any ZEV to comply with the requirements of the ZEV Milestones Option, please see responses to issues raised in section "High Priority Fleets – Reduce Flexibility Between Zero-Emissions Vehicle Milestone Groups" in "High Priority Fleet Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

x) High Priority Fleets – Remove Near-Zero-Emissions Vehicle Sunset Date

Comment Summary: The commenters request flexibility in the Regulations, allowing the addition of new or used NZEVs as an optional alternative to ZEVs without a sunset.

Commenter: [010-WT1]

Agency Response: No changes were made in response to these comments. The ACF Regulation recognizes NZEVs as a bridge technology. As the ZEV market matures, it is expected that ZEVs and ZEV infrastructure will have advanced to the point of being able to fulfill a fleet's needs. The 2035 model year cutoff was selected to be consistent with the NZEV crediting provisions of the complementary ACT Regulation, which also sunsets after 2035. For additional information on the 2035 NZEV sunset provision, please see section 2015(e) of the rationale, Appendix H-2 of the ACF ISOR package.

y) High Priority Fleets – Only Allow Near-Zero-Emissions Vehicle if No Zero-Emissions Vehicle is Available

Comment Summary: The commenters request permitting NZEV purchases only if a fleet genuinely cannot purchase and deploy ZEVs.

Commenter: [038-OT1, 236-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation recognizes NZEVs as a bridge technology, and NZEVs offer flexibility to businesses that may have duty cycles or business models with extended range, high auxiliary power, or minimal refueling downtime which may not be entirely suitable in the early stages of the transition to ZEVs. Additionally, allowing fleets to count NZEVs towards compliance as a ZEV helps reduce the number of suitability or availability exemptions that might be needed

and requested because NZEVs can be refueled like conventional vehicles and ensures progress can be made in applications that may not be fully suitable for ZEVs until the market develops further. For additional information on the NZEV flexibility provision, please see section 2015(e) of the rationale, Appendix H-2 of the ACF ISOR.

z) High Priority Fleets – Accelerate Near-Zero-Emissions Vehicle Sunset

Date

Comment Summary: The commenters recommend sunsetting the NZEV provision no later than 2030.

Commenter: [212-45d]

Agency Response: No changes were made in response to these comments. NZEVs offer flexibility for fleets as a bridge technology to introduce and experiment with ZE technology until the state of the ZEV market has advanced to the point of fulfilling the needs of their fleet. Forcing fleets to transition solely to ZEVs too early may be counterproductive in certain market segments as fleets may begin applying for additional exemption requests, delaying the introduction of ZE technology into their operations. The Board decided the 2035 model year sunset for NZEVs was appropriate because it is consistent with the NZEV crediting provisions of the complementary ACT Regulation, which also sunsets after 2035. For additional information on the 2035 NZEV sunset provision, please see section 2015(e) of the rationale, Appendix H-2 of the ACF ISOR package.

aa) High Priority Fleets – Credit for Hybrids or Electric Power Take-Off

Comment Summary: The commenters request that hybrid EVs or ePTOs be considered as compliance options for all fleets, or for truck sectors that are challenging to fully electrify in the near-term. They propose including ICE vehicles capable of ePTO or any vehicle eligible for California's HVIP in the definition of NZEVs or allowing non-PHEV hybrids meeting model year 2027 Phase 2 GHG standard early to be a compliance option.

Commenter: [233-45d, 263-45d, 291-45d, 329-45d]

Agency Response: No changes were made in response to these comments. The goal of the ACF Regulation is to achieve criteria and GHG emissions reductions by accelerating the widespread adoption and usage of ZEVs in the medium- and heavy-duty truck sector and light-duty vehicles used in mail and package delivery. While the Board recognizes there are benefits with the use of ePTO on ICE vehicles, perpetuating ICE vehicle usage is counter to the overall goal to achieve zero tail pipe emission everywhere feasible. Funding programs already support ePTO and do not need to be included in the Regulation. Conventional hybrids have been commercially available on the medium- and heavy-duty market for over a decade and, without ZE capability, they are not sufficient to meet the Regulation's goals. As such, the ACF Regulation will not currently consider conventional hybrids or ICE vehicles with ePTO to be compliance options.

bb) High Priority Fleets – Add Offramps

Comment Summary: The commenters suggest that the Regulations include language allowing CARB, in collaboration with independent entities, to make future adjustments as needed, sending a signal to the regulated community and vehicle markets that CARB is willing to modify requirements.

Commenter: [292-45d]

Agency Response: No changes were made in response to these comments. A built-in off-ramp is a subjective condition that may cause uncertainty for fleets while failing to meet OAL requirements. The ACF Regulation, while providing specificity as to requirements, also contains flexibility and fleet specific provisions that aim to address a variety of circumstances if needed. CARB will aim to work with fleets to successfully implement the Regulation. If offramps become necessary, the Board has a long history of supporting amendments to Regulations if rule adjustments are needed. Staff will be back in front of the Board multiple times over the next few years with analysis on many of the same topic issues as ACF for other ZE Regulations and funding programs.

cc) High Priority Fleets – Allow Fleets to Switch Between Compliance Options

Comment Summary: The commenters state that, for consistency with other Board-passed Regulations, the Regulation should not deny fleet owners the ability to switch between compliance options.

Commenter: [337-45d]

Agency Response: Changes were made in response to these comments. The Board approved changes as part of the 15-day changes that specify that fleets may switch between compliance options until January 1, 2030, provided the fleet owner is in compliance with both compliance options before switching.

dd) High Priority Fleets – Remove ZEV Fleet Recognition

Comment Summary: The commenters request the removal of Section 2015 (p) "ZEV Fleet Recognition" as it unfairly favors larger fleets over smaller, locally owned, and operated companies.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. The ZEV fleet recognition provision is intended to help hiring entities and others to voluntarily prioritize the use of fleets recognized as ZEV fleets. Larger fleets are not favored as small fleets that do not fall into the scope of the ACF Regulation may voluntarily become recognized as ZEV Fleets by voluntarily reporting fleet ZEV composition. Additional discussion on why ZEV fleet recognition is needed may be found in section 2015(p) of the rationale, Appendix H-2 of the ACF ISOR package.

ee) High Priority Fleets – Regulation Disadvantages Small Businesses

Comment Summary: The commenters state that the ACF timeline disadvantages small business operators, disproportionately impacting low-income truck drivers and drivers of color.

Commenter: [313-45d]

Agency Response: No changes were made in response to these comments. The commenter's assertions are incorrect. The HPF Regulation does not directly target small businesses. The scope includes federal fleets, entities with \$50 million or more in gross annual revenues, entities that own, operate, or direct 50 or more trucks including vehicles operated under

common ownership and control. This means that the ZEV requirements do not affect small businesses or individual drivers unless they are under common ownership and control as part of a large fleet.

11. State and Local Government Issues

a) State and Local Government – Delay Start Date

Comment Summary: The commenters ask for a delay in the start date of the SLG requirements, suggesting a range of delayed start dates and conditions, or a later timeline for the 100 percent purchase requirement due to the time needed for budgeting, procurement cycles, infrastructure installation, and technology improvement.

Commenter: [014-45d, 032-WT1, 037-WT1, 063-OT1, 091-OT1, 095-OT1, 207-45d, 226-45d, 227-45d, 233-45d, 277-45d, 285-45d, 291-45d, 333-45d]

Agency Response: No changes were made in response to these comments. According to the analysis in Chapter IV. of the ACF ISOR, and to meet the Governor's goals and other emissions reduction requirements, it is necessary to achieve these reductions as soon as possible; delaying the start date of the SLG requirements is in direct conflict with these goals and requirements. A myriad of exemptions and extensions have been included to address concerns raised by some government fleets. As discussed in Chapter II.A. of the ACF ISOR, transitioning to ZE, especially for the on-road sector, has been signaled over the past decade through legislation and a variety of planning documents. The time to transition to ZE is now.

b) State and Local Government – Competition for Limited Vehicles

Comment Summary: The commenters express concern that public fleets will compete for limited vehicle stock of available ZEV models, risking noncompliance even when trying to comply due to insufficient supply.

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. The ACT Regulation requires OEMs to sell ZEVs as an increasing percentage of their annual sales into California's market and it is in their interests to maximize ZEV sales. The default ZEV purchase requirement for SLG fleets does not require any vehicles to be replaced so a fleet owner would not be out of compliance if a ZEV purchase takes longer to arrive. However, the fleet owner may be able to use the ZEV Purchase Exemption if ZEVs are not available in the needed configuration provided the conditions to receive an exemption are met. For example, if OEMs are not taking orders for the next two model years of a given vehicle type, that vehicle configuration would not be considered to be available to the fleet owner and would qualify for an exemption if needed for the fleet owner to remain in compliance. Lastly, SLG fleets can opt into the ZEV Milestone Schedule which will give them a longer phase-in for more specialized vehicles. Also, if a manufacturer cancels an order, the SLG fleet remains in compliance and has up to one year to repurchase another ZEV.

c) State and Local Government – Credit for Light-Duty Zero-Emissions Vehicles

Comment Summary: The commenters request that credits be given for vehicles purchased in lower classes, below the 8,501 pounds threshold, to meet regulatory requirements.

Commenter: [156-45d]

Agency Response: No changes were made in response to these comments. The commenter is requesting compliance “credits” for light-duty vehicles as part of this Regulation. A high-priority or federal fleet must include light-duty package delivery vehicles under 8,500 pounds as part of their fleet and can get credit for purchasing ZEVs. However, other light-duty trucks and cars at or below the 8,500 pounds regulatory threshold would not be eligible to count towards a SLG fleet’s ZEV purchase requirement. Light-duty sales are already expected due to existing Regulations. Counting them in ACF would either undermine the objective of achieving new emissions reductions and would be double-counting actions that are already expected to occur.

d) State and Local Government – Clarification on Early or Excess Zero-Emissions Vehicle Additions

Comment Summary: The commenters request that CARB provide additional guidance for public agency fleet managers on the options for using Early or Excess ZEV additions, including (1) How will early/excess additions be reported, and when should documentation be submitted? (2) Are all new purchases made prior to 2024 countable towards future compliance years once? (3) Are all new purchases during 2024-27, that exceed the 50 percent requirement, countable towards future compliance years?

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. A fleet owner taking early actions to replace ICE vehicles with a ZEVs or to purchase ZEV in excess of the requirements would get credit for a future ZEV purchase requirement — once. Reporting takes place in March. Guidance on how to comply with this Regulation will be provided on CARB’s website well in advance of any compliance deadline.

e) State and Local Government – Expand Designated Low Population Counties

Comment Summary: The commenters suggest that the low-population county delay should be granted to other counties with similar conditions, such as limited ZEV infrastructure and fewer air quality challenges.

Commenter: [245-45d]

Agency Response: Changes were made in response to these comments. The Board recognized that more flexibility should be provided to small public agencies. The 15-day changes now exempt small agencies with 10 or fewer trucks until 2027 and counts NZEVs as ZEVs until the 2035 model year. These changes provide enough time for depot and public ZEV infrastructure along major travel corridors to get built. California’s air quality challenges are disproportionate across the state as pollution disperses and settles unequally, and the Board determined that all public agencies have a duty to improve the air for all Californians.

f) State and Local Government – Special Consideration for Rural Public Fleets

Comment Summary: The commenters suggest that rural public fleet operators face more challenges with ZEV deployments due to limited infrastructure and longer distances compared to urban fleets and should be given special consideration.

Commenter: [180-45d]

Agency Response: Changes were made in response to these comments. The Board recognized that more time should be provided for public agencies in low population “designated counties” and approved the ZEV exemption until 2027 which was included in the original staff proposal. Furthermore, as part of the 15-day changes, the Regulation treats NZEVs the same as ZEVs until the 2035 model year. NZEVs have the same fueling and operating characteristics as ICE vehicles and have lower electricity demand than ZEVs. This should provide enough time for public ZEV infrastructure along major travel corridors to get built. However, the Board recognizes the challenges facing rural counties in building ZEV infrastructure and has issued a joint Statement of Intent to collaborate with sister agencies ensuring equity in infrastructure development and deployment.

g) State and Local Government – Hiring Requirement

Comment Summary: The commenters request the removal of the requirement to hire compliant fleets.

Commenter: [233-45d]

Agency Response: No changes were made in response to these comments. Without the requirement to hire compliant fleets, non-compliant fleets can offer their services at a discount to those who invested to comply, which will result in unequal conditions and an economic incentive for non-compliance. This requirement enhances the enforceability and effectiveness of the Regulation by providing another enforcement tool to ensure that hiring entities do not hire non-compliant fleets. Additionally, many CARB fleet Regulations have historically had this requirement, including the Truck and Bus Regulation, and keeping this requirement consistent for all CARB fleet rules means the hiring entity will be able to verify compliance at a single place on the CARB website regardless of the rule to which the fleet owner is subject. If the requirement was not applied consistently, then the hiring entity would have a hard time knowing whether they had to check a fleet’s compliance status.

h) State and Local Government – Competition on Infrastructure

Comment Summary: Commenter states that until infrastructure is ready, public utilities would be in competition with private fleet operators and the public to recharge vehicles and, to work effectively, public utility EVs have to be readily charged for everyday use and emergencies.

Commenter: [226-45d]

Agency Response: Changes were made in response to these comments. Most fleet owners are expected to install the infrastructure at their depots necessary to support the ZEVs in their fleets especially during the early transition. In this case, BEVs would likely be fully charged at the beginning of each workday. Public fleet data reported as part of the LER shows that the daily mileage of public fleet vehicles is low, and it is unlikely a public fleet with

depot charging will need to charge at a retail location. If fleet owners experience delays installing ZEV fueling infrastructure due to circumstances beyond their control they may request the ZEV Infrastructure Delay Extension. The extension was expanded as part of the 15-day changes. Small agencies with 10 or fewer trucks and those operating in designated low population counties are exempt from the ZEV purchase requirement until 2027. SLG fleets are not required to replace existing vehicles and can keep as long as they want. SLG fleets also have earlier access to the Mutual Aid Exemption to purchase new ICE vehicles instead of ZEVs for part of the fleet. Mileage in service of declared emergencies can be subtracted from the odometer readings which allows backup ICE vehicles to operate beyond the 1,000 annual mileage limit. As approved, the Regulation provides considerable flexibility for SLG fleets to comply while retaining their ability to respond to declared emergencies.

i) State and Local Government – Allow Alternative Vehicle Purchases When Manufacturer Cancels ZEV Orders

Comment Summary: The commenters suggest that the Regulation be modified to allow for alternative purchases when ZEV orders are delayed or canceled due to high demand or manufacturer issues.

Commenter: [235-45d]

Agency Response: No changes were made in response to these comments. The Regulation already allows for alternative vehicle purchase if a ZEV order is cancelled. If a manufacturer cancels an order for a ZEV due to circumstances beyond the control of the fleet owner, the fleet owner is permitted up 180 calendar days after the cancellation, except for government fleet owners who are permitted up to one year after the cancellation, to establish a new purchase agreement for a ZEV. If no other ZEV is available in the needed configuration, the fleet owner may request the ZEV Purchase Exemption, if applicable, and could purchase any ICE vehicle if granted the exemption.

j) State and Local Government – Allow ZEV Milestones Option

Comment Summary: The commenters request that CARB allow public fleets to opt into a ZEV milestone compliance pathway, similar to the pathway and associated exemptions in the HPF Regulation.

Commenter: [010-OT1, 233-45d, 291-45d, 305-45d]

Agency Response: Changes were made in response to these comments. SLG fleets are permitted to opt into the ZEV Milestones Option.

k) State and Local Government – Treat NZEVs the same as for High Priority Fleets

Comment Summary: The commenters request clarification on NZEV purchases when ZEVs are not suitable and suggest that NZEVs be treated the same as ZEVs until 2035 or have the same treatment in SLG as in HPF. They ask that ACF allow unrestricted NZEV purchases through 2035.

Commenter: [014-45d, 233-45d, 274-45d, 291-45d, 305-45d]

Agency Response: Changes were made in response to these comments. The Board approved modification reflected in the 15-day changes to make the changes the commenter is seeking.

SLG fleets complying with the ZEV purchase requirements may decide whether to purchase a ZEV or NZEV when making additions to the fleet. This change was made to give fleet owners more flexibility in purchasing vehicles that meet their needs. Another change made now gives SLG fleets the ability to opt into the ZEV Milestone Schedule which would give them a longer phase in for some types of vehicles, such as specialty vehicles. This option also treats NZEVs the same as ZEVs until the 2035 model year.

l) State and Local Government – Uncertainty of Vehicle Additions

Comment Summary: The commenters state that using "vehicle additions" instead of "vehicle purchases" in Section 2013(d) of the SLG Regulation creates uncertainty and could lead to discretionary interpretation by CARB staff during enforcement actions.

Commenter: [006-WT1, 291-45d, 321-45d]

Agency Response: Changes were made in response to these comments. In section 2013(d), "vehicle additions" was changed to "vehicle purchases." This change was made as rule requirements are based on vehicle purchases which is a defined term. The change ensures there is only one reasonable and logical interpretation of the criteria.

m) State and Local Government – Allow Vehicle Delivery Delay

Comment Summary: The commenters state that there should be a vehicle delivery delay for public fleets. This would ensure that public agencies are not found out of compliance due to delays caused by the ZEV manufacturer or distributor, something a public agency has no control over.

Commenter: [210-45d]

Agency Response: No changes were made in response to these comments. SLG fleets have a purchase requirement and compliance is based on ZEV purchases for the California fleet, not when vehicles are delivered. Therefore, any delays of a vehicle delivery would not cause a fleet to be out of compliance. Additionally, SLG fleets have the option to use the ZEV Milestones Option, which gives them flexibility to manage their fleet and the ability to opt into the same exemptions and extensions under the ZEV Milestones Option that are listed in the HPF Regulation including the Vehicle Delivery Delay Extension.

12. Provisions, Reporting, and Recordkeeping Issues

a) Hiring Requirement – Hired Fleet Documentation

Comment Summary: The commenters request that CARB require compliant fleets to submit documentation to the hiring entity when hired, rather than requiring the hiring entity to collect such documentation from the fleet.

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. A hiring entity should verify each fleet it hires or dispatches is a compliant fleet. Fleets can print a Certificate of Reported Compliance if the compliance and reporting requirements in the TRUCRS database have been met and provide it to the hiring entity or hiring entity can look the fleet up in the TRUCRS database to verify the compliance. Alternatively, for each calendar year

that an entity hires a fleet to operate in California, it must obtain a signed statement from the fleet stating the fleet is not subject to the HPF Regulation of title 13, CCR section 2015 through 2015.6, the SLG Regulation of title 13, CCR section 2013 through 2013.4, or the Drayage Truck Requirements of title 13, CCR section 2014 through 2014.2

b) Recordkeeping – Audit Timing

Comment Summary: The commenters request that CARB extend the right of entry and audit request timeframes to 10 business days, as the current deadlines are considered unrealistic and burdensome, especially for smaller public agencies with limited resources and staffing hours.

Commenter: [014-45d, 207-45d, 291-45d]

Agency Response: No changes were made in response to these comments. Fleet owners are required to keep records or documentation related to compliance with the Regulation and need to provide documentation in an electronic or paper format as upon request or make them available to the Executive Officer within 72 hours of a request. Seventy-two hours provides a fleet owner with a reasonable amount of time to make records available to CARB staff while ensuring timely delivery and responsiveness to expedite enforcement activity. CARB has enforcement discretion if a fleet cannot reasonably comply within the required timeframe and needs to ensure timely implementation and enforceability.

c) Recordkeeping – Contracts

Comment Summary: The commenters propose revisions to the recordkeeping provision for hiring compliant fleets, suggesting that only relevant excerpts of contracts pertaining to regulatory compliance be made available to protect proprietary information.

Commenter: [143-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires hiring entities that are subject to the Regulation to keep relevant information in case of audit. This is necessary for CARB to verify and audit any records used by the entity to verify their hired fleets' compliance with CARB Regulations. Upon audit CARB will ask for the appropriate records and will work with hiring entity to identify what documentation is needed. Nothing in the Regulation language compels CARB to ask for whole contract if not needed to verify compliance. CARB is required to protect confidential business information.

d) Recordkeeping – Remove Operator Documentation from State and Local Government Requirements and Align with Information on Shipment Bills of Lading

Comment Summary: The commenters request that CARB eliminate the unrelated "operator documentation" recordkeeping requirement in section 2013.3(b) and ensure that HPF operator documentation requirements align with the information found on a shipment's bill of lading while allowing the use of electronic forms.

Commenter: [282-45d, 291-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires fleet owners to keep and provide documentation that identifies the entity that is responsible to pay the driver who is not a State and local government agency employee and

any applicable shipping documentation or other documentation that identifies the origin and destination of the cargo and the pickup and termination destination of the cargo. The operator documentation is necessary for staff to verify the fleet owner or controlling party of a non-compliant vehicle for enforcement purposes in an audit to the extent that it is applicable to the fleet subject to the requirements. If the requirement is not applicable to the fleet owner, the information would not need to be kept because it would not be relevant.

e) Regulation Provisions – Funded Zero-Emissions Vehicle Compliance

Comment Summary: The commenters propose that trucks purchased with incentives should count towards compliance or that trucks bought with funding before the Regulation's start should be considered compliant.

Commenter: [008-45d, 143-45d, 147-45d, 230-45d, 233-45d, 282-45d]

Agency Response: No changes were made in response to these comments. The Regulation encourages early market purchases with California State provided incentive funds and ensure compliance credit for vehicles added before January 1, 2024. Beginning January 1, 2024, if a fleet owner receives California State-provided incentive funding for ZEVs or NZEVs and the funding program guidelines specify the vehicle cannot be used to count toward determining compliance with the general requirements, the vehicle will not be counted as a compliant vehicle during the funding contract period.

f) Regulation Provisions - Hiring Requirement

Comment Summary: The commenters recommend that CARB not require hiring entities to check hired fleet compliance or exclude those that "hire and operate or hire and direct the operation of" from the requirement to verify compliance. They ask CARB to clarify that the requirement to hire compliant fleets does not extend to subcontractors and suggest modifying the Verification of Compliance Section to include "After CARB has completed the issuance of all Certificates of Reported Compliance." The commenters also request language specifying that fleet owners are responsible for validating compliance only for contractors they directly hire, not for subcontractors hired by those contractors. Moreover, they recommend that the hiring addendum should not have to be provided.

Commenter: [200-45d, 207-45d, 229-45d]

Agency Response: No changes were made in response to these comments. This requirement is consistent with the other CARB Regulations. These requirements are needed to ensure all entities involved in the operation of trucks are complying. This assurance is needed to ensure the benefits of the Regulation are actually achieved. The Regulation requires anyone who operates or directs the operation of any vehicle subject to the Regulation must verify that each hired company is in compliance with the Regulation. This requirement applies to any in-state or out-of-state motor carrier, California broker, or any California resident including but not limited to contractors, public agencies, and developers. A California broker is any person or entity, physically located in or outside of California, who arranges for the transportation of goods or property into or within California by motor carriers with vehicles subject to the Regulation. The requirement does not apply to receivers or other parties that do not hire, and do not direct the operation of any vehicle that is subject to the Regulation. If an entity contract with a broker to get more trucks to a job, but ultimately deal directly with the sub-haulers and pays them for their services, then the entity needs to verify the compliance. And

if an entity has an arrangement with another broker where the other broker hires and pays the sub-haulers when the entity need them, then the other broker is responsible to verify compliance of the sub-haulers that the other broker hires, and the entity is not because the entity does not determine who the other broker hires. The requirement to hire compliant fleets is needed to ensure fleets are complying with the many different provisions and requirements of the Regulation, ensure enforceability, and prevent loopholes.

g) Reporting - 60 Days for Changes

Comment Summary: The commenters suggest extending the reporting requirements from 30 to 60 days for larger fleet sizes, to better accommodate the process of adding and deleting vehicles.

Commenter: [238-45d]

Agency Response: No changes were made in response to these comments. This section is necessary to ensure that compliance with the Regulation can be verified in the field or essential information is available for any enforcement action. The requirement that changes to the fleet must be reported within 30 days provides a reasonable timeframe for a fleet owner to report any vehicle additions or other changes that might affect the compliance status.

h) Reporting - Allow Aggregate Reporting

Comment Summary: The commenters state that annual reports with aggregated fleet reporting should be enough to confirm ZEV usage in California, instead of requiring detailed reporting on each truck.

Commenter: [247-45d]

Agency Response: No changes were made in response to these comments. It is not possible to verify information in aggregate. CARB must be able to verify accuracy of information provided and that is impossible without vehicle specific information and would not be enforceable and could not be verified in the field. The level of detail in the reporting requirements are all to ensure fleets are complying with the many different provisions and requirements of the Regulation, ensure enforceability, and prevent loopholes.

i) Reporting - Allow Other CARB Reports

Comment Summary: Commenters state that reporting from other CARB programs should be accepted in lieu of a separate ACF report if they contain the same information, and that CARB in general should provide one reporting template for all programs to minimize reporting burden. Some commenters request a consolidated compliance reporting system to streamline fleet reporting, stating that fleets often report to CARB through systems such as TRUCRS, DTR, and ARBER, reporting the same information multiple times (e.g., company/contact information) and, in many cases, which cover or will cover (HD I/M, ACF) the same vehicle.

Commenter: [230-45d, 282-45d, 291-45d]

Agency Response: No changes were made in response to these comments. The Regulation specified that the fleets subject to the Regulation will report in the TRUCRS database, which is being used for the Truck and Bus Regulation and the Solid Waste Collection Vehicle

Regulation. CARB agrees with minimizing duplication and will consider using the TRUCRS database for drayage, but CARB will use the system that is best given other factors CARB need to consider in implementation. The information required by ACF was determined to be necessary to implement and enforce the ACF Regulation.

j) Reporting - Due Date April 1

Comment Summary: The commenters recommend changing the compliance reporting due date to April 1 each year, allowing facilities more time to complete accurate reporting and meet other regulatory deadlines.

Commenter: [238-45d]

Agency Response: No changes were made in response to these comments. This is necessary to establish the annual reporting start date, annual deadline, and end date for the reporting period. February 1, 2024, as a start date is necessary because the Regulation begins January 1, 2024, and CARB would need information about the composition of the fleet reported to determine compliance. CARB selected February 1 as the reporting time frame for the HPF and SLG reporting date is April 1. Other Regulations require reporting during other months of the year, and stakeholders requested staff spread out reporting dates to help mitigate impacts of concurrent reporting due dates.

k) Reporting - State and Local Government - Delay Reporting Start Date

Comment Summary: The commenters suggest that SLG reporting should start in 2028 for designated counties and 2025 for non-designated counties, aligning with the purchase requirement start dates for most public agencies.

Commenter: [291-45d]

Agency Response: No changes were made in response to these comments. April 1, 2024, as a start date is necessary because the Regulation begins January 1, 2024, and CARB would need information about the composition of the fleet reported to determine compliance and which fleets are exempt from ZEV requirements. CARB can use the information to identify missing fleets and provide information and assistance with planning for their compliance date. Fleets with 2027 compliance dates should begin planning for compliance as soon as possible and may benefit from acting early to have more flexibility later. April 1 was selected for the reporting because other Regulations already require reporting during other months of the year, and stakeholders requested that reporting date should be spread out to help mitigate impacts of concurrent reporting due dates.

l) Reporting - State and Local Government - No Reporting Changes Within 30Days

Comment Summary: The commenters propose requiring a single, comprehensive annual report for SLG fleets, rather than reporting changes within 30 days, to minimize the reporting burden and associated costs.

Commenter: [014-45d, 094-OT1, 207-45d, 233-45d, 235-45d, 282-45d, 291-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires fleets to report their fleet information during initial reporting and then fleets only reporting changes within 30 days to the fleet whenever they add new vehicle or remove one

from the fleet. Fleet owners need to report real time information to ensure accurate implementation and enforcement of the regulation. Annual reporting will only require checking if the account is up to date and reporting mileage for backup vehicles. Realtime information is needed to be able to verify accuracy of reporting in the field and during audits.

m) Reporting - State and Local Government - Only Report Changes

Comment Summary: The commenters request that SLG fleet owners only report changes to their existing fleets that occurred during the prior calendar year, to reduce duplicate reporting.

Commenter: [291-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires fleets to report their fleet information during initial reporting in the TRUCRS database and then fleets are only reporting changes within 30 days to the fleet whenever they add a new vehicle or remove one from the fleet. Fleet owners need to report real time information to ensure accurate implementation and enforcement of the regulation. Annual reporting will only require checking if the account is up to date and reporting mileage for backup vehicles. Realtime information is needed to be able to verify accuracy of reporting in the field and during audits.

n) Reporting - State and Local Government - Only Require Date Purchased

Comment Summary: The commenters argue that reporting both the purchase date and date a vehicle was "added" to the California fleet is duplicative for SLGs and recommend changing "added" to "placed in service."

Commenter: [291-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires date vehicle purchase and date vehicle was added to the California fleet for the vehicle information reporting in the TRUCRS database. Date added is effectively the date placed in service in California which is typically not the same day or year the order is placed. The purchase date is necessary to determine compliance of the purchase requirements. They are based on the purchase date and exemptions that require the purchase date to determine eligibility. Date added is needed because it will show when the vehicle was placed in the California fleet and may not be same as purchase date. Fleet owners only need to report the information one time when they receive the vehicle.

o) Reporting - Too Onerous

Comment Summary: The commenters express concerns that VIN level reporting on cargo origin and destinations, as well as daily usage reports, will be difficult to track for large entities. They emphasize the need for sufficient lead time to develop tracking systems before the January 1, 2024, start date. Commenters also urge CARB to ensure that ACF reporting is less onerous than the Truck and Bus Regulation, which required extensive validations for simple reporting changes, and allow fleet owners to report vehicle types without CARB staff intervention.

Commenter: [247-45d, 337-45d]

Agency Response: No changes were made in response to these comments. Large fleets reported in Truck and Bus for over 15 years without issues. Telematics systems make it easier. Much of the information required is already required to be tracked by fleets to comply with other local, State, federal Regulations and requirements.

p) Reporting - Too Onerous-Only Require for Min 90 Days in California

Comment Summary: The commenters propose reporting only vehicles that are in California for a minimum of 90 days, due to the burden of collecting information and lack of oversight for transient vehicles operating in the state for shorter timeframes.

Commenter: [170-45d]

Agency Response: No changes were made in response to these comments. The Regulation requires that no ICE vehicle can be added to the California fleet after initial reporting. Field enforcement will cite any truck found in California that is not reported by an affected fleet owner. This is necessary to ensure that compliance with the Regulation can be verified or essential information is available. It will be impossible to enforce without ability to do real time check and would affectively be a giant loophole for out of state fleets at the expense of in state fleets. The requirement that changes to the fleet must be reported within 30 days provides a reasonable timeframe for a fleet owner to report any changes to that might have an effect on the compliance. Fleet owner will be only reporting changes to their fleets after the initial reporting.

13. Exempt Vehicles or Fleets

a) Exempt Various Vehicles, Industries, or Sectors from the Regulation

Comment Summary: The commenter suggests including blanket exemptions from the Regulation for sets of vehicles, fleets, or industry sectors for assorted reasons.

Commenter: [004-WT1, 007-45d, 017-OT1, 024-WT1, 026-OT1, 058-45d, 078-OT1, 080-OT1, 083-OT1, 118-OT1, 137-45d, 220-45d, 224-45d, 237-45d, 239-45d, 245-45d, 261-45d, 292-45d, 326-45d, 334-45d, 335-45d]

Agency Response: No changes were made in response to these comments. Changes to exclude groups of vehicles or industries would not achieve the goals of the Regulation to reduce emissions and transition the California fleet to ZEVs where feasible. Excluding vehicles or industries without compelling reason would not achieve the goals of the Regulation or meet the Governor's Executive Orders. Given the built-in flexibility and exemptions and extensions in the Regulation, there is no apparent reason to exempt such fleets and vehicles. When ZEVs are not available, the ZEV Purchase Exemption would provide fleets relief. When ZEVs cannot meet the fleet's daily usage needs, the Daily Usage Exemption would provide fleets relief. The ACF ISOR establishes the need for incorporating the vehicles and sectors that are included in the Regulation and provides data to support these inclusions. Manufacturers are bringing more ZEV and NZEV products to the market every year.

b) Exempt Motor Homes from the 100 Percent ZEV Sales Requirement and Fleet Requirements

Comment Summary: The commenters request motorhomes be exempted from the 100 Percent ZEV Sales requirement in section 2016(d), arguing that the cost impact may lead to

motorhomes being nearly abandoned as a recreational lifestyle. Additionally, the commenters state that motorhomes should be exempt from the ACF requirements.

Commenter: [220-45d, 224-45d]

Agency Response: No changes were made in response to these comments. Motor homes are regularly operated and parked at places with electricity supply and can be charged, so in some cases it may be an ideal application, or provide an advantage to fuel where they park, compared to ICE vehicles. As all trucks transition to ZEVs and infrastructure expands, motor homes can charge or refuel at the same places other trucks do as they do now. Analysis shows that by the 2040 timeframe, ZEVs will be at or less than ICE counterparts in upfront cost.

The Regulation also does not apply to small fleets or individual recreational purchases, so individual motor home customers are unlikely to be affected by the ACF requirements until 2036.

c) Exempt Heavy Equipment Rental Fleets

Comment Summary: The commenters state that the Regulation should exclude rental, service, and transportation vehicles serving the construction, agricultural, military, and critical service industries. They request that CARB consider exempting heavy-duty rental, heavy-duty equipment repair vehicles, and private not-for-hire heavy equipment transportation vehicles from the ACF Regulation because they operate in remote locations with limited infrastructure and vehicles are not available and will not meet their needs.

Commenter: [024-WT1, 058-45d, 080-OT1, 239-45d, 326-45d]

Agency Response: No changes were made in response to these comments. Beyond the rationale for why a blanket exemption for vehicles and fleets are not appropriate, commenter raises concerns about capability of heavy-duty equipment rental fleets to be able to service their industries, which are used in remote locations with limited infrastructure. Although some vehicles in the fleet may be more challenging to electrify, the Regulation has flexibility that allows fleet owners to begin the transition to ZEVs by focusing on the trucks in their fleet that are most suitable and deferring ZEV adoption for the vehicles and duty cycles that are more challenging until a later time when ZEVs capabilities are improved and retail infrastructure is widely available. The Regulation also counts NZEVs the same as ZEVs for compliance until 2035, and they have the same fueling and operating characteristics as conventional vehicles. NZEVs could provide additional compliance relief beyond the Regulation's built-in flexibility and exemptions for lack of vehicle availability or inability to achieve the fleet's daily usage needs. The ZEV Milestones Option allows for the continued purchase of used or new ICE vehicles and has a later timeline for day cab or work trucks starting in 2027 under the ZEV Milestones Option. Additionally, specialty vehicles and sleeper cabs would not need to start transitioning to ZEVs until 2030. Finally, military tactical vehicles are already exempt from the Regulation pursuant to section 2015(c).

d) Exempt Class 8 Construction Vehicles; Concrete Pumps Meet Heavy Crane Definition

Comment Summary: The commenters request an exemption for Class 8 construction vehicles, such as concrete mixers, pumps, and powder trucks, until 2039, citing infrastructure,

safety, and capability challenges, and arguing that concrete pumps meet the definition of a heavy crane.

Commenter: [261-45d, 334-45d]

Agency Response: Changes were made in response to these comments. Safety considerations were included in the updated ZEV Purchase Exemption where the fleet owner can cite specific safety laws that would be violated by operating otherwise available ZEVs. Class 8 specialty vehicles already are on the latest ZEV Milestones timeline, starting in 2030, when it is reasonable to expect ZEV availability and infrastructure availability are improved. The definition of Heavy Crane also includes that the on-road single engine crane is required to be operated by a licensed crane operator. This is not a requirement for concrete pump trucks; therefore, concrete pump trucks do not meet the definition of heavy crane as set forth in the Regulation.

e) Exempt Non-Return-to-Base, Depot-Charging, Small Weight Class Vehicles

Comment Summary: The commenters suggest that the ACF Regulation should focus on feasibility by requiring only vehicles best suited for the transition to zero-emission, which commenter states are smaller weight class, return-to-home base trucks with the ability to depot charge overnight.

Commenter: [026-OT1]

Agency Response: No changes were made in response to these comments. The statement this commenter made is substantially similar to an alternative discussed in the ACF ISOR. See rationale for why this approach was rejected in Chapter IX.B.6. of the ACF ISOR.

f) Exempt Motor Coach Industry

Comment Summary: The commenters request an exemption for the motor coach industry due to the high gross vehicle weight of the buses and the need for luggage space.

Commenter: [017-OT1]

Agency Response: No changes were made in response to these comments. Buses are widely available as ZEVs already, including motor coaches. They have a delayed phase in schedule under the ZEV Milestones Option starting in 2027 to allow additional time for such vehicles. The Daily Usage Exemption would address daily usage concerns, to the extent buses have high daily mileages. In addition, if there is no motor coach available to purchase as a ZEV (or NZEV until 2035) that meets the primary intended function of the vehicle (e.g. transporting passengers and their luggage), the ZEV Purchase Exemption could be used to receive an exemption to purchase an ICE motorcoach if all of the available ZEVs do not have a usable luggage compartment. We expect technology and availability of more capable models will improve over time.

g) Exempt Postal Contractors if Postal Service is Exempt

Comment Summary: The commenters request that if an exemption for the postal industry from the ACF Regulation is granted, Highway Contractor Routes suppliers should also be included as they are essential in the postal industry.

Commenter: [025-WT1]

Agency Response: No changes were made in response to these comments. The mail and package delivery industry are one of the most suitable to transition to ZEVs today. An exemption was not granted to the postal industry, so the commenter's conditional request is not relevant.

h) Exempt or Allow Alternative Requirements for Solid Waste Collection Vehicle

Comment Summary: The commenters suggest that CARB should allow the solid waste sector additional time to test ZEVs and propose suitable levels of electrification for their fleets, effectively as an exemption.

Commenter: [078-OT1, 292-45d]

Agency Response: No changes were made in response to these comments. Beyond the rationale for why a blanket exemption for vehicles and fleets are not appropriate, the commenter provided no criteria for how suitable levels of electrification would be determined for each fleet, the proposed concept would be subjective with no apparent objective criteria to use. An open-ended concept where each fleet can pick its own timeline to comply is essentially business as usual and would not achieve any of the objectives associated with the purpose of the Regulation. No emissions reductions would be expected and could not be included in the SIP. Only measures that result in real emissions reductions and are enforceable may be included in the SIP. The Regulation already has a number of provisions to address ZEV availability and daily usage needs based on objective criteria that ensures ZEVs would only be required to comply when they are suitable to replace an ICE truck in the fleet.

i) Exempt Remote Construction Vehicles

Comment Summary: The commenters state that an exception should be made for situations where electric fleets cannot be reasonably be utilized for remote roadway construction or renovation projects due to the lack of available infrastructure.

Commenter: [118-OT1]

Agency Response: No changes were made in response to these comments. The Regulation has flexibility for fleet owners to begin placing ZEVs where they are most suitable for the fleet's operation. The ZEV Milestones Option gives fleet owners the flexibility to purchase ICE vehicles as needed as long as the ZEV milestones are met. In addition, NZEVs (until model year 2035) count the same as ZEVs in the Regulation and would not have the same infrastructure or range concerns as full ZEVs in the near-term of the Regulation. Where NZEVs are not available, mobile, temporary, and off grid fueling and generation solutions are

available today and are expected to be more common and more robust in the future to address a fleet owner's resilience concerns.

j) Exempt Unique – Drilling Vehicles, Support Vehicles, Power Take-Off Vehicles, Environmental Remediation Vehicles, Membrane Interface Vans

Comment Summary: The commenters request specific exemptions for their vehicles and equipment, including drilling rigs, well development, environmental remediation vehicles, support trucks, power-takeoff equipment and vehicles, and specialized membrane interface vans with built-in equipment not designed for product transportation.

Commenter: [007-45d]

Agency Response: No changes were made in response to these comments. Beyond the rationale for why a blanket exemption for vehicles and fleets is not appropriate, the commenter provides no compelling reason these vehicles cannot be transitioned to ZEVs over the next two decades. Some vehicles are exempt from the Regulation like two engine vehicles, including two engine drill rigs as defined in the Regulation. For vehicles that are not excluded, the Regulation has built in exemptions or extensions to address situations where ZEVs are not available to purchase, they cannot meet a fleet's daily usage needs, or extensions where infrastructure installations are delayed. Finally, the ZEV Milestones Option would allow fleets to defer requirements based on existing vehicle's suitability, with specialty vehicle requirements deferred to start in 2030.

k) Exempt Intermittent Snow Removal Vehicles

Comment Summary: The commenters request that intermittent snow removal vehicles be granted a delay, more vehicle types be added, or the definition be adjusted, arguing that the current draft ACF Regulation lacks an accurate understanding of snow removal fleets and their multi-purpose vehicles.

Commenter: [007-OT1, 263-45d, 291-45d]

Agency Response: Changes were made in response to these comments. An intermittent snow removal vehicle provision was included in the SLG Regulation to allow purchases of such vehicles as ICE until 2030. A similar provision was added to the HPF Regulation for fleet owners utilizing the ZEV Milestones Option to exclude existing and purchased intermittent snow removal vehicles from the Milestone compliance calculations until 2030. A definition was added to the Regulation to define "intermittent snow removal vehicles" and was drafted in coordination with owners of intermittent snow removal vehicles. The definition was limited to only those vehicles that have a plow or blower mount and control system because these features are necessary to perform significant snow removal work. Vehicles without these key features would not be eligible even if used to plow snow with a temporary blade attachment. See more rationale for why the definition was selected and why the provision and definition do not go further in Chapter C.(A).18., section 2015(b), and Chapter C.(C).23., 2015.2(f)(9), of the ACF 15-Day Notice.

l) Exempt Transit Agencies

Comment Summary: The commenters state that ACF should not apply to transit agencies, citing concerns about the cost burden on these agencies to comply with both ICT and ACF requirements.

Commenter: [299-45d]

Agency Response: Changes were made in response to these comments. Language was added to the SLG Regulation to exempt transit agencies and their trucks until 2030 as part of the 15-day changes. Vehicles subject to ICT are already exempt from the ACF Regulation.

m) Exempt Manufacturer Test Fleets

Comment Summary: The commenters request that ACF exempt manufacturer demonstration, test, or experimental fleets.

Commenter: [030-WT1, 100-OT1, 120-OT1, 147-45d, 255-45d]

Agency Response: Changes were made in response to these comments. Manufacturer test fleets were defined and added to the list of vehicles that are exempt from the HPF Regulation as part of the 15-day changes.

n) Exempt Vehicles Subject to Off-Road Regulations

Comment Summary: The commenters recommend that ACF include clear exemptions for vehicles already regulated under other emissions reduction programs, such as PERP, In-Use Off-Road Diesel, Portable Engine ATCM, Off-Road Large-Spark Ignition Regulations, and for vehicles participating in voluntary local emissions reductions programs.

Commenter: [004-WT1]

Agency Response: No changes were made in response to these comments. The Board recognized that the Regulation has some overlap with other existing CARB Regulations and the vehicles were intentionally included. The scope of the ACF Regulation includes on-road vehicles and off-road yard trucks because ZEV technology is available for these vehicles, they are suitable for electrification and the Board needs to reduce emissions everywhere feasible. On-road vehicles include those originally designed to operate on-road at highway speeds whether or not they are registered to drive on road. Trucks, vans, buses, or chassis that were originally manufactured to operate on road are included in the Regulation including vehicles that are used as ground support equipment or are subject to other Regulations if the vehicle falls under the vehicle definition and is included in the vehicle scope as laid out in the Regulation. There is no need to mention the Regulations that do not include vehicles within the scope of the Regulation.

14. Exemptions and Extensions – General

a) Emergency Response and Essential Services – Master Response

Comment Summary: The commenters express concern about the ACF Regulation's unintended consequences on public utilities and their ability to provide essential services, particularly during emergency events. Some commenters argue that the Regulation lacks

necessary exemptions for their heavy equipment rental business type, impairing their ability to assist in responding to emergencies and service needs crucial to heavy equipment and emergency systems operation. Some commenters suggest exempting all emergency response or essential service provider vehicles or fleets. Some commenters mention that the SLG Regulation could adversely impact public safety infrastructure.

Commenter: [021-WT1, 024-WT1, 056-45d, 151-OT1, 164-45d, 170-45d, 180-45d, 233-45d, 237-45d, 297-45d, 310-45d]

Agency Response: No changes were made in response to these comments. The Regulation is gradually phased-in over two decades and provides flexibility for fleet owners to select which vehicles to be purchased as ZEVs. SLG fleet owners meeting the purchase requirements can continue to purchase new ICE vehicles until 2027 for half their purchases and can keep existing ICE vehicles as long as they want. ZEVs are as capable as ICE vehicles in almost all cases and are expected to improve over time. Infrastructure availability will improve as the Regulation is phased in. Additionally, the Regulation has a number of exemptions and extensions provisions, including: a mutual aid emergency response exemption which allow fleets to retain up to a quarter of the fleet as ICE vehicles; backup vehicles are allowed unlimited mileage during emergency operations; exemptions for when specialized emergency response vehicles are not available to purchase; extensions for when infrastructure installations are delayed; exemptions to bring in out of state vehicles responding to emergencies; exemptions for when ZEVs cannot meet a fleet's daily usage needs, which was modified in the ACF 15-day changes to allow for fleets with mutual aid agreements to use mileage reports from the last five years to recognize major emergencies that do not occur annually; exemptions for specialized two-engine vehicles and heavy cranes that may be used to respond to emergencies; and exemptions for emergency response vehicles defined in the CVC section 165. All of these are in recognition of edge cases where incorporating ZEVs into fleets may be more challenging to provide flexibility to fleets. Blanket exemptions for all fleets or vehicles responding to emergencies are not appropriate and would not achieve the goals of the Regulation.

Comment Summary: The commenters emphasize that public agencies need flexibility to respond to emergencies during Enhanced Powerline Safety Shutoffs, which differ from PSPS events, as Enhanced Powerline Safety Shutoffs have no advanced warning and weren't considered in the ACF ISOR.

Commenter: [180-45d]

Agency Response: Though Enhanced Powerline Safety Shutoffs events may not have been explicitly discussed, sufficient flexibility is included in the Regulation to allow fleets to manage their fleet purchases and to respond to emergency events such as Enhanced Powerline Safety Shutoffs. In addition, ZEVs have advantages other trucks don't have like being able to keep the power on while repairs are being made.

b) Include Out of State Vehicle Flexibility

Comment Summary: The commenters suggest the Regulation should include flexibility for vehicles making temporary, short trips to or through California, proposing a 90-day exemption for out-of-state vehicles temporarily operating within the state. They request a temporary pass for one-time access to California roads for HD I/M compliant vehicles and an

exemption similar to the Truck and Bus Regulation's Low Use Exemption for temporary operations.

Commenter: [025-WT1, 105-OT1, 145-OT1, 170-45d, 207-45d, 248-45d, 256-45d]

Agency Response: Changes were made in response to these comments. The 5-Day Pass provision was added to the Regulation to address temporary trips into California for a limited period of time and is consistent with other in-use vehicle Regulations such as the Truck and Bus Regulation. Providing 90 days would be too long of a time frame to allow vehicles to operate, would be a loophole for out-of-state fleets, and would be inconsistent with the goals of the Regulation to reduce vehicle emissions. The pass is not tied to compliance with HD I/M to increase flexibility for fleets to qualify for the provision, though that Regulation would simultaneously apply to all vehicles subject to it. Additionally, this pass provides more flexibility than the Truck and Bus version of the pass, because instead of being limited to a single vehicle per fleet per year, each vehicle in a fleet could qualify for a pass per year, providing flexibility to fleet owners to manage the fleet of vehicles sent to operate in California.

c) Allow Pickups to Qualify for All Exemptions and Extensions

Comment Summary: The commenters request that pickup trucks in all configurations be addressed the same as the Regulation addresses trucks over 14,000 pounds GVWR and allow their inclusion for all exemptions in the Regulation.

Commenter: [002-OT1]

Agency Response: No changes were made in response to these comments. Please see rationale for why pickup trucks are excluded from exemption or extension provisions in the relevant sections of 2015.3 of Appendix H-1 and H-2 to the ACF ISOR.

d) Allow Exemption Applications for Multiple Vehicles at Once

Comment Summary: The commenters suggest that fleets should have a way to file exemptions for multiple vehicles instead of on a vehicle-by-vehicle basis.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. The Regulation already provides flexibility to grant exemptions or extensions for a particular vehicle class and configuration, but others require vehicle-specific information which would necessarily not be able to be aggregated; for example, the Daily Usage Exemption would require daily usage information for individual vehicles in the fleet to demonstrate the need for the exemption. Some exemptions, such as the ZEV Purchase Exemption, would exempt a particular vehicle class and configuration, which would be applicable to all vehicles of that type in the fleet if approved. The Non-repairable Vehicle Provision and Backup Vehicle Exemptions are necessarily individualized to specific vehicles in the fleet. Thus, these changes are not necessary and would hinder implementation of the provisions that need vehicle-specific information to qualify.

e) Provide More Flexibility and Clarity for Exemptions

Comment Summary: The commenters request more flexibility in the Regulation, suggesting that exemptions should continue until technology advances sufficiently for medium- and

heavy-duty applications, and clearer criteria for exemptions and their processes, which should be standardized and identical for public and private fleets and drayage trucks.

Commenter: [017-45d, 018-45d, 105-OT1, 146-45d, 168-45d, 171-45d, 172-45d, 173-45d, 176-45d, 178-45d, 234-45d, 246-45d, 253-45d, 256-45d, 310-45d, 318-45d, 342-45d, 344-45d, 345-45d, 346-45d]

Agency Response: Changes were made in response to these comments. Additional exemptions and extensions were added to the Regulation to address additional edge-case scenarios, such as when vehicles become non-repairable, or to allow for temporary operations in California for non-compliant vehicles. The exemptions and extensions were reworked, simplified, streamlined, and added clarity in objective criteria and explanation of processes.

Some changes were made to align the drayage truck requirement compliance extensions with other parts of the Regulation, such as including Infrastructure Delay Extensions and provisions for non-repairable vehicles; however, due to the urgency of needed emissions reductions at the ports, more readily available ZEV models, shorter operational ranges, and differences in fleet makeups, some extensions and exemptions were not appropriate to make identical, such as the ZEV Purchase Exemption or Daily Usage Exemption.

f) Include Appeals Process for All Exemptions

Comment Summary: The commenters request an appeal process for all exemptions as an oversight or correction mechanism to ensure consistent application of the Regulation.

Commenter: [015-WT1, 261-45d]

Agency Response: Changes were made in response to these comments. These comments were addressed directionally; rather than include an appeals process, the Regulation was updated to clarify and use objective criteria and streamline the application and approvals process. No appeals process is necessary because the criteria and process updates are sufficient to address exemption issues. Additionally, the criteria were workshopped to the public to allow for stakeholder input in the process and criteria, and changes were made to address stakeholder comments.

g) Include a "Catch All" Exemption for Scenarios Not Contemplated by the Regulation

Comment Summary: The commenters propose a "catch-all" process to delay compliance requirements on a fleet-specific basis for reasons not contemplated by the Regulation, emphasizing the need for flexibility to address complex scenarios when unique needs or circumstances do not fit within simplified exemption criteria.

Commenter: [207-45d, 233-45d, 291-45d, 322-45d]

Agency Response: No changes were made in response to these comments. CARB has attempted to respond to many commenters requests and incorporated a wide range of exemptions/extensions. The commenter has not provided a specific example in which an exemption/extension would not apply, and a catchall would be needed. The existing exemptions and extensions have been reasonably modified to provide additional clarity, flexibility, objectivity, and to address scenarios stakeholders have raised during the public process.

h) Exemptions for Incorrect Cost Predictions and Economic Infeasibility

Comment Summary: The commenters suggest incorporating an exemption for economic infeasibility, allowing fleets to request exemptions if cost estimates of the ACF ISOR are incorrect in the future or off by a certain percentage, such as 20 to 25 percent.

Commenter: [174-45d, 280-45d, 322-45d]

Agency Response: No changes were made in response to these comments. Like other trucks, ZEVs vary in price, have a number of features that differ between similar models, and the retail prices are not consistent among manufacturers. The price of a ZEVs, like other trucks, are also affected by a number of variables that are subject to fluctuation and other variables like inflation. ZEVs have lower fuel costs and maintenance costs that can make the TCO lower than ICE vehicles even if they have a higher upfront cost. For example, fleets often purchase diesel trucks instead of a gasoline version for reasons other than price. The cost estimates as described in Chapter VIII. of the ACF ISOR are estimates of the cost differential in constant dollars and not guarantees of future ZEV prices. The Regulation also provides fleet owners with flexibility to manage and prioritize their purchases as they transition the fleet to ZEVs. Under the commenter's suggested proposal, it would be difficult to base an exemption on unpredictable changes in these variables as well as assess the point in which an exemption would be granted if any ZEVs are available for purchase at a cost in alignment with the ACF ISOR estimates. This proposal would create a loophole by which fleets could indefinitely delay transitioning their fleets if a ZEV that exceeds cost estimates of the ACF ISOR could be afforded, causing the goals of the Regulation to not be met.

i) Exemptions for Zero-Emissions Vehicle Experience Gain

Comment Summary: The commenters generally recommend that CARB allow alternative compliance options until fleets gain more experience with ZEVs.

Commenter: [115-OT1]

Agency Response: No changes were made in response to these comments. Fleets are expected to determine which ZEVs are best suited for their fleet operations through their own analyses and determinations. It would be unreasonable to grant exemptions due to lack of experience with ZE technology as this experience is to be gained through ZEV acquisition by complying with the Regulation. Experience quantification is also not a reasonable nor realistic variable for evaluating exemption criteria.

j) Exemptions for Infrastructure Development

Comment Summary: The commenters generally recommend that CARB allow alternative compliance options until more infrastructure is installed.

Commenter: [115-OT1]

Agency Response: No changes were made in response to these comments. ZEV infrastructure is commercially available today and will continue to expand as the Regulation is phased in over the next 20 years. In most cases, fleets are expected to initially install their own infrastructure and potentially rely on public or retail fueling infrastructure as ZEV deployments expand. The ZEV Infrastructure Delay Extension also provides flexibility to fleets that experience delays due to circumstances beyond their control on a project to install ZEV fueling infrastructure. Granting an exemption specifically until more infrastructure is installed

is therefore unnecessary considering these factors. For more discussion about infrastructure installation, please see responses to issues raised in section “Grid Capacity and Resilience – Additional Grid Planning and Analysis Needed” of section “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

k) Exemptions for Mineral Supply Development

Comment Summary: The commenters generally recommend that CARB allow alternative compliance options until more mineral supplies become available.

Commenter: [115-OT1]

Agency Response: No changes were made in response to these comments. CARB’s analysis concluded that the ACF Regulation is not anticipated to substantially affect the economic potential or supply of known mineral resources. Industry is rapidly moving to batteries with different chemistries or formats to address concerns with mineral supply chain issues. The recycling of lithium-ion batteries is also increasing to ensure that minerals are recovered and reused instead of discarded. An exemption based on the availability of mineral supplies is, therefore, not necessary in consideration of these factors. CARB evaluated impacts associated with mining for battery materials in the CEQA EA and these concerns are addressed in the EA RTC document, see Master Response 2.

l) Grant Cities Extension for Regulation Planning and Budgeting

Comment Summary: The commenters request an extension be granted if a city has planned and budgeted for infrastructure and ZEVs, instead of being penalized for not complying due to ZEV unavailability.

Commenter: [089-45d, 128-45d, 278-45d, 279-45d]

Agency Response: No changes were made in response to these comments. State and Local Government fleets are not required to retire any trucks from their fleet and can keep operating their existing trucks as long as they want. There is no reason to provide extensions for the act of planning and budgeting for infrastructure and ZEVs, as fleets are expected to do so to comply with the ACF Regulation. Additionally, the ZEV Purchase Exemption is intended to provide flexibility to fleets in circumstances where a vehicle configuration is not available to purchase as a ZEV, or an available ZEV does not meet a fleet’s needs, and the infrastructure delay provision would address situations where the planned infrastructure project takes more than one year to complete.

m) Exemption Process is Too Burdensome

Comment Summary: The commenters state that the exemption process is too burdensome on CARB staff or regulated parties to be feasible or efficient.

Commenter: [303-45d, 321-45d]

Agency Response: Changes were made in response to these comments. Language was added to enhance the clarity of criteria for all exemptions and extensions while addressing process-related concerns. The process will not impose an excessive burden on them, as the provisions were specifically designed with both staff resources and fleet owner burden in mind.

n) Unique Redlines Comment 310 to Section 2015.3

Comment Summary: The commenter requests specific redline edits to the Regulation and delete this phrase from Section 2015.3, "if the California fleet complies with the requirements that are in effect, and it would otherwise be impossible to comply with the next upcoming Regulation requirement. Fleet owners requesting or utilizing any exemptions or extensions," and have the section to be revised to say, "Fleet owners may claim or apply for the following exemptions or extensions and must meet applicable reporting and recordkeeping requirements for each exemption or extension."

Commenter: [310-45d]

Agency Response: Changes were made in response to these comments. Language was revised, while still retaining the requirements to protect against loopholes whereby fleets would apply for exemptions that are not necessary when other vehicles in the fleet can be transitioned to ZEV under the ZEV Milestones Option.

o) Allow Alternative Compliance Options Until More ZEVs Available

Comment Summary: The commenters generally suggest CARB allow alternative compliance options until more vehicles become available.

Commenter: [029-OT1, 115-OT1]

Agency Response: Changes were made in response to these comments. The Regulation already has considerable flexibility for fleets to plan their compliance strategies. In addition, there are a number of exemptions in place for fleets to choose from when a suitable vehicle is not available. These exemptions have been designed to provide flexibility and accommodate the unique needs of each fleet, ensuring that they can continue to operate effectively during the transition period.

p) Limit the Amount of Exemptions

Comment Summary: The commenters urge the Board to limit and specify exemptions, clearly stating the emissions reductions and health benefits lost or delayed due to exemptions for both statewide and highly impacted communities.

Commenter: [183-45d]

Agency Response: No changes were made in response to these comments. The flexibility in the Regulation also reduces the need for exemptions. The scope of exemptions is already limited by the specific criteria associated with each one. The exemptions have been carefully designed to balance the need for flexibility in unique circumstances where the fleet owner would not be able to comply for circumstances beyond their control and otherwise achieve the maximum emissions reduction and health benefits.

q) Non-Repairable Vehicle Exemption

Comment Summary: The commenters suggest adding language to the Regulation that permits CARB-reviewed replacement of vehicles requiring immediate replacement due to accidents, mechanical failure, or unforeseen circumstances with ICE vehicles.

Commenter: [032-45d, 210-45d]

Agency Response: Changes were made in response to these comments. Staff has introduced a new Non-repairable Vehicle Provision to the Regulation which allows ICE vehicles which have been totaled or deemed non-repairable to be replaced with a combustion-powered vehicle without changing the compliance date of the original vehicle if using the Model Year schedule. This allows fleets to recover from an unexpected event without needing to purchase a ZEV ahead of the originally expected schedule.

r) Adequate Infrastructure Exemption

Comment Summary: The commenters request that CARB create off-ramps within ACT and ACF Regulations to reduce compliance obligations if adequate infrastructure is not present, linking targets to related electrical generation, transmission, distribution, and infrastructure availability.

Commenter: [147-45d, 270-45d]

Agency Response: Changes were made in response to these comments. Infrastructure delays are accounted for in the Regulation, and additional time and access criteria were provided to account for potential delays in the completion of infrastructure installation projects. No changes to the ACT Regulation were made in response to these comments because changes to the ACT Regulation are out of scope of the ACF rulemaking processes and procedures. Commenters suggestions to change the ACT Regulation is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.. Notwithstanding this response, providing manufacturers an exemption when a single customer experiences delays in infrastructure installation does not make sense when the manufacturer can make their sale to another customer. Accommodating infrastructure delays in ACF is sufficient; therefore, adding a delay to the ACT Regulation is not needed.

s) Rental Fleet Exemption

Comment Summary: The commenters request a full exemption from the rental fleet average for rental vehicles operating in California for less than 10 consecutive days or no more than 30 days cumulatively in a single year. They express concern that they will never achieve full compliance under the ACF Regulation because they cannot control which vehicles their rental customers bring in from out-of-state. They believe that implementing a 10-day consecutive/30-day cumulative rental vehicle buffer will provide greater flexibility for companies to reach compliance and facilitate a smoother transition to ZE trucks.

Commenter: [008-45d, 282-45d]

Agency Response: No changes were made in response to these comments. The Rental Vehicle Option in the Regulation already addresses the issue of transient trucks and has been specifically designed to facilitate compliance and ease the transition towards ZE trucks. This provision was included in the original proposal and provides rental fleet owners the option to report the average number of rental vehicles operating in California based on quarterly snap shots using data rental fleets already collect, with certain conditions and reporting requirements.

t) Interstate Rental Fleets

Comment Summary: The commenters propose applying the quarterly average approach offered for rental fleets to interstate fleets as well, as it would reduce a motor carrier's initial

ZEV burden by 67 percent or more. They argue that the current Regulation would require more trucks to comply in the earlier years than manufacturers and infrastructure can support. They believe this change would encourage a more gradual but consistent growth of ZEVs within California, promoting the development of a secondary resale market and preventing "legacy" vehicles from remaining on California roads for extended periods.

Commenter: [282-45d, 284-45d]

Agency Response: The commenters incorrectly assume that the Regulation applies to fleets that operate or control the operation of vehicles outside of California. Notwithstanding that response, changes were made in response to these comments. CARB added a 5-Day Pass that allows the fleet owner to exclude individual vehicles from their California fleet for five consecutive days in the calendar year. This change was kept narrow to minimize the potential loophole where an out of state fleet would increase the number of trucks operating in California to delay ZEV purchases and undercut their competitors. However, no other changes were made in response because interstate carriers are in full control of where they direct their trucks and how they manage their assignments. Interstate fleet owners with day cab and sleeper cab tractors have more time with the ZEV Milestones Option than rental companies with box trucks. Interstate fleet owners regularly manage which trucks they direct to California and which trucks will operate in their California fleet. Extending the quarterly average approach to thousands of interstate fleets would also introduce complexities in terms of monitoring and enforcement and would undermine the emission benefits of the Regulation and would be unfair to instate fleets.

u) Establish Independent Exemption Hearing Board

Comment Summary: The commenters state that CARB should establish a hearing board to review exemption requests on a case-by-case basis, emphasizing the need for an independent process with guardrails for technology determination, exemptions, and commercial availability.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. The Board determined that using a specified set of criteria they approved was sufficient for the Executive Officer and affected fleets use in making determinations if the specified conditions were met. The Board rejected the notion of delegating its decision-making ability to an unspecified group with different objectives. Each exemption approved in the Regulation includes sufficiently clear, objective, and transparent processes and criteria which eliminates the need for an independent reviewing entity.

v) Establish Independent Extension Hearing Board for Infrastructure Delay Extensions

Comment Summary: The commenters suggest that decisions on extensions under the Infrastructure Construction Delay provision be made by an advisory board comprised of representatives from various stakeholders.

Commenter: [175-45d]

Agency Response: No changes were made in response to these comments. The Infrastructure Delay Extension is sufficiently clear, objective, and transparent for fleet owners to understand if they meet the criteria and for the Executive Officer to evaluate. There is no reason to expect that processes and criteria which eliminate the need for an independent reviewing entity.

w) Establish Independent Hearing Board to Determine Vehicle Delivery Delays

Comment Summary: The commenters request that the ZEV ordering deadline under the Vehicle Delivery Delay Exemption be for a period of time as determined by an independent advisory board.

Commenter: [175-45d]

Agency Response: No changes were made in response to these comments. Assessing exemption requests through a third-party review is infeasible and would significantly delay implementation. The Vehicle Delivery Delay provision establishes sufficiently clear, objective, and transparent processes for fleet owners to understand if they meet the criteria and for the Executive Officer to evaluate. There is no reason to expect that these processes and criteria would need independent review.

x) Exemptions for Zero-Emissions Vehicles with Higher Total Costs of Ownership

Comment Summary: The commenters state that CARB should include exemptions when the TCO for a ZEV significantly exceeds that of a comparable ICE vehicle.

Commenter: [285-45d]

Agency Response: No changes were made in response to these comments. Should a ZEV's TCO significantly exceed that of a comparable ICE vehicle, the fleet owner has the option of purchasing other ZEVs that are more financially viable, so it would be unnecessary to provide an exemption process for these circumstances. The TCO payback period for ZEVs based on individual fleet use cases will also vary by fleet and creating criteria around the TCO for an exemption would, therefore, be infeasible. Fleet owners may also take advantage of funding opportunities to assist in ZEV acquisition, further eliminating the need for this type of exemption.

y) Adjust One Year Advance Action Requirement to Start After Regulation Finalized

Comment Summary: The commenters request that extensions with a one-year advance action requirement begin after the Regulation is finalized, as the current timeframe would require fleets to act before the ACF Regulation is adopted, to qualify for an extension starting January 1, 2024.

Commenter: [316-45d]

Agency Response: Changes were made in response to these comments. Modifications were made to the Model Year Schedule language to make it clear the start date for removing

vehicles from the California fleet would be January 1, 2025, instead of earlier and aligns with the Drayage truck requirements. The first ZEV Milestone deadline remains unchanged on January 1, 2025. This change means fleet owners can meet the one-year advance requirement if exemptions or extensions are needed.

15. Exemptions and Extensions – Daily Usage

a) Daily Usage Exemption – Master

Comment Summary: The commenters suggest the need for exemptions when ZEVs are available but not operationally feasible or cannot meet duty cycles. They request clarification and streamlining of the Daily Usage Exemption requirements and propose using follow-up data requests if CARB questions a fleet's application.

Commenter: [004-WT1, 089-45d, 233-45d, 294-45d, 342-45d]

Agency Response: Changes were made in response to these comments. The updated Daily Usage Exemption was modified to remove the GVWR limits that were previously included.

The updated Daily Usage Exemption provision provides energy efficiency estimates for range requirements for all applicable vehicle types, allowing fleets to calculate whether a BEV would meet their needs. Additionally, in lieu of the default range calculations, fleet owners may now utilize energy use data from a BEV and comparable ICE vehicle to justify an exemption. The Executive Officer will verify if the criteria in the Regulation have been met by using good engineering judgement when determining the approval of exemption requests.

b) Daily Usage Exemption – Allow Three Highest Values

Comment Summary: The commenters argue against excluding the three highest values from calculations for Daily Usage Exemption, stating that public fleets need vehicles for worst-case scenarios, and this exclusion would make the exemption unworkable. They suggest striking the language requiring the identification of the lowest mileage readings and exclusion of the three highest readings because it artificially—and falsely—biases the mileage of the subject vehicle(s) lower than actual operating conditions establish. Commenter states that a focus on the lowest mileages understates the work the owner or operator asks of its vehicles and does not provide a basis for determining whether a ZEV could provide an adequate replacement.

Commenter: [261-45d, 291-45d]

Agency Response: No changes were made in response to these comments. Please see section 2015.3(b) in Appendix H-2 of the ACF ISOR package for rationale for the purpose of excluding the three highest values in calculations. The exclusion of the highest values prevents fleets from relying on outliers as a method of dismissing ZEVs that may be a good fit for all of the fleet's daily needs. It is expected that fleets modify, at least to some degree, their daily operations to accommodate and incorporate new technology by placing ZEVs where they would fit into operations and reserving ICE vehicles for the outlier tasks until ZEV technology improves enough to replace ICE vehicles completely.

c) Daily Usage Exemption – Allow All Vehicle Types

Comment Summary: The commenters state that the Daily Usage Exemption should not exclude pickups or other vehicle types.

Commenter: [233-45d, 291-45d, 305-45d]

Agency Response: No changes were made in response to these comments. Please see section 2015.3(b) of Appendix H-2 to the ACF ISOR, for rationale on the purpose of not allowing certain vehicle types to apply for the Daily Usage Exemption.

d) Daily Usage Exemption – Allow Internal Combustion Engine Vehicle Data to Substantiate Exemption Requests

Comment Summary: The commenters request that the Daily Usage Exemption be expanded to allow fleets to substantiate and calculate daily usage from existing ICE vehicles, without requiring the purchase of a ZEV for energy use calculations. They recommend including a method to estimate the corresponding battery size needed based on fuel usage and relative energy density.

Commenter: [233-45d, 263-45d, 291-45d]

Agency Response: Changes were made in response to these comments. The Daily Usage Exemption provision was directionally expanded to address the commenter's concern to allow comparing daily energy and mileage usage reports from ICE vehicles in the fleet's service to the energy capacity of a ZEV that is available to purchase in the same application to justify their exemption request; however, fleet owners must still compare ICE data against available ZEVs, whether that ZEV data is from one purchased by the fleet or if the ZEV data was collected from a ZEV in another fleet but used in substantially similar operations. The commenter's request to only use ICE data is not reasonable because ZEVs use significantly less energy than ICE vehicles during operation due to their energy efficiency, so using ICE data energy to compare against an ICE vehicle would not be a reasonable comparison. ICE vehicles operated while stationary would exacerbate this affect further, as they waste energy while idling between performing work, so the comparison would not be valid.

e) Daily Usage Exemption – Clarify Applicable Exclusions from Ten Percent Requirement

Comment Summary: The commenters request clarity on the required percentage of ZEVs in a fleet to qualify for the Daily Usage Exemption and suggest that it should be similar to the ZEV Milestone Calculation which permits backup vehicles, daily usage exempted vehicles, emergency support vehicles, and unavailable ZEV vehicles to be excluded the percentage calculation. Vehicles that might need to be purchased due to serious vehicle or infrastructure delays, should also be excluded.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. The Daily Usage Exemption intentionally does not exclude any vehicles that are part of the California fleet in its calculation of the percentage requirement. The requirement that the fleet already be comprised of 10 percent ZEVs is necessary to ensure progress is being made by every fleet in the transition to ZEVs before exemptions based on duty-cycle are granted. Fleets are expected to make some progress with introducing ZEVs where suitable in their operations. The ZEV Milestones Option also delays the initial ZEV requirements for vehicles that are likely to operate higher daily miles allowing for further technology advancement and more infrastructure build out. For additional discussion on the 10 percent threshold, please see section 2015.3(b) of Attachment H-2 to the ACF ISOR.

f) Daily Usage Exemption – Clarify Regulatory Language Regarding Existing Internal Combustion Engine Vehicle

Comment Summary: The commenters request a minor change for clarity by adding "ICE" between existing and vehicle in the sentence, "Fleet owners shall receive a one-year exemption to purchase a new ICE vehicle and exclude from the ZEV milestone calculation of section 2015.2 if a new ZEV is available, but it cannot be placed anywhere in the California fleet while meeting the daily usage needs of any existing ICE vehicle in the fleet provided the criteria specified in section 2015.3(b) are met."

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. However, the language the commenter requested to change is no longer in the Regulation language. The Daily Usage Exemption provision under both the Model Year Schedule and the ZEV Milestones Option now references the Exemptions and Extensions section for what a fleet may do in the event an exemption is granted. However, adding "ICE" in that section was not deemed necessary because the components of the Daily Usage Exemption clearly specify that a comparison between the needed vehicle and a commercially available BEV is the basis of requests for said exemption. The intent of the provision is to compare existing ICE vehicles to available BEVs.

g) Daily Usage Exemption – Include Cost, Support, Service, and Repair Feasibility

Comment Summary: The commenters express concerns that the Daily Usage Exemption is unworkable, as it requires the availability of an NZEV or ZEV with specified battery capacities, without considering cost, support, service, and repair feasibility. They suggest adding these considerations to the exemption criteria.

Commenter: [282-45d]

Agency Response: No changes were made in response to these comments. The Regulation is phased in over two decades and has considerable flexibility for the fleet owner to make their own purchase decisions. The ZEV Milestones Option is phased in by truck type and their ZEV suitability. Fleet owners can meet the ZEV milestone requirement with any truck type the fleet owner chooses to upgrade. This reduces the likelihood an exemption is needed. However, if the fleet owner cannot identify a ZEV that meeting the daily range needs of an existing ICE vehicle in the fleet, the owner can identify any remaining ICE truck they wish to receive an exemption to replace it with another ICE vehicle provided the fleet owner qualifies for the exemption. Major manufacturers are required to sell ZEVs as an increasing percent of sales starting 2024 which will increase the number of ZEV or NZEV offerings for fleet owners to select from. Finally, the items the commenter suggests are subjective concepts that are difficult to determine and are almost entirely subject to opinion without well-defined criteria to use.

h) Daily Usage Exemption – Include Power Take-Off Hours

Comment Summary: The commenters argue that the Daily Usage Exemption should consider engine operation hours and PTO usage, in addition to mileage, to address non-motive power

needs and long continuous operation times such vehicles that must operate continuously for 12 to 16 hours on a typical day in support of emergency functions.

Commenter: [170-45d, 321-45d]

Agency Response: Changes were made in response to these comments. The updated Daily Usage Exemption provision now allows fleets to submit ICE vehicle daily usage reports as a method to justify their exemption request. For vehicles that operate mostly while stationary, this report may include energy used while stationary and the number of hours such truck mounted or integrated equipment is operated each day, for at least 30 consecutive workdays from within the last 12 months. This addition should address non-motive power needs of fleets, such as PTO or engine operation house.

i) Daily Usage Exemption – Include Additional Usage Factors

Comment Summary: The commenters suggest modifying the daily use exemption criteria to include additional relevant usage factors such as ambient temperature, HVAC usage, route topography, driver efficiency, available usable energy, and battery degradation and chemistry.

Commenter: [282-45d]

Agency Response: Changes were made in response to these comments. A general temperature provision is not necessary as the Daily Usage Exemption now allows fleets to submit ICE total energy usage data to justify exemption requests, which would inherently include the effects of ambient temperature, HVAC usage, route topography, and driver efficiency. Fleets may collect data at for any 30-day period they choose within the past 12 months, including the periods least conducive for BEV operation.

The current Daily Usage Exemption provision does allow fleets to use ambient temperature in conjunction with measured BEV energy use data as a method to determine whether a ZEV can meet the daily usage needs of an ICE vehicle. It is impractical to implement the request for a discrete battery degradation and chemistry provision as this information will vary greatly between different battery chemistries and manufacturers while being unable to be updated given the rapid pace of improvements in battery chemistry as well as the potential availability of new battery types. However, the updated BEV energy use data option accounts inherently account for these factors as the usage data should include these factors in a worst case real-world scenario.

The ZEP Certification Regulation may alleviate some battery concerns as it requires the manufacturer state the capacity of the battery as well as offer a 3-year, 50,000-mile warranty.

j) Daily Usage Exemption – Include Statistical Usage Data

Comment Summary: The commenters state if daily usage reports are retained, CARB should revise the required data to include a more statistically valid treatment of vehicle usage, reporting all vehicle trips, mean, and median values.

Commenter: [305-45d]

Agency Response: No changes were made in response to these comments. The updated Daily Usage Exemption requires fleets to submit information that is a relatively simple, objective, and straight forward way to assess whether an available ZEV is suitable to replace

remaining ICE vehicles in the fleet with a single charge for the purposes of determining whether a fleet meets the criteria for the exemption. The fleet mileage or usage data is based on a 90th percentile of the fleet's operation for any month selected by the fleet owner. The Board determined this was an appropriate balance in complexity with the administrative burden on stakeholders.

k) Daily Usage Exemption – Remove Milestones Requirement for All Other Internal Combustion Engine Vehicles to Qualify for Exemptions

Comment Summary: The commenters suggest removing the requirement under the ZEV Milestones Option that to apply for the Daily Usage Exemption, fleet owners must apply for and obtain exemptions for all other ICE vehicles in the fleet, as this would unfairly penalize fleets spread-out over large geographic areas with multiple sites and doesn't consider key differences between vehicles such as remaining useful life or whether a vehicle has a cleaner engine. They provide an example illustrating the impracticality of the current exemption.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. Under the ZEV Milestones Option fleets have full flexibility to choose vehicles to upgrade. The schedule is also staged in a way that the most suitable vehicle types would transition to ZEVs first and other vehicle types would be phased in later. Starting 2024, fleet owners are expected to upgrade to ZEVs where most suitable for their operation. Exemptions are intended to be used when a fleet owner makes a good faith effort and is not reasonably able to comply for reasons beyond their control. Fleets with multiple sites have the flexibility to focus their early transition strategy to a narrow set of locations or spread out their ZEV deployments at all locations. It would be a loophole and counter to the objectives of the Regulation to grant exemptions to fleet owners that preferentially pick worst case situation to claim an exemption when nearly all the fleet is suitable for electrification.

l) Daily Usage Exemption – Remove 10 Percent Threshold Requirement

Comment Summary: The commenters ask for the removal of the 10 percent ZEV/NZEV threshold for accessing the Daily Usage Exemption for all fleets, or specifically for fleets with primarily Class 8 sleeper tractors, as a nationwide public infrastructure network is under development.

Commenter: [002-OT1, 015-WT1, 261-45d, 282-45d, 291-45d, 310-45d]

Agency Response: No changes were made in response to these comments. Please see section 2015.3(b) in Appendix H-2 of the ACF ISOR, for the rationale for requiring 10 percent.

m) Daily Usage Exemption – Remove Battery-Electric Vehicle Capacity Sunsets

Comment Summary: The commenters state the Daily Use Exemption should not sunset when vehicles become available with certain energy capacities, or that the sunset capacities should be edited, arguing that the proposed rated energy capacities are arbitrary and do not reflect actual usage considerations. Commenters state factors such as actual ranges of HVIP-funded tractors, non-accessible energy capacity, operator range anxiety, and the physics of the fast-charging curve may reduce the range calculated by CARB by 65 to 90 miles.

Commenter: [233-45d, 282-45d, 291-45d, 305-45d, 342-45d]

Agency Response: No changes were made in response to these comments. Please see section 2015.3(b) in Appendix H-2 of the ACF ISOR, for the rationale on sunseting BEV exemptions based on capacity availability.

n) Daily Usage Exemption – Remove Requirement for Route Fueling

Explanation

Comment Summary: The commenters request that section 2015.3(b)(5) be changed to delete the phrase, "The explanation must include a description of why charging or fueling could not be managed during driver rest periods or breaks during the workday," as it is too burdensome for fleets.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. This explanation is a reasonable request if a fleet would like to use this component of the Daily Usage Exemption provision as a basis for exempting a vehicle from the ZEV transition requirement. This section may be as simple or as complex as a fleet deems necessary to justify their position.

o) Daily Usage Exemption – Remove Fuel Cell Electric Vehicle Limit

Comment Summary: The commenters state that the Daily Usage Exemption should not require fleets to purchase FCEVs if available, as this does not consider the sufficiency of available fueling infrastructure for these vehicles along routes.

Commenter: [282-45d]

Agency Response: No changes were made in response to these comments. Fuel cell vehicles were included in this exception because they are expected to have similar range as a conventional vehicle and similar fueling times. As FCEVs come to market, the fueling network will expand to operate these vehicles. To the extent that the daily mileage for the vehicle is high, there would be opportunity to stop near available light-duty stations for lighter trucks. Commenter concerns about specialized vehicle types being available as FCEVs in the near term is unlikely based on available data, and therefore disqualifying that vehicle configuration from applying for a Daily Usage Exemption are less of a concern in the near-term. Additionally, flexibility provided in the Regulation would provide opportunity to select vehicles better suited for electrification, especially if the fleet owner opts into the ZEV Milestones Option. Finally, manufacturers are offering mobile refueling solutions, including for hydrogen vehicles, to address situations where stations are not available in the region being served in the near-term. Please see section 2015.3(b) in Appendix H-2 of the ACF ISOR, for a discussion on the exclusion of FCEVs from the Daily Usage Exemption provision. Regarding hydrogen fueling infrastructure, please see the responses to issues raised in section "Infrastructure Availability – General" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

p) Daily Usage Exemption – Remove Gross Vehicle Weight Rating Limit

Comment Summary: The commenters suggest removing "with a GVWR greater than 14,000 pounds" from the Daily Usage Exemption.

Commenter: [024-WT1, 080-OT1, 239-45d, 291-45d, 305-45d, 342-45d]

Agency Response: Changes were made in response to these comments. The GVWR limit has been removed in the updated Regulation language.

q) Daily Usage Exemption – Remove Range Calculation and Report Requirements

Comment Summary: The commenters suggest revisions to streamline and simplify the Daily Use Exemption by removing sections requiring range calculations and daily usage reports, as they are burdensome, unnecessary, and some fleets lack telemetry systems to collect usage reports.

Commenter: [291-45d, 305-45d]

Agency Response: No changes were made in response to these comments. These calculations and reports are the minimum information necessary to justify requests and prevent creation of a loophole for fleets utilizing this component of the Daily Usage Exemption to apply for an exemption.

r) Daily Usage Exemption – Require Available Zero-Emissions Vehicles to Have Twice the Range of Internal Combustion Engine Vehicles

Comment Summary: The commenters state that ZEV range should not be the sole determinant for granting Daily Usage Exemptions due to overly optimistic range estimates and suggests requiring available ZEVs to have a range equal to double the fleet's daily mileage needs to perform necessary duties.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. This change would be unreasonable as its inclusion would exempt many fleets from transitioning to ZEVs that would meet or exceed their needs. While it is understood that there are concerns regarding the stated range of ZEVs, manufacturers are incentivized, in general, to produce vehicles that fleets will want to purchase over a long period. The ZEP Certification Regulation will also create consumer protections for stated battery capacity as well as a warranty requirement. It is also expected that as more ZEVs are introduced to California and that as the technology continues to mature for concerns regarding real world versus stated range to be diminished. Finally, the slow introduction of ZEVs into a fleet over an extended period time means that if a model of ZEV does not perform the duties it is expected to, fleets may apply for an exemption under the Daily Usage Exemption with the information they have acquired while operating the ZEV.

s) Daily Usage Exemption – Unique Regulation Redlines from Comment Letter 342

Comment Summary: Redlines for Daily Usage Exemption. Section 2015.1(c)(2): remove "anywhere," add "where it is needed and where supporting infrastructure exists," and change "any existing vehicle" to "an existing vehicle." Section 2015.2(e)(2): remove "anywhere" and add "where it is needed and where supporting infrastructure exists." Section 2015.3(b): add "and the vehicle meets the needed daily mileage and payload capacity," and remove "their good engineering judgement." Remove section 2015.3(b)(3)

altogether and renumber section (4) to section (3). Renumbered section 2015.3(b)(3): add "or a representative," change "ICE vehicles" to singular noun, add "(s)" to "vehicle," add "or representative vehicle(s) with the same functional needs," remove "Identify the lowest mileage reading for each day and exclude the three highest readings," and remove "remaining." Renumbered section 2015.3(b)(3)(A): add "typical." Renumbered section 2015.3(b)(4): change "description of the daily assignments or routes used by existing vehicle types" to "description of a typical daily assignment or route used by a representative vehicle type," remove "all," add "payload capacity," add "within the typical work region or range," and remove "at the depot, within one mile of the routes, or where ZEV charging or fueling is available" from "required explanation must include a description of why charging or fueling could not be managed during driver rest periods or breaks during the workday." Remove section 2015.3(b)(6) altogether.

Commenter: [342-45d]

Agency Response: Changes were made in the Regulation language in response to these comments, but not all requests were accommodated.

The updated Regulation language removes "anywhere" and "any existing vehicle" but does not add "where it is needed and where supporting infrastructure exists" or "an existing vehicle" in Regulation section 2015.1(c)(2). This change is made to collect the general requirements of the Daily Usage Exemption provision under one umbrella in Regulation section 2015.3(b). The updated Regulation language also removes "anywhere" but does not add "where it is needed and where supporting infrastructure exists" for similar reasons.

Regulation language section 2015.3(b) was not updated to add "and the vehicle meets the needed daily mileage and payload capacity" and remove "their good engineering judgement." This change was not made due to the subjective nature of some of the information requested, such as ambient temperature and opportunistic charging during the workday, such as breaks. Additional justification is provided in section 2015.3(b) in Appendix H-2 of the ACF ISOR package on the need for the Executive Officer to make a good engineering judgement.

Section 2015.3(b)(3) was not removed as it is necessary to provide a benchmark on projected mileage per kWh of energy stored. As such, section 2015.3(b)(4) was not renumbered.

Section 2015.3(b)(4) did not change "or a representative," change "ICE vehicles" to singular noun, add "(s)" to "vehicle," add "or representative vehicle(s) with the same functional needs," remove "Identify the lowest mileage reading for each day and exclude the three highest readings," or remove "remaining." These changes were not made as not all vehicles of a configuration may have identical duty cycles. While a ZEV may not be a replacement for a typical ICE vehicle in the fleet a route may exist in which ZEVs may fulfill the need. Additional justification is provided in section 2015.3(b) in Appendix H-2 of the ACF ISOR. Changes were not made to section 2015.3(b)(4)(A) for similar reasons.

Section 2015.3(b)(5) did not change "description of the daily assignments or routes used by existing vehicle types" to "description of a typical daily assignment or route used by a representative vehicle type" for the same reason as stated above. For similar reasons, "all" was not removed. "Payload capacity" was not added in this section as fleets have the option to acquire a ZEV in a higher weight class that may be able to meet the needs of payload capacity. The updated Regulation language does not add "within the typical work region or

range" for similar reasons as the paragraph above. The updated Regulation language does not remove "at the depot, within one mile of the routes, or where ZEV charging or fueling is available" as this is a reasonable range for fueling to take place. The updated Regulation language did not remove "required explanation must include a description of why charging or fueling could not be managed during driver rest periods or breaks during the workday." This change was not made as fleets may opportunistically charge a ZEV during the workday to make up for gaps in the mileage capability of a ZEV, like how some transit agencies have implemented charging during stops to extend the range of ZE buses.

Section 2015.3(b)(6) was removed but its components were incorporated, with some modifications, into section 2015.3(b)(3). These components are needed for a fleet to justify a Daily Usage Exemption based on energy use instead of range.

16. Exemptions and Extensions – Infrastructure Delays

a) Infrastructure Delay Extension – Master Response

Comment Summary: The commenters propose expanding the infrastructure construction delay exemption to accommodate a wide range of challenges and seek clarification on CARB's review and processing of requests, and decision timelines.

Commenter: [103-OT1, 207-45d, 228-45d, 235-45d, 297-45d]

Comment Summary: The commenters suggest allowing Infrastructure Delays to apply to multiple projects for greater site selection flexibility.

Commenter: [143-45d, 175-45d]

Agency Response: Changes were made in response to these comments. The Infrastructure Delay Extension was expanded to include additional construction-related delays and site electrification delays due to utility upgrades needed beyond the site's meter. The extension was expanded from a single, one-year delay per project to allow multiple projects to qualify for extensions for up to five years at each site. Process and criteria were clarified and made more objective, including a clear 45-day approval or denial notification window after a complete application is received. Clarification was added for construction-related delays to specify that the construction permit date would be used to determine eligibility for the provision; this addresses concerns about the delay starting from the permit approval date rather than the permit application date, which could cut into the approved delay time while awaiting permit approval. Delays in manufacture and shipment of ZEV fueling infrastructure equipment were added as qualifying criteria for the exemption based on stakeholder comments.

b) Infrastructure Delay Extension – Allow More Time for Extension

Comment Summary: The commenters state more time is needed for the Infrastructure Delay Extension due to various factors including delays in upstream utility upgrades or construction related issues. They suggest a range of alternative periods from one additional year to 10 or more years. Some commenters suggest changing the allowed delay timeframes to be tailored to individual projects, effectively as an open-ended delay with no limit on the length of time. Commenters also suggested revising the delay's originally proposed language about allowing fleets to delay delivery of ordered ZEVs to be a period matching the expected infrastructure delay.

Commenter: [008-45d, 015-WT1, 028-OT1, 048-45d, 053-OT1, 058-45d, 082-45d, 104-45d, 143-45d, 145-OT1, 156-45d, 200-45d, 210-45d, 229-45d, 230-45d, 233-45d, 235-45d, 238-45d, 253-45d, 261-45d, 282-45d, 291-45d, 294-45d, 296-45d, 305-45d, 310-45d, 322-45d, 333-45d, 342-45d]

Agency Response: Changes were made in response to these comments. The Infrastructure Delay Extension was expanded from one-year to two-years for construction related delays, allowing for a total of three years from the date a construction permit was obtained to delay ZEV deployments due to circumstances outside a fleet owner's control during site construction. Additional criteria were added to the extension to address site-specific circumstances due to utility delays that cannot be supported by existing site power due to delays in obtaining grid power from the utility before construction starts. This type of delay could receive an initial extension of up to three years and could be extended another two years if delay conditions persist. Eligibility would be based on the date the fleet owner either executes a contract with the utility to build out the infrastructure project or the utility attests they will proceed with the project. The rationale for why this timeframe is appropriate can be found in Chapter C.(D).7., section 2015.3(c), of the ACF 15-Day Notice.

Changes were made to directionally address the commenter's request related to the language allowing fleet owners to "delay the delivery of ordered ZEVs." This language was removed and replaced with language that specifies how the extension would work for fleet owners following the Model Year Schedule and the ZEV Milestones Option. The language now clarifies that fleet owners following the Model Year Schedule could delay replacing an existing ICE vehicle at the site experiencing the delay for the approved delay timeframe, and that fleet owners following the ZEV Milestones Option could count an existing ICE vehicle as a ZEV when determining the fleet compliance calculations for the approved delay timeframe.

No changes were made to extend this timeline further than five years because stakeholder and utility input indicated most delays are on the order of one to four years. A five-year delay is sufficient to cover most cases. While some larger projects could experience five or more years, they are unlikely to affect most projects, so five years is sufficient time for fleets to adjust plans for infrastructure projects if additional time is needed at a particular site. Fleets with multiple sites also have additional options for electrifying other sites that will not take longer than five years if such a delay occurs at one location, and fleets using the ZEV Milestones Option have flexibility to select other vehicles in their fleet to transition to ZEVs that may not be domiciled at that site. Additionally, a balance must be struck between addressing all potential issues and achieving timely emissions reductions; for these reasons, a five-year delay provides appropriate flexibility.

No changes were made to allow for unlimited project-specific delays for multiple reasons. This proposal would create a loophole by which fleets could indefinitely delay transitioning their fleets to ZEVs and would not meet the goals of the Regulation.

c) Infrastructure Delay Extension – Allow Internal Combustion Engine Vehicle Purchases

Comment Summary: The commenters request that the infrastructure extensions provide the ability to purchase a new ICE vehicle to continue operations when infrastructure is unavailable due to factors beyond the fleet owner's control.

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. The purpose of the extension is to allow sufficient time for ZEV fueling infrastructure to be installed before ZEVs are placed in operation such that the fleet owner would not be out of compliance and that ZEVs would not be stranded assets. The purpose is not to allow ICE vehicle purchases, which would then be able to operate for years after the infrastructure delay was resolved. This would be counter to the goals of the Regulation.

d) Infrastructure Delay Extension – Allow Permit Applications to Qualify

Comment Summary: The commenters propose that fleet owners qualify for Infrastructure Delay Extension with construction permit applications rather than construction permits.

Commenter: [143-45d]

Agency Response: No changes were made in response to these comments. However, clarification was added for construction-related infrastructure delays to specify that the construction permit date would be used to determine eligibility for the extension; this addresses stakeholder concerns about an approved extension timeline starting from the permit approval date rather than the permit application date, which could cut into the approved extension time while awaiting permit approval. See additional rationale for the selection of the construction permit date in Chapter C.(D).8., section 2015.3(c)(1), of the ACF 15-Day Notice.

e) Infrastructure Delay Extension – Allow Construction Start Dates Three Months in Advance to Qualify

Comment Summary: The commenters request revising the Infrastructure Delay Extension requirement for a construction start date that is at least one year before the next applicable compliance period date, down to three months from an anticipated vehicle delivery date, as public fleets are not subject to the HPF Regulation's compliance dates for fleet milestone requirements, so this requirement does not appear to be relevant, except for those that may be allowed to opt into ZEV Milestones Option.

Commenter: [291-45d]

Agency Response: Changes were made in response to these comments. However, the full request was not accommodated. While HPF Regulation's ZEV Milestones Option has specific Milestone dates, the SLG Regulation also has compliance dates annually to demonstrate a fleet has purchased either half or all their vehicle purchases that year as ZEVs. Therefore, the reference to an applicable compliance date is relevant. Changes were made to this portion of the exemption language to clarify that the fleet owner must submit documentation showing the executed contract for the ZEV fueling infrastructure installation including a construction permit indicating the permit issuance date is at least one year prior to the next applicable compliance deadline. Rather than using a construction start date which could be delayed, the language now relies on the permit issuance date, which is easier to identify and verify. No change was made to reduce the required amount of time, because the fleet must plan well in advance for infrastructure projects due to the time involved in making such upgrades. If the fleet waits to start construction until three months before the deadline, a delay is all but guaranteed based on timelines submitted by utility stakeholders. This would be counter to

the purpose of the extension, which is to address delays outside the control of the fleet owner that is acting in good faith to plan for infrastructure installations.

f) Infrastructure Delay Extension – Allow Alternative Infrastructure Exemption Based on Fleet Plan

Comment Summary: The commenters propose an alternative infrastructure exemption with an interim compliance plan where CARB reviews and verifies infrastructure plans from each regulated fleet, demonstrating their progress on projects. If approved by CARB, the fleet could achieve "Interim Compliance" and delay site-associated vehicle purchases.

Commenter: [230-45d]

Agency Response: No changes were made in response to these comments. Implementing such a proposed plan would be difficult across the number of fleets regulated, as compliance with such plans would have to be tracked continuously, with differing timelines for each site and plan. Additionally, each fleet and site's unique plan and delay situation would have to be considered, and drafting simple, clear, and objective criteria to address every unique scenario would be impossible. This proposal would add unnecessary complexity to the extension.

g) Infrastructure Delay Extension – Include All Construction Delays

Comment Summary: The commenters request that Infrastructure Delay expand the list of "circumstances beyond the fleet owner's control" to include any circumstances that may materially affect construction projects, such as material supply chain shortages or delays in qualified workers at standard rates.

Commenter: [291-45d]

Agency Response: Changes were made in response to these comments. The list of qualifying construction related delays in the extension are reasonable and use criteria that can be easily demonstrated and verified, and that are consistent with other existing CARB Regulations. An open-ended list of any criteria that can delay construction projects would be difficult to implement and becomes subjective when determining how to assess worker quality and what are standard rates referred to in the comment. Supply chain issues are variable over time; changes were made directionally that would address delays in manufacture and shipment of ZEV fueling infrastructure equipment. The extension criteria are carefully balanced to prevent introducing unintended loopholes in the Regulation while addressing Board direction to streamline the administrative process and criteria.

h) Infrastructure Delay Extension – Include Delays in Obtaining Permits

Comment Summary: The commenters state that delays in obtaining permitting should be accounted for in infrastructure delays, proposing the Regulation incorporate a time by which applications for infrastructure projects should be submitted to the relevant oversight agency, with construction deadlines not beginning until all relevant government approvals have been granted. The commenters argue that the infrastructure delay provision should not require issued construction permits before seeking a delay, as permits may be the reason for the delay, and suggest reverting to the originally proposed language.

Commenter: [008-45d, 139-OT1, 207-45d, 322-45d]

Agency Response: Changes were made in response to these comments. However, the requests were not fully accommodated. The exemption criteria were modified to require an approved construction permit with a date at least one year in advance of the next applicable compliance deadline. This change inherently builds in delays in permit approval because the fleet owner must take action sufficiently in advance of a deadline to account for delays in the approval process to qualify for the extension. After the permit is issued, the extension would address delays in actual construction rather than administrative processes that could be addressed by early action from the fleet owner. Permits are necessary to include as criteria for reasons described in Chapter C.(D).10., section 2015.3(c)(1)(B), of the ACF 15-Day Notice and section 2015.3(c), 2015.3(c)(1-4) of Appendix H-2 to the ACF ISOR.

i) Infrastructure Delay Extension – Include Public Safety Power Shutoff

Events

Comment Summary: The commenters suggest exemptions for areas impacted by power shutoffs from utilities, with timeline suggested at one week, for events such as P&GE's PSPS events, due to the overburdened grid and potential interruptions to essential services.

Commenter: [156-45d, 245-45d, 260-45d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Grid Capacity and Resilience – Grid Reliability" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses" for discussion about PSPS events and how the grid is hardening over time. Such events are temporary, are being addressed by grid planning and hardening efforts, and backup storage, off-grid generation, and temporary mobile fueling are all resiliency measures fleets can take to assure availability of their ZE fuel of choice. Commenter does not provide sufficient detail to understand how a one-week delay would make a difference for a fleet that could be granted extensions for up to five years if qualified, nor a compliance mechanism for how it would work, therefore the comment is not clear.

j) Infrastructure Delay Extension – Include Delays for Electric Panels and Transformers

Comment Summary: The commenters mention supply chain issues causing delays in the delivery of electrical panels and transformers, suggesting these delays be considered in the infrastructure delay provision, considering factors beyond the narrow scope of construction-specific delays.

Commenter: [008-45d, 009-OT1]

Agency Response: Changes were made in response to these comments. The criteria for construction-related delays were updated to include delays in manufacture and shipping of ZEV fueling infrastructure equipment as a qualifying criterion. Electrical panels and transformers are needed infrastructure equipment for fueling ZEVs, so such equipment would be included in the newly added criterion.

k) Infrastructure Delay Extension – Include Delays in Applying for and Obtaining Funding

Comment Summary: The commenters state that Infrastructure Delay Extensions should consider delays in applying for and obtaining grants and disbursements of funds as criteria outside the control of the fleet owner. The commenters state this would accommodate a lack of funding for the cost of infrastructure at the local level to avoid agencies having to raise taxes and rates.

Commenter: [032-WT1, 322-45d]

Agency Response: No changes were made in response to these comments. The Regulation requirements are not predicated on the availability of funding, so it would not be appropriate to include delays due to unavailability of funding for infrastructure. Additionally, it is up to the fleet owner to decide which programs to seek funding if there are any that are available. The quality and completeness of the application is completely within the control of the fleet owner and should be applied for in a manner to improve likelihood of being approved.

l) Infrastructure Delay Extension – Include Delays Resulting from Equipment Failure

Comment Summary: The commenters suggest a compliance delay or mechanism allowing ICE vehicles to count as ZEVs when EVSE equipment fails or is down.

Commenter: [322-45d]

Agency Response: No changes were made in response to these comments. There is no reason to count an ICE as a ZEV for a temporary issue because the compliance status of a fleet does not change if EVSE for a vehicle is temporarily not available. While any device including EVSE can fail or be taken down for maintenance, fleet owners are expected to plan for this foreseeable issue. Fleet owners have a myriad of options like they do when ICE vehicles are down like using rental vehicles while repairs are made. In addition, fleet owners can use other EVSE as backup, or use mobile fueling option to mitigate their fleet resiliency concerns. For these reasons, adding a delay or compliance mechanism for these occurrences would not be appropriate.

m) Infrastructure Delay Extension – Include Delays Due to Real Estate Acquisition, Landlord Negotiation, or Lease Updates

Comment Summary: The commenters request additional flexibility in the Infrastructure Construction Delay provision for real estate acquisition, landlord negotiation, or lease updates when non-owned property is involved, in cases where the process takes longer than expected or necessitates fleet relocation.

Commenter: [008-45d, 282-45d]

Agency Response: No changes were made in response to these comments. Fleet owners are expected to plan in advance in how they comply given their business or fleet situation including if it makes sense to acquire real estate to expand the fleet operation or to install infrastructure. The Regulation phase-in provides sufficient flexibility to select sites if a fleet owner has multiple sites to phase-in ZEVs starting at locations of their choice.

n) Infrastructure Delay Extension – Include Truck-As-A-Service Providers In Extension

Comment Summary: The commenters request that CARB add key parameters to the infrastructure delay provision, ensuring entities contracted with truck-as-a-service providers can access it, and suggest including requirements for multi-year contracts, site control documentation, load hosting capacity studies, and engineering layouts for charger configurations.

Commenter: [316-45d]

Agency Response: Changes were made in response to these comments. The language was updated to state the extensions apply in locations where the fleet owner has entered a contract of one year or longer to charge or fuel their ZEVs at a single location prior to beginning the infrastructure project. This language intends to capture delays experienced by providers of leased ZEV fueling and/or ZEVs if fleet owners have contracts with such providers.

o) Infrastructure Delay Extension – Unique Regulation Redlines from Comment Letter 342

Comment Summary: Redlines for Infrastructure Construction Delay. Section 2015.3(c): change "The Executive Officer will grant an extension per project to delay the vehicle delivery for one year" to "The Executive Officer will grant a single extension for the project to delay the vehicle delivery for one year or longer." Section 2015.3(c)(2): remove "after," include "delays in obtaining materials/hardware (supply chain)," and include "other unforeseen/uncontrollable circumstances" before "or natural disasters." Section 2015.1(c)(3): change "a one-year extension" to "an extension" and remove "for one year."

Commenter: [342-45d]

Agency Response: Changes were made in response to these comments. However, not all the requested changes were accommodated. More time was provided but the extension was not expanded with an unlimited time frame. Removing "after" from the language would result in including obtaining construction permits as a construction delay criterion; this would be counter to the intent of the extension, which is to address delays after construction started, and not to address delays related to fleet planning and administrative processes that are within the fleet owner's control to act well in advance of a compliance deadline. Changes were made to include "delays in manufacture and shipment of ZEV fueling infrastructure equipment" as a qualifying construction-related delay criterion; adding "delays in obtaining materials/hardware (supply chain)" would serve a similar purpose and is not necessary considering the changes made. Additionally, the proposed language is overly broad and could lead to loopholes without limiting the materials or hardware to only those related to ZEV fueling infrastructure equipment.

17. Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events

a) Emergency Provisions – Expand to Non-Declared Emergencies, Remove Mutual Aid Agreements, and Allow Fleets to Set Their Own Internal Combustion Engine Vehicle Cap

Comment Summary: Redlines for emergency response provisions. Section 2015.1(c)(6): change title to "Exemptions Pursuant to Emergency Events," replace "vehicles are needed to provide emergency response services and the conditions described in section 2015.3(f)(2) are met with "fleet(s) qualify per the "Emergency Operations" definition and/ or "Mutual Aid" exemption," add "Fleets may petition the Executive Officer for an alternate ICE percentage allowance based upon the "actual need" that is sufficient to provide reliable emergency operation response capabilities."

Commenter: [342-45d]

Comment Summary: The commenters request that CARB extend the Mutual Aid Assistance exemption eligibility to various utilities even without mutual aid agreements to expand the exemption qualifications to fleets responding to local, non-declared emergency events.

Commenter: [005-OT1, 015-45d, 053-OT1, 156-45d, 207-45d, 233-45d, 245-45d, 291-45d, 305-45d, 333-45d]

Comment Summary: The commenters recommend that CARB revise the Mutual Aid Assistance exemption, allowing the public agency's governing board or the agency itself to determine individual needs and adjust the ZEV threshold and ICE caps through public action.

Commenter: [029-OT1, 233-45d, 297-45d]

Comment Summary: The commenters suggest removing the 25 percent ICE cap for the mutual aid provision or submitting an alternative cap based on individual fleet needs, arguing that a one-size-fits-all cap is unreasonable.

Commenter: [005-OT1, 015-45d, 233-45d, 245-45d, 291-45d]

Agency Response: No changes were made in response to these comments. As described in more detail in sections 2015.3(f)(1) and (2) of Appendix H-2 to the ACF ISOR, the provisions address situations where fleets need to respond to emergencies outside of their normal service territory, or to bring vehicles in from out of state to assist during declared emergency events. These provisions address concerns where the fleet owner needs to send vehicles to areas with uncertain infrastructure availability, and where ZEV range may present a risk to limit the ability to respond to emergency events in a timely manner. ZEVs can perform similar work to ICE vehicles, and in some cases are superior to ICE vehicles. Local emergencies take place in limited geographic regions in the fleet's normal service territory, where ZEV range is less of an issue and infrastructure availability is more within the control of the fleet owner. Other exemptions are available for when available ZEVs cannot meet a fleet's demonstrated daily usage needs. Therefore, the word "declared" was not removed from the title or intent of the provisions. Additionally, mobile, temporary, and off-grid generation and fueling options are currently commercially available to fleets to fuel ZEVs off-grid.

Allowing a fleet owner to petition the Executive Officer, or to be allowed to determine their own alternate ICE caps based on the fleet's needs or a governing board, would open a potential loophole in the Regulation for fleets that could claim such need without an objective and clear mechanism to validate the need. Introducing such a mechanism would introduce unneeded complexity to the Regulation. Based on conversations and input from stakeholders, 25 percent is a sufficient cap on ICE vehicle purchases to balance the need for achieving the Regulation's goals with the need for fleet flexibility in the long-term to respond to emergencies in the unlikely case that ZEVs are not able to respond. In staff conversations with stakeholders, it was rarely reported that more than 25 percent of the fleet was dispatched for mutual aid at any one time, because the bulk of the fleet is needed in the primary service territory to continue local operations.

It is important to note that near-term concerns about ZEV emergency response capabilities are significantly lessened by the flexibility already built into the Regulation; a long phase-in period where the total percentage of ZEVs, allowance to purchase NZEVs that do not have range concerns and count them the same as ZEVs, allowance for public fleets to retain existing ICE vehicles as long as they want, exemptions and extensions for ZEV unavailability, capability in meeting daily usage needs, and infrastructure delays, and unlimited emergency response for backup vehicles all provide sufficient flexibility to fleet owners, among other provisions. Fleets would not have a high percentage of ZEVs until well into the Regulation implementation timeline; for example, a public fleet with 100 vehicles that retains their vehicles for 15 years (typical, based on LER data) would only replace roughly seven vehicles per year. Under the SLG Regulation requirements, only four per year would need to be ZEVs from 2024 through 2026. When 100 percent purchases kick in, only 12 per year would need to be ZEVs from 2027 through 2030, meaning the remaining 88 ICE vehicles would still be conventionally fueled. In 2030, only 40 of the 100 vehicles would be ZEVs, leaving 60 ICE vehicles that are conventionally fueled. Due to the extended phase-in period, and given that ZEV technology and infrastructure availability will improve over this time, fleet owner concerns are unlikely to be present in the future when fleets would be at a higher percentage of ZEVs, while in the near term, fleets would have flexibility to respond with their existing ICE vehicles while the fleet is still a very low total percentage of ZEVs.

b) Mutual Aid Assistance Exemption – Master Response

Comment Summary: The commenters state that CARB should improve access to the mutual aid exemption, expand the mutual aid exemption, or generally rework exemptions related to emergency response to ensure fleets providing emergency support can meet those needs.

Commenter: [004-OT1, 029-OT1, 035-OT1, 103-45d, 148-45d, 283-45d, 342-45d]

Agency Response: Changes were made in response to these comments. In response to Board direction to streamline exemption criteria and process, a number of changes were made to the exemption. The ZEV access threshold for the exemption was lowered significantly from 75 percent of the fleet being comprised of ZEVs down to a phased-in threshold requiring 25 percent in 2024, increasing to 50 percent in 2032 and 75 percent in 2035. This greatly improves access to the provision in the near-term for fleets that would not have a high percentage of ZEVs in the near-term. The GVWR limitation was also removed, improving access to lower weight class vehicles. The criteria and process were streamlined, simplified, and revised for more objective criteria; the number of mobile fueling providers

from which documentation is required was lowered from all providers to only three to streamline the application process. Clarification was added about vehicles purchased pursuant to exemptions and how they would count against the 25 percent ICE vehicle cap. These changes all address the Board's direction and commenter's requests.

c) Mutual Aid Assistance Exemption – Clarify Purchasing Vehicles During Declared Emergency Events

Comment Summary: The commenters suggest that sections 2015.1(c)(6) and 2015.2(e)(6) should not reference section 2015.3(f) since section 2015.3(f)(1) is unrelated to the mutual aid provision, leading to confusion for fleets. They argue that acquiring 25 percent ICE vehicles during a declared emergency is unrealistic given the time constraints.

Commenter: [207-45d, 342-45d]

Agency Response: Changes were made in response to these comments. The language specified was altered to directly refer to the Mutual Aid Assistance Exemption, rather than pointing to both that provision and the Exemptions Pursuant to Declared Emergency Events language. The commenter's assertion that the Mutual Aid Assistance Exemption would require purchases during a declared emergency event is incorrect; the exemption is intended to allow for ICE vehicle purchases when an approved exemption is granted to prepare and plan for future mutual aid scenarios, not to allow for purchases at the time of such events. The exemption is intended for fleets to plan ahead for future events and purchase up to a quarter of the fleet as ICE vehicles to be able to send to respond to mutual aid situations. The exemption should be applied for as soon as a fleet owner qualifies to allow for such planning, because the procurement process can take time.

d) Mutual Aid Assistance Exemption – Remove Gross Vehicle Weight Rating and Vehicle Type Limits

Comment Summary: The commenters request the removal of weight class restrictions from section 2013.1(3) and vehicle configuration restrictions from section 2013.1(3) to enable fleets to determine the necessary vehicles for mutual aid and emergency response. They argue that the ACF ISOR's rationale for excluding vehicles based on weight, specific body types, or being NZEVs is flawed, as it does not consider fleet operations in remote areas, or the logistical challenges and additional costs associated with renting vehicles during emergencies. The commenters are concerned that limitations, such as the 14,000 pounds GVWR threshold, hinder public agencies' ability to manage emergency operations.

Commenter: [005-OT1, 207-45d, 233-45d, 266-45d, 291-45d, 342-45d]

Agency Response: Changes were made in response to these comments. The GVWR limitation was removed from the Mutual Aid exemption to follow the Board's direction to streamline the exemption application process for fleets; however, the vehicle type limitations were not removed, as the rationale for excluding such vehicle types remains valid. See rationale for why such vehicles are excluded in Section 2015.3(f)(2) of Appendix H-2 to the ACF ISOR.

Remote operations can be managed by using available mobile ZEV fueling. Alternatively, remote operations can be responded to by the portion of the fleet retained as ICE vehicles allowed by the flexibility of the general requirements of the Regulation, backup vehicles that

can be used an unlimited number of miles in emergency operations, or those purchased pursuant to various exemptions included in the Regulation, including up to a quarter of the fleet under an approved Mutual Aid Exemption. Logistics and costs for rental vehicles can be managed by fleets without granting unnecessary exemptions for vehicle types that do not need exemptions, considering the stakeholder-reported infrequency of mutual aid deployments and the limited number of vehicles that are sent to respond to such occurrences.

e) Mutual Aid Assistance Exemption – Mobile Fueling Issues

Comment Summary: The commenters request that CARB clarify and specify parameters for the mobile fueling requirement under the mutual aid exemption. They suggest that the "mobile fueling option" should not require vehicles to be shut down for more than 15 minutes during refueling in emergency conditions. Commenters also ask that documentation requirements be limited to manufacturers and mobile fueling providers that respond to a request for bids, rather than all providers, and seek a definition for the term "mobile fueling provider." They emphasize the need for mobile fueling options that can reach remote job sites and function in extreme weather conditions. The commenters express concern about the burdensome process in section 2013.1(e)(2) for demonstrating that no compatible mobile fueling options can fuel 10 to 80 percent of a ZEV's rated capacity within one hour, as it does not consider the need for multiple refuelings during multi-day dispatches. They recommend clarifications on the mobile refueling options in section 2013.1(e)(2) and allowing fleet owners to qualify for exemption even if a mobile fueling option meeting the specified criteria does not meet their needs.

Commenter: [207-45d, 233-45d, 291-45d, 305-45d]

Agency Response: Changes were made in response to these comments. However, not all requests were accommodated. The documentation requirement was adjusted to lower the number of mobile fueling providers required from all providers to only three providers. Rather than going out for bid, fleet owners now must simply identify available ZEVs in the same weight class and configuration of an ICE vehicle they desire to purchase under the exemption, get information about the vehicles' fueling systems and capacity, and submit documentation from three mobile fueling providers to show the vehicle could not be refueled within the allotted parameters.

The term mobile fueling provider was defined, but the parameters of being able to refuel a ZEV from 10 to 80 percent of its rated energy capacity within one hour were unchanged. No changes to the refueling time were made because FCEVs can be fueled in under half an hour, depending on the tank size, with some smaller vehicles fueling as quickly as five to 10 minutes. Though BEVs may take longer to fuel in the near-term, updated charging standards including the MW Charging Standard and high voltage systems on the vehicles will enable ICE-comparable fueling of BEVs in the longer-term, when fleets would be at a higher percentage of ZEVs and charge speed is more likely to be an issue. Because hydrogen and direct-current BEV fueling solutions and off-grid generation systems (deployable solar canopies, combustion generators) are already available in mobile fueling packages, including towed, box truck, skid-mounted, and containerized solutions, this requirement is reasonable to hold ZEVs to a similar standard as ICE vehicles that are already refueled in the field with mobile fueling solutions. Because mobile fueling solutions come in a variety of packages and

sizes, no change is necessary to anticipate the space and access constraints of every possible emergency scenario, as a solution is likely to be available to fit the fleet's need. An hour to refuel is a reasonable amount of time that could be managed within driver break periods, so lowering the standard to 15 minutes would not be necessary. Finally, there is a range of capabilities for different mobile fueling solutions that a fleet can select from which will improve over time. Refueling the mobile fueling solution itself is doable, as fuel for generators and hydrogen for fuel cells can be brought to the mobile fueler, or the fueler could be driven to the nearest refueling station. Batteries in containerized mobile fuelers can be recharged from off grid generation sources or swapped out with a solution with fresh batteries.

Allowing fleet owners to veto a mobile fueling option if it doesn't meet fleet needs for any reason would be difficult to implement with clear objective criteria, as each fleet situation would be unique. This would introduce unnecessary complexity to the Regulation for the small number of instances where this may or may not occur. Additionally, allowing such a veto would introduce a potential loophole in the Regulation.

f) Mutual Aid Assistance Exemption – Remove Requirement for Manufacturer Statements

Comment Summary: The commenters argue that the mutual aid exemption's required public solicitation should focus on ZEVs with equivalent configurations and duty cycles to the needed ICE vehicle, noting that the originally proposed language and requested statements from vehicle manufacturers or installers are irrelevant for mobile fueling options.

Commenter: [233-45d, 291-45d]

Agency Response: Changes were made in response to these comments. These requirements were removed because they were duplicative of other parts of the Regulation.

g) Mutual Aid Assistance Exemption – Remove Zero-Emissions Vehicle Threshold Requirement

Comment Summary: The commenters state that the 75 percent ZEV threshold in section 2015.3(f)(2) "Mutual Aid Assistance" should be removed or adjusted as it imposes unnecessary stress on fleets to replace vehicles early in the Regulation and disproportionately impacts smaller fleets that must exclusively purchase ZEVs to meet the threshold.

Commenter: [014-45d, 015-45d, 021-WT1, 210-45d, 233-45d, 291-45d, 310-45d]

Comment Summary: The commenter proposes in section 2013.1(e) alternatively to phase in the ZEV threshold over time and suggest the following phase-in milestones that would not constrain operations and fleets' ability to respond to emergency events: • 2029: 25% ZEV; • 2032: 50% ZEV; • 2035: 75% ZEV. The commenter also provided recommended redlines on the text of the section.

Commenter: [233-45d]

Agency Response: Changes were made in response to these comments. However, the full request was not accommodated. The Mutual Aid Exemption access threshold was lowered significantly to allow earlier access to the provision, but it was not eliminated entirely. In the ACF 15-day changes, the threshold was lowered from 75 percent of the fleet being

comprised of ZEVs to a phased-in threshold, starting with 25 percent in 2024, increasing to 50 percent in 2032 and 75 percent in 2035. These changes allow fleets to access this exemption sooner while ensuring progress is being made to electrify the fleet. Removing the threshold completely, or starting it at 0 percent until 2029, would not be appropriate as fleets need to gain experience with ZEVs to incorporate them into their fleet. Additionally, providing no threshold to meet would encourage gaming of the provision and could allow fleets to delay taking any action to transition to ZEVs for significantly longer than intended, which would not meet the goals of the Regulation to reduce emissions and achieve health and climate benefits. Additionally, the Regulation design and provisions provide significant flexibility to fleets to operate ICE vehicles in response to emergencies as described in the responses in section "Emergency Provisions – Expand to Non-Declared Emergencies, Remove Mutual Aid Agreements, and Allow Fleets to Set Their Own ICE Vehicle Cap" in "Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses." Smaller fleets already have flexibility added in the ACF 15-day changes to delay any ZEV purchases until 2027, so they have full flexibility to respond to emergencies in the near-term with their existing and any newly purchased ICE vehicles until 2027.

h) Mutual Aid Assistance Exemption – Unique Redlines from Comment Letter 342

Comment Summary: Redlines for Mutual Aid Assistance. Renumber 2015.3(f)(2) to 2015.3(f)(3). Renumbered section 2015.3(f)(3): add "or emergency operation," remove "The exemption is limited to replacing vehicles with a GVWR greater than 14,000 pounds and does not apply to pickup trucks, buses, box trucks, vans, any tractors, or any vehicle configurations commercially available as NZEVs," remove "and their good engineering judgement," and removed "do and." Section 2015.3(f)(3)(B): replace "all" with "relevant," change "10" to "50," add "general," remove "for each available ZEV or NZEV chassis." Add new section 2015.3(f)(3)(E): "A fleet may only qualify for the Mutual Aid Assistance exemption or the Emergency Operations exemption, not both."

Commenter: [342-45d]

Agency Response: Changes were made in response to these comments. However, not all the commenter's requests were accommodated. The GVWR limitation was removed but not the vehicle type limitations, for reasons described in the responses in section "Mutual Aid Assistance Exemption – Remove Gross Vehicle Weight Rating and Vehicle Type Limits" in "Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses." No changes were made to remove the Executive Officer's discretion to use their good engineering judgement, which was included in the ACF 15-day changes to the Regulation for reasons described in Chapter C.(D).41., section 2015.3(f)(2), of the ACF 15-Day Notice. Adjustments were made to lower the documentation requirement from mobile fuelers from all to three with compatible fueling options for an available ZEV of the needed configuration. No change was made to increase the mobile fueling speed parameter from "10 to 80 percent" to "50 to 80 percent," because this would suggest a slower fueling speed which would be counter to the intent to determine whether a fast-enough fueling solution was available. No change was made to specify which exemption fleets may qualify for,

because other requests were not made to split the provision and allow non-mutual aid fleets to qualify.

18. Exemptions and Extensions – Vehicle Delivery Delays

a) Vehicle Delivery Delay Extension – Vehicle Delivery and Order Timeline Concerns

Comment Summary: The commenters express concern about fleets being considered non-compliant if ZEV deliveries take longer than a year, suggesting that Regulation requirements should be based on vehicle purchases instead of deliveries. They request adjustments to consider project-specific timelines and allowing ICE vehicle purchases when ZEV deliveries take longer than one year.

Commenter: [145-OT1, 158-45d, 170-45d, 207-45d, 210-45d, 282-45d, 310-45d,]

Agency Response: Changes were made in response to these comments. Fleet owners are now allowed to delay the removal of an ICE vehicle from their fleet until the ZEV has been delivered, as per the Model Year Schedule. Additionally, fleets may consider an ICE vehicle as a ZEV under the ZEV Milestones Option until the ZEV is delivered. The Vehicle Delivery Delay Extension ensures that fleets remain in compliance even if they have not yet received their ZEV, offering more flexibility in transitioning to ZEVs.

No changes were made in response to the comments requesting allowing fleets to purchase ICE vehicles when ZEV deliveries take longer than a year. This suggestion would undermine the objectives of the ACF Regulation and result in a loss of emissions reductions. This suggestion would undermine the objectives of the ACF Regulation and result in a loss of emissions reductions. Additionally, ICE purchases would ensure that ICE vehicles would be operated throughout their SB 1 useful lives, further delaying the fleet's transition to zero-emissions. If a ZEV is unavailable or does not meet a fleet's operational needs, fleets may apply for a ZEV Purchase Exemption or Daily Usage Exemption.

b) Vehicle Delivery Delay Extension – Manufacturer Cancellations

Comment Summary: The commenters recommend in the Vehicle Delivery Delay Extension changing the requirement of 90 days of when a fleet must secure another purchase if a manufacturer cancels a purchase agreement to 180 days.

Commenter: [238-45d, 291-45d, 322-45d]

Agency Response: Changes were made in response to these comments to allow fleet owners up to 180 days, and a full year (365 consecutive days) for government fleet owners, to enter into a new purchase agreement under the Vehicle Delivery Delay Extension if the manufacturer cancels the purchase agreement for reasons outside of the fleet owners' control. The rationale for why this timeframe is appropriate can be found in Chapter A.(A).41., section 2013(I), and Chapter C.(D).25., section 2015.3(d)(2), of the ACF 15-Day Notice.

c) Vehicle Delivery Delay Extension – Allow Fleets to Cancel Orders

Comment Summary: The commenters request a revision to the order cancellation provision, allowing SLG fleets to cancel ZEV orders due to budgetary or operational changes.

Commenter: [207-45d, 291-45d, 227-45d]

Agency Response: No changes were made in response to these comments. If a fleet owner cancels a notice to proceed, a purchase agreement, or a leasing contract for a ZEV at any time before the vehicle is delivered, the purchase will not count towards required ZEV purchases for the California fleet. There are exemptions and extensions in place if the ZEV available does not meet operation needs for the fleet.

d) Vehicle Delivery Delay Extension – Remove Internal Combustion Engine Vehicle Removal Requirement

Comment Summary: The commenters request a change to section 2015.4(g) "Vehicle Delivery Delay Reporting" by deleting the phrase "and to either remove the ICE vehicle from the California fleet or to designate it as a backup vehicle."

Commenter: [310-45d]

Agency Response: No changes were made in response to these comments. This requirement ensures fleets do not continue to operate ICE vehicles granted a compliance extension longer than needed; the vehicle would no longer be needed when the replacement ZEV arrives and would need to be removed from the California fleet. Additionally, this requirement includes compliance relief mechanism by allowing the ICE vehicle granted the extension to then transition into the fleet's backup vehicle fleet if the fleet owner wants to continue operating the vehicle for limited annual mileage.

e) Vehicle Delivery Delay Extension – Remove One Year Limit

Commenter Summary: The commenters argue that setting a one-year ZEV ordering limit under the Vehicle Delivery Delay Extension is arbitrary given the challenges facing the adoption of ZE technology.

Commenter: [175-45d, 238-45d]

Agency Response: No changes were made in response to these comments. The one-year ordering limit reflects a realistic timeframe for vehicle delivery delays, taking into consideration that replacement ICE vehicles experience similar wait times.

19. Exemptions and Extensions – Waste and Wastewater

a) Waste and Wastewater Fleets – Include Exemption until 2033

Comment Summary: The commenters request an exemption for the public wastewater sector from sections 2013(d) and 2013(i) until 2033 if the fleet complies with the HD Omnibus Regulation.

Commenter: [326-45d]

Agency Response: Changes were made in response to these comments. The Waste and Wastewater Fleet Option was added as part of the 15-day changes which provides more time for some existing CNG trucks operated by eligible waste haulers and wastewater fleets. ZEV requirements would be phased in starting 2030. These provisions allow waste and wastewater fleets additional time to transition the use of biomethane in sectors that are difficult to decarbonize. Changes were also made as part of the 15-day changes to require California certified engines to be purchased when ZEV exemptions are granted to allow the

purchase ICE vehicles to ensure higher emitting federal engines are not purchased. All engines sold in California starting with the 2024 model year must already comply with the HD Omnibus Regulation.

b) Waste and Wastewater Fleets – Collaboration for Policy Goals in Wastewater Sector

Comment Summary: The commenter requests that the Board direct CARB staff to collaborate with the wastewater sector in developing a solution that aligns the Regulations with State legislation and policy, specifically focusing on SB 1383. This partnership aims to ensure coherence and mutual support between Regulations and policy goals.

Commenter: [019-OT1, 033-OT1, 079-OT1, 121-OT1, 158-OT1]

Agency Response: No changes were made in response to these comments. Throughout the development of the ACF Regulation, CARB staff has actively engaged with waste and wastewater fleets and groups, holding multiple meetings, workshops, and workgroups to gather valuable input and address concerns. Staff have taken comments and concerns from these stakeholders into consideration while updating the Regulation text, ensuring that the Regulation aligns with policy and emissions targets, while still providing support for the waste and wastewater sectors.

CARB recognizes the importance of ongoing collaboration with the waste and wastewater sector and other stakeholders in implementing and refining the ACF Regulations. CARB staff remains committed to maintaining an open dialogue and working closely with all affected sectors, including the waste and wastewater sector, to ensure that the regulatory efforts effectively support State legislation, policy objectives, and the broader emissions reduction goals.

c) Waste and Wastewater Fleets – Collaborate with CalRecycle on Uses for Digester Gas

Comment Summary: The commenter wants to work with CARB and CalRecycle on what to do with digester gases other than for transportation as they move towards electrification of their fleet. Finally, they state that CARB's assistance is crucial for the success of food waste diversion projects.

Commenter: [033-OT1]

Agency Response: No changes were made in response to these comments. All comments and suggestions from stakeholders and sister agencies such as CalRecycle are welcomed. Collaboration is key to achieving our mutual goal of reducing greenhouse gas emissions and promoting sustainable solutions. In the development of Regulations and policies, CARB staff regularly coordinates with other agencies, including CalRecycle, CEC, CPUC, GO-Biz, Cal OSHA and other stakeholders. Through these interactions, CARB can consider a range of options for promoting clean energy based on thorough scientific assessments of technology and cost-effectiveness.

Finally, the Board approved resolution language recognizing that the successful implementation of the food waste diversion requirements and methane emissions reductions mandated by SB 1383 are critical to the State's climate goals. As such, the Board has

directed staff to continue policy discussions with the above agencies relating to successful implementation of SB 1383, SB 1440 and other biomethane efforts.

d) Waste and Wastewater Fleets – Hydrogen Technology Demonstration

Comment Summary: The commenters ask for an extension for wastewater fleets subject to technology demonstration of biomethane to hydrogen options to validate the reliability of using wastewater biogas for ZE technology.

Commenter: [081-OT1, 084-OT1, 086-OT1, 087-OT1, 088-OT1, 109-OT1, 326-45d]

Agency Response: No changes were made in response to these comments. LCFS has certified several biomethane to hydrogen pathways, including some from renewable organic sources such as dairy manure, wastewater sludge, and landfill gas which proves this technology is beyond the demonstration phase.¹⁸⁸

e) Waste and Wastewater Fleets – Waste and Wastewater Fleet Implementation

Comment Summary: The commenters raise concerns about waste and wastewater fleet implementation of SB 1383 and the impact of a newly added provision of ACF. They request a 10-year extension for wastewater fleets to use biomethane generated from diverted organic waste and suggest allowing early adopter fleets, especially SB 1383 fleets, to postpone ZEV/NZEV purchases until 2040 to give them more time to recoup their investments. The commenters also urge CARB to provide natural gas adopters until 2040 to make additional new purchases. They highlight the lack of availability of ZEV vehicles to replace some waste trucks, indicating that this creates challenges for fleet implementation.

Commenter: [003-WT1, 019-OT1, 034-OT1, 040-OT1, 077-OT1, 079-OT1, 081-OT1, 084-OT1, 085-OT1, 086-OT1, 087-OT1, 088-OT1, 090-OT1, 130-OT1, 153-OT1, 167-45d, 175-45d, 210-45d, 253-45d, 267-45d, 292-45d, 321-45d, 337-45d]

Agency Response: Changes were made in response to these comments. The Waste and Wastewater Fleet Option was added as part of the 15-day changes which provides more time for some existing CNG trucks operated by eligible waste haulers and wastewater fleets. ZEV requirements would be phased in starting 2030. These provisions allow waste and wastewater fleets additional time to transition the use of biomethane in sectors that are difficult to decarbonize.

The Waste and Wastewater Fleet Option, as outlined in section 2015.3(e), allows fleet owners to delay compliance with the ZEV Milestones Option for vehicles in the California fleet that meet specific criteria, including being fueled exclusively with biomethane. Provisions were made to adjust the ZEV Milestone Calculation, as described in section 2015.3(e)(6). This adjustment allows eligible waste and wastewater fleet vehicles to be moved from Milestone Groups 1 and 2 to Milestone Group 3, providing more time for fleet owners to transition to ZEVs.

¹⁸⁸CARB. Current Fuel Pathways Table last updated 2/28/2023. (web link: <https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities>, last accessed March 2023).

Changes were not made to grant a longer extension or to postpone ZEV/NZEV purchases until 2040, to ensure both criteria and GHG emission benefits would be achieved and the goals of implementing the Regulation would be met. This approach ensures a smooth transition for waste and wastewater fleets while still maintaining the ultimate objective of achieving health protective emissions benefits and GHG reductions from fully transitioning the fleet to ZEVs by 2042.

20. Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption

a) Zero-Emissions Vehicle Purchase Exemption – Allow Fleet Manager Attestation

Comment Summary: The commenters recommend allowing the ZEV Purchase Exemption based solely on fleet managers attesting to the need for the exemption.

Commenter: [170-45d]

Agency Response: No changes were made in response to these comments. Granting exemptions solely based on fleet managers attesting to the need for the exemption would introduce a loophole with large potential for abuse by fleets seeking a delay in compliance regardless of ZEV availability. Establishing a specific process as opposed to relying on fleet manager attestation also ensures that sufficient communication with manufacturers when seeking the needed ZEV configuration is occurring.

b) Zero-Emissions Vehicle Purchase Exemption – Create Availability List Instead of Unavailability List

Comment Summary: The commenters suggest that CARB create a ZEV availability list instead of an unavailability list, recommending that the list be based on the ACF ISOR's Appendix J, or the HVIP list.

Commenter: [003-OT1, 037-WT1, 089-45d, 150-OT1, 233-45d, 235-45d, 237-45d, 266-45d, 277-45d, 291-45d, 305-45d, 322-45d, 333-45d]

Agency Response: No changes were made in response to these comments. Similar to ICE vehicles, ZEVs are being manufactured as chassis or incomplete vehicles and the final vehicle configuration is then built to customer specifications. ZEV drivetrains are also available to convert existing ICE vehicles to ZEVs. It would be difficult and unnecessary to continuously update a changing and growing list of available ZEV chassis with hundreds of body configurations and potentially thousands of vehicle configurations if a wide range of final body customizations are considered. As the ZEV market develops, the list of various vehicle configurations would be exceedingly burdensome to maintain with no apparent advantage or purpose for doing so. There would be no end date for maintaining such a list. Whereas a list of vehicle configuration categories that are not available to purchase in a ZEV configuration is expected to be a smaller list and will become shorter as more ZEV configurations are offered.

c) Zero-Emissions Vehicle Purchase Exemption – Add “Commercial Availability” Definition

Comment Summary: The commenters request a formal definition for "commercial availability" or "available to purchase," emphasizing the need for clear criteria that define a commercially available vehicle, including technical and performance requirements tailored to each utility. They highlight the importance of having well-defined metrics for commercial availability and readiness, noting that the current availability of ZEV medium- and heavy-duty vehicles that meet their specific service requirements is limited.

Commenter: [003-OT1, 003-WT1, 006-OT1, 006-WT1, 007-OT1, 009-OT1, 010-OT1, 014-45d, 015-45d, 015-WT1, 034-OT1, 035-OT1, 053-OT1, 072-OT1, 089-45d, 095-OT1, 103-45d, 121-OT1, 124-OT1, 148-45d, 179-45d, 207-45d, 210-45d, 229-45d, 233-45d, 235-45d, 241-45d, 243-45d, 252-45d, 253-45d, 261-45d, 277-45d, 278-45d, 279-45d, 283-45d, 291-45d, 294-45d, 297-45d, 300-45d, 304-45d, 305-45d, 309-45d, 318-45d, 330-45d, 333-45d, 334-45d, 342-45d]

Agency Response: No changes were made in response to these comments. The Regulation is phased in over several decades and includes flexibility for fleet owners to decide which vehicles to upgrade to ZEVs. The ZEV Purchase Exemption establishes clear criteria used to assess the availability of offered ZEVs for sale, eliminating the need for a definition of "commercial availability" and "available to purchase." The ZEV Purchase Exemption also addresses fleet specific circumstances where available ZEVs may not be available in a configuration that meet the primary intended function for a fleet. It is infeasible to address specific technical and performance requirements, especially tailored to each utility, in the availability criteria as there is a wide range of vehicle bodies and specifications offered for sale as well as a wide range of customization. These specifications would need to be maintained within the configurations list, which would be exceedingly burdensome.

d) Zero-Emissions Vehicle Purchase Exemption – Add Cost Criteria

Comment Summary: The commenters ask that cost be incorporated into the ZEV Purchase Exemption criteria, considering whether the cost of the vehicle can be realized within its life. They request a cost exemption for public agencies under ZEV Purchase, that ZEVs not cost more than 33 percent compared to ICE vehicle counterparts, and exemptions for cost differentials when a ZEV is 10 percent or more expensive than the ICE vehicle equivalent. Additionally, they seek a cap on the TCO payback period for ZEVs based on individual fleet use cases, and that the definition of "commercially available" encompasses consumer costs, a cost differential percentage, and a commercial availability list reflecting economic viability and market conditions.

Commenter: [006-OT1, 006-WT1, 015-45d, 034-OT1, 089-45d, 092-45d, 096-45d, 156-45d, 227-45d, 233-45d, 235-45d, 237-45d, 241-45d, 243-45d, 260-45d, 277-45d, 290-45d, 291-45d, 297-45d, 305-45d, 310-45d, 318-45d, 333-45d]

Agency Response: No changes were made in response to these comments. Costs cannot be assessed in a feasible way, as they rapidly change, and every fleet has different cost concerns. ZEVs have high upfront costs but reduced operational costs and it would not be reasonable to include cost as criteria in determining availability as a result. The TCO payback

period for ZEVs based on individual fleet use cases will also vary by fleet. Therefore, creating criteria around the TCO is not a reliable method in assessing availability either. ZEVs vary in price depending on the requested specifications and if a certain cost threshold is incorporated into the availability criteria, those with greater vehicle costs due to specifications needed for fleet operations would unfairly be granted the exemption. Additionally, CARB's incentive programs assist in early adopter purchases by reducing incremental costs and supporting vehicle cost reductions over time. Cost concerns are also expected to decrease as the ZEV market develops and expands.

e) Zero-Emissions Vehicle Purchase Exemption – Group Zero-Emissions Vehicle Purchase List by Payload Capability

Comment Summary: The commenters state that vehicles on the ZEV Purchase List should be grouped by payload capability for determining availability, as it is more relevant to fleet owners' needs than weight class and configuration alone.

Commenter: [342-45d]

Agency Response: No changes were made in response to these comments. ICE vehicles are most commonly classified by weight class and configuration, and that is the approach used in the Regulation. The ZEV Purchase Exemption list identifies which vehicles can be purchased as ICE vehicles for commonly available configurations listed in the Regulation for clarity. Additional details about the payload characteristics are not needed to identify which vehicle categories can be purchased under the exemption. Detail on the ICE truck specifications purchased under the exemption can be worked out with the dealer and varies by fleet.

f) Zero-Emissions Vehicle Purchase Exemption – Add Delivery Time Criteria

Comment Summary: The commenters request that for a ZEV to be considered commercially available, it should be available in sufficient supply, and deliverable within an acceptable timeframe to the fleet or comparable to an ICE vehicle for purchase and receipt.

Commenter: [003-WT1, 006-WT1, 170-45d, 235-45d, 260-45d, 290-45d, 305-45d]

Agency Response: Changes were made in response to these comments. As part of the criteria used in assessing availability, ZEVs or NZEVs offered must have a model year within 18 months of the date the fleet owner submitted the complete ZEV Purchase Exemption request. This change addresses supply concerns if manufacturers sell out of a given model.

The rationale for why this timeframe was appropriate can be found in Chapter A.(B).26., section 2013.1(d)(2), and Chapter C.(D).34., section 2015.3(e)(2), of the ACF 15-Day Notice.

No changes were made to require a specific timeframe in which a ZEV is to be delivered to the fleet following a purchase agreement because ICE vehicle delivery times vary widely and it is unreasonable to apply such a limit only to ZEV purchases for an exemption that would allow for the purchase of an ICE vehicles that takes just as long to be delivered.

g) Zero-Emissions Vehicle Purchase Exemption – Remove Vehicle Exclusions

Comment Summary: The commenters ask that CARB remove the exclusion of vehicles with a GVWR greater than 14,000 pounds, pickup trucks, two-axle buses, box trucks, vans, or any tractors from the ZEV Purchase Exemption, and request that pickup trucks be treated similarly to trucks over 14,000 pounds GVWR in the ZEV Purchase Exemption.

Commenter: [004-WT1, 015-WT1, 207-45d, 233-45d, 342-45d]

Comment Summary: The commenters suggest expanding the ZEV Purchase Exemption to include pickups, as the construction industry relies on these vehicles for material transport and towing equipment.

Commenter: [261-45d]

Agency Response: Changes were made in response to these comments. The exclusion of vehicles with a GVWR greater than 14,000 pounds was removed. No changes were made to exclude pickups, any buses, box trucks, vans, or any tractors from the ZEV Purchase Exemption configurations list as these body types are currently widely available as ZEVs. However, the Regulation includes language for all vehicle types to allow for an exemption if the ZEV cannot be configured to meet the primary intended function for the fleet or if there is a conflict in meeting an established safety requirement.

h) Zero-Emissions Vehicle Purchase Exemption – Add Fleet Specification Criteria

Comment Summary: The commenters request that ZEV Purchase Exemption criteria include matching exact fleet specifications for one-to-one replacement or exact duty cycle replacement. Commenters also request commercial availability be evaluated based on minimum duty cycle requirements identified by the fleet, and that available ZEVs are evaluated and tested by at least one California-based fleet.

Commenter: [006-OT1, 006-WT1, 010-OT1, 014-45d, 015-45d, 092-45d, 096-45d, 170-45d, 235-45d, 241-45d, 243-45d, 253-45d, 260-45d, 285-45d, 291-45d, 297-45d, 300-45d, 305-45d, 310-45d, 333-45d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption includes a case-by-case process that permits fleet owners to purchase an ICE vehicle if it is demonstrated that no manufacturers or body builders can supply a ZEV in the needed configuration. The rationale for why this process is appropriate can be found in Chapter A.(B).22., section 2013.1(d), and Chapter C.(D).30., section 2015.3(e), of the ACF 15-Day Notice.

No changes were made to include purchase availability criteria that specifically require matching exact fleet specifications because it would be infeasible to maintain the ZEV Purchase Exemption list for every possible combination of vehicle configuration and specification.

Fleet owners are expected to place ZEVs in their fleet where they are best suited. That could mean some changes in planning or assigning vehicles. The Daily Usage Exemption permits

fleet owners to purchase a new ICE vehicle if no new ZEV is available that can meet the demonstrated daily usage needs of any existing vehicle of the same type in the fleet. It is therefore unnecessary to incorporate criteria that require a ZEV to match an exact duty cycle of the vehicle being replaced. Concerns regarding duty cycle replacement are also expected to decrease as the ZEV market expands and progresses technologically with greater range capabilities and shorter charging times for BEVs.

No changes were made in requiring that available ZEVs be evaluated and tested by at least one California-based fleet because it isn't a standard applicable to ICE vehicles, is unnecessary and would only add a barrier to delay ZEV deployment when vehicles are under warranty.

i) Zero-Emissions Vehicle Purchase Exemption – Add Process for Infrastructure Availability Issues

Comment Summary: The commenters request an exemption process for situations where charging infrastructure is not available within a reasonable number of miles from the vehicle's operating location.

Commenter: [300-45d, 310-45d, 318-45d]

Agency Response: No changes were made in response to these comments. The scope of the Regulation includes fleets that are well suited for electrification, and most are expected to begin the transition to ZEVs by installing their own infrastructure in their depots. Granting exemptions based on infrastructure proximity to a vehicle's operating location could introduce a loophole with large potential for abuse by fleets seeking to delay compliance without infrastructure proximity issues. Concerns regarding infrastructure availability and proximity are expected to decrease as ZEV infrastructure develops and expands. Finally, the Regulation includes extensions due to delays in installing ZEV infrastructure for reasons outside the control of the fleet owner; this provision would address delays related to fleet owner construction and site electrification.

j) Zero-Emissions Vehicle Purchase Exemption – Clarify Process and Criteria

Comment Summary: The commenters request transparency and clarification in the ZEV Purchase Exemption process, stating that the unavailability list is based on limited, non-transparent, and unrealistic criteria that do not consider fleet needs. They urge CARB to establish a transparent process addressing ZEV availability and implement exemptions if ZEVs are not available in practice or cannot meet fleets' requirements.

Commenter: [002-OT1, 020-OT1, 021-WT1, 031-45d, 051-45d, 060-45d, 083-45d, 090-OT1, 095-OT1, 105-OT1, 128-45d, 129-45d, 148-OT1, 161-45d, 179-45d, 233-45d, 253-45d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption was updated as part of the 15-day changes to include two basic approaches. The ZEV Purchase Exemption list is a streamlined approach to identify common vehicle configurations that are not available to purchase as ZEVs. This approach simplifies the exemption process and reduces the need for exemption applications. CARB will continue to assess vehicle availability through the Regulation implementation to ensure the list contains

configurations that meet the established criteria. The ZEV Purchase Exemption also considers individual fleet needs and includes a fleet-specific case-by-case process that permits fleet owners to purchase an ICE vehicle in a needed vehicle configuration if the criteria are met to show no manufacturers or body builders can equip a ZEV to serve the primary intended function of the vehicle to be replaced. The rationale for why this process is appropriate can be found in Chapter A.(B).22., section 2013.1(d), and Chapter C.(D).30., section 2015.3(e), of the ACF 15-Day Notice.

k) Zero-Emissions Vehicle Purchase Exemption – Add Manufacturer Criteria

Comment Summary: The commenters state that the ZEV Purchase Exemption and commercial availability definitions should take into account various manufacturer related criteria, including manufacturer market penetration for the specific truck application, a specific threshold number of delivered vehicles, and accessibility of customer support systems or manufacturer service centers within a specified distance from the fleet owner. They also emphasize the importance of "brand loyalty" and ask it to be included as criteria, as some fleets rely on a primary manufacturer for vehicle supply and service, suggesting that introducing a secondary manufacturer may result in modifications to purchase and maintenance agreements. The commenters request that a certain number of manufacturers be producing a ZEV type for it to be considered commercially available and that ZEVs be sold on a competitive basis to multiple buyers.

Commenter: [004-WT1, 006-OT1, 006-WT1, 014-45d, 015-45d, 089-45d, 128-45d, 129-45d, 153-45d, 155-45d, 175-45d, 179-45d, 210-45d, 229-45d, 233-45d, 235-45d, 241-45d, 243-45d, 260-45d, 278-45d, 279-45d, 282-45d, 291-45d, 294-45d, 297-45d, 300-45d, 305-45d, 310-45d, 322-45d, 330-45d, 333-45d, 342-45d]

Agency Response: Changes were made to address these comments. As part of the 15-day changes the ZEV Purchase Exemption was modified to ensure that only ZEV's that were certified to the ZEP Certification requirements, where applicable, would be considered in assessing ZEV availability. The Regulation has an extended phase-in period and provides considerable flexibility for fleet owners to plan their purchases and adding additional conditions that fleet owners can decide for themselves are counter to the objectives of the Regulation. The rationale for why this requirement is appropriate can be found in Chapter A.(B).26., section 2013.1(d)(2), and Chapter C.(D).34., section 2015.3(e)(2), of the ACF 15-Day Notice.

No changes were made to require that a certain number of manufacturers produce a ZEV type. It would also be unreasonable to eliminate consideration of an available ZEV configuration based on an arbitrary manufacturer sales threshold, especially if said manufacturer can supply the needed vehicle.

No changes were made to accommodate "brand loyalty" as it is a subjective and individual fleet preference and not a reasonable basis to forgo emission benefits to allow for purchasing ICE vehicles when ZEVs are available in the needed configuration from any manufacturer.

No changes were made to require the accessibility of customer support systems or manufacturer service centers within a specified distance from the fleet owner because it

would be somewhat arbitrary and exceptionally burdensome to maintain the ZEV Purchase List in consideration of the location of service centers with respect to every fleet owner subject to the Regulation.

l) Zero-Emissions Vehicle Purchase Exemption – Required Documentation Is Too Onerous

Comment Summary: The commenters argue that the ZEV Purchase Exemption requirement for a signed manufacturer statement is too onerous because they do not have direct business relationships with the chassis manufacturer and suggest the exemption should account for delayed or no responses from manufacturers or allow statements from vendors to qualify.

Commenter: [322-45d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption was modified in the 15-day changes to include a streamlined exemption process for common vehicle types that could be purchased as ICE vehicles because it is not available for the configuration category. The provision was also modified to allow for fleet specific exemptions for when the vehicle is available in a given category but cannot be configured to meet the primary intended function of the vehicle being replaced. The Regulation specifies that the Executive Officer has 45 days after receiving a complete application to notify the fleet owner if the exemption is granted.

No changes were made in response to a signed manufacturer statement being too onerous due to a lack of a direct business relationship with the chassis manufacturer as it is the fleet owner's responsibility to initially seek the ZEV-equivalent of the needed configuration, which requires direct communication with the manufacturer or through its authorized dealers. A fleet owner may newly establish direct communication with a manufacturer to receive a statement confirming that the needed configuration cannot be produced.

No changes were made in response to allowing statements from vendors to qualify in lieu of statements from the manufacturers as a vendor would not know the manufacturer's capability of producing a specific configuration.

m) Zero-Emissions Vehicle Purchase Exemption – Exclude Vehicles Offered Through Preorders from Availability Criteria

Comment Summary: The commenters state that ZEVs offered through pre-orders should not be considered commercially available.

Commenter: [207-45d, 300-45d]

Agency Response: No changes were made in response to these comments. The commenters refer to pre-orders as the partial or full purchase of a ZEV in advance of its release. Similar to ICE vehicles, it is normal for ZEV manufacturers to conduct pre-orders to determine supply needs to fulfill a higher number of orders and not a guarantee of excessive wait and delivery times. The exemption distinguishes that ZEVs or NZEVs must not be offered as a temporary placeholder for a vehicle that may or may not be offered for sale in the future to be considered available to purchase. Pre-orders, in contrast, require a contractual purchase agreement with manufacturer fulfillment obligations. The exemption also requires that the

ZEVs or NZEVs offered for sale have a model year 18 months or less from the date the fleet owner submitted the complete exemption request to be considered available to purchase; this is to ensure reasonable wait and delivery times comparable to ICE vehicles.

n) Zero-Emissions Vehicle Purchase Exemption – Add Public Fleet Exemption Process

Comment Summary: The commenters request a separate exemption process for public agencies when ZEVs are not practically accessible or unsuitable for operational needs, and that the ZEV Purchase Exemption should not require a POU to purchase a specific ZEV if a supplier cannot meet public procurement standards.

Commenter: [015-45d, 153-45d, 167-45d, 179-45d, 278-45d, 279-45d, 285-45d, 294-45d, 330-45d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption was expanded to address fleet specific situations with a case-by-case process that permits fleet owners to purchase an ICE vehicle in the needed configuration and weight class if it is demonstrated that no manufacturers or body builders can supply a ZEV to meet the primary intended function of the vehicle. Additionally, the Regulation provides flexibility for fleets to plan their purchases within their own procurement standards and does not require SLG fleets to replace any vehicles. SLG fleets have varying public procurement standards, and it would be impractical to incorporate every existing set of standards into the exemption process and availability criteria.

o) Zero-Emissions Vehicle Purchase Exemption – Add Range Criteria

Comment Summary: The commenters suggest that the criteria for commercial availability consider vehicle range.

Commenter: [310-45d, 318-45d]

Agency Response: No changes were made in response to these comments. Vehicle range and capability requirements vary amongst fleets based on operational use and required duty cycle. It would therefore be unreasonable to deem ZEVs below a certain threshold of range capability as unavailable if they suit the needs of regulated fleets. There are several EV medium-duty and heavy-duty non-tractors capable of a 100- to 200-mile range on a single charge. FCEVs can also provide similar capacity, range, and fueling capabilities as ICE vehicles. For additional information about concerns regarding the range capacity of ZEVs, please see responses to issues raised in section "Zero-Emissions Technology – Range and Work Capacity" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses." These concerns are expected to decrease as ZE technology improves.

p) Zero-Emissions Vehicle Purchase Exemption – Remove Milestones Limitation

Comment Summary: The commenters state that the requirement for fleet owners to transition all other vehicle types to ZEV first before applying for ZEV Purchase Exemption under the ZEV Milestones Option is overly burdensome.

Commenter: [322-45d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption under the ZEV Milestones Option was modified to require fleet owners to demonstrate that their next applicable upcoming ZEV Milestone cannot be reached without exemptions by requesting and obtaining exemptions for all other ICE vehicles in their California fleet. The ZEV Milestones Option provides complete flexibility for the fleet owner to plan their vehicle purchases and which ones will be ZEVs or ICE vehicles. The purpose of the exemptions is to address situations where the fleet owner is making a good faith effort to comply but is unable to due to circumstances beyond their control. It is not intended to be used as a method to claim exemptions for some trucks when the ZEV milestones can be met by upgrading other trucks in the fleet. The requirement allows fleets to apply and qualify for applicable exemptions for their remaining ICE vehicles to demonstrate they are out of options to comply. The rationale for why this modification is appropriate can be found in Chapter C.(C).17., section 2015.2(f)(5), of the ACF 15-Day Notice.

q) Zero-Emissions Vehicle Purchase Exemption – Proving Technological Infeasibility After ACF Regulation Adoption Is Reverse Rulemaking

Comment Summary: The commenters assert that CARB requiring stakeholders to prove technological infeasibility after ACF Regulation adoption in the context of the ZEV Purchase Exemption is reverse rulemaking.

Commenter: [253-45d]

Agency Response: No changes were made in response to these comments. The ZE technology suited for most fleet operations is currently available. The ZEV Purchase Exemption is intended to provide flexibility for more specialized configurations that have not yet been electrified, or circumstances where available ZEVs do not meet fleet needs. Therefore, demonstrating technological infeasibility under the ZEV Purchase Exemption for certain configurations is not reverse rulemaking, but rather an accommodation to address case-by-case circumstances.

r) Zero-Emissions Vehicle Purchase Exemption – Add Public Review Process and Comment Period

Comment Summary: The commenters request that the ZEV Purchase Exemption process allow for a public review and comment period.

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. Requiring a public review and comment period for each exemption application would significantly delay

ACF Regulation implementation and the time it takes to grant an exemption. This requirement would also be administratively burdensome and counterproductive to the goal of providing fleets owners timely responses. The Regulation specifies that the Executive Officer must respond within 45 days of getting a complete application and that timeline cannot reasonably be met with a public review and comment period.

s) Zero-Emissions Vehicle Purchase Exemption – Add Safety Criteria

Comment Summary: The commenters express concerns about ZE tractors' safety when picking up loads at fuel racks, suggesting a ZEV Purchase Exemption for all vehicle categories with valid public safety considerations. They urge CARB to establish alternatives when available ZEVs would result in undue risk to public health and safety.

Commenter: [170-45d, 282-45d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption was modified as part of the 15-day changes and addresses fleet specific situations as part of the availability assessment criteria. An exemption can be issued if all available ZEVs or NZEVs of the needed configuration present a conflict with existing health and safety standards applicable to the fleet operation. For additional information about concerns regarding the safety of ZEVs, please see responses to issues in section "Zero-Emissions Technology – Safety Concerns" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

t) Zero-Emissions Vehicle Purchase Exemption – Collaborate with Stakeholders for Availability Criteria

Comment Summary: The commenters recommend that CARB collaborate with stakeholders to develop workable ZEV availability criteria.

Commenter: [004-OT1]

Agency Response: No changes were made in response to these comments. Staff met with numerous stakeholders throughout the rulemaking process to discuss and develop workable ZEV availability criteria that have been incorporated into the ZEV Purchase Exemption. Staff also held a public workgroup and workshops for further discussions with and to receive feedback from stakeholders regarding the ZEV Purchase Exemption process and the ZEV availability criteria.

u) Zero-Emissions Vehicle Purchase Exemption – Add Third Party Assessment of Availability

Comment Summary: The commenters request the involvement of third-party assessments, industrial councils, or committees to evaluate ZEV availability and associated criteria, such as costs, duty cycle, and infrastructure availability. They propose basing the assessment on ZEP Certification criteria to determine availability and technology readiness, and suggest that a specific vehicle type, like construction industry-related vehicles, be assessed.

Commenter: [093-45d, 094-45d, 104-45d, 157-OT1, 170-45d, 233-45d, 235-45d, 253-45d, 263-45d, 266-45d]

Agency Response: Changes were made in response to these comments. As part of the 15-day changes the requirement that a vehicle be ZEP Certified was added as a criteria for determining if a ZEV or NZEV is available.

The Regulation was developed in an open and robust public process. Establishing third-party assessments, industry councils, or committees would be another administrative process that would require their own criteria in determining which third parties would be appropriate to determine ZEV availability and associated criteria. There is no need to assemble such a third-party assessment or committee to determine whether the criteria specified in the Regulation are met. The suggested proposal would delay ACF Regulation implementation which would delay the emissions reductions and objective the Board considered as part of its decision to approve the Regulation. The criteria for assessing ZEV availability have also already been established through the ACF 15-day changes, and do not consider costs and a general review of infrastructure availability because fleet owners are expected to install infrastructure and they have the flexibility to determine how to comply with the Regulation.

v) Zero-Emissions Vehicle Purchase Exemption – Align Exemption with Transport Refrigeration Unit Regulation Provisions

Comment Summary: The commenters request that the ZEV Purchase Exemption align with the provisions in the TRU Regulation, providing a 1-year extension if no compliance technology is available within six months of the compliance date, with additional extensions available as needed.

Commenter: [282-45d]

Agency Response: No changes were made in response to these comments. Box trucks and box trucks with reefer units are already commonly available as ZEVs and is expected to expand. Therefore, it is unlikely that ZEV Purchase Exemptions would be needed. Fleet owners are permitted to purchase ICE vehicles of configurations listed on the ZEV Purchase Exemption List. If an available ZEV does not meet fleet needs, the fleet owner may submit an exemption application to purchase the ICE vehicle equivalent. Fleet owners are also expected to plan sufficiently to meet compliance deadlines when submitting applications. These processes, requirements, and expectations eliminate the need to provide an extension similarly provided under the provisions of the TRU Regulation as well as consider technological readiness within a certain timeframe of a compliance date.

w) Zero-Emissions Vehicle Purchase Exemption – Add Process for Vehicles with Weight Limits

Comment Summary: The commenters request a separate exemption process for situations where vehicles have strict weight limits due to the roads and bridges they traverse.

Commenter: [305-45d]

Comment Summary: The commenters state that the ZEV Purchase Exemption should consider situations where cargo capacity is negatively impacted due to the added weight of ZE tractors, which can reduce payload and necessitate additional truck trips.

Commenter: [282-45d]

Comment Summary: The commenters state that the ZEV Purchase Exemption should consider situations where payload capacity is adversely affected due to the added weight of ZE tractors, which can reduce cargo capacity and create additional truck trips.

Commenter: [318-45d]

Agency Response: No changes were made in response to these comments. Fleets are permitted to select the ZE technology that best fits the range and weight requirements of a fleet's operations. Fleets are also expected to make adjustments in their purchase plans and how they specify their vehicles to best fit their application. For example, if weight is a concern the ZEV Milestones Option provide flexibility to upgrade any truck in the fleet to meet the ZEV Milestones, in addition fleet owners may consider FCEVs, NZEVs, or BEVs with smaller battery packs and strategically planned charging.

changes in fleet operations to accommodate ZEV acquisition in compliance with the Regulation. Therefore, it would be unreasonable and unnecessary to offer a separate exemption process in consideration of weight limits and payload or cargo capacity. For additional information about concerns regarding weight impacts, please see responses to issues raised in section "Zero-Emissions Technology – Vehicle Weight" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

x) Zero-Emissions Vehicle Purchase Exemption – Add Zero-Emissions Powertrain Certification Criteria

Comment Summary: The commenters suggest that CARB require ZEP Certification in the criteria for the ZEV Purchase Exemption or using ZEP Certification as the threshold requirement for determining commercial readiness and ZEV availability.

Commenter: [127-OT1, 130-OT1, 241-45d, 243-45d, 253-45d]

Agency Response: Changes were made in response to these comments. As part of the ZEV availability assessment criteria, an offered ZEV or NZEV is considered available to purchase, among other criteria, if the manufacturer has certified the ZEV's powertrain with CARB's ZEP Certification requirements.

y) Zero-Emissions Vehicle Purchase Exemption – Allow Fuel of Choice

Comment Summary: The commenters propose separate evaluations for FCEV and BEV availability and enable exemption language once a fleet has committed to the infrastructure investment to support a preferred technology.

Commenter: [248-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation is technology-neutral and does not specifically require either BEVs or FCEVs as compliance options. As a result, it would be unnecessary, as well as burdensome, to maintain separate availability criteria and configuration lists for all existing ZEV technologies. Additionally, allowing fleet owners to commit to a preferred technology will cause uneven fleet transition amongst stakeholders if a fleet chooses technology that is not as readily available as others. This proposal would create a loophole by which fleets could indefinitely delay transitioning their fleets to ZEVs should they intentionally pick a technology with low

market availability, and, as a result, would cause the goals of the Regulation to not be met. Fleets are also expected to install the necessary infrastructure to maintain compliance with the Regulation or rely on public or retail infrastructure. It would therefore be unreasonable to consider technology preference in the ZEV Purchase Exemption based on infrastructure investments.

z) Zero-Emissions Vehicle Purchase Exemption – Allow for Internal Combustion Engine Vehicle Purchase Instead of Delaying Delivery of Zero-Emissions Vehicle

Comment Summary: The commenters request that the ZEV Purchase Exemption allow for the purchase of an ICE vehicle instead of postponing the ZEV delivery when an ICE vehicle necessary for fleet operations can be delivered in an expeditious timeframe, as manufacturers will not have offerings in the needed vocational work trucks for at least five years.

Commenter: [156-45d]

Agency Response: No changes were made in response to these comments. As part of the criteria used in assessing ZEV availability, ZEVs or NZEVs offered must have a model year 18 months or less from the date the fleet owner submitted the complete ZEV Purchase Exemption request to avoid prolonged delivery timeframes. ZEV configurations that are not available to purchase that appear on the ZEV Purchase List may also be purchased as an ICE vehicle. It is therefore unnecessary to consider a specific timeframe in which an ICE vehicle can be delivered compared to a ZEV.

aa) Zero-Emissions Vehicle Purchase Exemption – Too Narrow for Practical Use by U.S. Postal Service

Comment Summary: The commenters argue that the ZEV Purchase Exemption is too narrow for practical use by the U.S. Postal Service, as "unavailable" is defined not by market availability or affordability, but by whether a vehicle class or configuration can be feasibly equipped with a ZEV or NZEV chassis.

Commenter: [228-45d]

Agency Response: No changes were made in response to these comments. The exemption provides flexibility in circumstances where a configuration is not available as a ZEV, or an available ZEV does not meet fleet needs related to the primary intended function of the vehicle. This eliminates the need to specifically include market availability as part of the availability criteria because if a configuration is not available as a ZEV on the market, the fleet owner may purchase the ICE vehicle equivalent. The rationale for why the established exemption criteria are appropriate can be found in Chapter A.(B).26., section 2013.1(d)(2), and Chapter C.(D).34., section 2015.3(e)(2), of the ACF 15-Day Notice. Additionally, affordability is subjective to every fleet and is, therefore, not a realistic factor to incorporate into the availability criteria. In consideration of these factors, the ZEV Purchase Exemption can be practically used by fleets, including the U.S. Postal Service.

bb) Zero-Emissions Vehicle Purchase Exemption – Unique Redlines

Comment Letter 326

Comment Summary: The commenter requests edits to the 2013(m) ZEV Unavailability section by deleting "no" in front of ZEV and NZEV and replacing the "is" with "are not" between the words "configuration" and "commercially available."

Commenter: [326-45d]

Agency Response: No changes were made in response to these comments. The language in renumbered section 2013(m)(4) was modified to provide clarity for circumstances in which a fleet owner may purchase a new ICE vehicle or submit a request to obtain an exemption. The original language was not retained entirely and the suggested redlines no longer apply.

cc) Zero-Emissions Vehicle Purchase Exemption – Unique Redlines

Comment Letter 277

Comment Summary: Redlines to section 2013(b). Add "'Commercially available' vehicle configuration means the following: (A) The vehicle configuration is available from at least three vehicle manufacturers as a ZEP Certified model in accordance with 13 CCR 1956.8, at least two units of each model has been placed into service, and each manufacturer has at least two years' experience selling vehicles in California. If the vehicle configuration requires upfitting, these requirements shall apply to both the manufacturer of the incomplete chassis and the upfitter."

Commenter: [277-45d]

Agency Response: No changes were made in response to these comments. The ZEV Purchase Exemption establishes clear criteria used to assess the availability of offered ZEVs for sale, eliminating the need for a definition of "commercially available vehicle configuration." The suggested redlines are, therefore, unnecessary. For additional information about the rationale for not including a definition for "commercially available vehicle configuration," please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add 'Commercial Availability' Definition" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses." Additionally, the ZEP Certification requirement was added to ensure manufacturer reliability, eliminating the need for a threshold number of units per model to have been placed into service as well as requiring a specific amount of selling experience. For additional information about the rationale for not including the specified manufacturer criteria, please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Manufacturer Criteria" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

dd) Zero-Emissions Vehicle Purchase Exemption – Unique Redlines

Comment Letter 342

Comment Summary: Redlines for ZEV Purchase Exemption. Section 2015.2(e)(5): add "local/affected," remove "that are not already using an exemption or extension," remove "because they are not available to purchase," and remove "Additionally, if the only remaining ICE vehicles in the fleet cannot be replaced with a ZEV or NZEV of the needed configuration"

because they are not available to purchase, and the conditions of section 2015.3(e) are met, those ICE vehicles are excluded from the ZEV milestone calculation." Section 2015.3(e): change "14,000" to "8,500," and remove "and will not include pickup trucks, two-axle buses, box trucks, vans, or any tractors." Section 2015.3(e)(1): add "payload capacity." Paragraph without section number in section 2015.3(e): remove "and their good engineering judgement." Section 2015.3(e)(4)(A): remove "and for what reasons." Section 2015.3(e)(4)(B): remove "for each available ZEV or NZEV chassis," add "in general," and removed "of these."

Commenter: [342-45d]

Agency Response: Changes were made in response to these comments. The suggestion to remove "because they are not available to purchase" in section 2015.2(e)(5) was accepted and an ICE vehicle can be purchased if an available ZEV cannot meet fleet needs related to the primary intended function of the vehicle. The suggestion to remove "that are not already using an exemption or extension" in section 2015.2(e)(5) was accepted. The suggestion to remove "Additionally, if the only remaining ICE vehicles in the fleet cannot be replaced with a ZEV or NZEV of the needed configuration because they are not available to purchase, and the conditions of section 2015.3(e) are met, those ICE vehicles are excluded from the ZEV milestone calculation" in section 2015.2(e)(5) resulted in modifying language to clarify that the exemption will be granted if relevant criteria are met and the fleet owner demonstrates their next applicable upcoming ZEV Fleet Milestone cannot be reached without exemptions by requesting and obtaining exemptions for all other ICE vehicles in their California fleet. The suggestion to change "14,000" to "8,500" in section 2015.3(e) resulted in removing "14,000." The suggestion to remove "and for what reasons" in section 2015.3(e)(4)(A) was accepted. The suggestion to remove "for each available ZEV or NZEV chassis" in section 2015.3(e)(4)(B) resulted in modifying language for the submitted documentation to State that the manufacturer does not offer for sale ZEV or NZEV chassis, or complete ZEVs or NZEVs, of the needed configuration.

No changes were made to add "local/ affected" in front of "fleet" in Section 2015.2(e)(5) as "fleet" was removed, but the ZEV Purchase Exemption establishes applicability to the California fleet.

No changes were made to remove "and will not include pickup trucks, two-axle buses, box trucks, vans, or any tractors" in section 2015.3(e) as these vehicle configurations are currently widely available to purchase as ZEVs. Additionally, fleet owners may request an exemption for an available ZEV that cannot meet fleet needs. For additional information about removing certain vehicle configurations from the ZEV Purchase List, please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Remove Vehicle Exclusions" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

No changes were made to add "payload capacity" in section 2015.3(e)(1). For information about not including payload capacity, please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Process for Vehicles with Weight Limits" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

No changes were made to remove "and their good engineering judgement" in section 2015.3(e) as it is necessary to include the Executive Officer and their good engineering and

business judgement because CARB needs to analyze given information to determine the availability status of a vehicle configuration when adding to the ZEV Purchase List. Additional justification is provided in section 2015.3(e) in Appendix H-2 of the ACF ISOR package on the need for the Executive Officer to make a good engineering judgement.

No changes were made to remove "in general" and "of these" in section 2015.3(e)(4)(B) because it is necessary to identify which specific safety laws or standards a ZEV or NZEV is in violation with, if applicable, and for what reasons to determine if this criterion is unmet by an available ZEV or NZEV.

21. Public Regulatory Process and Outreach Concerns

a) Outreach – Transparency

Comment Summary: The commenters state that CARB's outreach efforts for ACF have been insufficient and suggest that CARB post a list of affected stakeholders on their website to improve outreach.

Commenter: [253-45d]

Agency Response: No changes were made in response to these comments. The Regulation is the result of an extensive four-year public process and nearly all public meetings were held online and recorded. CARB is committed to a rigorous outreach effort which will ensure regulated fleets are educated on their requirements. Posting a list of affected stakeholders is not necessary because the Regulation already provides a platform for fleets through the ZEV Fleet Recognition provision.

b) Periodic Review of Regulatory Implementation Needed

Comment Summary: The commenters suggest that the Board should revisit the progress of Regulation implementation periodically, such as biennially, and include market assessment, infrastructure cost and development, ZEV cost, TCO, vehicle availability, supply chain, and other business impacts in collaboration with stakeholders. They also request that CARB assess the number and type of exemptions used annually and consider future amendments. Moreover, the commenters request that CARB and CEC track the development of California's capacity to power and support the ZEVs resulting from ACF and ACT implementation, develop publicly available real-time data on whether charging infrastructure construction is on pace to meet ZEV needs, and modify the rules if the tracking data shows that infrastructure cannot support ZEVs deployed by ACT and ACF. They also call for CARB, CEC, and CPUC to work closely with utilities and fleet customers to ensure providers can provide the energy and infrastructure needed.

Commenter: [008-45d, 031-WT1, 200-45d, 207-45d, 209-45d, 239-45d, 255-45d, 296-45d, 342-45d]

Agency Response: No changes were made in response to these comments. CARB staff plan to assess various aspects of the Regulation in collaboration with stakeholders during implementation. On September 22, 2022, CARB approved the 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy), which identifies the State's control strategy for meeting the federal 70 parts per billion, 8-hour ozone standard over the next 15 years. The Zero-Emissions Truck Measure, as part of the 2022 State SIP Strategy, seeks to accelerate the number of ZE trucks beyond existing measures (including the ACF Regulation

as noted in Chapter 5). The 2022 State SIP Strategy is a statewide planning document that identifies the strategies and controls under State authority that are needed to reduce emissions to reduce ground-level ozone. This level of action is needed to ensure federal air quality standards are attained and to deliver on CARB commitments to protect public health, particularly considering the growing body of evidence on the adverse impacts of air pollution. This measure would potentially be heard by the Board in 2028 and would be a significant step in the comprehensive strategy to achieve ZE medium- and heavy-duty vehicles everywhere feasible by 2045. For this measure, staff would implement regulatory strategies to achieve the goal of transitioning the remainder of the heavy-duty combustion fleet to ZE trucks.

c) Additional Public Process Needed Prior to Board Approval

Comment Summary: The commenters express process concerns and request additional workshops, Board hearings, and public comment periods before adopting the ACF Regulation at the October 27 hearing. They emphasize the importance of CARB collaborating with other agencies in developing the Regulation and responding in writing to public comments received outside the formal rulemaking period. The commenters also suggest that CARB should work with fleet managers, who are experts in fleet management, to develop improvements to regulatory provisions. They highlight the need for significant outreach to inform stakeholders about the Regulation and their compliance requirements, as well as engaging and addressing environmental justice communities. Lastly, the commenters request an additional public process before making a draft and 45- day notice.

Commenter: [011-OT1, 022-OT1, 035-OT1, 087-OT1, 127-OT1, 130-OT1, 139-OT1, 143-45d, 207-45d, 321-45d, 322-45d]

Agency Response: No changes were made in response to these comments. Outreach was extensive and CARB is committed to a continuous outreach effort which will ensure regulated fleets are educated on their requirements. Staff worked with fleet managers and representatives for four years over the course of regulatory development, including engaging environmental justice communities. In addition to the ACF ISOR, released for a 45-day public comment period prior to the October 27, 2022, Board hearing, written and oral testimony at that hearing were also accepted as being received during the public comment period. During the rulemaking process, CARB staff met with communities in evenings and nearly all public meetings were recorded and held online. CARB staff have also been closely coordinating with CEC, CPUC, GO-Biz, and other agencies during the development of this Regulation. These meetings and stakeholder coordination have enabled CARB staff to look at options for "clean energy" based on a thorough scientifically based assessment of technology and cost-effectiveness.

In addition to the numerous workshops, workgroups, and other meetings held prior to the October 2022 Board hearing, an additional workshop and two workgroup meetings were held after the October 2022 Board hearing. In preparation for a second Board hearing on April 27, 2023, CARB staff provided a rulemaking package with significant updates based on stakeholder input, for a 15-day public comment period from March 23, 2023, to April 7, 2023. Staff are reorienting our current outreach team to inform stakeholders of new requirements such as the ACF Regulation and the HD I/M Regulation. CARB is obligated to respond in writing to all comments received, including commenter's oral and written

testimony at Board hearings, during the open formal comment periods, and is doing so in this FSOR.

d) Additional Discussion Requested on Sections 2015(f), 2015(g), and 2015.4(d)

Comment Summary: Commenter states additional discussion on section 2015(f) Controlling Party Compliance Requirements, Section 2015(g) Corporate Joint Compliance Option, and Section 2015.4(d) Corporate Joint Compliance Reporting is warranted given their complexity.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. Commenter has not raised specific concerns about sections in workshops, workgroups, or individual meetings, and commenter's letter does not specify specific issues with the provisions other than mentioning their complexity. The Regulation provides sufficient flexibility while retaining necessary compliance requirements to achieve the goals of the Regulation.

e) Request for Implementation Issues Database

Comment Summary: The commenters request that CARB create an "issues database" for companies to report charger issues, manufacturer delivery delays, problems with certain ZEVs or hardware, and other issues that could affect other fleets.

Commenter: [342-45d]

Agency Response: No changes were made in response to these comments. There is no need for the Regulation team to include language about a tracking database; staff will continue to collect and track information about ZEVs, infrastructure developments, and issues reported by fleets internally to track implementation of CARB's portfolio of ZE incentives and share with the Regulation team as part of research and development for future rulemakings.

22. Funding and Incentive Program Issues

a) Clarify Funding Programs that Generate Early Action Credits

Comment Summary: The commenters suggest adding clarification in the Regulation for which funded vehicles would be eligible for early action credits by providing a list of grants or incentive programs allowed to generate early action credits.

Commenter: [207-45d]

Agency Response: No changes were made in response to these comments. The Regulation already has a provision specifying that the individual funding program guidelines would determine whether funded vehicles would be eligible in determining compliance with the Regulation. If the vehicles are allowed to be used for determining compliance, the early action credits would also apply to such vehicles. Funding program information is available on CARB's website and through local air districts.

b) Accelerate the Clean Transportation Program

Comment Summary: The commenters request that the pace of grant funding under the Clean Transportation Program be accelerated, as the current pace is too slow to support clean vehicle deployment.

Commenter: [021-OT1]

Agency Response: No changes were made in response to these comments. Funding policy decisions are addressed by the funding programs and are not part of the regulatory process for this Regulation.

c) Funding for Individual Truckers

Comment Summary: The commenters stress the need for funding for each individual trucker to enforce the Regulation.

Commenter: [138-45d]

Agency Response: No changes were made in response to these comments. Funding is available for small fleets and independent owner/operators through HVIP and the Volkswagen Environmental Mitigation Trust for California, with HVIP offering enhancements to fleets with 10 or fewer trucks. Additionally, it would be unreasonable to require funding for each individual trucker to enforce the ACF Regulation.

d) Funding for Fleets Burdened by Coronavirus Disease 2019

Comment Summary: The commenters request funding for fleets financially burdened by COVID-19 to support incremental vehicle acquisition costs and infrastructure installation costs.

Commenter: [223-45d]

Agency Response: No changes were made in response to these comments. CARB regularly reevaluates incentive levels in the context of current conditions to ensure that programs are effectively addressing barriers to adoption. Recent adjustments to HVIP incentive amounts reflect many of the factors that have affected truck prices over the past three years. Additionally, funding policy decisions are addressed by the funding programs and are not part of the regulatory process for this Regulation.

e) Funding for Cities

Comment Summary: The commenters state that cities will need funding assistance because most granting organizations require EV charging infrastructure to be publicly accessible, which is problematic for secure facilities like police buildings.

Commenter: [330-45d]

Comment Summary: The commenters state that CARB should provide funding to cities for the necessary backbone infrastructure upgrades resulting from the Regulation.

Commenter: [294-45d, 330-45d]

Agency Response: No changes were made in response to these comments. CARB, CEC, and CPUC are coordinating to ensure infrastructure needs across the state are adequately supported. Investor-owned utilities are authorized under CPUC Regulation to cover rate base the cost of grid upgrades to support transportation electrification.

f) Funding for Charging Infrastructure at Port Entries

Comment Summary: The commenters suggest that CARB ensure funding programs are available to build public charging infrastructure at essential port entries.

Commenter: [150-45d]

Agency Response: No changes were made in response to these comments. CARB, CEC, CPUC, and utilities are coordinating to ensure infrastructure needs across the state are adequately supported. In addition, as required under SB 671, CTC is working with these entities and other stakeholders to identify priority freight corridors, or segments of corridors, and the infrastructure needed to support the deployment of medium- and heavy-duty ZEVs. This Clean Freight Corridor Efficiency Assessment is due December 1, 2023. CEC is currently seeking comment regarding a future Grant Funding Opportunity for public heavy-duty ZEV infrastructure that will target station funding along the corridors identified in this assessment.

g) Equity-Based Funding Policies

Comment Summary: The commenters ask for funding policies to be equity-based, considering region, vulnerable populations, and company size to address small and medium Hispanic operators.

Commenter: [001-45d]

Agency Response: No changes were made in response to these comments. Funding policy decisions are addressed by the funding programs and are not part of the regulatory process for this Regulation.

h) Stakeholder and Air District Funding Collaboration

Comment Summary: The commenters request that CARB continue collaborating with stakeholders to review the State incentives portfolio and adjust eligibility requirements to make programs complementary. They also encourage CARB to work with local air districts to implement adequate funding, incentives, and Carl Moyer program updates to support the ACF Regulation.

Commenter: [154-45d]

Agency Response: No changes were made in response to these comments. CARB maintains close collaboration with its air district partners to coordinate incentives managed by State and local entities and improve outcomes.

i) Maximize Opportunities to Leverage Federal Funds

Comment Summary: The commenters request increased collaboration between CARB, CEC, CTC, GO-Biz, University of California, and Army Corps of Engineers to maximize opportunities to leverage federal funds, ensuring success in launching the hydrogen goods movement and vocational fleets with the support they need to be comfortable in transition, and that incentive programs are designed and updated for the success of its rapidly changing programs.

Commenter: [012-WT1, 207-45d]

Agency Response: No changes were made in response to these comments. Funding policy decisions are addressed by the funding programs and are not part of the regulatory process for this Regulation. CARB aims to maximize the accessibility and effectiveness of its incentive programs, including allowing stacking of different sources in many cases.

j) Funding for Fuel Cell Electric Vehicles and Infrastructure

Comment Summary: The commenters state that funding should support hydrogen fueling infrastructure equitably, with funding carve-outs for FCEVs in agency-administered purchase programs, and increased investments in hydrogen fueling infrastructure. They suggest creating a FCEV-specific set-aside for the HVIP and Carl Moyer programs.

Commenter: [012-WT1, 102-OT1, 317-45d]

Agency Response: No changes were made in response to these comments. There are currently several FCEVs eligible for funding through HVIP on a first-come, first-served basis, with incentive enhancements and flexibilities specific to fuel cell technology. In addition, CEC's EnergIIIZE has a funding lane specifically for hydrogen infrastructure for transit buses and commercial vehicles. Funding allocated to CEC for this program, which also includes funding for commercial vehicle charging infrastructure, is determined annually.

k) Funding for Infrastructure

Comment Summary: The commenters state that ZEV infrastructure costs are an unfunded requirement, urging CARB to incentivize and streamline the creation of necessary infrastructure. They recommend increased funding for public charging infrastructure, rebates for private fleet chargers, and funding for cross-border public ZEV fueling stations.

Commenter: [001-45d, 041-OT1, 147-45d, 158-45d, 296-45d]

Agency Response: No changes were made in response to these comments. While funding for ZEV infrastructure in California flows primarily through CEC, CARB and CEC collaborate closely through HVIP and EnergIIIZE to link vehicle purchases to infrastructure funding. CARB and CEC also participate in joint efforts through SB 671 (requires the preparation of a Clean Freight Corridor Efficiency Assessment that assess infrastructure needs along freight corridors to support the deployment of commercial ZEVs), and SB 643 (requires preparation of a statewide assessment of hydrogen fueling infrastructure and fuel production needed to support the adoption of fuel cell trucks). The findings of these assessments will help guide future charging and hydrogen infrastructure investments.

As stated in the Chapter I.G.1.c of the ISOR, cross-border commerce is an important part of the economies of both Mexico and California. In addition, the two border crossings, one in Otay Mesa and one in Calexico, lie on or near the major East/West and North/South goods movement corridors of Interstate 8 and Interstate 5, respectively. Given the needs for infrastructure at these locations, CARB staff has worked with the Otay Mesa Chamber of Commerce, as well as other State agencies, including, GO-Biz, CPUC, CEC, CalTrans, with the San Diego Area Governments local planning agency, on possible assistance and solutions, including discussions of available funding for infrastructure in the area.

l) List Funding Sources

Comment Summary: The commenters request that CARB develop a list of public funding sources to help public agency fleets navigate and confirm funding eligibility for new ZEV/NZEV purchases.

Commenter: [014-45d]

Agency Response: No changes were made in response to these comments. CARB worked with partners to create a comprehensive tool, fundingfindertool.org, to help fleets of all kinds find assistance.

m) Funding for Local Government Fleets

Comment Summary: The commenters express concerns about funding assistance for cities, as most granting organizations require EV charging infrastructure to be publicly accessible, which is incompatible with secure facilities. They ask the Board to consider additional funding for local governments affected by the Regulation, as traditional budgeting processes do not cover high upfront infrastructure costs.

Commenter: [032-WT1, 294-45d]

Agency Response: No changes were made in response to these comments. HVIP offers the full voucher amount to public fleets and reduced voucher amounts for private fleets above a certain size. Funding for infrastructure is offered through CEC. Additionally, funding policy decisions are addressed by the funding programs and are not part of the regulatory process for this Regulation.

n) Provide Funding for Advanced Clean Fleets

Comment Summary: The commenters emphasize the need for CARB to provide funding to make the Regulation feasible, stating that programs like HVIP and LCFS should be increased without restricting them to small fleets only. They highlight the importance of substantial financial assistance to lower vehicle purchasing costs and achieve price parity for businesses, particularly during the initial phases of ACF implementation. Additionally, the commenters mention the need for complementary measures to ensure adequate infrastructure and incentives, such as the HVIP, are made available. They argue that since the Regulation creates a framework for an entire energy transition in the truck market, grants are necessary to advance the marketplace.

Commenter: [030-WT1, 104-45d, 120-OT1, 147-45d, 172-45d, 207-45d, 230-45d, 296-45d, 329-45d, 335-45d]

Agency Response: No changes were made in response to these comments. Funding policy decisions are addressed by the funding programs and are not part of the regulatory process for this Regulation. To align with the requirements of ACF and avoid paying for compliance, HVIP incentives remain available for fleets of all sizes until January 1, 2024, after which private fleets with 50 medium- and heavy-duty vehicles or fewer will be eligible for HVIP. Public entities and California Native American tribal governments will not be subject to the fleet size limit. New-to-market technologies such as FCEVs will not be subject to the fleet size limits until they receive a higher degree of market penetration. For small businesses requiring the greatest support, higher incentives are available through HVIP and ISEF. CEC, CPUC, and California utilities continue collaboration to provide financial and non-financial assistance to help fleets deploy the infrastructure they need.

o) Incentives for Scrapped Vehicles

Comment Summary: The commenters request incentives for fleets to scrap retired ICE vehicles, to help achieve permanent emissions reduction. They acknowledge small

businesses' reliance on the second-hand market and ask the Board to work with staff to evaluate the pros and cons of this approach.

Commenter: [342-45d]

Agency Response: No changes were made in response to these comments. Some incentive programs, including the Volkswagen Environmental Mitigation Trust and the Carl Moyer Program, require vehicle scrappage. Funding policy decisions, such as evaluating the outcomes of incentivizing the scrappage of ICE vehicles, are addressed by the funding programs and are not part of the regulatory process for this Regulation.

p) Incentives for ZEVs Used for Business and Personal Use

Comment Summary: The commenters suggest that government incentives for shared ZEVs for business and personal use could expose more businesses and individuals to the technology during rental experiences.

Commenter: [002-WT1]

Agency Response: No changes were made in response to these comments. Through programs like ISEF and Advanced Technology Demonstrations and Pilots, CARB is working with technology and truck-as-a-service providers to expand options for fleets to access ZE technology at low cost and low risk.

q) Funding for Small Fleets

Comment Summary: The commenters argue that incentives like the IRA do not offset higher upfront costs for small, independent owner-operators, as they benefit larger truckers and companies with greater access to capital. They claim that competitive grants and complex applications disadvantage smaller fleets.

Commenter: [223-45d, 313-45d]

Agency Response: No changes were made in response to these comments. CARB is aware of the increased challenges faced by small fleets and owner-operators in the transition to ZEVs. Using a community-driven approach, CARB crafted and launched a new program within HVIP, ISEF, that specifically addresses the needs of small fleets and owner-operators with higher incentives, additional flexibilities, and wrap-around support. Simultaneously, HVIP standard is evolving to focus more on small business with higher incentives and reduced incentive access for large fleets. Both HVIP and ISEF are founded on principles of simplicity and easy access for purchasers.

23. Miscellaneous Issues

a) General Support

Comment Summary: Commenters support the Regulation as is.

Commenter: [009-WT1, 012-45d, 027-WT1, 041-WT1, 057-OT1, 066-45d, 096-OT1, 097-OT1, 113-45d, 142-OT1, 154-45d, 208-45d, 306-45d, 307-45d, 317-45d, 343-45d, 348-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comments.

b) General Opposition

Comment Summary: The commenters generally oppose the Regulation.

Commenter: [201-45d, 315-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment.

c) Environmental Justice Efforts

Comment Summary: The commenters contend that the Regulation inadequately considers impacts on disproportionately affected communities, environmental justice, and land-use policies. They argue that increased costs in the goods movement sector or electricity will harm vulnerable or low-income communities, while the Regulation may lead to continued diesel use over cleaner technologies. They claim the Regulation could be called the "Default to Diesel" rule, as ZEV truck deployment has been slow, potentially resulting in health issues for children in affected areas.

Commenter: [019-WT1, 020-WT1, 021-45d, 022-45d, 027-45d, 033-45d, 038-45d, 039-45d, 041-45d, 045-OT1, 046-OT1, 050-OT1, 051-OT1, 052-OT1, 054-OT1, 055-OT1, 056-OT1, 057-45d, 059-OT1, 117-45d, 122-OT1, 136-OT1, 143-OT1, 165-45d, 184-45d, 188-45d, 189-45d, 190-45d, 194-45d, 204-45d, 228-45d, 249-45d, 259-45d, 265-45d, 268-45d, 295-45d, 304-45d, 328-45d, 331-45d]

Agency Response: Changes were made in response to these comments. As part of the 15-day changes, the Regulation was modified to require that California certified engines be purchased when ZEV exemptions are granted. California engine standards are the most stringent in the nation and apply to all fuel types. For this reason, the commenter is incorrect in asserting the Regulation may lead to continued use of diesel over cleaner technologies. ZEVs are the cleanest technology as they have no tail pipe emissions, they result in additional GHG emissions reductions and are considerably more efficient than ICE vehicles. The Regulation targets reductions at ports and railyards which are typically located near, in, or around disadvantaged and low-income communities. These communities bear a disproportionate health burden due to their close proximity to ICE vehicle emissions. The Regulation ensures that the lowest emitting medium- and heavy-duty vehicles are phased in while older ICE vehicles are phased out. It builds on the efforts already made by the Board requiring inspection and maintenance for existing medium- and heavy-duty ICE vehicles. In addition to drayage applications, ZEV deployment would occur in other freight sectors and services where medium- and heavy-duty vehicles are deployed. Distribution centers, warehouses, and major roadways are commonly located around more densely populated urban areas, including in low-income and DACs. Additional information on the benefits of this Regulation to DACs is described in Chapter IV.F. of the ACF ISOR.

In recognition that air pollution heavily impacts DACs in California, AB 617 places additional emphasis on protecting such communities by requiring new community-focused and community-driven action to reduce air pollution and improve public health in areas that experience disproportionate burdens from exposure to air pollutants. Additional information on the environmental justice efforts of the Regulation is described in Chapter VII. of the ACF ISOR.

d) Delay the Approval of the Advanced Clean Fleets Regulation

Comment Summary: The commenters state that CARB should postpone the Regulation due to various reasons, such as conducting further analysis, gathering more information, allowing advancements in technology and infrastructure, waiting for economic recovery, and facilitating necessary grid upgrades.

Commenter: [004-45d, 008-45d, 019-45d, 030-OT1, 054-45d, 060-45d, 063-45d, 063-OT1, 067-45d, 069-45d, 072-45d, 074-45d, 075-45d, 080-45d, 083-45d, 084-45d, 085-45d, 088-45d, 092-45d, 093-45d, 094-45d, 096-45d, 101-45d, 102-45d, 104-45d, 105-45d, 106-45d, 107-45d, 121-45d, 132-45d, 134-45d, 141-45d, 142-45d, 144-45d, 148-45d, 149-45d, 158-45d, 162-45d, 219-45d, 286-45d, 292-45d, 313-45d, 321-45d, 345-45d]

Agency Response: No changes were made in response to these comments. To meet various statutory goals, the Governor's goals, and other emissions reduction requirements, it is necessary to achieve these reductions as soon as possible. Sufficient economic, technological feasibility, infrastructure, and emissions analysis were conducted to support the Regulation timeframe and structure, and appropriate exemptions or extensions are included to address edge cases and provide flexibility. The Regulation timeframe was carefully balanced with achieving needed emissions reductions with a feasible phased-in timeframe for fleets. Delaying approval and implementation of the Regulation would result in reduced health and economic benefits and increase the burden of compliance on fleets to meet the same end goals in a more compressed timeframe.

e) Delay Start Date of the Regulation for High Priority and Federal, State, and Local Government Fleets

Comment Summary: The commenters request that the proposed start date of both HPF and SLG Regulations should be delayed by three years from final approval, allowing for adequate planning, budgeting, and procurement of vehicles and infrastructure.

Commenter: [297-45d]

Agency Response: No changes were made in response to these comments. To reach the various health and climate goals set by the Legislature and the Governor, all medium- and heavy-duty vehicles in California must be ZE by 2045 for all operations where feasible and by 2035 for drayage trucks. Delaying the initial deadlines of the Regulation for any fleets, High Priority or Government, would result in reduced health and economic benefits and increase the burden of compliance on fleets to meet the same end goals in a more compressed timeframe.

f) Expand Low-Carbon Fuel Standards Program

Comment Summary: The commenters suggest that CARB should use and expand the LCFS program to achieve the Regulation's goals rather than require ZEVs, arguing that the timeline is too aggressive and ACF would be less effective at reducing carbon emissions.

Commenter: [055-45d]

Agency Response: No changes were made in response to these comments. The LCFS Regulation is complementary to this Regulation, but outside the scope of this rulemaking. Please see response to comments in Chapter IV.3 on Alternative Fuels and Combustion Vehicles for a detailed response.

g) Fleet Challenges for Transitions While Operation Both Internal Combustion Engine Vehicles and Zero-Emissions Vehicles

Comment Summary: The commenters highlight that the Regulation doesn't address the challenges faced by private and public fleets while transitioning to 100 percent ZEVs, particularly the need to operate dual fleets of both ICE vehicles and ZEVs during the transition period.

Commenter: [252-45d]

Agency Response: No changes were made in response to these comments. The Regulation intends to alleviate difficulties fleets may face during the transition process by allowing public and private fleets certain flexibilities when determining their compliance path. The Regulation includes provisions that allow regulated fleets to apply for various extensions and exemptions to better enable compliance with the Regulation.

h) Strengthen the Regulation

Comment Summary: The commenters request stronger Regulations to reduce air pollution and address emission concerns, particularly for disadvantaged communities. They support an accelerated timeline for ZEVs, recommend reducing the compliance threshold, and urge CARB to fully understand lost emissions benefits with exemptions and delays in the ACF Regulation.

Commenter: [037-OT1, 043-OT1, 044-OT1, 047-OT1, 050-OT1, 051-OT1, 054-OT1, 059-OT1, 062-OT1, 065-OT1, 068-OT1, 350-45d]

Agency Response: Changes were made in response to these comments. Staff have modified the original proposal to move the 100 percent sales requirement to 2036 as part of the ACF 15-day changes. This acceleration is expected to contribute to faster adoption of ZEVs and reduce emissions, particularly in disadvantaged communities.

No changes were made to fleet size for tractors to 10 because the initial upfront cost to purchase ZEV is higher than for ICE vehicles. Changes were not made due to the initial upfront costs associated with ZEVs being higher than those of ICE vehicles. The approximately 4,000 smaller fleets impacted typically have limited access to capital and are more likely to purchase used vehicles. Additionally, retail infrastructure for ZEVs is currently limited in availability. We believe that the timing is crucial; once a robust secondary market for ZEVs is established by the end of this decade, smaller fleets will be better positioned to transition to ZEVs. Staff plans to present a Zero-Emissions Truck Measure to the Board in 2028. This measure will evaluate various strategies that could facilitate a smoother and more equitable transition to ZEVs for the owners of the remaining 61,500 tractors regulated. For more information, please refer to the February 10, 2023, Memorandum to the Board.¹⁸⁹

No changes were made to accelerate HPF Milestone Schedule for Group 3 to start in 2027. As previously mentioned, this increase in ZEVs will create a misalignment between manufacturer sales and fleet purchase requirements shifting ZEV deployments towards a

¹⁸⁹ CARB, Executive Officer Memo to Board - Advanced Clean Fleets Regulation High Priority Fleet Size Analysis, 2023 (web link: https://ww2.arb.ca.gov/sites/default/files/2023-02/HPF%20Fleet%20Size%20Board%20Memo_ADA.pdf, last accessed March 2023).

demand-based market which may increase cost. The ZEV market for Group 3 vehicles is expected to take the longest to develop and tractors in this category are more likely to be involved in regional or long-haul operations that will depend on a widespread regional ZEV fueling and charging network.

To address the concern about lost emissions benefits with exemptions and delays, CARB has made efforts to minimize exemptions and ensure that any delays are justified by market and infrastructure readiness. CARB will continue monitoring the progress of ZEV market development and infrastructure expansion and will consider adjustments to the regulatory framework as needed to maximize emissions benefits.

i) Limit Regulatory Scope to Delivery Trucks with Set Routes

Comment Summary: The commenter recommends focusing the Regulation on the high percentage of delivery vehicles operating in California, particularly light to heavy-duty logistics trucks, such as box trucks, vans and pick-ups, which have set routes.

Commenter: [058-45d]

Agency Response: No changes were made in response to these comments. The Regulation needs to achieve reductions from all transportation sectors to meet the ZEV goals outlined in the Governor's Executive Order N-79-20. To reach the various health and climate goals set by the Legislature and the Governor, all medium- and heavy-duty vehicles in California must be ZE by 2045 for all operations where feasible and by 2035 for drayage trucks. The statement this commenter made is substantially similar to an alternative discussed in the ACF ISOR. See rationale for why this approach was rejected in Chapter IX, section B. 6. of the ACF ISOR.

j) Regulation Not Feasible

Comment Summary: The commenters argue that the ACF Regulation could be unworkable in real-world situations, potentially leading to various negative impacts on industries, the economy, disadvantaged communities, and other areas. They imply that the Regulation may need adjustments or reconsideration to prevent unintended consequences. In addition, one commenter representing a refuse/waste fleet states that the Regulation is not feasible as they cannot comply with the fleet conversion timelines.

Commenter: [011-OT1, 025-WT1, 045-45d, 047-45d, 050-45d, 051-45d, 055-45d, 064-45d, 072-45d, 075-45d, 080-45d, 092-OT1, 093-OT1, 121-45d, 132-45d, 139-OT1, 143-45d, 148-45d, 149-45d, 165-45d, 177-45d, 178-45d, 207-45d, 251-45d, 252-45d, 259-45d, 278-45d, 279-45d, 339-45d, 344-45d]

Agency Response: No changes were made in response to these comments, except for the one relative to refuse/waste trucks. The Regulation is workable because it is phased-in over a 20-year timeframe and contains appropriate exemptions and extension provisions to address edge-case scenarios. Staff have worked closely with stakeholders over numerous public and private meetings to develop a workable solution. Finally, the Regulation is necessary to reduce health and climate impacts of associated combustion pollution.

Changes were made in response to the comment regarding refuse/waste trucks. Many waste trucks have a GVWR greater than 33,000 pounds and a heavy front axle, which qualifies them as a Specialty Vehicle in the Regulation. Specialty Vehicles are listed in Group 3 of the ZEV

Milestone compliance option and the initial deadline for that Group is not until 2030. Exemptions and extensions are also available as part of that compliance path. Lastly, since the ACF ISOR was released, the Board provided direction for staff to recognize the statutory compliance obligations for some waste and wastewater fleets to mitigate methane by diverting organics from landfills, and to provide more time for these fleet's transition to ZEV. A new provision that allows waste and wastewater fleets to delay their ZEV transition until 2030 was added to allow these fleets to continue to utilize their CNG combustion fleets and run them on biomethane.

k) Regulation Not Feasible – U.S. Postal Service

Comment Summary: The commenters argue that it is not possible for interstate Postal Service transportation to comply with the current Regulation.

Commenter: [105-OT1, 228-45d]

Agency Response: No changes were made in response to these comments. The postal service has one of the most suitable fleets for electrification. The Regulation includes the ZEV Milestones Option which is phased in based on vehicle suitability, and fleet owners can meet those targets with any vehicles they want. They could transition short distance vehicles in the near-term and delay the long-haul vehicles until a later time, when infrastructure is expected to be available for long-distance travel. If the distances they travel exceed what available ZEVs can achieve during a given day, there is a Daily Usage Exemption that can provide compliance relief. Commenter can install infrastructure in their owned facilities to facilitate nationwide. No explanation is provided for how the ZEV Milestones Option would degrade nationwide Postal Service standard and is a speculative comment that is not likely to occur.

l) Regulation Not Feasible – Rental Fleets

Comment Summary: The commenter suggests that CARB should avoid fleet mandates for "shared mobility fleets," as a full range of fuel types and powertrains are necessary to serve customers' mobility needs. Fundamentally, the continued ability to rent an ICE medium- or heavy-duty truck offers the logistical security for businesses and consumers that seek to purchase a ZE truck for their everyday use. Those businesses know that if they need to go into areas where charging infrastructure is deficient; need a larger capacity truck; or have other unique needs that cannot be met by a ZEV, traditional medium- and heavy-duty shared vehicles will still be available for their short-term use. They emphasize that existing shared service vehicles will typically be the cleanest and having different powertrain options allows fleets to use conventional vehicles in roles ZE trucks cannot service and a multi-fuel approach will better meet California's emissions goals.

Commenter: [002-WT1]

Agency Response: No changes were made in response to these comments. Rental fleets may continue to offer a full range of fuel types and power trains as the regulatory deadlines and exemptions and extensions allow. To reach the various health and climate goals set by the Legislature and the Governor, all medium- and heavy-duty vehicles in California must be ZE by 2045 for all operations where feasible and by 2035 for drayage trucks.

m) Regulation Not Feasible – Useful Life Option

Comment Summary: The commenter claims that 2010 trucks were supposed to be fully compliant under the Truck and Bus Regulation and with an 800,000-mile limit under the minimum useful life definition, they will not be usable.

Commenter: [053-45d]

Agency Response: No changes were made in response to these comments. In 2017, the Legislature passed SB 1. Part of this bill established the “useful life provision,” (California Health and Safety Code §43021), which provides that any laws or Regulations adopted or amended after January 1, 2017, cannot require the retirement, replacement, retrofit, or repower of commercial motor vehicle until the later of the following:

- a) Thirteen years from the model year that the engine and emission control system are first certified for use in the vehicle; or
- b) The vehicle reaching either 800,000 vehicle miles traveled or 18 years from the model year of the engine and emission control system are first certified for use in the vehicle, whichever is earlier.

CARB must implement the Regulation consistent with SB 1 and the Legislature’s definition of “useful life,” and has structured the ACF Regulation’s provisions to be fully consistent with the useful life provisions of SB 1.

The different compliance paths provided in the Regulation offer potential benefits for a given fleet situation. The “Model Year Schedule” ensures fleets can use their vehicles for their full “useful lives,” is simple to understand, but it treats all existing vehicles the same based on age and mileage. This compliance path may present challenges for fleets, with high turnover rates (such as long-haul fleets), fleets with most vehicles already beyond their useful life, and would limit the ability of controlling parties to manage their fleet. The Model Year Schedule allows for a gradual transition to the ZEV requirements based on a percentage of the total California fleet regardless of vehicle age and mileage. The schedule more closely aligns projected ZEV feasibility and infrastructure buildout with the compliance requirements. However, the “ZEV Fleet Milestone option” provides more flexibility for controlling parties to add and remove vehicles from the California fleet provided the fleet average continues to be met. Regardless of the compliance path chosen, the emissions reductions achieved from the implementation of the ACF Regulation are required to reach the health and climate goals set by the Legislature and the Governor, that all medium- and heavy-duty vehicles in California must be ZE by 2045 for all operations where feasible and by 2035 for drayage trucks.

n) Align Advanced Clean Fleets and the U.S. Environmental Protection Agency’s Regulations Regarding Tailpipe Emissions

Comment Summary: The commenters state that they appreciate ACF's stable requirements and encourage CARB to align with U.S. EPA tailpipe Regulations to lower the burden on businesses. They also suggest coordinating and harmonizing final regulatory provisions with national programs developed by the U.S. EPA to benefit supplier investments in various propulsion technologies.

Commenter: [234-45d, 247-45d, 281-45d]

Agency Response: No changes were made in response to these comments. CARB has been, and continues to, coordinate with U.S. EPA to align federal standards as much as possible with CARB standards. However, California needs to achieve the greatest degree of emissions reductions from criteria pollutants and GHGs to reduce the serious risks to the health and welfare of Californians posed by such pollutants, to attain State and federal ambient air quality standards, and to address climate change-induced harms and carbon neutrality goals. ZEVs have no tailpipe emissions and have lower PM emissions from reduced brake wear than even the cleanest ICE vehicles and the transition to ZEVs is a critical component of reducing emissions to the greatest extent possible. California continues to experience some of the worst air quality in the nation. The South Coast and San Joaquin Valley Air Basins are designated as extreme non-attainment with the ozone NAAQS areas while seven other areas are in serious or severe non-attainment with the ozone NAAQS. For California to achieve federally mandated NAAQS and provide clean air for all Californians, more must be done, especially in overburdened communities.

o) Align Advanced Clean Fleets with Advanced Clean Trucks

Comment Summary: The commenters recommend that CARB align ACF ZEV fleet percentages with the manufacturer production and sales percentages required by ACT. They suggest that ACF should be revised to align with ACT, including timing, quantity, treatment of NZEVs, and types of ZEVs. The commenters request that CARB harmonize the ACF vehicle categories with the weight classes adopted in ACT, apply the same weight class modifiers in ACT to ZEV additions for ACF credits, and not allow fungibility between vehicle categories in ACF, in alignment with ACT. They suggest modifying ACF so that the ZEVs purchased are eligible for ACT credit because a fleet owner may choose to avoid ZEP Certification required by ACT by purchasing or registering the vehicle out of state.

Commenter: [147-45d, 161-OT1, 234-45d, 253-45d, 255-45d]

Agency Response: No changes were made in response to these comments. The ACF Regulation will result in more ZEVs being sold than the ACT Regulation requires, and therefore it would be counterproductive to meeting the goals of both Regulations by reducing requirements of either Regulation. The commenter's proposal would add significant complexity to the Regulation for little gain. To reach the various health and climate goals set by the Legislature and the Governor, all medium- and heavy-duty vehicles in California must be ZE by 2045 for all operations where feasible and by 2035 for drayage trucks. Additionally, the commenters' proposal would add more difficulty in fleet management, as removing fungibility between vehicle weight classes would significantly reduce fleet choice and flexibility. This flexibility was included in the Regulation intentionally and this proposal would lead to disparate consequences for fleets that innately have the flexibility to manage such complexity against those that do not.

p) Scoping Plan Alignment

Comment Summary: The commenters claim that there may be some misalignment between the requirements of ACT and ACF Regulations and the current modeling of expected heavy-duty ZEV sales being conducted to support the updated Scoping Plan. Additionally, the commenters urge CARB to revisit ACT and ACF targets if FCEVs are later found to be gaining in sales and performance metrics faster than expected today.

Commenter: [303-45d]

Agency Response: No changes were made in response to these comments. The commenter is incorrect; the projections of ACF and ACT are in fact consistent with the Scoping Plan scenarios; however, the Scoping plan shows more needs to be done beyond these Regulations. The commenters present a time series chart from 2024 to 2045 showing the percentage of heavy-duty vehicle sales from CARB's 2022 Scoping Plan Alternative 3 scenario for BEVs overlayed with two other scenarios from the ACF ZEV Milestones Option schedule and ACT to support this claim. The commenters only included the BEV purchase projections in the figure and omitted the FCEV purchase projections which were at 60 percent share of the heavy-duty sector by 2050, according to the Scoping Plan modeling scenario 3. The Scoping Plan is designed to guide high-level policy decisions and is not a regulatory proposal. The ACF ISOR analysis shows that across all ACF sectors, 85 percent would be BEVs, and 15 percent would be FCEVs; however, these are fungible in the Regulation because either FCEVs or BEVs count as ZEV for compliance purposes. Regardless, the Board directed the Executive Officer to align ACT with the State SIP Strategy in the Resolution that requires more ZEVs than projected with existing regulations including ACF.

q) Enforcement

Comment Summary: The commenters request the inclusion of potential penalties and enforcement actions in the Regulation, questioning the feasibility of regulating fleets registered outside California but operated within the state. They ask for clarification on the practicality of enforcing the "operated in California" requirement and encourage CARB to remain consistent with other programs focusing on vehicles sold or registered in California.

Commenter: [005-45d, 228-45d, 234-45d]

Agency Response: No changes were made in response to these comments. To maintain a level playing field between trucks registered in California and trucks registered in other states, CARB's Enforcement Division has a long history of conducting field inspections at border crossings and throughout the state. These inspections have been supplemented in recent years using Portable Emissions Acquisition Systems equipped with Automated License Plate Reader cameras that are deployed at border crossings and major thoroughfares. In addition, Automated License Plate Reader data collected from these sites identify which heavy-duty diesel vehicles are entering and operating in California. When an out-of-state fleet that is potentially noncompliant is identified, the case is pursued directly or referred to another agency for enforcement. CARB has an ongoing partnership with the U.S. EPA Region 9 to pursue investigations of fleets registered outside of California and identified as operating in California. These tools were used to effectively enforce the Truck and Bus Regulation, which applies to over one million vehicles that operate in California regardless of where they are registered. CARB has similarly developed a Memorandum of Understanding with environmental prosecutors' offices in Southern California to pursue enforcement action against noncompliant out-of-state fleets that operate in their counties. In addition, the inclusion in the ACF Regulation of specific information regarding penalties and enforcement actions is not necessary as CARB's enforcement authority and penalty determination is outlined in the Health and Safety Code and those sections are referenced in the ACF Regulation.

r) Supports Other Commenters – 214-45d

Comment Summary: Commenter supports comments made by MEMA.

Commenter: [214-45d]

Agency Response: The comments supported by the commenter are already summarized and responded to in other parts of this FSOR and do not require a different response here. See agency responses to commenter 234-45d.

s) Supports Other Commenters – 239-45d

Comment Summary: Commenter supports comments made by Western States Trucking Association, the San Diego Chapter of the Associated General Contractors, the California Caterpillar Dealers and the AGC of California.

Commenter: [239-45d]

Agency Response: The comments supported by the commenter are already summarized and responded to in other parts of this FSOR and do not require a different response here. See agency responses to commenters 334-45d, 104-45d, 048-45d, and 058-45d.

24. Out of Scope and Irrelevant Comments

a) Irrelevant

Comment Summary: Comment is off topic or irrelevant and not directed at ACF or to the procedures followed by the agency in proposing or adopting ACF.

Commenter: [001-45d, 012-WT1, 014-45d, 015-OT1, 021-OT1, 026-OT1, 033-WT1, 034-WT1, 039-WT1, 042-45d, 058-45d, 062-45d, 072-OT1, 095-45d, 097-45d, 134-OT1, 138-45d, 144-OT1, 160-45d, 162-45d, 166-45d, 211-45d, 215-45d, 221-45d, 239-45d, 241-45d, 247-45d, 264-45d, 281-45d, 316-45d, 322-45d, 323-45d, 342-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

b) Out of Scope - Advanced Clean Truck Regulation Exemptions

Comment Summary: The commenter recommends that CARB expand the exemptions in the ACT Regulation to align with ACF exemptions.

Commenter: [147-45d, 255-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

c) Out of Scope – Zero-Emissions Vehicle Credits in Advanced Clean Trucks Regulation

Comment Summary: The commenters request that CARB clarify the timing and transaction type for generating ZEV credits under the ACT Regulation, considering the sale of incomplete vehicles to upfitters and potential delays in credit generation.

Commenter: [147-45d, 255-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

d) Out of Scope – Zero-Emissions Vehicle Credits in Heavy-Duty Omnibus Regulation

Comment Summary: The commenters suggest that CARB reconsider ZEV credits in the HD Omnibus program for calendar year 2027+.

Commenter: [147-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

e) Out of Scope – Zero-Emissions Technology Battery Supply Chain

Comment Summary: The commenters suggest that ACF does little to encourage coordination with the private sector related to the five main battery supply chains, using the example of battery recycling rates and processing capacity in the United States.

Commenter: [334-45d]

Agency Response: No changes were made in response to these comments. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond, nevertheless it is responded to here. The commenter shows that the Federal government is already establishing policy to protect the battery supply chain; this is not within the scope of the ACF Regulation and there is no reason this kind of policy would be established by the ACF Regulation.

f) Out of Scope - Amend Truck and Bus Regulation

Comment Summary: The commenters recommend modifying the existing Truck and Bus language to allow interstate fleets one-time access without registering and exempting vehicles operating less than 10 days per year in California from being counted as part of the California fleet.

Commenter: [109-45d, 230-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment. The final upgrade deadline in the Truck and Bus Regulation was January 1, 2023, and it is not part of the ACF Regulation. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to

respond. Notwithstanding that response, CARB did add a 5 day pass to the ACF Regulation to allow interstate fleets to operate any vehicle in California for up to 5 days once per year.

g) Out of Scope – Work Truck Project Team

Comment Summary: The commenters recommend that CARB establish a "work truck project team" to collaborate with stakeholders in addressing issues specific to the diverse category of "work trucks," such as availability, duty cycle, and other concerns.

Commenter: [266-45d]

Agency Response: No changes were made in response to these comments. Thank you for your comment. CARB is committed to working with stakeholders throughout the implementation stage of the Regulation on these key issues. This comments is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

h) Out of Scope - Zero-Emissions Powertrain Certification Program

Comment Summary: The commenters request that CARB revisit the ZEP Certification program and Regulation to set performance standards for batteries and components used in electric trucks.

Commenter: [329-45d]

Agency Response: Thank you for your comment. This comment is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

15-Day Comment Period Public Comments with Agency Responses

1. Cost Comments

a) Cost – Impacts of the Inflation Reduction Act

Comment Summary: Commenter states cost savings due to the IRA are speculative and uncertain as these assumptions assume the fleet owner is profitable, and that the Buy America requirements will prove challenging to infrastructure buildout and development per a cited article.

Commenter: [103-15d, 160-15d]

Agency Response: No changes were made in response to these comments. Given that the ACF Regulation's implementation is phased in over the next two decades and upfront costs for vehicles and infrastructure can be amortized, CARB does not agree with the commenter's assertion that the ACF Regulation will cause all trucking fleets to immediately become unprofitable. As described in response "Costs – Cost of the Regulation" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses," CARB's analysis showed the ACF Regulation is expected to result in a cumulative net savings to the State of \$48.0 billion by 2050 in part due to reduced fuel costs, maintenance savings, and revenue from the LCFS program. This finding is supported by

numerous other third-party studies evaluating ZEV costs and savings. Achieving and maintaining profitability is a core goal of businesses, and each business has options to modify their business model to maintain profitability and to stay in business.

The IRA does not place Buy America provisions on fueling equipment under the Alternative Fuel Vehicle Refueling Property Tax Credit. The cited article discusses provisions related to implementation of IIJA which is focused on the deployment of public light-duty fast chargers. This is outside the scope of the ACF 15-Day Changes to the ACF Regulation. Similarly, the IRA's Commercial Clean Vehicle Tax Credit does not impose Buy America provisions on the sale of medium- and heavy-duty vehicles.

b) Cost – Updated Fuel Cost Numbers

Comment Summary: Commenter disagrees with the updated fuel cost assumptions. Commenters dispute the assumption that electricity costs are 10.8 percent lower than modeled in the ACF ISOR and states given the abysmal failure of the State and its electrical utilities to provide a clear path towards new electrical generation to support the ACF Regulation, this assumption is unreasonable. Commenters also state the updated fuel cost projections have no basis and lack transparency given the large shift in cost of -\$21.5 billion.

Commenter: [103-15d, 160-15d]

Agency Response: No changes were made in response to these comments. CARB solely uses CEC fuel cost estimates for economic modeling per DOF guidance. The CEC updates these projections based on a multitude of factors on an annual basis, which reduces subjectivity and provides certainty given the variety of different fuel price forecasts available.

CARB recognized in the ACF ISOR that the costs of the Regulation are dependent on a number of assumptions and in particular is highly sensitive to the expected fuel costs for ZEVs and ICE vehicles. To illustrate this, Chapter VIII of the ACF ISOR contained a number of sensitivity analyses which included adjusting the fuel costs for ZEVs and ICE vehicles. The sensitivity analysis for 10 percent higher combustion fuel costs changed the cost of the Regulation by -\$16.7 billion representing an increase in savings. The sensitivity analysis for 10 percent lower ZEV fuel costs changed the cost of the Regulation by -\$11.0 billion also representing an increase in savings. Given these results in the ISOR, the increased savings due to the updated CEC fuel cost values are not a surprise and the results are in line with the analysis performed in the ACF ISOR.

c) Cost – Inadequate Analysis and Failure to Assess Impact of the 2036 100 Percent ZEV Sales Requirement

Comment Summary: Commenter states the Costs and Benefits Analysis is inadequate, devoting only seven pages to the updated cost analysis, and leaves stakeholders unable to discern whether the analysis incorporates accelerating the impact of accelerating the 100 Percent ZEV Sales requirement to 2036.

Commenter: [103-15d]

Agency Response: No changes were made in response to these comments. As described in Section "Cost Analysis" in Appendix B to the ACF 15-Day Changes, this updated analysis

only described changes to the assumptions or methodology due to the ACF 15-day changes. The full analysis performed in Appendix B to the 15-Day Changes, Chapter VIII of the ACF ISOR, the ACF SRIA, and Appendix F and G to the ACF ISOR, and associated cost spreadsheets in the record represent hundreds of pages of analysis on vehicle costs.

The 100 percent ZEV sales requirement is analyzed as part of Appendix B to the 15-day changes. As described in Chapter VIII of the ACF ISOR, ZEV prices are expected to decline over time while continuing to have lower operating costs. As a result, by 2036 ZEVs will be at near price parity with ICE vehicles and have substantially lower TCO. This results in larger cost savings as well as higher emission benefits.

d) Cost – Nominal Emissions Reductions Under New Baseline

Comment Summary: Commenter states that the Adjusted Legal Baseline “Tank-to-Wheel” emissions released as part of the Updated Costs and Benefit Analysis to the ACF 15-Day Changes show that the HD I/M and Federal CTP Regulations will achieve significant emissions reductions and the nominal emissions reductions from the ACF Regulation cannot justify the profound impacts the trucking industry will experience because of this rule in its current form.

Commenter: [160-15d]

Agency Response: No changes were made in response to these comments. Even more reductions are needed beyond ACF to achieve California’s federal attainment requirements and achieve emissions goals. As described in Chapter II of the ACF ISOR, the ACF Regulation is needed to achieve multiple California state goals including achieving criteria emissions reductions as outlined in the 2020 Mobile Source Strategy, achieving federal attainment standards as part of the 2022 State Implementation Plan, achieving greenhouse gas emissions reductions as outlined in the 2022 Scoping Plan, achieving health benefits to protect the wellness of all Californians, among other goals. The ACF Regulation is one of the largest NOx measures in the State SIP Strategy and the largest source of medium- and heavy-duty GHG reductions. Given these tremendous emissions reductions, we disagree with the commenter’s claim that the Regulation’s emissions reductions are “nominal.”

As described in Appendix B of the ACF 15-Day Changes, the ACF Regulation is expected to result in greater benefits than costs and in fact has a higher cost-benefit ratio than each of the modeled alternatives. Given this information, CARB does not agree with the commenter’s characterization that the ACF Regulation cannot be justified as the Regulation is critical to meeting the state’s goals and is justified from a cost benefit analysis.

e) Cost – California Engine Requirement

Comment Summary: Commenter states that the costs to fleets for the new ICE Vehicle Additions requirement are not adequately accounted for in the draft Regulation’s “Notice of Public Availability.” Commenter states that this requirement will add unnecessarily higher costs for interstate fleets that operate outside of California 99 percent of the time.

Commenter: [132-15d]

Agency Response: No changes were made in response to these comments. Staff accounted for the impact of the California engine requirement by assuming all 2024 and newer vehicles purchased by regulated fleets who enter California would be required to purchase engines certified to the California standard which added cost to the Regulation. As a result, staff's analysis appropriately included expected costs associated with the California engine requirement.

Fleets have options on how to comply with this aspect of the Regulation and minimize the cost impact. Interstate fleets can focus a portion of their fleet on California operations which will minimize the number of vehicles which need to be equipped with California engines.

f) Cost – Infrastructure Costs

Comment Summary: Commenter states the \$50 billion in estimated costs for EVSE and Infrastructure Installation fail to analyze the amount of public funding committed, the impact of increased interest rates, or the ability for fleets to pay the infrastructure expenses in combination with \$9.2 billion in costs for "Vehicle Price." Commenter states their members cannot see how the heavy upfront capital expense is survivable given that avoided fuel costs and LCFS revenue (which commenter considers a subsidy) payback the fleet owner in a few years. Commenter states that the onus is on CARB to perform an adequate cost analysis on the cost to business which it has failed to do.

Commenter: [160-15d]

Agency Response: No changes were made in response to these comments. Please see responses to identical infrastructure issues raised in section "Costs – Infrastructure Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

In addition, CARB disagrees with the assertion that CAB has failed to perform an adequate cost analysis. Please see responses to issues raised in section "Costs – Cost of the Regulation" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses" which highlight the robust cost analysis which staff performed.

CARB notes the LCFS Regulation is not a "subsidy" as characterized by the commenter but is a Regulation which utilizes a market-based structure to lower the CI of transportation fuels. The program sets a CI standard that all fuels must meet, and any low carbon fuels below this standard are eligible to earn LCFS credits. The LCFS Regulation does not "subsidize" fuels used by ZEVs over other fuels used by ICE vehicles such as RD or biomethane; instead, each fuel earns LCFS credits based on its own CI versus the standard and earns revenue based on the number of credits generated and the credit price.

g) Costs – Electricity Costs

Comment Summary: The commenters state that the Regulation will increase electricity costs, which will have a significant impact on low-income households.

Commenter: [120-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Electricity Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

h) Costs – Response to Comments from NAFA Fleet Management Association

Comment Summary: Commenter states the SRIA is deficient because it does not discuss fleet costs for disproportionately impacted fleets, and the SRIA should separate upfront cost from TCO. They also state CARB should explain and support with analysis the statement "We expect the change in costs for SLG fleets would be proportional to the number of vehicles in each fleet. However, larger fleets may have additional cost savings opportunities per vehicle due to their size."

Commenter: [113-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Response to Comments from NAFA Fleet Management Association Regarding Vehicle Cost", "Costs – Response to Comments from National Association of Fleet Administrators Fleet Management Association Regarding Response to Department of Finance Comments on Upfront and Ongoing Costs", and "Costs – Response to Comments from National Association of Fleet Administrators Fleet Management Association Regarding Response to Department of Finance Comments on Exemptions" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

2. Definition Issues

a) Definition of Fleet Owner – Unique Regulation Redlines from Comment Letter 122

Comment Summary: Commenters suggest redlines for the "fleet owner" definition to provide more clarity on the assumption of who is considered a fleet owner with compliance responsibility as between a leasing company and lessee, and to address instances where there may be something less than a formal or comprehensive lease agreement that contemplated compliance with ACF, but such responsibility could be allocated by a separate agreement, including a contract entered into by e-mail. Redlines: add back in the "other equally reliable evidence" language, replace an "and" with "or," or alternatively remove "and the terms of rental or lease agreement identifies the renting operator or lessee of the vehicle as the party responsible for compliance with state laws."

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The definition was modified as part of the first ACF 15-day changes in that the term "reliable evidence" was deleted due to the subjectivity of the term. The definition is not being modified further because the remainder of the definition is clear regarding the party that is responsible for

compliance based on the duration and terms of the agreement between the rental or leasing entity and the renting operator or lessee of the vehicle.

b) Definition of Heavy Crane – Include Concrete Pump Trucks

Comment Summary: Commenter states concrete pump trucks meet the definition of a heavy crane because a concrete pump hoists, lowers, and horizontally moves a suspended load of concrete, a concrete pump has a gross vehicle weight rating in excess of 54,000 pounds, and a concrete pump is not designed, nor is capable of transporting cargo.

Commenter: [160-15d]

Agency Response: No changes were made in response to these comments. The definition of Heavy Crane also includes that the on-road single engine crane is required to be operated by a licensed crane operator. This is not a requirement for concrete pump trucks; therefore, concrete pump trucks do not meet the definition of heavy crane as set forth in the Regulation.

c) Definition of Vehicle - California Vehicle Code Section 670

Comment Summary: Commenter states that within CARB's own Modified Proposed Rule, the definition of 'vehicle' has been revised to reference section 670 of the CVC. The revised definition could be interpreted to include off-road equipment that is also subject to CARB's LSI Regulation. For this particular example, commenters request that equipment subject to the LSI Regulation be exempt similar to the exemption for mobile cargo handling equipment at ports and intermodal rail yards.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. This definition was modified as part of the first ACF 15-day changes and is not being modified further because section 670 of the CVC defines a "vehicle" as a device by which any person or property may be propelled, moved, or drawn upon a highway. This definition does not, however, govern which vehicles are subject to the ACF Regulation – as specified in sections 2013(a)(2), 2014(a), and 2015(a)(2). The ACF Regulation does not include vehicles originally designed to be operated off-road such as those subject to CARB's LSI Regulation which includes forklifts, floor scrubbers and sweepers, and industrial tow tractors (e.g., baggage carriers) with LSI engines of 25 horsepower (19 kW) or greater, and greater than 1.0-liter displacement. Vehicles with LSI engines that were originally designed to operate on highways, such as some airport ground support equipment, and off-road yard tractors are subject to the ACF Regulation. Cargo handling vehicles were left out of ACF because the cargo handling Regulation is expected to be more stringent than the ACF Regulation, where the LSI Regulation is not.

d) Definition of Vehicle Purchase – Unique Regulation Redlines from Comment Letter 122

Comment Summary: Commenters state the following redlines would improve clarity and consistency and address confusion around specific lease situations and lease buyouts.

Redlines: Change "vehicle purchase" or "purchase" definition as follows: replace "placed an order for" with "contractually committed"; add "new" in front of "lease agreement with a contract term..."; add "or exercising an option to buy a leased vehicle" after "A vehicle purchase does not include renewing a lease vehicle"; and add "and registered to the fleet owner" after "already in the California fleet."

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The current definitions have sufficient clarity and consistency to explain purchase and lease requirements and therefore the suggested changes are unnecessary. It is the intent of the lease language included in the vehicle purchase definition to ensure actions with leased vehicles that are considered part of the fleet owner's California fleet do not help or hinder their compliance obligations. This is why language specifying that lease renewals would not be counted as a new vehicle addition, to prevent ICE vehicle leases from violating the Model Year Schedule requirements if they were renewed within the vehicle's useful life. The same logic would apply to lease buyouts where the fleet takes possession of a vehicle at the end of the lease period, and the intent would be to not include those situations as adding a new vehicle.

e) Definition of Configuration – Unique Redlines from Comment Letter

135

Comment Summary: Redlines to the "configuration" definition. Section 2015: replace "the primary intended function for which a complete vehicle is designed, or as determined by the body permanently attached to the chassis of an incomplete vehicle" with "a unique combination of basic vehicle inertia weight, axle ratio and spacing, cargo body type, payload capacity as applicable, and is designed to achieve a specified performance output," add "concrete mixer trucks, bulk pneumatic trucks," add "Vehicles of the same configuration can generally perform equivalent work," and remove "The configuration does not include any auxiliary equipment or secondary uses of equipment that is added to or carried on the vehicle body. Such equipment may include such commonly understood terms as welding equipment, lift gates, portable tanks, generators, storage cabinets, and winches."

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments. The definition of configuration as modified by the ACF 15-day changes is sufficient to implement the ZEV Purchase Exemption while balancing the need to keep the criteria and process streamlined, per the Board's direction at the first hearing. The primary intended function language is necessary to retain, as considering every possible truck specification as part of the configuration would make the provision too difficult to implement and introduce unneeded complexity to the process.

f) Definition of Configuration

Comment Summary: The commenters express concern about the definition of "configuration."

Commenter: [106-15d, 111-15d, 135-15d, 160-15d, 169-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Definition of Configuration" in "Definition Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

g) Definition of Emergency Event

Comment Summary: The commenters express concern about the definition of an "emergency event."

Commenter: [060-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Definition of Emergency Event" in "Definition Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

h) Definition of Emergency Operations

Comment Summary: The commenters express concern about the definition of "emergency operations."

Commenter: [115-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Definition of Emergency Operations / Emergency Support Vehicle" in "Definition Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

i) Definition of Emergency Support Vehicle

Comment Summary: The commenters express concern about the definition of an "emergency support vehicle."

Commenter: [115-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Definition of Emergency Operations / Emergency Support Vehicle" in "Definition Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

j) Definition of Specialty Vehicle

Comment Summary: The commenters express concern about the definition of a "specialty vehicle."

Commenter: [120-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Definition of Specialty Vehicle" in "Definition Issues" of

the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

3. 100 Percent ZEV Sales Issues

a) 100 Percent ZEV Sales Requirement – Align with Waste Provision

Comment Summary: Commenters state that biomethane trucks sold to fleets complying with the waste and wastewater provision of the ACF Regulation should be excluded from the 100 Percent ZEV Sales requirement of ACF and the ACT Regulation requirements, because the timeline of the provision would result in fleet demand for such vehicles after the timeframe of 100 Percent ZEV Sales kicks in in 2036, and even if every non-biomethane truck sold was a ZEV, which is not possible, commenter would necessarily fall behind in their compliance requirements.

Commenter: [119-15d]

Agency Response: No changes were made in response to these comments. The purpose of the Regulation is not to perpetuate the sale and use of combustion vehicles. To meet the ZEV Milestones Option, the fleet owner would need to transition their eligible vehicles from 2030 through 2042 and would phase out their combustion trucks by 2042. It is unlikely a fleet owner would choose to purchase a combustion vehicle after 2036 because they would only be able to operate the vehicle for five years or less as the ZEV Milestone requirements are phased in and ultimately meet the 100 percent ZEVs in 2042. The extension only provides extra time to move the start date for some eligible vehicles to 2030 but would still require the full transition by 2042. It is likely all purchases will be ZEVs starting in 2030 to meet this requirement. The ACT and ACF Regulations are independent and complementary and there is no need to extend exemptions granted in one Regulation to entities subject to the other. There is no reason the ACT Regulation on the manufacturers could not be implemented without a complementary fleet Regulation. This is the same concept as how engine standards are applied to manufacturers and do not directly affect fleet owners. In addition, the comment is speculative in that it assumes the buyer would not go to a different manufacturer.

b) Feasibility of 100 Percent ZEV Sales Requirement by 2036 - Motorhomes

Comment Summary: Commenter states that given the costs associated with electrifying motorhome chassis and the fact that the ACF Regulation is not applicable to most motorhome buyers, motorhomes will be one of the last segments to be fully electrified. Given motorhomes will not likely be fully electrified until later next decade (as allowed by the ACT rule), we ask that the ACF Regulation specify the 2040 model year as the earliest year in which the 100 Percent ZEV requirement in Section 2016 of Title 13 would be applicable to motorhomes.

Commenter: [069-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Exempt Motor Homes from the 100 Percent ZEV Sales

Requirement and Fleet Requirements” in “Exempt Vehicles or Fleets” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.” The commenter previously stated that the 2040 deadline was not feasible and is asking in this comment for a 2040 timeline, which contradicts their prior statement that 2040 would not be feasible.

c) Feasibility of 100 Percent ZEV Sales Requirement by 2036

Comment Summary: The commenter states that the advancement of the 100 Percent ZEV Sales requirement to 2036 will make the already challenging ACF implementation timeline even more challenging. Additionally, given where it is today, the ZE truck market and charging infrastructure in California would benefit from further data gathering and analysis before revising a 100 Percent ZEV Sales requirement before it even begins to be implemented. Commenter states that it is fundamentally inconsistent and illogical to provide extensive exemptions from the ZEV purchase requirements, while not exempting those same vehicles from the sales mandates. Manufacturers simply cannot sell a vehicle without a buyer. The commenter states that there is no technical feasibility analysis provided to show accelerating the 100 Percent ZEV Sales requirement from 2040 to 2036 is technologically or economically feasible.

Commenter: [021-15d, 066-15d, 109-15d, 117-15d, 123-15d, 171-15d]

Agency Response: No changes were made in response to these comments. The 100 Percent ZEV Sales requirement was modified as part of the first ACF 15-day changes and is not being modified further because the 100 percent ZEV target in 2036 brings California even closer to meeting the ZEV targets outlined in the Governor’s Executive Order (N-79-20) and carbon neutrality targets set forth in California’s Climate Crisis Act (AB 1279). This change was in fact analyzed in the ACF ISOR Alternative 2, which broadly shows ZEVs become more cost effective over time, and the TCO is generally better than most ICE vehicles in the 2030 timeframe and would only improve from there.

This change meets Board direction and is necessary to achieve state air quality and climate goals. Accelerating the 100 percent manufacturer ZEV sales requirement sends a stronger market signal indicating the end of combustion-powered sales in California in 2036 rather than in 2040. Given the long lead time before this requirement takes place, manufacturers have sufficient time to plan their transition to installing all electric drivetrains. Moving up the 100 percent sales date is likely to improve availability of battery-electric and hydrogen fuel cell vehicles in all configurations, increases the likelihood manufacturers will coordinate with infrastructure providers, and design vehicles to meet the needs for all duty cycles. An earlier date also places more of the onus on manufacturers to develop these technologies and to make them available for fleets at a competitive price rather than placing the primary responsibility on fleet owners. The 100 percent requirement also sends key market signals to the trucking market including manufacturers, fleets, infrastructure providers, service technicians, and local governments. Furthermore, the Board directs the Executive Officer to continue coordination between the ACF Regulation and the ACT Regulation and return to the Board if needed to ensure alignment between the two Regulations. Establishing an earlier end date to 2036 sets a clear target to align these two complementary Regulations.

Furthermore, the commenter claims providing a ZEV Purchase Exemption is illogical and that those vehicles should simply be exempt from the Regulation. CARB disagrees. Manufacturers must sell ZEVs as a percentage of their sales, and they have complete control over which markets and truck types to serve. It is probable that manufacturers will focus on particular market segments and will not have solutions for all truck types initially. If a fleet owner is unable to purchase a ZEV in the needed configuration because the manufacturers fail to make it available, this would be outside the control of the fleet owner, thus necessitating the inclusion of the ZEV Purchase Exemption. The manufacturer, on the other hand, can sell their vehicles to the segment they are focused on. As discussed above, CARB anticipates that the market availability of ZEVs will rapidly increase and will accordingly reduce a fleet's need for exemptions. For these reasons, there is no legitimate claim to an exemption when the manufacturer chooses not to produce a vehicle, therefore exemptions should not be granted to manufacturers.

4. High Priority Fleet Issues

a) High Priority Fleets – Exempt San Nicolas and San Clemente Islands

Comment Summary: Commenters request adding an exemption for vehicles operated solely on San Nicolas or San Clemente islands due to potential impacts to military training operations due to adding EV charging and grid storage to a grid operating at and above capacity.

Commenter: [116-15d]

Agency Response: No changes were made in response to these comments. The islands mentioned by the commenter provide a constrained network of roadways so the distance vehicles would need to travel is relatively short and within the range of today's ZEVs. The infrastructure upgrades needed to support a gradual phase-in of ZEVs could be optimized and right sized to minimize impact to the existing grid. The vehicles could be charged with mobile, off-grid, or temporary charging and generation solutions. The vehicles are likely to do relatively low annual miles, for which a Backup Vehicle exemption may be appropriate. NZEVs could be a solution as well as they come to market. There would be no need to import fuel to the islands if they are fueled from on-island generation.

b) High Priority Fleets – Internal Combustion Engine Vehicle Addition Requirement Notice Insufficient

Comment Summary: Commenter states that the industry has not been given adequate notice of the new ICE Vehicle Additions requirement and such changes should be handled in Truck and Bus level Regulations with appropriate lead times and change notice.

Commenter: [132-15d]

Agency Response: No changes were made in response to these comments. This commenter is a HPF fleet and has had sufficient notice because the Regulation and the ICE Vehicle Additions requirement clearly apply to HPF fleets. The new requirements were discussed during workshops prior to the release of the ACF 15-Day Notice, and sufficiently related edits were made to the provision during the 15-Day Notice period. In fact, commenter

submitted comments during the 45-Day Notice period when the original proposal was released, and during the 15-Day Notice period, indicating their proper notice. The new ICE Vehicle Additions requirement was appropriately noticed within this rulemaking action, and not the Truck and Bus Regulation, because the additions modify the ACF Regulation, not the Truck and Bus Regulation.

c) High Priority Fleets – Internal Combustion Engine Vehicle Addition Requirement Implementation Delay

Comment Summary: Commenter requests, at minimum, a transitional period allowance to 2027 for the ICE Vehicle Additions requirement to better align with EPA's low-NOx changes that take effect that year.

Commenter: [132-15d]

Agency Response: No changes were made in response to these comments. The delay presented by the commenter would not achieve the goals of the Regulation. The EPA low-NOx Regulation does not take effect until 2027, so adopting the commenter's suggestion would mean California could not ensure that fleets would purchase the cleanest available trucks for three years, which is inconsistent with our directives and goals of ensuring only the cleanest trucks are purchased if ZEVs are not available.

d) High Priority Fleets – Internal Combustion Engine Vehicle Addition Requirement Decreases Flexibility

Comment Summary: The commenter claims the availability of new ICE vehicles that meet California's emissions standards will likely be limited, if not non-existent. Then, by extension, ACF will affect all fleets in California and drive them all towards ZEVs instead of preserving a fleet owner's right to choose the technology that best fits the fleet's needs.

Commenter: [103-15d]

Agency Response: No changes were made in response to these comments. CARB rejects the notion that there will not be California certified engines available to comply with the HD Omnibus Regulation. The comment is speculative and is not a realistic outcome warranting analysis and would apply whether the ACF Regulation was in place.

e) High Priority Fleets – Model Year Schedule – Allow Future Purchase Contracts to Count Today

Comment Summary: Commenters suggest allowing fleets that contractually commit to acquire ZEVs in the future that execute such an agreement today be granted credit as having made a ZEV addition under the Model Year Schedule for long-term planning and manufacturing considerations.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The Model Year Schedule compliance mechanism is based on vehicle additions to the fleet, a subset of which are vehicle purchases. The vehicle purchase definition already states that entering into a

purchase agreement for immediate delivery counts as a vehicle purchase. Opening this provision to future purchases would introduce a loophole in the Regulation by which fleet owners could cancel purchase agreements made for future delivery after those agreements were used to demonstrate compliance in prior years, and result in no ZEVs being added to the fleet.

f) High Priority Fleets – Milestones – Delay Zero-Emissions Vehicle Purchase Instead Of Requiring Combustion Purchase

Comment Summary: Commenter states that for a facility that successfully secures a 1-year exemption under the ZEV Milestones Option for Daily Usage or ZEV Purchase Exemption, the benefit of the exemption should be that the ZEV purchase is delayed until the ZEV unit becomes available one year later. There should be no diesel vehicle purchase required to qualify for the exemption for a fleet under the ZEV Milestones Option.

Commenter: [013-15d]

Agency Response: No changes were made in response to these comments. Fleet owners have expressed concern in public meetings that vehicles are needed when a vehicle needs to be replaced; these exemptions allow them to purchase an ICE vehicle if required. Nothing in the Regulation language forces a fleet owner to apply for these exemptions, and nothing prohibits the fleet from meeting compliance using other strategies and waiting for that particular ZEV to be available to purchase. Therefore, this change would not be necessary, because fleet owners can already voluntarily wait to purchase a ZEV if their fleet is in compliance.

g) High Priority Fleets – Milestones – Unique Redlines from Comment Letter 155

Comment Summary: Redlines to HPF Section 2015.2(f): add: "(10) Non-repairable Vehicles. Fleet owners that need to temporarily replace a vehicle due to an accident or other onetime event due to circumstances beyond the fleet owner's control, such as fire, catastrophic failure, or theft, that damages the chassis or primary equipment such that the vehicle is not repairable, or results in loss of the vehicle, may request and obtain an exemption as follows: (A) A fleet owner that receives this exemption for a qualifying ICE vehicle may purchase a vehicle of the same configuration and engine of the same or newer model year and exclude it from the ZEV Milestone Calculation specified in section 2015.2 (b) until the end of its useful life. (B) A fleet owner that receives this exemption for a qualifying ZEV may continue to count the ZEV toward its Milestone requirements until a replacement ZEV has been purchased and delivered, even if the qualifying ZEV is removed from the California fleet before the replacement ZEV delivery."

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. The non-repairable vehicle exemption was not added to the ZEV Milestones Option because fleets under that option have full flexibility to manage their fleet of vehicles, whereas fleets using the Model Year Schedule or are SLGs subject to purchase requirements have no choice but to only add ZEVs, starting in 2024 or 2027 respectively. Fleets using the ZEV Milestones

Option can already add ICE vehicles as long as they are meeting their Milestones, so extending this exemption for these fleets is not necessary.

h) High Priority Fleets – Milestones – Double Counting

Comment Summary: Commenter states that under Section 2015.2, CARB modified the definition of a fleet to include, “if a vehicle is operated in California at any time during the calendar year, it will be considered part of the California fleet for the entire calendar year for the purposes of calculating the ZEV Fleet Milestones of section 2015.2(a).” This definition is flawed in two significant ways. First, this definition does not account for one-for-one swap outs, therefore the total number of vehicles included in the ZEV Fleet Milestone Calculation will always skew higher than the intended milestone. Many entities plan for fleet upgrades years in advance and take delivery of vehicles throughout the year. By counting both the original vehicle and the new vehicle as part of the fleet that was operated within a given calendar year, CARB is inappropriately inflating the total number of vehicles to be used in the ZEV Fleet Milestone Calculation. Under this methodology, no regulated entity is likely to be able to meet the milestone in a given calendar year because the calculation includes vehicles that are no longer part of the fleet. Second, CARB has not provided a definition for “a vehicle operated in California.” In aviation, ground support equipment may be moved between airports for training purposes, but not used for their intended operational purpose. It is unclear if this or other atypical uses meets the definition of a vehicle operated within the state.

Commenter: [121-15d, 138-15d]

Agency Response: No changes were made in response to these comments. The intent of the provision is not to require double counting of vehicles that have been removed from the California fleet in the same calendar year that are no longer owned; the intent is to prevent gaming from out-of-state fleets operating different sets of vehicles in California throughout the year that are still owned and artificially reducing the fleet size that operated in California. The intent was to make sure that vehicles sold, scrapped, or otherwise no longer owned or that no longer exist, would reduce the number for purposes of the ZEV Milestones calculation; these vehicles would be removed from the California fleet size immediately for purposes of compliance. However, it was not intended to reduce the fleet size for vehicles that are still owned that are transferred out of state that could be brought back to operate in California in the same or subsequent calendar year. Transferring a vehicle out of state and permanently allocating it to local operation somewhere else, then bringing it back to operate in California after it was transferred out of state, is not considered removing a vehicle from the California fleet by definition in the Regulation because the fleet owner is still eligible to continue operating that vehicle in the state. Indicating a vehicle is transferred out of state is effectively telling CARB the vehicle will not be operated in California the following year. Therefore, these vehicles would not be removed from the California fleet count until the end of the calendar year for purposes of the ZEV Milestones Calculation.

It is not necessary to provide a definition for “a vehicle operated in California” because this phrase is commonly understood by industry to mean that a vehicle is driven, run while stationary, or otherwise operated within California’s borders.

i) High Priority Fleets – Joint Compliance – Clarify Consequences

Comment Summary: Commenter asks how the corporate joint compliance works in the event of non-compliance at the joint level; would subsidiary fleets be required to comply individually at that point and questioned if this would result in a compliance trap.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. The ACF 15-day changes provided clarification to address situations when subsidiaries, parent companies, or joint ventures wish to comply jointly with the ZEV Milestones Option instead of complying independently if the combined California fleet meets the requirements. If such subsidiaries, parent companies or joint ventures elect to utilize this compliance option and then subsequently do not fully comply with any requirement, each of the participating entities must then demonstrate compliance with the requirements on an individual basis. If an entity chooses to comply jointly, each individual subsidiary or joint venture must report separately, and include the CARB-issued ID number of the primary controlling corporate parent, joint venture business, or designated primary. It would not result in a compliance trap because it is an optional choice entity can make to benefit their business operation.

j) High Priority Fleets – Mergers – Require Compliance Plan

Comment Summary: Commenter recommends requiring the submittal of a compliance plan and timing for any acquisitions to assure CARB that the acquired fleet is earnestly moving as quickly as possible towards compliance.

Commenter: [132-15d]

Agency Response: No changes were made in response to these comments. A merger compliance plan would not be necessary because fleets are expected to be in compliance after the allotted year; this would present an unnecessary burden on the merging entities to provide such documentation. Information already required to be reported is sufficient to determine compliance at the end of the one-year period.

k) High Priority Fleets – Mergers – Provide Additional Time

Comment Summary: The commenters propose allowing additional time for fleets to comply with Regulations after mergers.

Commenter: [132-15d]

Agency Response: No changes were made in response to these comments. The ACF 15-day changes already increased the allowed amount of time to comply for mergers from 30 days to one year. Because mergers are fully within the control of a fleet owner's actions, it is not necessary to provide additional time; mergers often are planned for a significant period of time before they occur and are expected to plan for compliance with applicable laws and Regulations as part of that process.

l) High Priority Fleets – Mergers – Align with Newly Affected Fleet

Comment Summary: Commenter states the timeframe for a fleet newly affected by the Regulation through a merger should equal the timeframe for a newly affected fleet.

Commenter: [138-15d]

Agency Response: No changes were made in response to these comments. Changes were already made in the ACF 15-day changes specifying that if any entity merges with another entity or acquires vehicles as part of the merger, they will now have one year from the date the merger or acquisition completes to comply with relevant requirements. Extending this to two years is not necessary, as mergers are foreseeable and able to be planned for in advance. One year is sufficient for reasons discussed in Chapter C.(A).52., section 2015(k)(1), of the ACF 15-Day Notice.

m) Rental Vehicle Provision – Match Rental Demand to Supply

Comment Summary: Commenter states that once a rental company makes a required ZEV truck purchase as required by ACF, that purchase becomes the supply within the rental market. Just as in the manufacturer context (ACT), this is supply that has been required by Regulation. But unlike the manufacturer example (ACT), there is no corresponding regulatory effort to match up rental demand to the supply that has been required by Regulation. If the aim of ACF is to match up supply and demand, then that effort should apply throughout the rule. Unfortunately, because the draft ACF falls short, additional work remains to address the unique characteristics of rental fleets. Public and private fleets subject to ACF would benefit greatly from a menu of options to assist in their compliance with required ZEV purchases under the rule.

Commenter: [129-15d]

Agency Response: No changes were made in response to these comments. The purpose of the Regulation is to achieve emissions reductions through a gradual transition to ZEVs, not to match up supply and demand. Fleet owners are expected to have to make adjustments to the way they operate to comply with the Regulation. The Regulation has significant flexibility built in to allow fleets to choose the easiest path to electrify vehicles first, with appropriate exemptions and extensions. Additionally, NZEVs that can operate like an ICE vehicle could alleviate some of these concerns and are allowed to count as ZEVs until the 2035 model year and FCEVs are coming to market soon. The Board has directed staff to bring a future rulemaking to transition all other medium- and heavy-duty vehicles in California to ZEVs in 2028 as part of the 2022 State SIP Strategy. At that point, all fleets would have to electrify, creating the demand commenter is asking for. Finally, the Board has authority to modify the Regulation at any time; if unforeseen issues with Regulatory implementation arise, the Board can ask for changes.

n) Rental Vehicle Provision – Count All Zero-Emissions Vehicle Rentals Toward Compliance

Comment Summary: Commenter states that allowing public and private entities the option to rent ZEV trucks and count those rentals toward required ZEV usage compliance under ACF

would provide much needed flexibility to those fleets, particularly those budget-constrained public sector entities for whom the purchase of ZEV trucks or installation of charging infrastructure might not be practical within the required timeline. Authorizing this method of shared mobility compliance could stimulate more efficient use of a shared resource, and accordingly stimulate demand for rented trucks. This could reduce the possibility that ZEV trucks will sit idle at rental locations throughout the state. Allowing public and private fleets to count rented ZEV trucks toward their own compliance with the rule would be a significant step in the right direction toward addressing demand deficiencies that exist in ACF for rental truck fleets. It also creates an incentive for fleet owners to rent a ZEV truck as a replacement vehicle when an ICE truck is being repaired or unavailable, creating the opportunity for a test drive. Furthermore, some ZEV trucks may require complicated repairs including ADAS that could result in long repair times; and encouraging fleet owners to rent ZEV increases the likelihood that a ZEV truck in the shop for repair is replaced with a rented ZEV truck. Commenter states that rental fleet companies are not themselves the end-users. Rental customers are the end users; and we request that distinction be reflected in ACF.

Commenter: [129-15d]

Agency Response: No changes were made in response to these comments. Most rental fleets would already be covered under this Regulation therefore this change is unnecessary. Also, the Regulation does not create demand deficiencies for rental fleets, in fact it is the opposite. The Regulation creates demand for ZEV by rental fleets and all other fleets subject to the Regulation. Whether or not a customer selects a ZEV to rent is outside the scope of this Regulation. Furthermore, nothing in this Regulation prevents a fleet from renting a ZEV when a ZEV is unavailable or for any other reason, such as when an ICE vehicle or ZEV is being serviced. The commenter's suggestion does not directly advance the statutory mandates and policy directives to electrify the truck sector as quickly as possible, and could in fact delay that goal because allowing fleets to simply rent trucks does not expose them to the cost savings of ZEVs from reduced operating costs, and would not incentivize the expanded infrastructure needed to support the 100 percent ZEV requirement in 2036.

o) Rental Vehicle Provision – Subtract Exempt Vehicles from Rental Fleet Obligations

Comment Summary: Commenter states that some fleets have been expressly exempted from ACF due to the unique nature of their usage. Many of these exempted entities rely on the rental truck industry to supplement their fleets in times of need. For example, Cal FIRE depends on the rental truck industry every year to provide hundreds of trucks to move equipment and personnel to the front lines. If a rental company is satisfying an exempt entity's transportation needs by providing an ICE vehicle because only an ICE vehicle can serve the needed function, the provision of that service to an exempt entity should not encumber the rental company's ZEV requirement under ACF. Therefore, we respectfully request that you direct staff to provide guidance as to how rental companies can appropriately subtract rentals provided to exempt entities from rental company's ACF ZEV requirements for their fleet.

Commenter: [129-15d]

Agency Response: No changes were made in response to these comments. The structure of the Regulation provides flexibility for fleets to choose which vehicles to electrify first and provides a lengthy transition period to ZEV technology. In addition, any ZEV in the fleet will count towards compliance providing fleets with flexibility to electrify some vehicles while purchasing ICE vehicles when needed.

5. Drayage Truck Requirements Issues

a) Drayage – Reporting

Comment Summary: The commenter states concern with reporting requirements. The commenters state that the non-container terminals at their respective seaports will still have to manually collect truck entry data, which may lead to long queues at the affected terminals.

Commenter: [063-15d]

Agency Response: No changes were made in response to these comments. The reporting provision was added as part of the first ACF 15-day changes. This change was made to align with the reporting requirements of the CARB HD I/M Regulation to provide reporting flexibility to seaports, terminals, and intermodal railyards that do not have automatic reporting systems. This reporting is necessary to enable enforcement of the relevant drayage truck requirements.

b) Drayage – Daily Usage Exemption

Comment Summary: The commenter requests a daily use exemption for drayage trucks with longer routes. For example, a Daily Usage Exemption is needed because some drayage trucks currently travel four-hundred miles or more round-trip route and back on a daily basis.

Commenter: [149-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Daily Usage Exemption” in “Drayage Truck Requirements Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

c) Drayage – Infrastructure Availability – Retail

Comment Summary: The commenter remains concerned about the availability of public or retail infrastructure for small fleets operating at the seaports.

Commenter: [63-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Infrastructure Availability – Retail” in the “Drayage Truck Requirements Issues” section of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

d) Drayage – Exemption – Combustion Vehicles Ordered Pre-2024

Comment Summary: The commenter states the January 1, 2024, deadline for drayage should allow for the registration of combustion vehicles purchased prior to the deadline that are not delivered until after deadline.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Exemption – Combustion Vehicles Ordered Pre-2024” in “Drayage Truck Requirements Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

6. State and Local Government Issues

a) State and Local Government – 13th Year Limit – Remove Limit

Comment Summary: Commenters state the 13th model year restriction should be removed from the SLG Regulation requirements because utility specialty vehicles have a seven to 10 year life on average, and are turned over at a faster rate to ensure they can perform necessary functions reliably, and would prevent the fleet from using the ZEV Purchase or Daily Usage Exemptions if they have to replace a utility vehicle less than 13 years old. Other commenters state the limit should be removed to align with CCR title 13 section 2112(I), which indicates a useful life for most medium- and heavy-duty vehicles for 10 to 11 years through model year 2031. Commenters also state the rationale for the requirement is unfounded, as the rationale relies on SB 1 which is to provide accommodation for vehicles less than 13 model years old, not to force the retention of vehicles until they are at least that old.

Commenter: [044-15d, 055-15d, 068-15d, 072-15d, 079-15d, 079-15d, 112-15d, 124-15d, 125-15d, 133-15d, 144-15d, 148-15d, 155-15d]

Agency Response: No changes were made in response to these comments. See more discussion for why adding the restriction was appropriate in Chapter A.(A).44., section 2013(n)(2), Chapter A.(A).45., section 2013(n)(3), and Chapter A.(A).46., section 2013(n)(4), of the ACF 15-Day Notice. The Regulation is designed to include sufficient flexibility for fleet owners to manage their replacements and retain existing ICE vehicles to perform utility operations. For example, taking early or excess actions to replace ICE vehicles with ZEVs would allow a fleet owner to use the Regulation's early action credit to replace an existing ICE vehicle at any time with another ICE vehicle. Additionally, the Regulation was modified in the first ACF 15-day changes to allow SLG fleet owners to opt into the ZEV Milestones Option, which would allow fleet owners to have full flexibility to manage their fleet as long as they are meeting the Milestones, as that option has no limitations on vehicle age when applying for ZEV Purchase or Daily Usage Exemptions. The CCR Title 13, Section 2112 alternative useful life period is not necessary to use because that Regulation is related to when vehicle recalls can be required from manufacturers, which is not related to how long a fleet would keep a vehicle. The commenter misstates that the rationale states SB 1 is the reason for this; for the rationale, see Chapter A.(A).44., section 2013(n)(2), Chapter A.(A).45., section 2013(n)(3), and Chapter A.(A).46., section 2013(n)(4), of the ACF 15-Day Notice.

b) State and Local Government – 13th Year Limit – Clarify Limit

Comment Summary: Commenters request clarification of the 13th model year requirement or include an example of how this would be applied.

Commenter: [113-15d]

Agency Response: No changes were made in response to these comments. As explained in Chapter A.(A).44., section 2013(n)(2), Chapter A.(A).45., section 2013(n)(3), and Chapter A.(A).46., section 2013(n)(4), of the ACF 15-Day Notice, the 13th model year requirement language was added to specify that the application window for an exemption or extension is no earlier than the 13th model year of the ICE vehicle requesting the additional compliance flexibility. This is necessary to ensure that exemptions and extensions are not requested prematurely within the normal useful life of an ICE vehicle and reduces the likelihood that fleet owner might purchase an ICE vehicle because it is unavailable as a ZEV. Furthermore, it reduces administrative burden for staff processing unnecessary applications. For an example, if a 2010 model year ICE vehicle needs to be replaced, the fleet owner would be eligible to apply starting in 2023. This also gives staff the ability to plan and direct resources accordingly.

c) State and Local Government – 13th Year Limit – Conflicts with Truck and Bus

Comment Summary: Commenter states that the 13th year provision creates an additional issue because certain vehicles would then be in violation of California's Truck and Bus Regulation, which requires any vehicle with a GVWR over 14,000 to be taken out of service after 13 years. Effectively, it would create a period of time where the utility would be unable to operate the vehicle in question while waiting for a decision on the exemption request.

Commenter: [148-15d]

Agency Response: No changes were made in response to these comments. The commenter is mistaken because it conflates the Truck and Bus Regulation with the provisions of SB 1. The Truck and Bus Regulation does not require vehicles to be retired after 13 years; it primarily requires on-road diesel-fueled heavy-duty trucks and buses operating on California highways to be equipped with 2010 or newer model year engines by January 1, 2023, and has been fully implemented. It does not have any ongoing requirement to retire vehicles after 13 years old. There are no additional upgrade requirements as part of the Truck and Bus Regulation. All diesel engines should be 2010 or newer unless using one of the minimal exceptions to that Regulation and can operate their full useful life. For these reasons, staff disagree there is any conflict, and the commenter does not provide information to support how these requirements would conflict. Finally, the commenter represents a public agency or is a POU which are not subject to the Truck and Bus Regulation.

d) State and Local Government – Small Fleets – Increase Threshold

Comment Summary: Commenter states the SLG Regulation small fleet provision should be increased from 10 to 49 or less vehicles.

Commenter: [133-15d]

Agency Response: No changes were made in response to these comments. This change was added to address stakeholder concerns that small public fleets would have less flexibility to selectively choose which vehicles to replace with ZEVs in the first few years of the Regulation. The change also addresses an unintended consequence of the rounding provisions that would effectively mean a fleet with 10 vehicles making a single vehicle purchase between 2024 and 2027 would effectively have a 100 percent ZEV purchase requirement due to rounding. These fleets may also have less flexibility in selectively upgrading sites with ZEV infrastructure and may have less access to upfront capital. This change was made in response to direction from the Board at the first hearing for the Regulation, as well as stakeholder concerns.

e) State and Local Government – Small Fleets – Include Smaller Counties

Comment Summary: Commenters state that small counties under 50,000 in population be fully exempt, or be granted a 10-year delay, from the Regulation due to disproportionate impact of the costs to comply.

Commenter: [032-15d]

Agency Response: No changes were made in response to these comments. A delay was already provided in the SLG Regulation for small fleets to delay purchases until starting in 2027, and that same delay applies to identified designated low population counties as those with less than 125,000 residents in 2021 per the 2020 U.S. Census. However, the delay provided is until 2027. Granting a blanket exemption or a 10-year delay would not achieve the emissions goals of the Regulation, the Governor's Executive Order N-79-20, nor the Board's direction in the ACT Resolution to transition government fleets to 100 percent ZEVs by 2035.

f) State and Local Government – Small Fleets – Include Financial Hardship Exemption

Comment Summary: Commenter states the Regulation should include an automatic exemption for small public entities based on fiscal hardship.

Commenter: [027-15d, 028-15d, 029-15d, 030-15d, 034-15d, 040-15d, 041-15d, 045-15d, 049-15d, 051-15d, 059-15d, 061-15d, 062-15d, 067-15d, 115-15d, 128-15d, 142-15d, 150-15d]

Agency Response: No changes were made in response to these comments. Though ZEVs have a higher upfront cost, analysis shows that ZEVs will result in cost savings over the life of the vehicle compared to ICE vehicles. For more discussion regarding staff's analysis related to ZEV costs, please see responses to issues raised in section "Costs – Zero-Emissions Vehicle Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses." Because ZEVs can result in cost savings for most fleets, especially in the long term, adding a fiscal hardship provision for small fleets is not necessary. Additionally, flexibility in the Regulation's structure and sufficient exemptions and extensions for edge case scenarios will ensure fleet owners have a long phase-in period to transition

their fleets to ZEVs. This change would also add unnecessary additional complexity to the Regulation due to the need to track individual fleets financial situations to assess whether a delay is warranted, lack of ability to use objective criteria equally applied to fleets in differing financial situations, and the potentially large administrative burden in assessing and verifying these claims to ensure the provision would not become a loophole.

g) State and Local Government – Small Fleets – Include Fleets that Purchase Single Vehicles in a Year

Comment Summary: Commenter states the small fleet delayed implementation schedule in SLG Regulation should be extended to agencies that purchase less than two vehicles in a calendar year, because the rounding treatment would effectively result in a 100 percent requirement for fleets only procuring one vehicle in a year; these agencies would be the smallest in the state that are least capable of complying with reporting mandates and costs.

Commenter: [027-15d, 028-15d, 029-15d, 030-15d, 034-15d, 040-15d, 041-15d, 045-15d, 049-15d, 051-15d, 059-15d, 061-15d, 062-15d, 067-15d, 115-15d, 128-15d, 142-15d, 150-15d]

Agency Response: No changes were made in response to these comments. As the comment mentioned, a delay was already provided in the SLG Regulation for small fleets to delay purchases until starting in 2027. This delay addresses these concerns for small fleets. Larger fleets that only purchase a single vehicle in a year will have additional choices in vehicles or could delay making the purchase for an additional year until more vehicles need to be replaced, because they are not required to turn over their vehicles, and therefore have sufficient flexibility such that an additional extension is not necessary.

h) State and Local Government – Clarify Milestones Option

Comment Summary: Commenter states clarity is needed on which requirements apply for SLGs that opt into the ZEV Milestones Option given that different exemption criteria are specified for fleets complying with the SLG requirements compared to the ZEV Milestones Option.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments because the commenter is seeking clarification and not requesting a change. The ZEV Milestones Option is part of the HPF Regulation therefore the flexibilities under that provision would apply. SLGs opting into the ZEV Milestone could be eligible for the waste and wastewater extension and the Vehicle Delivery Delay Extension but would no longer eligible for the Non-repairable Vehicle Provision.

i) State and Local Government – Allow Fleet Cancellations

Comment Summary: Commenters state that fleets should be allowed to cancel ZEV orders and be granted a one year extension to re-order ZEVs due to reasons beyond their control such as when a manufacturer substantially changes the specification of an already ordered ZEV that no longer meets the order specifications, options are discontinued, the vehicle will

be delivered without a specification with an undefined amount of time that it will take the manufacturer to install the specifications at a later date.

Commenter: [113-15d]

Agency Response: No changes were made in response to these comments. Fleet owner cancellations are inherently within the control of the fleet owner, though the circumstances driving such decisions may not be. Fleet owners would be expected to manage their turnover decisions and adjust their compliance response if a fleet-based cancellation is warranted.

j) State and Local Government – Manufacturer Cancellation Notice Issues

Comment Summary: Commenters ask that the manufacturer cancellation notice requirement be removed, or require manufacturers to provide cancellation notices, because not all manufacturers provide written cancellation notices to customers.

Commenter: [113-15d]

Agency Response: No changes were made in response to these comments. Some form of notice from the manufacturer is reasonable to request from fleet owners; written correspondence is preferred, but not expressly required in the Regulation. The intent of this provision is to require third party documentation to show that the order was cancelled. Cancellation notices do not necessarily need to be in formal written correspondence. To the extent the manufacturer does not provide that, communication with the manufacturer could suffice, like an email, as long as the documentation shows that the order will not be fulfilled by the manufacturer.

k) State and Local Government – Delay Start Date

Comment Summary: The commenters ask for a delay in the start date of the SLG requirements.

Commenter: [018-15d, 022-15d, 023-15d, 026-15d, 027-15d, 028-15d, 029-15d, 030-15d, 032-15d, 034-15d, 036-15d, 040-15d, 041-15d, 043-15d, 045-15d, 049-15d, 051-15d, 054-15d, 059-15d, 061-15d, 062-15d, 064-15d, 067-15d, 072-15d, 079-15d, 110-15d, 113-15d, 115-15d, 118-15d, 128-15d, 134-15d, 140-15d, 142-15d, 150-15d, 157-15d, 166-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – Delay Start Date" in "State and Local Government Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

l) State and Local Government – Allow Alternative Vehicle Purchases When Manufacturer Cancels Orders

Comment Summary: The commenters suggest that ACF allow alternative vehicle purchases (presumably ICE vehicles) when manufacturer orders are delayed or canceled.

Commenter: [115-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – Allow Alternative Vehicle Purchases When Manufacturer Cancels Orders" in "State and Local Government Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

7. Provisions, Reporting, and Recordkeeping Issues

a) Recordkeeping – Remove Verbal Audit

Comment Summary: Commenter states that the requirement for a fleet to respond to a verbal audit request is an unnecessary change because without documentation of the request, a fleet that does not respond within 72 hours to a verbal request from CARB would be subject to penalties without any proof such a request was ever made and CARB would also have no proof of a verbal request to require penalties of a non-responsive fleet.

Commenter: [132-15d]

Agency Response: No changes were made in response to these comments. CARB added verbal or written to request records for audits to clarify that the request may be both written or verbal.

b) Recordkeeping – Allow Digital Records

Comment Summary: Commenter states the "Right of Entry" provision should be modified to allow CARB to request digital records for records that are maintained solely in digital format to prevent commenter from being forced to only store paper records.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. If vehicles are not at a location or records are not kept at a location, the language already precludes CARB staff from this right of entry. Additionally, the recordkeeping language in section 2015.5 of the Regulation language already specifies that fleets may make such records available in an electronic or paper format upon request.

c) Recordkeeping – Leased Vehicle Removal

Comment Summary: Commenter states that the recordkeeping requirements for vehicles removed from the California fleet cannot be met for fleets that are returning leased vehicles to their lessors.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. Section 2015.5(a)(2) requires a fleet owner to retain their lease agreements which would have the end date of the lease, this functions the same as a record of disposal does in terms of removing a vehicle from the California fleet.

d) Recordkeeping – ZEV Requirements

Comment Summary: Commenter states the requirement that fleets keep documentation that a ZEV operates within California within a given model year conflicts with IRP requirements and limits ZEV flexibility in the interstate fleet.

Commenter: [138-15d]

Agency Response: No changes were made in response to these comments because the ZEV Milestones Option is voluntary, so if that documentation requirement doesn't work for fleet, then they can use model year schedule. Also, this is necessary to close a loophole by which fleet owners could artificially inflate their ZEV counts under the Milestones option by reporting ZEVs that the fleet owns, but that never are operated in California during the calendar year they are reported for compliance. The various documents are necessary to include as each document can show CARB staff information proving the vehicle was operated in California during a given calendar year in question. CARB disagrees that the requirement conflicts with IRP requirements. IRP Section 1000 requires registrants to maintain records to support reported distances traveled in California for the registration year and three previous registration years.

e) Reporting – 30 Day Deadlines

Comment Summary: Commenter states the Regulation has too many 30-day deadlines which are unnecessary and create administrative burden.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. The 30-day deadline requirement to report any changes to their fleet provides a reasonable timeframe for a fleet owner that might have affected the compliance. Fleets are required to be in-compliance throughout the year. Fleet owner will be only reporting changes to their existing fleet and therefore, it should not create administrative burden.

f) Reporting – SLG-No Reporting Changes Within 30Days

Comment Summary: The commenters propose requiring a single, comprehensive annual report for SLG fleets, rather than reporting changes within 30 days, to minimize the reporting burden and associated costs.

Commenter: [115-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Reporting – State and Local Government – No Reporting Changes Within 30 Days" in "Provisions, Reporting, and Recordkeeping Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

g) Reporting – Allow Other CARB Reports

Comment Summary: Commenters state that reporting from other CARB programs should be accepted in lieu of a separate ACF report if they contain the same information, and that CARB in general should provide one reporting template for all programs to minimize reporting burden. Some commenters request a consolidated compliance reporting system to streamline fleet reporting, stating that fleets often report to CARB through systems such as TRUCRS, DTR, and ARBER, reporting the same information multiple times (e.g., company/contact information) and, in many cases, which cover or will cover (HD I/M, ACF) the same vehicle.

Commenter: [138-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Reporting – Allow Other CARB Reports” in “Provisions, Reporting, and Recordkeeping” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

h) Reporting – Too Onerous

Comment Summary: The commenters express concerns that VIN level reporting on cargo origin and destinations, as well as daily usage reports, will be difficult to track for large entities. They emphasize the need for sufficient lead time to develop tracking systems before the January 1, 2024, start date. Commenters also urge CARB to ensure that ACF reporting is less onerous than the Truck and Bus Regulation, which required extensive validations for simple reporting changes, and allow fleet owners to report vehicle types without CARB staff intervention.

Commenter: [033-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Reporting – Too Onerous” in “Provisions, Reporting, and Recordkeeping Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

8. Exempt Vehicles or Fleets

a) Test Fleet Exemption – Add Fuel and Lubricant Testing Vehicles

Comment Summary: Commenters request adding fuel and lubricant research fleets and laboratory vehicles to the test fleet exemption. Petrochemical and lubricant industries will maintain a specialized fleet of vehicles to support research and development of fuels, fuel additives, and lubricants, and should fall under a definition of “test fleet.” These test vehicles are not used to transport goods or provide service and represent a comparatively small number of vehicles. These test vehicles are typically operated on a chassis dynamometer and, when appropriately registered and licensed, will occasionally operate on the roadway to conduct real-world testing. The research is critical to enable the reliable supply of our products globally, including renewable fuels and hydrogen.

Commenter: [117-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Existing lube and fuel test vehicles can be reported as part of the California fleet and would not need to be retired until the end of their useful life. The commenter did not specify the age of the test vehicles, so there is no indication that the useful life would not be sufficient to meet their needs. In the event existing vehicles need to continue operating past the useful life for testing purposes, the 5-Day Pass exemption added during the ACF 15-day changes is sufficient for temporary trips in California and the backup vehicle exemption would allow vehicles to operate up to 1000 miles per year.

b) Exempt Water Agencies

Comment Summary: The commenters state water agencies should be exempt from the Regulation.

Commenter: [031-15d, 141-15d]

Agency Response: No changes were made in response to these comments Please see responses to issues raised in section "Exempt Various Vehicles, Industries, or Sectors from the Regulation" in "Exempt Vehicles or Fleets" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Exempt Various Vehicles, Industries, or Sectors from the Regulation

Comment Summary: The commenters state that the Regulation should exclude rental, service, and transportation vehicles serving the construction, agricultural, military, and critical service industries, and should exempt heavy-duty rental, heavy-duty equipment repair vehicles, and private not-for-hire heavy equipment transportation vehicles from the ACF Regulation.

Commenter: [026-15d, 027-15d, 028-15d, 029-15d, 030-15d, 034-15d, 040-15d, 041-15d, 045-15d, 049-15d, 051-15d, 059-15d, 061-15d, 062-15d, 067-15d, 115-15d, 118-15d, 128-15d, 142-15d, 150-15d, 158-15d, 160-15d, 171-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in sections "Exempt Heavy Equipment Rental Fleets" and "Exempt Various Vehicles, Industries, or Sectors from the Regulation" in "Exempt Vehicles or Fleets" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

9. Exemptions and Extensions – 5-Day Pass

a) 5-Day Pass – Request for Automatic Process

Comment Summary: Commenter requests an automated process to acquire a temporary in-state pass because the time needed for submitting and getting approval for a 5-Day Pass does not align with how trucking companies conduct business. For example, a fleet that bids

and wins a contract to haul a one-time load into California in the same week would not be afforded enough time to request and get approval for a temporary 5-Day Pass.

Commenter: [169-15d, 171-15d]

Agency Response: No changes were made in response to these comments. The 5-Day Pass process is already automated in the reporting system. Fleet owners would simply need to log into their TRUCRS account, report and select the vehicle desired, and select a 5-Day Pass. The system already is automated to approve a pass as long as a pass has not been claimed in the calendar year.

b) 5-Day Pass – Allow More Time

Comment Summary: Commenters state the 5-Day Pass is too short and should be expanded to varying lengths of time, including extending to 10 days, 15 days, weeks, or months. Commenters cite long project timelines and circumstances beyond the control of the driver or fleet owner as reasons for needing additional time, such as equipment breakdowns, driver illness, scheduling issues, or inclement weather. Commenter suggests extending it to 15 days.

Commenter: [167-15d, 169-15d, 171-15d]

Agency Response: No changes were made in response to these comments. The 5-Day Pass was selected to be five days consistent with existing Regulations, and was expanded greatly, as prior Regulations limited use to one time per fleet per year, whereas the ACF Regulation would allow one pass per vehicle. This provides much more flexibility. In conjunction with other exemptions and extensions, and the flexibility built into the long phase-in period of the Regulation requirements, this provision is sufficient to meet most fleet needs for temporary operations in the state.

c) 5-Day Pass – Allow Non-Consecutive Days

Comment Summary: Commenter requests fleets using the 5-Day Pass be allowed to split the five days between multiple days.

Commenter: [138-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Allowing non-consecutive days of entry would complicate implementation and enforcement of the provision. At its extreme, it would be equivalent to giving five separate passes to every truck a company owns, which would introduce a loophole into the Regulation. The time period was selected for reasons described in Chapter C.(D).44., section 2015.3(g), of the ACF 15-Day Notice. For example, vehicles travelling through California from Nevada to Oregon or mechanic vehicles that need to come in temporarily to make a repair would primarily benefit from the 5-day time period. This was a minimal amount of time affecting a small number of trucks intended to deal with certain practical limitations and will not significantly impact competitive disadvantages of out-of-state vehicles competing with in-state vehicles. Expanding this would have an adverse impact on the level playing field the Regulation strives to strike between in and out-of-state vehicles. It would also not achieve the goals of the Regulation to provide more exemptions.

10. Exemptions and Extensions – Daily Usage

a) Daily Usage Exemption – Allow Calculated BEV Comparison Data Instead of Measured Data

Comment Summary: Commenter suggests adding "In the event that no telemetric data is available, fleet owners may instead submit quantitative data from reputable sources, and route maps and drive-cycle specifications to inform their request" to the language specifying that measured BEV energy use data can be submitted in lieu of performing the specified range calculations. The purpose would be to address situations where a ZEV has not yet been deployed and telemetric data would not be available. Such data would include calculated ZEV energy use data using fundamental physics calculations, drive-cycle speed, distance and ZEV specifications like GVWR and frontal area, and data from reputable studies dedicated to quantifying the relationship between ZEV range and ambient temperature.

Commenter: [044-15d, 124-15d]

Agency Response: No changes were made in response to these comments. A simplified calculation based on reasonable, averaged energy efficiency factors collected from a range of vehicles in real world operation and dynamometer testing is already available in the Regulation. Adding an additional calculation method would introduce unnecessary complexity to address edge-case scenarios. It is necessary to include measured BEV data as an alternative, rather than additional complex calculations, because measured data is based on real world operation; anything less would be insufficient to validate the need for an ICE vehicle purchase which would then continue to operate for 13 years or longer.

b) Daily Usage Exemption – Allow a Representative Sample Instead of Data for Each Vehicle

Comment Summary: Commenters state the documentation requirement for every similar vehicle in the fleet for Daily Usage Exemption is too onerous and should instead require a representative sample of vehicles operated in similar environments.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. The purpose of the exemption is to allow purchase of an ICE vehicle with demonstrated need when the fleet owner has no other choices to comply; showing a sample of representative vehicles does not provide the Executive Officer an accurate picture of the whole fleet and could leave out some vehicles that could be transitioned to ZEVs. This would create a loophole to incentivize only selecting the worst-case daily usage scenarios to falsely demonstrate need. Additionally, the Regulation only requires information from other ICE vehicles of the same configuration and weight class; this is already a representative sample of the vehicle type and does not require information from every vehicle in the fleet.

c) Daily Usage Exemption – Clarify Energy Usage

Comment Summary: Commenter requests clarification on the "energy usage" portion of the Daily Usage Exemption requirement to track ICE vehicle stationary equipment energy used

and hours of operation, and whether fuel consumption plus hours of operation would be sufficient.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The intent of the provision is to address situations where there is no new FCEV, NZEV, or BEV available that can meet the demonstrated daily usage needs of any existing ICE vehicle of the same configuration in the fleet. The measure of work for a fleet of vocational trucks of the same fuel type can be compared in total energy use instead of miles. Energy use of ICE vehicles in the fleet could be measured in diesel gallons, gasoline gallons, or in BTU's depending on the ICE vehicle fuel type. Information about the hours of operation, miles travelled, and type of vehicle being operated is still necessary to confirm the duty-cycle is comparable for any test data collected.

In lieu of using miles, fleet owners may use data from a BEV and a comparable ICE vehicle doing the same work to compare how much fuel the ICE vehicle uses to complete the work the BEV performs until the battery is depleted. If the daily assignment does not deplete the battery of the BEV, then the state of charge would be used to prorate how much work the BEV could perform. For example, if a BEV can perform the same work as a truck that uses 20 gallons of diesel to perform the work, then the fleet owner would not qualify for an exemption but would qualify if all trucks in the fleet use more than 20 gallons of diesel as determined by the ranking method specified in the Regulation.

As an example of an ideal data collection scenario, a fleet could run a BEV and a comparable diesel ICE vehicle of the same type, in the same application, for the same amount of time until the state of charge of the BEV is depleted to zero. The diesel gallons used by the ICE vehicle in the test data would represent the maximum amount of work the BEV can displace in that application for other diesel vehicles in the fleet. This value would be compared to the diesel fuel use of other vehicles in the fleet of the same type to determine whether the criteria to receive an exemption have been met. Staff will work with fleet owners to prorate test data based on the BEV state of charge when the data collected on a given day does not deplete the battery of the BEV.

d) Daily Usage Exemption – Clarify Explanation Requirement

Comment Summary: Commenters state that the Daily Usage Exemption criteria for explanations why BEVs could not be charged or fueled during the workday at the depot, within a mile of routes, or where ZEV fueling infrastructure is available, and why charging could not be managed during driver rest breaks during the workday are unreasonable for fleets with unpredictable routes, and that charging times would be hours longer than the rest breaks would provide.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The commenter would simply need to submit an explanation for their situation explaining why these conditions could not be met; in fact, commenter's letter explains in detail why these conditions could not be met, and the explanation would be accepted as long as it is accurate

for the fleet applying for the exemption. The intent of the language is to ensure fleet owners are making a good faith attempt to use infrastructure that could support their operations and provide enough information so if other solutions can be identified they could facilitate infrastructure development in the long-term. The intent of the driver rest breaks language is to recognize the long-term expectation that fueling time will improve; long fueling times are not reasonable to expect over the next 20 years, and the language indicates to fleet owners that exemptions would be granted based on actual situation.

e) Daily Usage Exemption – Clarify Milestone Requirement

Comment Summary: Commenter states the phrase “The Executive Officer will grant this exemption only if the fleet owner demonstrates their next applicable upcoming ZEV Fleet Milestone cannot be reached without exemptions by requesting and obtaining exemptions for all other ICE vehicles in their California fleet” sets an unclear bar to be eligible for the Daily Usage Exemption under the ZEV Milestones Option and asks how this would be assessed.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. The bar is clearly set by the Regulation language. If a fleet has remaining ICE vehicles in the fleet under the ZEV Milestones Option, the fleet owner must demonstrate that no other vehicles can be upgraded to ZEVs to meet their next ZEV Milestone. Because the Regulation lays out clear exemption provisions that would demonstrate existing ICE vehicles could not be transitioned to ZEVs, it is necessary to require fleet owners to apply for and obtain exemptions to satisfactorily demonstrate this. Any exemption that the ICE vehicle qualifies for could be applied for and used, pursuant to the clear criteria specified for these provisions.

f) Daily Usage Exemption – Consider Weight or Dimension Limits

Comment Summary: The commenters state The Daily Usage Exemption should also consider additional factors such as weight limits or dimension constraints for vehicles because unique terrain or infrastructure limitations pose greater challenges than range or energy capacity when purchasing a ZEV that is able to meet the necessary duty cycle for the fleet. For example, access roads and bridges may not be rated for the additional weight of the ZEV.

Commenter: [133-15d, 155-15d]

Agency Response: No changes were made in response to these comments. The Daily Usage Exemption is intended to address daily range or energy usage concerns, not every possible aspect of a vehicle's duty cycle. Bridge weight limits may be less of a concern over time as ZEV technology improves, and the fleet will likely have a high percentage of ICE vehicles they can use to traverse those areas in the unlikely event a ZEV would exceed a specific limit. Additionally, the ZEV Purchase Exemption considers various safety related factors, including highway safety requirements, in the fleet-specific purchase exemption, which may provide compliance relief in edge case scenarios where fleets have no other choice.

g) Daily Usage Exemption – Historical Data Not Representative of Future Needs

Comment Summary: Commenter states the Daily Usage Exemption's five-year lookback period does not account for future, unforeseen emergency events such as those due to climate change. Only looking retrospectively limits utilities from preparing for and responding to future events by acquiring vehicles that have more capability than average daily needs.

Commenter: [055-15d, 136-15d]

Agency Response: No changes were made in response to these comments. The commenter's suggestion would result in using a subjective or speculative estimate which would not achieve the goal of having objective data to assess the need for the exemption. Additionally, ZEVs are already capable of operating in most duty-cycles today. As the Regulation timeline progresses, ZEVs are expected to have improved range and capabilities that would lessen a fleet owner's need for this exemption.

h) Daily Usage Exemption – Include Aerodynamic Drag and Ambient Temperature in Calculations

Comment Summary: Commenter suggests the Daily Usage Exemption calculation requirement include language specifying that "calculations may include estimated impacts of aerodynamic drag and ambient temperature on energy usage of ZEVs" to address real-world factors that limit ZEV range, stating that the proposed calculation is too simplistic to take these factors into account.

Commenter: [044-15d, 124-15d]

Agency Response: No changes were made in response to these comments. The simplified calculation uses average efficiency ratings developed through real world and dynamometer tested ZEV efficiencies. Including this language in the simple calculation method would be counter to the intent of providing a simple option. Furthermore, the Regulation already includes a pathway by which fleet owners can submit actual real-world data, in lieu of performing this calculation, which would implicitly include the effects of ambient temperatures and aerodynamic drag on energy needs since the BEV for which the data is collected is to be of the same configuration already operated on similar daily assignments.

i) Daily Usage Exemption – Remove Term "Fleet"

Comment Summary: Commenter states using the term "fleet" in Daily Usage Exemption means vehicles "operated under common ownership or control," which could consist of all the vehicles they operate throughout the state, creating severe issues for companies that operate in varying operating environments to qualify for the exemption.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. The term fleet was intended to be included because if a fleet has other options to transition to ZEVs, there is no need for a Daily Usage Exemption.

j) Daily Usage Exemption – Tie Configuration to Vehicle Operating Environment

Comment Summary: Commenter states only configurations in similar operating environments, vehicles operating out of the same yard, or the same limited geographic area should be compared for the Daily Usage Exemption.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. The purpose of the exemption is to allow purchase of an ICE vehicle with demonstrated need when the fleet owner has no other choices to comply; only comparing vehicles in similar environments does not provide the Executive Officer an accurate picture of the whole fleet and could leave out some vehicles that could be transitioned to ZEVs. This would create a loophole to incentivize only selecting the worst-case daily usage scenarios to falsely demonstrate need.

k) Daily Usage Exemption – 10 Percent Threshold Cost Burden Unfair

Comment Summary: Commenter states the requirement for at least ten percent of a fleet to be ZEVs, related to the Daily Usage Exemption, places an unfair cost burden on fleets that have greater daily mileage.

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments. The Daily Usage Exemption's 10 percent ZEV threshold is designed to ensure fleets are gaining experience with ZEVs and making minimum basic progress towards electrification before applying for an exemption. Further, fleets who are applying for this exemption which have different mileage needs are less likely to be directly competing against one another which mitigates the competitive disadvantage concerns expressed by the commenter. The ZEV Milestones Option defers requirements for higher mileage fleets with sleeper cab tractors until 2030 as technology and infrastructure access improves. Fleet owners will have flexibility on how to meet the criteria, and can electrify the lower range need trucks first, and can use the exemption for all their high mileage trucks if criteria are met. To the extent that fleets specialize in high mileage operations compete against other high mileage fleets, there would be no competitive disadvantage, and the commenter fails to demonstrate why this provision places an unfair burden on these fleets. Finally, the need for exemptions is less likely due to the availability of FCEVs, NZEVs, and demonstrated 500 mile range of some tractors.

l) Daily Usage Exemption – Unique Redlines from Comment Letter 135

Comment Summary: Redlines to Daily Usage. Section 2015.3(b): add "If no new BEV that can meet the demonstrated daily usage needs of an existing vehicles of the same configuration in the fleet, is available for purchase as determined by the criteria specified in section 2015.3(b)(2) through (5)," replace "an" with "the existing," remove "if no new BEV is available to purchase that can meet the demonstrated daily usage needs of any existing vehicles of the same configuration in the fleet, as determined by the criteria specified in section 2015.3(b)(2) through (5)," remove "their new ICE vehicle," add "to purchase the exempt vehicles," add "of exemption approval," add "orders for," remove "fleet owners

may request their exemption only if at least ten percent of their California fleet is comprised of ZEVs or NZEVs,” and add “and is commercially available.”

Section 2015.3(b)(2): add “as determined on the CARB ACF webpage as commercially available.”

Section 2015.3(b)(3)(A): remove “must,” add “and,” remove “and state of charge at the beginning and end of the daily shift to show typical daily energy usage for the BEV, over five consecutive business days,” and add “Fleet owners may also submit documentation from ZEV manufacturer data collected from ZEVs in actual service to substantiate the claim. Vehicles that lack stable routes, service rural routes without charging infrastructure, or require the capacity to do work at remote locations after travel may submit evidence of this when seeking this exemption.”

Section 2015.3(b)(4): remove “Identify the lowest mileage or energy use reading for each day and exclude the three highest readings.”

Section 2015.3(b)(5): add “without incurring additional labor costs and delays or resulting in material damage and spoilage.”

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments.

Suggested changes to the introduction to 2015.3(b) limiting the demonstration that a ZEV could not complete the daily usage needs of a single vehicle in the fleet would introduce a loophole in the Regulation and would be counter to the intent to verify that the ZEV could not meet the daily usage needs of any other vehicle of similar configuration. For example, a fleet owner with one truck that operates high mileage and one truck that operates low mileage could cherry pick the highest mileage vehicle to justify an exemption, when the low mileage vehicle could easily be replaced by an available ZEV. Other changes suggested in the introduction are changes to be grammatically consistent with this and would not be necessary to make because the introduction language would not be changed.

Suggested changes to the introduction to 2015.3(b) that would remove the 10 percent ZEVs requirement to qualify for the provision would not be appropriate for reasons described in section “Daily Usage Exemption – Remove 10 Percent Threshold Requirement” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

Suggested additions of “and is commercially available” in the introduction language of section 2015.3(b), and “as determined on the CARB ACF webpage as commercially available” in section 2015.3(b)(2) are not necessary because section 2015.3(b)(2) already specifies that a BEV must be available to purchase, for which extensive criteria are laid out in section 2015.3(e) to make such a determination, and because the rest of the Regulation language does not use the term “commercially available.”

Suggested change of “must” to “can” in section 2015.3(b)(3)(A) would change the meaning and make the criteria subjective, which would not achieve the Board’s direction to have clear and objective criteria. Additionally, removal of the “state of charge...” language is not necessary, as all of this data is necessary to have an accurate real-world picture of the

capability of a BEV to compare against the fleet's real-world ICE vehicles. Removal of the "over five consecutive business days" language is not necessary because more than one day of data is necessary to have an apples-to-apples comparison between existing ICE vehicles and the BEV from which data is being collected.

Suggested addition of "Fleet owners may also submit documentation from ZEV manufacturer data collected from ZEVs in actual service to substantiate the claim. Vehicles that lack stable routes, service rural routes without charging infrastructure, or require the capacity to do work at remote locations after travel may submit evidence of this when seeking this exemption," are not necessary. The allowance to submit ZEV data from manufacturers is not necessary because the ACF 15-day changes already removed a requirement that the fleet operate a BEV in their own fleet's service; this change allows data from BEVs operated on similar assignments, which would already allow a manufacturer, other fleet, or even a study to be used to substantiate the claim, as long as it is from a comparable vehicle operated on similar assignments. The last half of this change is not necessary as the Regulation only needs to state the information that fleet owners must provide to demonstrate they meet the criteria. Nothing in the language would preclude a fleet owner from voluntarily submitting additional information; however, only information that would be used to determine whether the exemption criteria were met could be considered.

Suggested removal of the requirement to exclude the three highest readings from the daily usage report is not necessary for reasons described in the responses to issues raised in section "Daily Usage Exemption – Allow Three Highest Values" in "Exemptions and Extensions – Daily Usage" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

Suggested addition of "...without incurring additional labor costs and delays or resulting in material damage and spoilage" is not necessary as the Regulation only needs to state the information that fleet owners must provide to demonstrate they meet the criteria. Nothing in the language would preclude a fleet owner from voluntarily submitting additional information; however, only information that would be used to determine whether the exemption criteria were met could be considered.

m) Daily Usage Exemption – Remove 10 Percent Threshold Requirement

Comment Summary: The commenters ask for the removal of the 10 percent ZEV/NZEV threshold for accessing the Daily Usage Exemption.

Commenter: [033-15d, 117-15d, 133-15d, 135-15d, 160-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Daily Usage Exemption – Remove 10 Percent Threshold Requirement" in "Exemptions and Extensions – Daily Usage" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

n) Daily Usage Exemption – Remove Battery-Electric Vehicle Capacity Sunsets

Comment Summary: The commenters state the Daily Use Exemption should not sunset when vehicles become available with certain energy capacities, or that the sunset capacities should be edited.

Commenter: [155-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Remove Battery-Electric Vehicle Capacity Sunsets” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

o) Daily Usage Exemption – Remove Fuel Cell Electric Vehicle Limit

Comment Summary: The commenters state that the Daily Usage Exemption should not require fleets to purchase FCEVs if available.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Remove Fuel Cell Electric Vehicle Limit” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

p) Daily Usage Exemption – Allow Internal Combustion Engine Vehicle Data to Substantiate Exemption Requests

Comment Summary: The commenters request that the Daily Usage Exemption be expanded to allow fleets to substantiate and calculate daily usage from existing ICE vehicles, without requiring the purchase of a ZEV for energy use calculations.

Commenter: [055-15d, 125-15d, 133-15d, 135-15d, 155-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Allow Internal Combustion Engine Vehicle Data to Substantiate Exemption Requests” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

q) Daily Usage Exemption – Master Response

Comment Summary: The commenters suggest the need for exemptions when ZEVs are available but not operationally feasible or cannot meet duty cycles.

Commenter: [160-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Master” in “Exemptions and

Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

r) Daily Usage Exemption – Include Additional Usage Factors

Comment Summary: The commenters suggest modifying the daily use exemption criteria to include additional relevant usage factors.

Commenter: [117-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Include Additional Usage Factors” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

s) Daily Usage Exemption – Allow Three Highest Values

Comment Summary: The commenters argue against excluding the three highest values from calculations for Daily Usage Exemption.

Commenter: [055-15d, 058-15d, 112-15d, 125-15d, 133-15d, 135-15d, 144-15d, 155-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Allow Three Highest Values” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

11. Exemptions and Extensions – Non-Repairable Vehicles

a) Non-Repairable Vehicles – Allow One Year to Replace

Comment Summary: Commenters state fleets should be permitted up to one year to replace a non-repairable vehicle because it is an unforeseen event and public fleets must have adequate time to follow their necessary public procurement processes.

Commenter: [133-15d]

Agency Response: No changes were made in response to these comments. The language allows fleet owners to purchase a used vehicle which are available on the open market. The process is different, where a manufacturer would not need to build a truck and would not take as much time. 180 days is sufficient because the provision was meant to address situations where the non-repairable vehicle was critical to operations and needs to be replaced quickly and allow for purchase of an existing vehicle rather than a new one which could take a year or more in manufacturing. The fleet owner has other options as well; they can have backup vehicles and use those instead, renting or leasing vehicles, or contracting the work out in case this timeframe is insufficient.

b) Non-Repairable Vehicles – Allow Fleets to Attest Vehicles are Non-Repairable

Comment Summary: Commenter suggests allowing HPF fleets to submit their own attestation that a vehicle is not repairable for situations where police reports would not be generated or insurance companies would not be involved, citing an example where a vehicle suffers a catastrophic engine failure during routine operations, it may be deemed by the company to be non-repairable because the cost to repair or replace the engine outweighs the value of the vehicle.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The intent of the provision is to provide some predictability to fleet compliance timelines under these catastrophic scenarios, and not to have another exemption from the Regulation requirements. The example of the engine not being worth repairing, and it is time to replace the vehicle, a ZEV would be expected to replace the vehicle. It is a business or economic decision to either buy the ZEV or fix the engine. The purpose of the Regulation is ultimately air quality benefits and to deploy ZEVs. Engine maintenance can be planned for in advance. This would effectively introduce a loophole that could be abused by fleets not acting in good faith. The police or insurance reports would be necessary to ensure this failure was unanticipated and couldn't be addressed with preventative maintenance. The provision was crafted narrowly for the Model Year Schedule to only address damage to the engine and vehicle such that the vehicle is not repairable and exclude economic reasons for replacing vehicles, because these are the most common reasons vehicles are replaced. Alternatively, fleet owners can use the ZEV Milestones Option to have full flexibility to manage their fleet of vehicles, and purchase ICE vehicles in these scenarios if the fleet is meeting its Milestone requirement, so the fleet owner would not need this provision.

c) Non-Repairable Vehicles – Allow New Vehicle Purchase Instead of Used

Comment Summary: Commenters state the Non-Repairable Vehicle Exemption should allow purchase of new vehicles, as the used vehicle market for specialized utility vehicles is not adequate to rely on. If no used vehicle and no comparable ZEVs are available to purchase, a fleet would be out of options.

Commenter: [112-15d, 133-15d, 138-15d, 155-15d, 173-15d]

Agency Response: No changes were made in response to these comments. If the truck is 13 years old or older, if there is no ZEV available to purchase, the Regulation has language to address this in the ZEV Purchase Exemption. If the vehicle is newer than 13 years old, the fleet owner can buy a new ZEV or NZEV, and if they want to buy used, they can purchase an ICE vehicle. Additionally, in case this is a significant issue, they can opt-in to the ZEV Milestones Option provided they meet the targets, until 2030 to have more flexibility to manage their fleet to purchase ICE vehicles as long as the Milestones are met. The provision was crafted narrowly for the Model Year Schedule to only address damage to the engine and vehicle such that the vehicle is not repairable and exclude economic reasons for replacing vehicles, because these are the most common reasons vehicles are replaced. Alternatively, fleet owners can use the ZEV Milestones Option to have full flexibility to manage their fleet

of vehicles, and purchase ICE vehicles in these scenarios if the fleet is meeting its Milestone requirement, so the fleet owner would not need this provision.

d) Non-Repairable Vehicles – Allow Exemption to Apply to Non-Repairable Engine or Vehicle

Comment Summary: Commenter states that the Non-Repairable Vehicle Exemption should allow for either the engine or the vehicle to be considered non-repairable and qualify for the exemption, rather than requiring both the engine and vehicle be non-repairable, because other parts of the vehicle besides the engine could be damaged and require the vehicle to be replaced, for example a transmission, drive shaft, or combination of other expensive components that would constitute the vehicle being non-repairable. A vehicle can be damaged beyond repair due to damage to either the body, or the engine, or both. Insurance companies can declare a vehicle a total loss due to body damage that does not impact the motor.

Commenter: [112-15d, 125-15d, 133-15d, 169-15d, 173-15d]

Agency Response: No changes were made in response to these comments. Where applicable, this provision was included to cover uncommon or unexpected events that cannot reasonably be anticipated by the fleet owner, such as an accident or catastrophic fire, that render the vehicle inoperable and is beyond repair; individual part failures are foreseeable, can typically be replaced or repaired, and can be mitigated with regular maintenance, and would not require a whole vehicle and engine to be replaced. The intent of the provision was not to provide an exception for relatively common parts repairs, including engine rebuilds, that could be reduced or planned for with normal maintenance where the vehicle would not need to be replaced. See more discussion on rationale for the provision in Chapter C.(B).19., section 2015.1(c)(9), of the ACF 15-Day Notice. The provision was crafted narrowly for the Model Year Schedule to only address damage to the engine and vehicle such that the vehicle is not repairable and exclude economic reasons for replacing vehicles, because these are the most common reasons vehicles are replaced. Alternatively, fleet owners can use the ZEV Milestones Option to have full flexibility to manage their fleet of vehicles, and purchase ICE vehicles in these scenarios if the fleet is meeting its Milestone requirement, so the fleet owner would not need this provision.

e) Non-Repairable Vehicles – Include All Vehicle Loss Reasons

Comment Summary: Commenters state 'non-repairable' should include any situation where a vehicle may be deemed non-repairable, a loss, or salvage, including when a vehicle is stolen and not recovered.

Commenter: [055-15d, 133-15d, 155-15d]

Agency Response: No changes were made in response to these comments. The intent of the provision is to provide some predictability to fleet compliance timelines under these catastrophic scenarios, and not to have another exemption from the Regulation requirements. In the example of the engine or vehicle not being worth replacing, and it is time to replace the vehicle, an owner would be expected to replace the vehicle. It is a business or economic decision to either buy the ZEV or fix the engine. The purpose of the

Regulation is ultimately air quality benefits and to deploy ZEVs. Engine maintenance can be planned for in advance. This would effectively introduce a loophole that could be abused by fleets not acting in good faith. In the event of a theft, the fleet would be required to purchase a ZEV. The provision was crafted narrowly for the Model Year Schedule to only address damage to the engine and vehicle such that the vehicle is not repairable and exclude economic reasons for replacing vehicles, because these are the most common reasons vehicles are replaced. Alternatively, fleet owners can use the ZEV Milestones Option to have full flexibility to manage their fleet of vehicles, and purchase ICE vehicles in these scenarios if the fleet is meeting its Milestone requirement, so the fleet owner would not need this provision.

f) Non-Repairable Vehicles – Include in ZEV Milestones Option

Comment Summary: Commenter requests that CARB extend the Non-repairable Vehicle Provision to fleets complying with the ZEV Milestones Option. Commenter states that this is necessary in circumstances where a lost or damaged ZEV is needed to meet the ZEV Milestone requirement and time is needed to secure a replacement, or the fleet owner purchases a replacement ICE vehicle, but is required to retire it before the end of its useful life to meet their ZEV Milestone requirement.

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. The rationale for including the Non-repairable Vehicle Provision in the Model Year Schedule and not the ZEV Milestones Option is because the Milestones Option provides fleet owners greater flexibility to manage their fleet regardless of vehicle age and mileage. For example, an ACF compliant fleet utilizing the ZEV Milestones Option has the flexibility to replace the non-repairable vehicle with either an ICE or ZEV that best meets the fleet's operational needs, as long as the Milestones overall are met. A fleet will remain compliant as long as the fleet continues to meet the required ZEV percentages.

g) Non-Repairable Vehicles – Unique Redlines from Comment Letter 155

Comment Summary: Redlines to ZEV Milestone Exemptions. Section 2015.2(f) add "(10) Non-repairable Vehicles. Fleet owners that need to temporarily replace a vehicle due to an accident or other onetime event due to circumstances beyond the fleet owner's control, such as fire, catastrophic failure, or theft, that damages the chassis or primary equipment such that the vehicle is not repairable, or results in loss of the vehicle, may request and obtain an exemption as follows: (A) A fleet owner that receives this exemption for a qualifying ICE vehicle may purchase a vehicle of the same configuration and engine of the same or newer model year and exclude it from the ZEV Milestone Calculation specified in section 2015.2(b) until the end of its useful life. (B) A fleet owner that receives this exemption for a qualifying ZEV may continue to count the ZEV toward its Milestone requirements until a replacement ZEV has been purchased and delivered, even if the qualifying ZEV is removed from the California fleet before the replacement ZEV delivery."

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. Suggested addition of the provision in general to the ZEV Milestones Option is not necessary for reasons discussed in section “Non-Repairable Vehicles – Include in ZEV Milestones Option” in “Exemptions and Extensions – Non-Repairable Vehicles” of the “15-Day Comment Period Public Comments with Agency Responses.”

Suggested addition of “... theft, which damages the chassis or primary equipment... or results in loss of the vehicle” is not necessary because the intent of the provision is to provide some predictability to fleet compliance timelines under these catastrophic scenarios, and not to have another exemption from the Regulation requirements. The example of the engine or vehicle not being worth replacing, and it is time to replace the vehicle, a ZEV would be expected to replace the vehicle. It is a business or economic decision to either buy the ZEV or fix the engine. The purpose of the Regulation is ultimately air quality benefits and to deploy ZEVs. Engine maintenance can be planned for in advance. This would effectively introduce a loophole that could be abused by fleets not acting in good faith. The police or insurance reports would be necessary to ensure this failure was unanticipated and couldn’t be addressed with preventative maintenance. In the event of a theft, the fleet would be required to purchase a ZEV. The provision was crafted narrowly for the Model Year Schedule to only address damage to the engine and vehicle such that the vehicle is not repairable and exclude economic reasons for replacing vehicles, because these are the most common reasons vehicles are replaced. Alternatively, fleet owners can use the ZEV Milestones Option to have full flexibility to manage their fleet of vehicles, and purchase ICE vehicles in these scenarios if the fleet is meeting its Milestone requirement, so the fleet owner would not need this provision.

Suggested addition that would make the provision apply to both damaged ICE vehicles and ZEVs to address non-repairable vehicle interactions with the ZEV Milestones Option are not necessary because no change is being made to include this provision in that compliance pathway, thus the commenter’s rationale for including the provision for non-repairable ZEVs would not apply. Including the language allowing the full useful life of an ICE vehicle with the same or newer model year engine would introduce a loophole in the Regulation by which vehicles that are deemed no longer repairable or a loss/salvage by the fleet owner could just be swapped out with newer ICE vehicles to indefinitely extend the useful life period, and therefore never have to replace the vehicle with a ZEV. The intent of the provision is to provide essentially the original useful life of the original vehicle to the fleet owner before they would need to upgrade to ZEVs, thereby preventing a fleet owner from being forced to upgrade to a ZEV earlier than originally planned. The intent is not to provide flexibility to extend compliance timeframes beyond the original useful life.

12. Exemptions and Extensions – General

a) Criteria and Process 15-Day Changes Are Too Complex

Comment Summary: Commenters state the ACF 15-day changes to exemption or extension criteria, or processes are generally too complex, overly burdensome, or use a one-size fits all approach.

Commenter: [053-15d, 117-15d, 135-15d]

Agency Response: No changes were made in response to these comments. In the first ACF 15-day changes, language was added to enhance clarity to multiple exemptions and extensions under the board's direction while addressing process related concerns. The exemption process will not impose an excessive burden on applicants, as the provisions were specifically designed with both staff resources and fleet owner burden in mind. Furthermore, the Board has directed staff to ensure a more streamlined and clear approach to all exemptions and extensions.

b) Backup Vehicle Exemption – Remove Requirement to Remove Backup Vehicles that Exceed Mileage from California Fleet

Comment Summary: Commenter states that A4A recommends that CARB revisit the changes to the definition for Backup Vehicles. Based on the term, it seems that CARB intended to provide a provision for vehicles that may be brought into operational service if other vehicles in the fleet break down or are no longer operational. However, the changes penalize fleet owners for implementing beneficial operational redundancies by housing backup vehicles. The provision only applies if the vehicle is operated less than 1,000 miles per year, and as soon as a vehicle "no longer meet[s] the criteria" it "cannot be operated in California and must be removed from the California fleet." This contradicts CARB's earlier definition that if a vehicle is operated in California, it should be counted as part of the fleet. Instead of requiring fleet owners to remove backup vehicles from the state altogether if they are utilized beyond the 1,000-mile limit, we suggest that CARB simply change the Regulation to count the vehicle as part of the fleet once the Backup Vehicle criteria is no longer met.

Commenter: [121-15d, 165-15d]

Agency Response: No changes were made in response to these comments. The backup vehicle language does not conflict with the California fleet definition; the language explicitly excludes the vehicles from the calculations of the ZEV Milestones Option. Nothing compels a fleet owner to report a vehicle as a backup vehicle. It is the fleet owner's choice to report one as such and should not report it as a backup vehicle if they do not believe they can stay within the mileage threshold. The Regulation language does not say fleet owners should identify any vehicle that might operate less than 1,000 miles then be penalized if they are wrong; they simply have an option to identify vehicles that will meet the criteria and designate those vehicles as such. Additionally, if a fleet owner does not have a compliance obligation until a later timeframe, the fleet owner does not have to report a vehicle as a backup vehicle until the compliance requirements are upcoming and the fleet owner deems it necessary to exclude the vehicle from the ZEV compliance calculations. As written, the fleet owner would have to identify backup vehicles and meet the requirement. If a fleet owner needs to use the vehicle more, they can change the status of the vehicle themselves in the reporting system to no longer opt-in as a backup vehicle. The intent of the language is to require the vehicle to be removed; if a fleet selects backup for a vehicle, they are expected to track the vehicle's mileage and not exceed the mileage. Exceeding the vehicle's allowed mileage is foreseeable and within the control of the fleet owner. Therefore, the vehicle must be removed from the California fleet instead of just returning to normal service. This would create a loophole where fleet owners would be incentivized to report every vehicle as a backup vehicle, and thus unfairly skew the fleet's compliance obligations, if there were no consequences for exceeding the mileage threshold.

c) Allow Fleet Expansion

Comment Summary: Commenter states that the exemptions should not be limited to vehicles being replaced and should be allowed to qualify for fleet expansions.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. Exemptions and extensions are designed to be narrow to capture edge-case scenarios outside of a fleet owners' control. Fleet expansions are well within the control of the fleet owner. The commenter's proposal to acquire ICE vehicles to expand their fleet is contrary to the purpose and goals of the ACF Regulation.

d) Consequence if Approval or Denial Not Provided Within 45 Days

Comment Summary: Commenter states the response timeframe language for the Executive Officer responding to complete exemption or extension requests should include language stating the exemption or extension would be deemed approved if no response was received within 45 days.

Commenter: [113-15d, 122-15d]

Agency Response: No changes were made in response to these comments. The intent of the language is to indicate that a request for exemption or extension would be approved or disapproved within 45 days after an owner submits a complete application. If a fleet owner submits an incomplete application, the clock will not start until the application is complete. Staff will make every attempt to work with fleet owners as quickly as possible and anticipate most review and determinations can be made within that period.

e) Clarify Exemption or Extension Application Timeline Overlap with Compliance Requirements

Comment Summary: Commenter states exemption and extension request processes should clarify what happens when a timely submitted request overlaps a deadline while awaiting CARB response and suggests clarifying additional requirements for the timeliness of request submissions.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. Each exemption and extension provision already has clear timelines during which the fleet owner must submit requests for consideration and were further clarified with the ACF 15-day changes. For example, fleet owners seeking an Infrastructure Delay Extension must submit their application no later than 45 days prior to an upcoming compliance deadline, and those seeking a Daily Usage Exemption must submit applications no later than one year prior to upcoming compliance deadlines. With the language specifying that CARB would respond to exemption or extension requests within 45 days, the commenter's example scenario of an overlap would not occur with the language as written.

f) Taking Action One Year in Advance

Comment Summary: Commenters state the requirement for various exemptions to take action a year in advance of an upcoming deadline should be extended because exemption requests for 2025 deadlines would need to be filed by December 31, 2023, which is not enough time for fleets to go through the process, and that if the Regulation is delayed due to OAL, these deadlines are also extended.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. The first exemption request deadline for HPF fleets subject to the ACF Regulation is not until January 1, 2024, for an upgrade deadline of January 1, 2025. Therefore, submission would not be required until January 1, 2024. If for any reason the Regulation does not become effective until after that date, the HPF section of the ACF Regulation provides language referencing the effective date as the deadline. It is necessary to request submission for this additional flexibility in advance to ensure fleets are making good faith planning efforts in advance to comply with the Regulation and to give staff sufficient time to process exemption requests. In addition, in the early years of the ACF Regulation, the need for exemptions will be much less due to the flexibility already built into the regulatory upgrade requirements.

g) Remove Executive Officer Judgement Language

Comment Summary: Commenters state "good engineering judgement of the Executive Officer" should be removed from the ZEV Purchase Exemption or needs to be removed broadly from the rule.

Commenter: [113-15d, 139-15d, 169-15d]

Agency Response: No changes were made in response to these comments. The Exemption necessarily requires the Executive Officer or their delegates to make engineering or business judgements about information submitted by fleets, manufacturers, utilities, or other parties in determining whether exemption or extension criteria have been met in edge-case scenarios where additional variables not foreseen by the Regulation can be assessed in determining approval. Additionally, this approach is consistent with other CARB Regulations that also introduce the judgement of the Executive Officer in determining whether objective criteria have been met.

h) Remove Requirement to Demonstrate Milestone Cannot be Met Without Exemptions

Comment Summary: Commenter requests the removal of the requirement for fleets to demonstrate that their next applicable upcoming ZEV Fleet Milestone cannot be reached without exemptions by requesting and obtaining exemptions for all other ICE vehicles in their California fleet under the Daily Usage and ZEV Purchase Exemptions. Commenter states that this is an administrative burden and requiring exemptions for all ICE vehicles in the California fleet would also effectively nullify the future milestone targets because the fleet would have received exemptions for all remaining ICE vehicles. Commenter alternatively requests for

fleets to identify why no other fleet vehicle can be replaced with a ZEV rather than submitting simultaneous exemption applications for every remaining vehicle in the fleet.

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. The addition requiring applying and obtaining exemptions for all remaining ICE vehicles in the fleet for fleet owners opting in the ZEV Milestones Option was made during the first ACF 15-day changes and is necessary as the ZEV Milestones Option provides fleet owners full flexibility to manage their fleet composition as they see fit as long as they meet the ZEV Milestones. This additional flexibility means the exemption would otherwise not be needed if other vehicles in the California fleet can be upgraded to ZEVs. This change will reduce administrative burden by minimizing unnecessary exemption requests.

i) Require Installation of Electric Power Take Off for Granted Work Truck Exemptions

Comment Summary: Commenter states that granted work truck exemptions should require the installation of ePTO systems on the purchased ICE vehicle.

Commenter: [172-15d]

Agency Response: No changes were made in response to these comments. ePTO systems can reduce emissions from combustion vehicles and are being incorporated into ZEV designs or being installed on ZEV bodies. CARB already provides considerable incentive funding to encourage the ePTO market and determined that a regulatory requirement is not necessary to incentivize these technologies. The purpose of the Regulation is to expand the ZEV market, and ePTOs are not ZEVs.

j) Adequate Infrastructure Exemption

Comment Summary: The commenters request that CARB create off-ramps if adequate infrastructure is not present, linking targets to related electrical generation, transmission, distribution, and infrastructure availability.

Commenter: [171-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Adequate Infrastructure Exemption" in "Exemptions and Extensions – General" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

k) Exemption Process is Too Burdensome

Comment Summary: The commenters state that the exemption process is too burdensome on CARB staff or regulated parties to be feasible or efficient.

Commenter: [113-15d, 158-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Exemption Process is Too Burdensome" in

"Exemptions and Extensions – General" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

l) Alternative Fuels and Combustion Vehicles – Require 'Optional Low NOx' ICE Vehicles Combusting Biomethane When ZEV Are Not Available

Comment Summary: The commenters recommend that ACF consider alternative compliance options like natural gas/RNG and hydrogen blended fuel vehicles during the transition to ZEVs.

Commenter: [174-15d, 176-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Alternative Fuels and Combustion Vehicles – Require 'Optional Low NOx' ICE Vehicles Combusting Biomethane When ZEV Are Not Available" in "Alternative Fuels and Combustion Vehicles" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

m) Establish Independent Exemption Hearing Board

Comment Summary: The commenters state that CARB should establish a hearing board to review exemption requests.

Commenter: [158-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Establish Independent Exemption Hearing Board" in "Exemptions and Extensions – General" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

n) Include Appeals Process for All Exemptions

Comment Summary: The commenters request an appeal process for all exemptions.

Commenter: [122-15d, 135-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Include Appeals Process for All Exemptions" in "Exemptions and Extensions – General" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

o) Adjust One Year Advance Action Requirement to Start After Regulation Finalized

Comment Summary: The commenters request that extensions with a one-year advance action requirement begin after the ACF Regulation is finalized.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Adjust One Year Advance Action Requirement to Start

After Regulation Finalized” in “Exemptions and Extensions – General” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

13. Exemptions and Extensions – Infrastructure Delays

a) Infrastructure Delay Extension – 15-Day Changes Too Onerous

Comment Summary: Commenter states the changes to Infrastructure Delay Extension are too onerous and detailed to be used and applied.

Commenter: [100-15d, 143-15d]

Agency Response: No changes were made in response to these comments. The extension criteria were streamlined, clarified, and made more objective in the direction of the Board and in response to stakeholder comments in the ACF 15-day changes. Additional process language was added to address complexities of verifying and implementing the newly added criteria for site electrification related delays. The complex nature of assessing individual site infrastructure delays while preventing potential loopholes in the Regulation necessitates detailed information to verify an applicant fleet's need for extensions.

b) Infrastructure Delay Extension – Include Lack of Access to Public Charging

Comment Summary: Commenter states the Infrastructure Delay Provision needs to account for lack of access to public charging.

Commenter: [138-15d, 160-15d]

Agency Response: No changes were made in response to these comments. The ACF Regulations will set clear market signals to infrastructure providers that a ZEV market for supporting fuels will be there. The Regulation was structured with later timelines for vehicles that are more likely to use public infrastructure to provide time for that infrastructure to be built out. Fleets have the choice to electrify vehicles they desire first. The HPF Regulation also generally targets larger entities that have more flexibility and capital to select vehicles and sites to transition first. According to the LER data, most trucks don't travel more than 100 miles a day on average, and most trucks return to base. The Milestones Option starts with predominantly local, short distance duty cycle vehicles. The likelihood of this being an issue will shrink over time. The Regulation also provides flexibility to use NZEVs for compliance which would not have similar limitations on public fueling infrastructure availability. With more time, there is a higher likelihood FCEVs will be available and stations will be developed. There are charging and hydrogen fueling stations that can be used by lighter trucks as well. Charging-as-a-service, mobile, temporary, and off-grid fueling, and generation solutions exist today for ZEVs and can be used as alternative fueling solutions. With the recent passage of the IRA and the IIJA, public infrastructure will be less of an issue as these programs are rolled out. See more information about developments in public or retail ZEV fueling in section “Infrastructure Availability – Publicly Accessible” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

c) Infrastructure Delay Extension – Include When Driver Takes Truck Home

Comment Summary: Commenter states the Infrastructure Delay Provision needs to account for vehicles that are taken home at the end of the night.

Commenter: [160-15d]

Agency Response: No changes were made in response to these comments. Based on staff's assessment of the market, most fleets subject to the Regulation are expected to use depot charging initially, and therefore this factor does not need to be considered as part of the extension criteria. It is a business decision to allow drivers to take trucks home and fleet owners can adjust their business practices if needed to best utilize their ZEVs. ZEVs can save fleet owners time because overnight charging would take less time than fueling a conventional vehicle during work hours. Manufacturers already provide services that identify vehicle charging such that companies could pay for an upgrade at the driver's home and track such charging. The costs of installing residential charging for a lower weight class vehicle is typically considerably lower than a centralized depot and could result in cost savings for the company compared to installing infrastructure at a depot. Fleet owners also have additional options besides paying for infrastructure at driver's homes; they could develop a centralized parking and fueling depot, utilize mobile or temporary or off grid charging or self-generation solutions or public charging, etc. See more information about developments in public or retail ZEV fueling in section "Infrastructure Availability – Drivers Park Truck at Home" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

d) Infrastructure Delay Extension – Incremental Upgrade Requirement Concerns

Comment Summary: Commenter states that the new documentation required for the extension under the ZEV Infrastructure Site Electrification Delays (Section 2015.3(c)(2)(C)), includes the application, or a copy of utility contract, "consistent with the number of ZEVs the fleet owner must deploy each calendar year," which fails to take into account how a grid is operated and upgraded. Utilities do not make annual individual infrastructure upgrades in the piecemeal manner that is anticipated by this proposed Regulation.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. Utility stakeholders have indicated, and existing infrastructure projects validate, that utilities are willing to install infrastructure in a phased-in manner. For example, a hypothetical site needs 100 ZEVs for compliance but can only support 10 with the current amount of power a utility can deliver to the site. 30 more could be supported over a few years with an upgraded transformer while all 100 could be supported with an upgraded substation or line reconductoring. With a granted extension, the fleet owner would first be required to deploy the 10 ZEVs the site can support. The utility could decide to install the transformer first, which may take less time than upgrading or installing a substation. If the utility decides to do so, the fleet owner would be required to then deploy all 30 ZEVs until the substation

upgrade is complete, at which time the fleet owner would need all 100 ZEVs and the extension would no longer be necessary. The intent of this is to ensure the fleet owner is reasonably deploying ZEVs in a good faith effort to comply with the requirements.

e) Infrastructure Delay Extension – Capacity Evaluation Concerns

Comment Summary: Commenters state the Infrastructure Delay Extension requirement for utility site infrastructure capacity evaluations is unreasonable, as most utility providers do not provide site infrastructure capacity evaluations until a work request is submitted for work to be conducted at the site and due to competing interests from other ratepayers needing upgrades, any capacity estimate without a work contract in place with a utility provider could change at any time. If this occurs, the utility estimate and resulting required amount of ZEVs to be deployed would no longer be accurate and could jeopardize a fleet owner's compliance if CARB expects a number of ZEVs based on an old capacity estimate that the fleet owner could not reasonably meet if the capacity is taken by another ratepayer.

Commenter: [113-15d]

Agency Response: No changes were made in response to these comments. These scenarios are speculative, and staff are not aware of any instances of this occurring. The Regulation cannot anticipate every possible scenario that might occur; sufficient flexibility is built in to comply with the Regulation while providing reasonable criteria for fleet owners to demonstrate actual need for extensions to remain in compliance. Nothing in the Regulation precludes a fleet from submitting additional information from the utility to CARB to consider as part of the Executive Officer's good engineering and business judgement. Additionally, nothing in the Regulation presumes that the Regulation is the only source of load upgrades a utility would need to make. The intent of the provision is not to suggest a utility would not make upgrades affecting their capacity estimates for other reasons. These kinds of scenarios are why inclusion of the language related to the Executive Officer's good engineering or business judgement is necessary, to consider all relevant issues. A utility's assessment of site requirements would likely include other needed on-site loads that are communicated to the utility.

f) Infrastructure Delay Extension – Multiple Fleets at One Site Concerns

Comment Summary: Commenter states that the revised language states that the extension may be "up to two years, beginning on the applicable compliance date for the number of vehicles that qualify for the extension," but this is an unknown quantity as on-airport charging facilities may have shared charging stations utilized by all carriers operating at the airport. By requiring fleet owners to "deploy the maximum number of ZEVs needed to meet its compliance obligations and that can be supported by the utility" in Section 2015.3(c)(2), CARB is failing to take into account that airports have multiple fleet owners utilizing the same charging capacity and the "maximum number" for one entity is mutually dependent on the charging demand of all of the other owners and operators. Lead times to procure and install chargers are a minimum of 18-24 months.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. Nothing in the Regulation precludes a fleet from submitting additional information to the utility or to CARB to consider as part of the Executive Officer's good engineering and business judgement. The intent of the provision is not to suggest a fleet would not make upgrades requiring utility capacity for other reasons. These kinds of scenarios are why inclusion of the language related to the Executive Officer's good engineering or business judgement is necessary, to consider all relevant issues. A utility's assessment of site requirements would likely include other needed on-site loads that are communicated to the utility.

An extension for a prorated or shared station could be treated the same as a station utilized by a single fleet with the current language. The utility serving the location would likely be aware that multiple fleets are requiring upgrades at the site and would likely include that information in their estimate. Multiple fleets utilizing a common site can also submit a joint application. Nothing in the Regulation precludes the Executive Officer from considering all vehicles that would rely on a common charger and information about what portion of the fleet would be using it. The extension could be granted for the number of vehicles that could not be supported by the fleet's proportion of the shared infrastructure.

g) Infrastructure Delay Extension – Cumulative Demand Concerns

Comment Summary: Commenter states CARB must also consider the electricity demand that will be caused by concurrent state efforts to electrify other sectors, such as the residential and light-duty vehicle sectors as part of the broader energy system for supply, distribution, and system reliability, as part of what staff assumes is the Infrastructure Delay Extension based on immediate context. Utility commenter states the approach would segregate total load analysis of a customer into ZEV Regulation compartmentalization, i.e., a determination is needed for ACF needs only, as opposed to total cumulative electrification needs, i.e., ZEV forklifts or off-road equipment.

Commenter: [103-15d, 117-15d, 133-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Nothing in the Regulation precludes a fleet from submitting additional documents to support their extension request from the utility to CARB to consider as part of the Executive Officer's good engineering and business judgement to demonstrate that the specified criteria have been met. Additionally, nothing in the Regulation presumes that the Regulation is the only requirement to which a fleet may be subject. The intent of the provision is not to suggest a fleet would not make upgrades requiring utility capacity for other reasons. The language does focus on compliance with the Regulation because that is the scope and focus of this language. These kinds of scenarios are why inclusion of the language related to the Executive Officer's good engineering or business judgement is necessary, to consider all relevant issues. A utility's assessment of site requirements would likely include other needed on-site loads that are communicated to the utility such as that expected from electrification of forklifts and cargo handling equipment. Utilities can provide information to fleets about total load needed at a site for all upgrades needed, whether it is for compliance with multiple Regulations, multiple fleets sharing infrastructure the same site, or other needed non-regulatory upgrades.

The site electrification delay added as part of the first ACF 15-day changes considers utility related delays. Utilities would be expected to be aware of any regional cumulative capacity issues with needed upgrades, and it is reasonable to expect them to factor these loads in to their estimated completion of utility-side upgrades as part of the extension process. Because these cumulative demands are already expected to be considered, there are no additional changes necessary in response to these comments.

h) Infrastructure Delay Extension – Hydrogen Fueling Infrastructure Lead Time

Comment Summary: Commenters state the long lead time for hydrogen infrastructure development is not currently accounted for under the Infrastructure Delay Extensions.

Commenter: [117-15d]

Agency Response: No changes were made in response to these comments. Staff disagree that hydrogen infrastructure is not accounted for under the extension; as part of the ACF 15-day changes, staff added “delay in manufacture and shipment of ZEV fueling infrastructure equipment” as a reason for which a fleet owner could apply for an Infrastructure Delay Extension for construction-related delays. This provision is specifically fuel neutral and would necessarily include hydrogen fueling infrastructure equipment. Additionally, the site electrification delay criteria specifies that information about hydrogen stations being installed must be submitted as part of the package, explicitly including such fueling stations in the extension criteria.

i) Infrastructure Delay Extension – Construction Permit Timing Concerns

Comment Summary: Commenter requests that the first two years of the rule implementation do not require permit date of one year ahead of the next compliance deadline for the Infrastructure Construction Delay extension construction permit requirements. Commenter states that considering that the rule will not be adopted until mid-2023, and compliance begins January 1, 2024, fleet owners will only have about six months to obtain construction permits to be eligible for the infrastructure construction delay extension in the first year.

Commenter: [047-15d, 156-15d]

Agency Response: No changes were made in response to these comments. It is highly unlikely that fleets will have no other choices in the first years of implementing the Regulation due to the sufficient flexibility built in to the phased-in approach, allowance to keep vehicles for their existing useful life, or allowance for SLG fleets to keep ICE vehicle indefinitely. Additionally, many fleets will have several locations to choose from, so an extension would not be necessary if any other site could be upgraded to meet compliance obligations. It is unlikely extensions will be needed until a higher percentage of the fleet is upgraded.

j) Infrastructure Delay Extension – Construction Completion Timing Concerns

Comment Summary: Commenter states that utilities cannot provide guarantees of construction timelines or grid upgrades as these needs are subject to other priorities,

including responding to storm events, prevention of outages, and other grid priorities. To implement ZEV airline ground support equipment at the scale that CARB is proposing, the respective airport authority, the airlines, and the utility would need to develop a comprehensive and methodical plan to ensure the charging infrastructure can meet the full level of expected demand for the 100 percent milestone.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. The extension criteria do not specify that utilities must provide a guarantee, only an estimated completion. The period of time granted under a site electrification delay would be up to three years based on this estimate and could be extended to up to a total of five years with updated information if the estimated completion date ends up being incorrect. Fleet owners would likely need to develop comprehensive and methodical plans in conjunction with utilities and other related parties to meet the Regulation's compliance obligations.

k) Infrastructure Delay Extension – Clarity on Vehicle Purchases

Comment Summary: Commenter states they appreciate clarity on the Infrastructure Delay Extension that would enable fleets to proceed with purchasing ICE vehicles where necessary to ensure fleets can continue to provide services to their communities.

Commenter: [124-15d]

Agency Response: No changes were made in response to these comments. The commenter is incorrectly interpreting the language; the Regulation specifies in section 2013(n)(3) that "fleet owners may request a temporary extension to count an ICE vehicle being replaced as a ZEV purchase when determining compliance with the ZEV purchase requirements...." This language explicitly does not allow an ICE vehicle to be purchased under the extension; instead, it treats an existing ICE vehicle that would have needed to be replaced as a ZEV purchase, and only until the extension period granted is over. This ensures a fleet would not be considered out of compliance if the fleet had planned on making a ZEV purchase to meet their compliance obligation but could not place the ZEV in service due to delays in infrastructure. In contrast, for example, the language in 2013(n)(2) for the Daily Usage Exemption states "Fleet owners may ... purchase a new ICE vehicle," which explicitly allows for an ICE purchase instead of a ZEV.

l) Infrastructure Delay Extension – Allow Delay of ZEV Purchases

Comment Summary: Commenter requests that the Infrastructure Construction Delay extension allow the delay of ZEV purchases and that the language "fleet owners may only request the following extensions for ICE vehicles being replaced at the site experiencing the delay" is unclear in this context. Commenter requests that section 2013.1(c)(1)(D) be removed as it implies that fleet owners are required to purchase vehicles they are unable to use if they do not have the charging or fueling infrastructure in place.

Commenter: [047-15d, 156-15d]

Agency Response: No changes were made in response to these comments. The intent of the provision is to provide a delay during which a fleet owner would not be considered out of

compliance; the intent is not to excuse a fleet owner from making a good faith effort to comply with the Regulation, which would include going forward with vehicle orders and timing the delivery of such vehicles with the end of the utility's anticipated delay. The fleet owner would be expected to begin using the infrastructure to fuel ZEVs at the time the delay ends, and the project completes; delaying the required purchases until the project is finished could result in un- or under-utilized fueling infrastructure while awaiting a ZEV to be built and would only serve to unnecessarily delay essential emissions reductions.

m) Infrastructure Delay Extension – Require Fleets to Submit Estimated Construction Completion Date

Comment Summary: Commenter requests that, as part of the exemption application to CARB, fleets be required to identify the date by which they plan to complete the necessary customer-side construction because utility construction does not begin until the customer has installed all the required infrastructure on their side and a delay in customer-side construction may change the estimated project completion date.

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. This information is not necessary to include in the Regulation; utilities can request this information from their customers to better estimate a project completion date. Utilities are expected to provide the best estimate of a project's completion they can give based on the information they have. If a fleet owner refuses to provide such requested information to a utility and does not perform their required upgrades in a timely manner, a granted extension period would simply end, and the fleet would potentially be out of compliance with the Regulation and subject to enforcement action.

n) Infrastructure Delay Extension – Include Grid Criteria

Comment Summary: Commenter states CARB should amend the existing Infrastructure Delay Extension to consider grid reliability as a core feasibility element.

Commenter: [060-15d, 115-15d]

Agency Response: No changes were made in response to these comments. The grid's reliability should not have a significant effect on the transition to ZEVs. For more discussion on these concerns, please see responses to issues raised in section "Grid Capacity and Resilience – Grid Reliability" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses." For these reasons, and the unneeded additional complexity it would add to the extension verification and application process, it is not necessary to consider grid reliability as a core element of the extension.

o) Infrastructure Delay Extension – Limit Unnecessary Exemptions

Comment Summary: Commenter requests the infrastructure delay may build a 5-year delay lag into the Regulation and allow fleets to use older, more polluting technology.

Commenter: [152-15d]

Agency Response: No changes were made in response to these comments. The Infrastructure Delay Extension would necessarily delay compliance due to recognized challenges with infrastructure delays in the near-term. However, the compliance mechanism is to only count existing vehicles as ZEVs until the delay period is over; the fleet owner would be expected to place in service the ZEVs that the infrastructure would serve at the end of the delay period. This prevents fleet owners from waiting to the end of the delay period, then ordering ZEVs which would take even longer to be built and delivered.

p) Infrastructure Delay Extension – Utility Relationship Concerns

Comment Summary: Commenter states that the new provisions in Section 2015.3(c) wrongly assume that there is always a direct relationship between the fleet owner and the utility provider and would require airlines to provide documentation such as executed contracts, permits, and other documentation that may not be within the purview of an airport lessee. In many cases, the airport serves as the airlines' utility provider, while the airport manages the agreement with the utility provider.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. If the airport is the utility provider for the airline, the language for the extension is still applicable, and sufficient.

q) Infrastructure Delay Extension – Utility Responsibility Concerns

Comment Summary: Commenters representing POUs that would represent the utility party in the Infrastructure Delay Extension state requirements that "electric utility provider determines it cannot provide the requested power to the site where ZEVs will be charged or refueled before the fleet's next ZEV compliance deadline," the fleet owner's obligation to deploy ZEVs "that can be supported by the utility," and Section 2015.3(c)(2)(C)(3), are unclear and could be interpreted to mean a utility must track or monitor fleet owner exemption requests and compliance plans. The language should be modified to specify the information that is provided to the fleet owner does not require a POU analysis of customer compliance plans, but rather, the fleet owner is making this determination based on its own independent judgement, and to modify language in 2015.3(c)(2)(C)(4) to recognize that utilities do not know the fleet make-up in terms of vehicle size and composition; they are only aware of the total load needed. Commenter suggests striking "provided by the utility" from 2013.1(c)(2)(C)(3.).

Commenter: [133-15d]

Agency Response: No changes were made in response to these comments. The language was included to ensure a fleet had provided sufficient information to the utility, consistent with the fleet's compliance obligations, for the utility to determine what load it can serve to the fleet, and when that load can be delivered. The intent is not for utilities to track individual fleet compliance plans for the fleet owner. Therefore, no change is necessary to modify the language to state this. Utilities would necessarily need to know the total load required by a

fleet, which is informed by the number and type of ZEVs, their fueling capability, and the number and type of ZEV fueling infrastructure equipment needed to serve those ZEVs that are expected to be deployed by the fleet over a specific timeframe necessary for the fleet owner to comply with the Regulation. This information is expected to be shared with the utility by the fleet owner.

r) Infrastructure Delay Extension – Remove 2030 Limit

Comment Summary: Commenter suggests not limiting ZEV infrastructure delay to 2030 because these requests might be required past 2030.

Commenter: [044-15d, 071-15d, 124-15d, 138-15d]

Agency Response: No changes were made in response to these comments. See rationale for why sunseting the provision in 2030 is necessary in Chapter A.(B)14., section 2013.1(c)(2), of the ACF 15-Day Notice.

s) Infrastructure Delay Extension – Include All Construction Delays

Comment Summary: The commenters request that Infrastructure Delay expand the list of "circumstances beyond the fleet owner's control" to include any circumstances that may materially affect construction projects.

Commenter: [007-15d, 120-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Include All Construction Delays" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

t) Infrastructure Delay Extension – Allow Internal Combustion Engine Vehicle Purchases

Comment Summary: The commenters request that the infrastructure extensions provide the ability to purchase a new ICE vehicle.

Commenter: [106-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Allow Internal Combustion Engine Vehicle Purchases" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

u) Infrastructure Delay Extension – Master Response

Comment Summary: The commenters suggest allowing Infrastructure Delays to apply to multiple projects for greater site selection flexibility.

Commenter: [125-15d, 138-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Master Response" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

v) Infrastructure Delay Extension – Allow Permit Applications to Qualify

Comment Summary: The commenters propose that fleet owners qualify for Infrastructure Delay Extension with construction permit applications rather than construction permits.

Commenter: [122-15d, 135-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Allow Permit Applications to Qualify" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

w) Infrastructure Delay Extension – Allow More Time for Extension

Comment Summary: The commenters state more time is needed for Infrastructure Delay Extensions.

Commenter: [111-15d, 117-15d, 130-15d, 138-15d, 153-15d, 158-15d, 170-15d, 171-15d, 173-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Allow More Time for Extension" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

x) Infrastructure Delay Extension – Include Delays Due to Real Estate Acquisition, Landlord Negotiation, or Lease Updates

Comment Summary: The commenters request additional flexibility in the Infrastructure Construction Delay provision for delays due to real estate acquisition, landlord negotiation, or lease updates when non-owned property is involved.

Commenter: [138-15d, 160-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Include Delays Due to Real Estate Acquisition, Landlord Negotiation, or Lease Updates" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

y) Infrastructure Delay Extension – Include Delays in Obtaining Permits

Comment Summary: The commenters state that delays in obtaining permitting should be accounted for in infrastructure delays.

Commenter: [058-15d, 135-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Infrastructure Delay Extension – Include Delays in Obtaining Permits” in “Exemptions and Extensions – Infrastructure Delays” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

14. Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events

a) Mutual Aid Assistance Exemption – Milestone Alignment Concerns

Comment Summary: Commenter states the mutual aid exemption fleet ZEV threshold is not aligned with the ZEV Milestones pathway and requires more ZEVs sooner than the Milestones would.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. The mutual aid exemption adds flexibility to the ZEV Milestone pathway and is not intended to align with it. The purpose of the exemption is to allow fleets to maintain at least one quarter of their fleet as ICE vehicles for added flexibility when responding to mutual aid scenarios. In the early years of the Regulation, as the commenter states, the ZEV Milestones Option would require less than 25 percent of the fleet to be ZEVs. This means the fleet owner would have more than 75 percent of the fleet that are still ICE vehicles to respond to mutual aid scenarios and would be able to use those vehicles instead of purchasing the required 25 percent ZEVs. Nothing in the language requires the exemption requirements to align with the ZEV Milestones Option requirements.

b) Mutual Aid Assistance Exemption – Out-of-State Aid Concerns

Comment Summary: Commenter asks how the mutual aid exemption will apply to out-of-state fleets performing mutual aid. Commenters state the Regulation appears to imply that an out-of-state vehicle/vehicle fleet operating in California to assist in a state of emergency would become subject to ACF after 30 days. The inclusion of this provision further puts Californians at risk as it discourages out-of-state entities from providing aid in emergency situations, which in dire situations can last much longer than 30 days.

Commenter: [117-15d, 169-15d]

Agency Response: No changes were made in response to these comments. The SLG Regulation expressly does not include out-of-state government fleets operating in California, nor does the HPF Regulation. The HPF Regulation explicitly exempts vehicles from other states operated in California pursuant to declared emergency events. Fleets that have designated backup vehicles can operate an unlimited number of emergency response miles. The Regulation already provides sufficient relief for out of state vehicles brought to California to assist during mutual aid situations, therefore no changes were made.

c) Mutual Aid Assistance Exemption – Unique Redlines from Comment Letter 155

Comment Summary: Redlines for Mutual Aid Exemption. Section 2015.3(f)(2): add “or 50 vehicles, whichever is greater” and “or an explanation from the fleet owner stating why a compatible mobile fueling option is not practicable for the mutual aid scenarios to which the fleet owner reasonably expects to respond.”

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. Adding “or 50 vehicles, whichever is greater” would potentially allow many more exemptions and would provide an unlevel playing field. For example, a 100-truck fleet would potentially be eligible to purchase ICE vehicles for half of the fleet, while a 50-truck fleet would potentially be eligible to purchase ICE vehicles for the entire fleet. This change would also have an emissions disbenefit. Adding “or an explanation from the fleet owner stating why a compatible mobile fueling option is not practicable for the mutual aid scenarios to which the fleet owner reasonably expects to respond” is too subjective of a requirement and would result in enforceability issues.

d) Emergency Provisions – Expand to Non-Declared Emergencies, Remove Mutual Aid Agreements, and Allow Fleets to Set Their Own Internal Combustion Engine Vehicle Cap

Comment Summary: The commenters express concern about the ACF Regulation's unintended consequences on public utilities and their ability to provide essential services, particularly during emergency events. They argue that the Regulation lacks necessary exemptions and impairs their ability to respond to emergencies and service needs crucial to heavy equipment and emergency systems operation.

Commenter: [115-15d, 117-15d, 130-15d, 169-15d]

Comment Summary: The commenters recommend that CARB revise the Mutual Aid Assistance exemption, allowing the public agency's governing board or the agency itself to determine individual needs and adjust the ZEV threshold and ICE caps through public action.

Commenter: [079-15d, 113-15d, 169-15d]

Comment Summary: The commenters suggest removing the 25 percent ICE cap for the mutual aid provision or submitting an alternative cap based on individual fleet needs, arguing that a one-size-fits-all cap is unreasonable.

Commenter: [133-15d, 155-15d, 169-15d]

Comment Summary: The commenters request that CARB extend the Mutual Aid Assistance exemption eligibility to various utilities even without mutual aid agreements and expand the provision to non-declared emergency events, as emergencies often cannot wait for state declarations.

Commenter: [113-15d, 173-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Emergency Provisions – Expand to Non-Declared Emergencies, Remove Mutual Aid Agreements, and Allow Fleets to Set Their Own Internal Combustion Engine Vehicle Cap” in “Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

e) Mutual Aid Assistance Exemption – Mobile Fueling Issues

Comment Summary: The commenters raise various concerns about the mobile fueling requirement of the Mutual Aid Assistance exemption.

Commenter: [055-15d, 104-15d, 125-15d, 133-15d, 136-15d, 155-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Mutual Aid Assistance Exemption – Mobile Fueling Issues” in “Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

f) Mutual Aid Assistance Exemption – Remove Gross Vehicle Weight Rating and Vehicle Type Limits

Comment Summary: The commenters request the removal of weight class restrictions from the Mutual Aid Assistance exemption.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Mutual Aid Assistance Exemption – Remove Gross Vehicle Weight Rating and Vehicle Type Limits” in “Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

g) Mutual Aid Assistance Exemption – Remove Zero-Emissions Vehicle Threshold Requirement

Comment Summary: The commenters state that the 75 percent ZEV threshold in section 2015.3(f)(2) “Mutual Aid Assistance” should be removed or adjusted.

Commenter: [079-15d, 117-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Mutual Aid Assistance Exemption – Remove Zero-Emissions Vehicle Threshold Requirement” in “Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

15. Exemptions and Extensions – Vehicle Delivery Delay

a) Vehicle Delivery Delay Extension – Purchase or Order Date Clarity

Comment Summary: Commenter states that A4A and its members appreciate CARB's acknowledgement of potential delivery delays for equipment. For airlines, while there are ZEV options that are operationally feasible, many of the suppliers have limited capacity that would be quickly consumed as all airlines work to changeover their fleet at the same time. Currently, airlines are already seeing extended timelines for the delivery of GSE. A4A also recommends that CARB revise the last sentence of Section 2015.3(d)(1)(B)(3) as it does not differentiate between an order date and a purchase agreement date.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. The language that was added, as referenced in Section D (Section 2015.3, #24) of the Notice of Public Availability of Modified Text and Availability of Additional Documents (ACF 15-Day Notice) for the Regulation, states that "The purchase agreement shows the new ZEV was ordered at least one year prior to the next upcoming ZEV Fleet Milestone" and "If the order was placed before January 1, 2024, the purchase agreement must show the order was placed on or before [INSERT EFFECTIVE DATE]." Therefore, the purchase agreement must reflect an order date as specified in Section 2015.3(d)(1)(B)(3).

b) Vehicle Delivery Delay Extension – Increase Time to Reorder Due to Manufacturer Cancellation

Comment Summary: Commenters suggest aligning SLG and HPF related to manufacturer cancellations and increase the HPF timeframe to order a new ZEV from 180 days to one year.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. In section 2015.3(d)(2), the language was modified to allow fleet owners up to 180 days, and a full year (365 consecutive days) for government fleet owners, to enter into a new purchase agreement under the Vehicle Delivery Delay Extension if the manufacturer cancels the purchase agreement for reasons outside of the fleet owners' control. This change is necessary to provide fleets with sufficient time to enter into a new purchase agreement if a manufacturer cancels an order as this is considered circumstance outside of the fleet owner's control. It also recognizes that the public fleet bid process may necessitate additional time. In addition, language was added stating that if no ZEV is available, the fleet owner may apply for the ZEV Purchase Exemption. This change is necessary to direct the fleet owner to the appropriate exemption that would cover their new circumstance should it occur.

c) Vehicle Delivery Delay Extension – Include Consideration of Manufacturer Restrictions

Comment Summary: Commenters suggest modifying the Vehicle Delivery Delay provision to allow circumstances where an owner is unable to enter into an agreement to purchase ZEVs due to manufacturer restrictions or requirements, including requirements that sufficient

infrastructure be in place at the time of entering into the purchase agreement, because this real-world example is out of a fleet owner's control.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. To the extent a manufacturer is requiring unreasonable requirements from the fleet owner, the fleet owner would be expected to find another manufacturer. The Regulation allows sufficient flexibility to select the easiest to electrify vehicles first.

d) Vehicle Delivery Delay Extension – Remove Delivery in California Requirement

Comment Summary: Commenter suggests removing "in California" from the purchase agreement requirements of the Vehicle Delivery Delay provision to recognize that vehicles purchased under lease agreement or bundled service agreements may not be delivered to California but would be ultimately placed by the fleet in service in California and should be granted an extension for delay in delivery of such vehicles.

Commenter: [122-15d]

Agency Response: No changes were made in response to these comments. This language is consistent with the manufacturer requirement in ACT where the manufacturer would not generate credit toward their compliance requirements unless the vehicle is sold and delivered to California; therefore, manufacturers have incentive to deliver vehicles to California, and this is not anticipated to be an issue.

e) Vehicle Delivery Delay – Master

Comment Summary: The commenters express concern about fleets being considered non-compliant if ZEV deliveries take longer than a year, suggesting that Regulation requirements should be based on vehicle purchases instead of deliveries. They request adjustments to consider project-specific timelines and allowing ICE vehicle purchases when ZEV deliveries take longer than one year.

Commenter: [111-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Vehicle Delivery Delay Extension – Vehicle Delivery and Order Timeline Concerns" in "Exemptions and Extensions – Vehicle Delivery Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

16. Exemptions and Extensions – Waste and Wastewater

a) Waste and Wastewater Fleets – Allow Fleet Owner Compliance Choice

Comment Summary: Commenter requests the waste and wastewater provision be clarified and allow fleet owners to select either a purchase requirement or the ZEV Milestones Option because public agencies would need to adhere to two different Regulations which requires

additional reporting and planning strategies based on the supportive function of each vehicle.

Commenter: [107-15d, 113-15d]

Agency Response: No changes were made in response to these comments. The SLG purchase requirement already allows fleets to purchase ICE vehicles of any type until January 1, 2027, as half of the fleet's annual purchases, and can continue to operate existing ICE vehicles as long as they want. The Waste and Wastewater provision under the ZEV Milestones Option is limited to delay required ZEV purchases for roughly three years for most affected vehicles, but only for the number of vehicles in the fleet as of January 1, 2024. That provision also allows ICE purchases of any kind as long as fleets are meeting their ZEV Milestone requirement. Allowing fleets to delay purchases until 2030 would be counter to the intent of the provision and the Board's direction to recognize investments already made to comply with SB 1383 and would significantly delay deployments of ZEVs in these fleets.

b) Waste and Wastewater Fleets – Modify “Garbage” to “Waste”

Comment Summary: Commenter states the term "garbage vehicle configurations" should be modified to "waste fleet vehicle configurations" for consistency with commenter's suggested updated "waste fleet" definition that would include non-garbage related SB 1383 services, like composting.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. Because no changes were made to expand the waste fleet definition, the suggested update to the configurations is not necessary.

c) Waste and Wastewater Fleets – Provision Restricts Use of Senate Bill 1383 Gas

Comment Summary: Commenters state the Waste and Wastewater Fleets provision restricts their ability to utilize the RNG that will soon be generated due to SB 1383.

Commenter: [117-15d]

Agency Response: No changes were made in response to these comments. Please see the section called, “Alternative Fuels and Combustion Vehicles – Rule Conflicts with Organic Waste Diversion” in the section on “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

d) Waste and Wastewater Fleets – Include Licenses or Permits and Non-Municipal Contracts

Comment Summary: Commenter states the waste definition should not only include fleets contracted with a municipality, as some jurisdictions do not have contracts and instead use license or permit systems, and many contracts are not with municipalities but are with counties or solid waste agencies (joint powers authorities) and should be modified to include these.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. The intent of the language is to have a verifiable paper trail and contractual agreement to provide services. Contracts can include various forms of agreements, including licensing or permitting systems. The intent of requiring the contract with a municipality was to include the various local governments that would be subject to SB 1383 requirements, which was expected to include cities and counties. Joint powers authorities are legally created entities that allow two or more entities to jointly exercise public powers, and thus would be included in the intent of the “municipalities” term. The language that such entities be mandated to procure products created by organic waste diversion through SB 1383 sufficiently limit this definition to the intended audience.

e) Waste and Wastewater Fleets – Include Other Senate Bill 1383

Activities

Comment Summary: Commenter states the waste fleet definition should not be limited to supporting biomethane production, but all SB 1383 related activities including composting and rendering operations.

Commenter: [080-15d, 151-15d, 163-15d, 169-15d, 175-15d]

Agency Response: No changes were made as result of this comment. Although organic waste diversion can be interpreted more broadly to include agricultural and forestry waste, the Board’s direction was to narrow the focus on those fleets involved in diverting organics to facilities that have invested in anaerobic digestion technologies, such as those at wastewater treatment facilities or stand-alone digesters. The Board decided the provision should not be broader and would not apply to diesel vehicles to ensure emissions reductions are achieved.

f) Waste and Wastewater Fleets – Include Specialty and Weight-Sensitive

Vehicles

Comment Summary: Commenter requests that CARB extend the ‘Waste and Wastewater Fleet Option’ to specialty and/or weight sensitive vehicles fueled with biomethane.

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments. The Board directed staff to include a provision to recognize fleets that have already made investments in biomethane vehicles and infrastructure related to implementation of SB 1383. Including other vehicle types or industries would be counter to Board direction. The provision already includes these types of vehicles if the fleet is an eligible wastewater fleet, and certain refuse vehicles if an eligible waste fleet. Additionally, specialty vehicles as defined in the Regulation are already on the latest timeline of the ZEV Milestones Option, so would not benefit from being added to the provision, which moves eligible vehicles to the Group 3 timeline under ZEV Milestones.

g) Waste and Wastewater Fleets – Include Other Industries

Comment Summary: Commenter states other industries ill-suited for electrification should be allowed into the Waste and Wastewater Fleet Option.

Commenter: [151-15d, 160-15d, 177-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Alternative Fuels and Combustion Vehicles – General Comments” in “Alternative Fuels and Combustion Vehicles” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

h) Waste and Wastewater Fleets – 2024 Fleet Limit Concerns

Comment Summary: Commenter states that the 15-day regulatory language does not provide the Board-directed flexibility to fleets for use of wastewater-derived renewable biomethane that will be produced post-2024 and instead limits the vehicles fueled by biomethane to those in the fleet as of January 1st, 2024, which is before the SB 1383 facilities have been built.

Commenter: [146-15d]

Agency Response: No changes were made in response to these comments. Staff are mindful of the importance of backsliding on GHG reductions and anticipate that biomethane demand in the transportation sector is expected to decline over time but recognize that biomethane can displace fossil fuels in other sectors on the path to carbon neutrality. The Waste and Wastewater Provision was designed to avoid the proliferation of new CNG fueling infrastructure with the foresight that biomethane would soon be directed away from use directly as a combustion fuel, and instead be used in other hard-to-decarbonize sectors or be used as a feedstock to produce hydrogen for FCEVs and to produce electricity to charge BEVs.

i) Waste and Wastewater Fleets – Remove 10-Year Contract Limit

Comment Summary: Commenter suggests removing the requirement to have a 10-year contract for waste fleets because it is arbitrary and unnecessary to fulfill the purpose of the exemption, as some agreements are for seven years, or one year with automatic renewals.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. These timeframes were drafted with input from directly affected stakeholders at the December 12, 2022, public workshop. The Board determined that the proposed timeframes were sufficient.

j) Waste and Wastewater Fleets – Waste and Wastewater Fleet Implementation

Comment Summary: The commenters request extensions for waste and wastewater fleets to use RNG generated from diverted organic waste.

Commenter: [060-15d, 117-15d, 177-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Waste and Wastewater Fleets – Waste and Wastewater Fleet Implementation" in section "Exemptions and Extensions – Waste and Wastewater" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

17. Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption

a) Zero-Emissions Vehicle Purchase Exemption – Add Commenters' Specific Vehicle Types to the Initial List

Comment Summary: Commenters suggest adding their specific vehicle types to the ZEV Purchase Exemption list of configurations that would be initially listed.

Commenter: [046-15d, 122-15d]

Agency Response: No changes were made in response to these comments. The vehicle configurations selected were determined to be the most common body types of the vehicles reported in the LER, which is explained in more detail in Chapter I.D. of the ACF ISOR. It is not feasible for every possible vehicle configuration that may not currently be available as a ZEV to be initially listed given the wide variety of specification combinations and customization options. If a vehicle configuration is deemed unavailable to purchase through the exemption application process, it would then be added to the ZEV Purchase List.

b) Zero-Emissions Vehicle Purchase Exemption – Add Water Standards to Safety Criteria

Comment Summary: Commenter suggests adding "water standards" to the ZEV Purchase Exemption list of safety standards that, if violated, would result in a determination that a ZEV is not available to purchase for a particular fleet.

Commenter: [124-15d]

Agency Response: No changes were made in response to these comments. The intent of the safety provision language is to address vehicle-specific safety issues and ensure that there aren't there any conflicts with existing health and safety laws, such as OSHA or NHTSA requirements. This provision was not intended to cover potential violations of safety laws if the vehicle could not perform. In fact, the premise that the vehicle cannot perform the needed duties is unfounded for most vehicle types and duty cycles. Please see responses to issues raised in section "Zero-Emissions Technology – General" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Zero-Emissions Vehicle Purchase Exemption – Require More Vehicle Characteristics in the Application Information to Be Submitted

Comment Summary: Commenter states that the documentation evaluated by the CARB Executive Officer under the fleet-specific ZEV Purchase Exemption application should include evidence of battery capacity, range, compatibility with auxiliary equipment, payload, delivery date commitments, and maintenance/warranty support.

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. The information to be submitted with an exemption application contains characteristics that directly relate to the primary intended function of the vehicle. These characteristics are essential to the basic functionality of the configuration. Factors such as battery capacity, range, compatibility with auxiliary equipment, payload, delivery date commitments, and maintenance/warranty support do not prevent a vehicle from performing its primary intended function and are not necessary to be included for the evaluation of an exemption application.

d) Zero-Emissions Vehicle Purchase Exemption – Add “Available” Definition

Comment Summary: Commenter requests adding a definition for “available” because changing “commercially available” to “available” in the revised language does not assist with complying entities’ understanding of CARB’s decision-making processes.

Commenter: [100-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add ‘Commercial Availability’ Definition” in section “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

e) Zero-Emissions Vehicle Purchase Exemption – Reduce 18-Month Model Year Period to 12 Months

Comment Summary: Commenters state that the model year requirement of considering a vehicle available of 18 months should be reduced to 12 months or less because manufacturer business practices do not guarantee when a model will be available and are consistently marketed as being sooner than they will actually be available.

Commenter: [113-15d]

Agency Response: No changes were made in response to these comments. The 18-month period accounts for the varying timeframes between the calendar year and the model year used by manufacturers. A manufacture is authorized to use a model year for up to two years prior to the final production date for that model year.

f) Zero-Emissions Vehicle Purchase Exemption – Add Zero-Emissions Vehicle Reliability Assessment

Comment Summary: Commenter states that the availability criteria must include an assessment of ZEV reliability.

Commenter: [007-15d]

Agency Response: No changes were made in response to these comments. The ZEP Certification requirement was added to the availability criteria as part of the ACF 15-day changes to ensure ZEV reliability, which addresses this comment.

g) Zero-Emissions Vehicle Purchase Exemption – Staff Not Qualified to Determine What Bodies Fleets Can Use

Comment Summary: Commenters state that CARB staff are not qualified to determine what bodies fleets can use and that they should not be determining if a body will meet a fleet's needs, as bodies are specialized and take years to refine, and CARB staff being involved in this determination would void long-term contracts and specifications fleets use to meet operational needs.

Commenter: [033-15d, 113-15d]

Agency Response: No changes were made in response to these comments. Exemption requests are evaluated based on the information gathered from fleet owners or manufacturers and what a fleet owner claims to be necessary for fleet operations in their exemption application. CARB is not determining what bodies fleets can use, but rather identifying, where possible, an available ZEV or body that can be installed on a ZEV or NZEV chassis that correlates with the information submitted with an exemption application.

h) Zero-Emissions Vehicle Purchase Exemption – Reduce 18-Month Model Year Period to 0 Months

Comment Summary: Commenters state the criteria for considering a ZEV available to purchase should require that a manufacturer offer a ZEV for sale immediately, rather than considering ZEVs with model years within the next 18 months to be available.

Commenter: [079-15d]

Agency Response: No changes were made in response to these comments. Similar to ICE vehicles, it is normal for ZEV manufacturers to offer for sale a vehicle with a model year that is not immediately available to determine supply needs to fulfill a higher number of orders. Purchasing a model year that is not immediately available requires a contractual purchase agreement with manufacturer fulfillment obligations and it would therefore be unreasonable to deem these vehicles as unavailable. Additionally, requiring that the ZEVs or NZEVs offered for sale have a model year 18 months or less from the date the fleet owner submitted the complete exemption request, to be considered available to purchase, is a reasonable time period and comparable to ICE vehicles offered for sale.

i) Zero-Emissions Vehicle Purchase Exemption – Clarify Useful Life Applicability

Comment Summary: Commenter states the Regulation should state that the ZEV Purchase Exemption lasts for the useful life of the vehicle, so that it's clear that the exemption does not expire when the vehicle configuration is removed from the ZEV Purchase Exemption List.

Commenter: [135-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Vehicles purchased pursuant to exemptions under the Model Year Schedule already have full useful life. Language in the ZEV Milestones Option guarantees a full useful life for ICE vehicles purchased pursuant to the ZEV Purchase Exemption by not requiring the waiver of provisions of Health and Safety Code 43021(a) for vehicles purchased pursuant to exemptions. The SLG requirements also contain no useful life turnover requirements.

j) Zero-Emissions Vehicle Purchase Exemption – Concerns Over Next Higher Weight Class Requirement

Comment Summary: Commenter states the ZEV Purchase Exemption should not require the purchase of a vehicle in the next higher weight class for potential cost, availability, and infrastructure concerns. Commenters also cite issues if a vehicle currently doesn't require a commercial driver license and the next weight class above would require one.

Commenter: [007-15d, 008-45d, 044-15d, 055-15d, 104-15d, 124-15d, 125-15d, 130-15d, 133-15d, 138-15d]

Agency Response: No changes were made in response to these comments. The ZEV Purchase Exemption is structured to allow fleets to purchase an ICE vehicle only if a ZEV or NZEV that can perform the same function is not available. When reviewing current market ZEV offerings, the Regulation allows for the inclusion of a ZEV offered in the next higher weight class as part of the exemption process to account for potential payload reductions that a ZEV manufacture may inherently need to factor in for the design and production of the same ZEV truck in a lower weight class. If a ZEV in the next higher weight class can equivalently perform the primary intended function of the vehicle configuration, than the Regulation considers this vehicle to be available as a ZEV and there is no need for an exemption. This inclusion is necessary to assist in ZEV acquisition as it results in more ZEV options that are available to purchase that can meet fleet needs. Additionally, a fleet would need to weigh licensing requirements with vehicle choice in its business decision.

k) Zero-Emissions Vehicle Purchase Exemption – Manufacturers to Certify the Vehicle Meets Daily Range and Payload Requirements

Comment Summary: Commenters state the exemption process should put the burden of proof on the manufacturer to certify that its vehicle meets daily range and payload requirements rather than the fleet owner/end user being forced to compile voluminous information for an exemption.

Commenter: [100-15d, 160-15d]

Agency Response: No changes were made in response to these comments. Daily range and payload requirements vary by fleet, and it would not be feasible for a manufacturer to certify that a ZEV meets these specific requirements due to the variation in fleet operations. Manufacturers also typically advertise or inform fleet owners of a vehicle's range and payload capabilities prior to establishing a purchase agreement and fleet owners have the option of selecting a ZEV appropriate to their specific requirements in the instance that more than one available ZEV meets the fleet's needs. In consideration of this factor, it is more reasonable for fleets to demonstrate that a ZEV is not capable of meeting daily range and payload requirements.

l) Zero-Emissions Vehicle Purchase Exemptions – Remove Manufacturer Attestation Requirement

Comment Summary: Commenter states that it should be CARB's responsibility to identify whether or not manufacturers have available configurations instead of fleet's obtaining manufacturer attestations.

Commenter: [033-15d, 111-15d]

Agency Response: No changes were made in response to these comments. Manufacturers work closely with their customers when ordering and designing trucks to the fleet's specifications, and are capable of producing a wide range of unique configurations based on the specific requests of a fleet owner. It would therefore be impossible for CARB to identify every vehicle configuration that is available from manufacturers because manufacturers often require fleets to request a vehicle configuration in order for it to be produced.

m) Zero-Emissions Vehicle Purchase Exemption – Require Manufacturers to Provide Statements

Comment Summary: Commenters state the ZEV Purchase Exemption requirement that fleets supply statements from manufacturers or authorized dealers that they do not offer ZEV or NZEV chassis or vehicles in the needed configuration is unreasonable, because manufacturers will not supply statements that a vehicle configuration is not available unless required by Regulations, and suggest language is added to require manufacturers to supply these statements.

Commenter: [055-15d, 113-15d, 158-15d]

Agency Response: No changes were made in response to these comments. Some form of statement from the manufacturer is reasonable to request from fleet owners. Written correspondence is preferred, but not expressly required in the Regulation. The intent of this provision is to require a statement to verify that a vehicle configuration cannot be produced. These statements do not necessarily need to be in formal written correspondence. To the extent the manufacturer does not provide that, communication with the manufacturer could suffice, such as an email, as long as the documentation shows that needed vehicle configuration cannot be produced by the manufacturer.

n) Zero-Emissions Vehicle Purchase Exemption – Inconsistency in the Required Number of Manufacturer Statements

Comment Summary: Commenter states that language is not consistent when CARB allows two manufacturers must be available to consider a ZEV configuration to be available in one part and one manufacturer in the other part.

Commenter: [013-15d]

Agency Response: No changes were made in response to these comments. The requirement for fleet owners to provide statements from two manufacturers is necessary as a first step to ensure the ZEV or NZEV is not available for purchase by requiring the fleet owner to communicate their need for the vehicle configuration to an existing ZEV or NZEV manufacturer. Only one manufacturer or authorized dealer that offers a ZEV or NZEV in the needed vehicle configuration as a result of the exemption application process is necessary because the vehicle configurations on the ZEV Purchase List do not have a minimum required threshold of manufacturers that must be producing the configuration.

o) Zero-Emissions Vehicle Purchase Exemption – Require Engine Hour Tracking

Comment Summary: Commenter states that tracking engine hours for exempt vehicles could help identify configurations initially listed on the ZEV Purchase Exemption List with low miles driven and excessively high engine hours that could likely benefit from electrification when stationary, such as through an ePTO.

Commenter: [172-15d]

Agency Response: No changes were made in response to these comments. Retrofitting ICE vehicles with ePTO is not a sufficient compliance response considering that the primary goal of this Regulation is to deploy ZEVs. In addition, the ZEV Purchase Exemption List is a streamlined approach that would be expected to respond to ZEV market conditions, not availability at the individual ZEV level. Collecting engine hours and requiring those to be reported for each ICE vehicle purchased using the ZEV Purchase Exemption List would introduce unneeded complexity. If a purchase exemption is granted to buy an ICE vehicle, nothing in the Regulation prevents a fleet owner from installing an ePTO system on the vehicle, and there are incentive funds available for this purpose. Collecting this data would not serve to advance the goals of the ACF Regulation and would introduce unnecessary administrative burden.

p) Zero-Emissions Vehicle Purchase Exemption – Include Appeal Process

Comment Summary: Commenter states fleet owners should be given an opportunity to respond to CARB's determinations for the ZEV Purchase Exemption or include an appeals process. Commenter suggests adding an appeal process to deal with disagreements over facts that should be limited to 45 days for CARB to respond to, with an automatic approval if no response is received in that timeframe.

Commenter: [112-15d, 113-15d, 125-15d, 133-15d, 155-15d, 160-15d, 173-15d]

Agency Response: Changes were made in response to these comments. The ZEV Purchase Exemption criteria was updated in the ACF 15-day changes to provide additional clarity and structure to avoid the need to include an open-ended appeals process. Additionally, in the unlikely case a manufacturer misrepresents their products offering and in fact do not meet the criteria in the Regulation, fleet owners can contact implementation staff to inform them of the issues and the offered ZEV would not be considered available to purchase. Additionally, the Regulation was modified in the ACF 15-day changes to indicate that CARB has 45 days to respond to complete exemption applications; otherwise, the exemption is automatically approved.

q) Zero-Emissions Vehicle Purchase Exemption – Allow Additional Specifications in Evaluating a Vehicle’s Ability to Meet Fleet Needs

Comment Summary: Commenter asks the ZEV Purchase Exemption include a requirement that the manufacturer shall provide a specification sheet for the offered vehicle, including evidence of battery capacity range, fully loaded weight and dimensions, compatibility with and run time of auxiliary equipment where applicable, payload, a delivery date for the vehicle within 18 months, and a list of service centers located near the fleet. The purpose of the addition would be to allow fleets to respond to this information and explain why it would not fit their needs.

Commenter: [079-15d, 124-15d, 133-15d]

Agency Response: No changes were made in response to these comments. The exemption is intended to address situations in which a vehicle configuration is not available, or the available ZEV does not meet fleet needs related to the primary intended function of the vehicle. Battery capacity range, fully loaded weight and dimensions, compatibility with and run time of auxiliary equipment where applicable, payload, a delivery date for the vehicle within 18 months, and a list of service centers located near the fleet do not directly relate to the primary intended function of the vehicle. As a result, the specified characteristics are not necessary to be included in a fleet owner’s evaluation in assessing whether a ZEV meets fleet needs or not nor is it necessary to mandate that a manufacturer provide that information.

r) Zero-Emissions Vehicle Purchase Exemption – Add Vehicle Quantity Criteria

Comment Summary: Commenter requests that the availability criteria require that a ZEV be available in sufficient quantities to provide for a competitive bidding environment and avoid price manipulation by vehicle manufacturers and dealers.

Commenter: [037-15d, 071-15d, 136-15d]

Comment Summary: Commenter states that it is necessary to include language stating that a single vehicle meeting the configuration needs will remove the exception which holds the Fleet Owner captive to a closed market and unable to consider or negotiate price.

Commenter: [111-15d]

Agency Response: No changes were made in response to these comments. The ACT Regulation, which requires all manufacturers to produce and sell ZEVs beginning in 2024, will create the needed market competition to ensure multiple ZEVs will be available from multiple manufacturers. Likewise, if a ZEV in a needed configuration is available for purchase, it would be unreasonable to make the determination that it is unavailable based on the quantity offered by a manufacturer, or the number of manufacturers offering the configuration. Fleets are encouraged to contact multiple manufacturers before purchasing a ZEV to evaluate market availability and urge manufacturers to produce more ZEV products. Requiring a specific threshold number of vehicles to be available for purchase could also unintentionally exclude low-volume manufacturers.

s) Zero-Emissions Vehicle Purchase Exemption – Extend Removal of Available Vehicles from List to One Year

Comment Summary: Commenter states the ZEV Purchase Exemption List should have a one-year window before vehicles determined as available to purchase are removed from the list to account for service contract negotiation time.

Commenter: [169-15d, 175-15d]

Agency Response: No changes were made in response to these comments. The 180-calendar day period is a sufficient and reasonable timeframe as it ensures the availability of the vehicle configuration before the list exemption expires in the event a manufacturer rescinds an offer or other unanticipated circumstances occur that cause the vehicle configuration to no longer be available. Extending this timeframe to one year would be excessive and unnecessarily delay ZEV deployment.

t) Zero-Emissions Vehicle Purchase Exemption – Define Truck Types on List

Comment Summary: Commenter states that many of the truck types considered in Section 2015.3(e)(1)(A) are undefined, making it unclear if a particular type of ground support equipment falls within the list. Commenter states that the rulemaking must consider this logistical challenge.

Commenter: [121-15d]

Agency Response: No changes were made in response to these comments. The Regulation establishes a list of the most common body types used in the trucking industry and was not meant to be all-inclusive. Expanding this list is not necessary nor reasonable. Should all of the vehicle configurations initially to be placed on the ZEV Purchase List be defined, every configuration to be added in the future would also need to be defined, which is not reasonable given the wide variety of specification combinations and customization options. Additionally, the selected vehicle configurations are commonly understood by industry whereas many other specialty configurations can have a variety of identifications despite being configured similarly that the Regulation is not intending to define.

u) Zero-Emissions Vehicle Purchase Exemption – Make List Available on Implementation Start Date

Comment Summary: Commenters state the ZEV Purchase Exemption list needs to be available on January 1, 2024, not January 1, 2025, because it will create an administrative burden on fleets applying for exemptions before the list is available. Commenters also request the list have a date and timestamp for updates and have the frequency of updates specified in the Regulation language.

Commenter: [079-15d, 113-15d, 133-15d, 138-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Fleets can opt into the ZEV Milestones Option which provides full flexibility to manage their vehicle upgrades. Under this option, the requirement for upgrading vehicles in Milestone Group 1, which consists of vehicle configurations that are currently widely available as ZEVs, begins on January 1, 2025. Therefore, there is unlikely to be a need for list-purchase exemptions until the Milestone Group 2 or Group 3 requirements for vehicles begin, which are currently not as widely available as ZEVs. Fleet owners may be able to claim exemptions for these vehicle configurations if placed on the list. There would be no reason to do it earlier based on known vehicle availability. The list would not apply in fleet specific cases, where fleets could still apply for a fleet-specific exemption if the criteria is met starting January 1, 2024.

January 1, 2025 was selected as the date in which the ZEV Purchase List is to be established because applications to comply with the first 2025 compliance dates for replacing vehicles will be coming in during 2024. The information from these applications will help the Executive Officer to populate the list and will save time and investment for fleet owners applying for the extension in the future. The Board determined this timeframe is reasonable.

The relevant time and date information for the list updates may also be supplied voluntarily and do not need to be explicitly stated in the regulatory language. The ZEV Purchase List's posted expiration dates, in which a vehicle configuration is to be removed from the list, is specified in the Regulation language as the first day of the month after 180 calendar days after posting the determination that a ZEV no longer meets the specified criteria. The list will be updated as exemption applications are processed, which are submitted by fleets on a case-by-case basis and not on a consistent or predictable schedule. It would therefore be infeasible and unreasonable to provide a specific schedule for updates.

Additionally, the list is anticipated to be ready by 2025, because the requirement for vehicles to be considered available to purchase is contingent on a vehicle's ZEP Certification, which starts in 2024. It would be impractical to make a list prior to 2025 because it will take time for vehicles to go through the certification process.

v) Zero-Emissions Vehicle Purchase Exemption – Do Not Remove Configurations from List Before 2025

Comment Summary: Commenter states the listed vehicle configurations on the ZEV Purchase Exemption list should not be removed from the list prior to January 1, 2025.

Commenter: [175-15d]

Agency Response: No changes were made in response to these comments. Should the ZEV Purchase List be posted on a date that would permit the possibility of the removal of a vehicle configuration prior to January 1, 2025, the fleet owner would be notified at least 180 days in advance of removal. This notice's timeframe provides sufficient time for a fleet owner to plan appropriately for acquisition of the ZEV, if applicable. It is also possible configurations would not be removed prior to January 1, 2025.

w) Zero-Emissions Vehicle Purchase Exemption – Update List Based on Milestone Benchmark Schedule

Comment Summary: Commenter states that the ZEV Purchase List should be updated on a predictable review schedule in anticipation of milestone timeline benchmarks.

Commenter: [139-15d]

Agency Response: No changes were made in response to these comments. The ZEV Purchase List includes expiration dates for each vehicle configuration that inform fleet owners in advance of the duration of time in which they may continue purchasing the ICE vehicle equivalent to allow for appropriate planning. It is the fleet owner's responsibility to verify the availability status of vehicle configurations as needed and prepare appropriately for milestone timeline benchmarks. The list will also be updated as exemption applications are processed, which are submitted by fleets on a case-by-case basis and not on a consistent or predictable schedule.

x) Zero-Emissions Vehicle Purchase Exemption – Add "Complete Vehicle" Definition

Comment Summary: Commenter requests a definition for the term "complete vehicle" to support CARB's ability to decide as to whether granting a ZEV availability exemption is or is not warranted by addressing availability of technology and model options. Commenter suggests adding the language "a 'complete vehicle' is defined as functioning vehicle that has the primary load carrying device or container (or equivalent equipment) attached. Examples of equivalent equipment would include fifth wheel trailer hitches, firefighting equipment, and utility booms."

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments. The definition of configuration as modified by the ACF 15-day changes is sufficient to implement the ZEV Purchase Exemption while balancing the need to keep the criteria and process streamlined, per the Board's direction at the first hearing. A definition for "complete vehicle" is therefore not necessary.

y) Zero-Emissions Vehicle Purchase Exemption – Expand Vehicle Configurations on Initial List

Comment Summary: Commenter requests that the ZEV Purchase Exemption List be expanded to include configurations with attention to vehicles that will not have ZEV options for multiple years.

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments. The ZEV Purchase Exemption List is intended to contain vehicle configurations commonly understood by the industry that will not have ZEV options for multiple years. It is not feasible for every possible vehicle configuration that may not have ZEV options for multiple years to be initially listed given the wide variety of specification combinations and customization options. If a needed vehicle configuration is deemed unavailable to purchase through the exemption application process, it would then be added to the ZEV Purchase List.

z) Zero-Emissions Vehicle Purchase Exemption – Unique Redlines from Comment Letter 135

Comment Summary: Redlines related to ZEV Purchase Exemption. Section 2015: add "'Available to purchase and/or commercially available' means a vehicle that comes in the configuration required to perform the work or necessary services the fleet owner achieves with the existing ICE vehicle it is intended to replace that is not a low-volume manufacturer as described by 49 USC § 30114(b)(7), that is able to deliver the vehicle within six months of an order, and has the ability to provide timely mechanical service to the vehicle throughout the state. Such a vehicle shall meet each of the following criteria: 1) the vehicle cost does not exceed 1.5 times that of a new vehicle it is intended to replace; 2) the vehicle fulfills the duty cycle and work needs of the vehicle it is intended to replace without requiring the purchase of additional vehicles or equipment; and 3) the vehicle complies with the requirements of 13 CCR section 1956.8 and 17 CCR section 95663 as amended by the Zero-Emission Powertrain Certification Regulation." Section 2015: add "A "complete vehicle" is defined as functioning vehicle that has the primary load carrying device or container (or equivalent equipment) attached. Examples of equivalent equipment would include fifth wheel trailer hitches, firefighting equipment, and utility booms."

Commenter: [135-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in sections "Zero-Emissions Vehicle Purchase Exemption – Add 'Commercial Availability' Definition" and "Zero-Emissions Vehicle Purchase Exemption – Add 'Complete Vehicle' Definition" in section "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses" and the "15-Day Comment Period Public Comments with Agency Responses," respectively.

aa) Zero-Emissions Vehicle Purchase Exemption – Unique Redlines from Commenter Letter 155

Comment Summary: Redlines for ZEV Purchase Exemption. Section 2015.3(e)(2)(D): add "4. Documentation from the manufacturer or authorized dealer shows evidence of battery capacity, range, compatibility with and run time of existing equipment where applicable, and payload; a commitment to deliver the vehicle within 18 months, and a list of service centers within reasonable proximity to the fleet; 5. Based on the documentation in subparagraph (4), the ZEV or NZEV meets the fleet's required specifications; 6. The ZEV or NZEV is not offered

solely from manufacturers or authorized dealers that have failed to deliver on commitments to fleets on at least two separate occasions.” Section 2015.3 (e)(2)(E): add “and meets the fleet’s required specifications,” add “along with the information upon which the determination was based. The fleet owner shall have 30 days to review the information and respond if the information does not show the identified ZEV or NZEV is available and meets the fleet’s required specifications. The Executive Officer shall review the fleet owner’s response, if applicable, and within 14 calendar days, issue an approval or denial of the exemption application. If the exemption application is denied,” and remove “deny the exemption request, and.”

Commenter: [155-15d]

Agency Response: No changes were made in response to these comments. The Vehicle Delivery Delay addresses situations in which manufacturers cancel orders. A manufacturer may be unable to meet initial order obligations due to a number of circumstances that may be outside of their control, and it would be unreasonable to deem a vehicle configuration as unavailable based on these often-unpredictable factors and events. The ZEV Purchase List would also be much more difficult and complicated to maintain if failed commitments by manufacturers were to be considered. The related redlines for section 2015.3(e)(2)(D) are therefore unnecessary.

Regarding requiring manufacturer or authorized dealer to show evidence of and produce a ZEV with the vehicle characteristics specified in the redlines for section 2015.3(e)(2)(D), please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Require More Vehicle Characteristics in the Application Information to Be Submitted” in section “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “15-Day Comment Period Public Comments with Agency Responses.”

Regarding requiring a ZEV to meet fleet needs related to the primary intended function of the vehicle as part of the redlines for section 2015.3(e)(2)(E), please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Fleet Specification Criteria” in section “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

The public feedback solicitation process involves manufacturers and authorized installers responding to the vehicle information submitted by a fleet owner. It is unnecessary to supply the information used to determine if an offered ZEV meets the needed specifications, per the redlines for section 2015.3(e)(2)(E), as the fleet owner applicant would already have this information.

Regarding incorporating an appeal process into the ZEV Purchase Exemption per the redlines in section 2015.3(e)(2)(E), please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Include Appeal Process” in section “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “15-Day Comment Period Public Comments with Agency Responses.”

bb) Zero-Emissions Vehicle Purchase Exemption – Unique Redlines from Comment Letter 44

Comment Summary: Redlines to the ZEV Purchase Exemption. Section 2013.1(d)(2)(C)(5): add "including public health standards."

Commenter: [044-15d]

Agency Response: No changes were made in response to these comments. The Regulation has a number of exemptions and extension provisions that address emergency response capability concerns including those relating to meeting public health standards. Additional flexibilities are therefore not necessary to be incorporated into the ZEV Purchase Exemption. Routine operations to prevent public health risks also do not constitute emergency operations.

cc) Zero-Emissions Vehicle Purchase Exemption – Clarify Process and Criteria

Comment Summary: The commenters request transparency and clarification in the ZEV Purchase Exemption process and criteria.

Commenter: [007-15d, 144-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Clarify Process and Criteria" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

dd) Zero-Emissions Vehicle Purchase Exemption – Create Availability List Instead of Unavailability List

Comment Summary: The commenters request that CARB create a ZEV availability list instead of an unavailability list.

Commenter: [018-15d, 022-15d, 023-15d, 026-15d, 027-15d, 028-15d, 029-15d, 030-15d, 032-15d, 034-15d, 036-15d, 040-15d, 041-15d, 043-15d, 045-15d, 049-15d, 051-15d, 054-15d, 059-15d, 061-15d, 062-15d, 064-15d, 067-15d, 115-15d, 118-15d, 128-15d, 130-15d, 134-15d, 140-15d, 142-15d, 150-15d, 157-15d, 166-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Create Availability List Instead of Unavailability List" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

ee) Zero-Emissions Vehicle Purchase Exemption – Add Manufacturer Criteria

Comment Summary: The commenters request that criteria related to manufacturers producing ZEVs be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [007-15d, 071-15d, 079-15d, 112-15d, 113-15d, 117-15d, 121-15d, 133-15d, 135-15d, 136-15d, 137-15d, 169-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Manufacturer Criteria” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

ff) Zero-Emissions Vehicle Purchase Exemption – Required Documentation Is Too Onerous

Comment Summary: The commenters express concerns about the documentation required to be submitted under the exemption process being too onerous.

Commenter: [033-15d, 160-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Required Documentation Is Too Onerous” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

gg) Zero-Emissions Vehicle Purchase Exemption – Add Process for Vehicles with Weight Limits

Comment Summary: The commenters request that a process be added for vehicles with weight limits.

Commenter: [008-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Process for Vehicles with Weight Limits” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

hh) Zero-Emissions Vehicle Purchase Exemption – Add Public Fleet Exemption Process

Comment Summary: The commenters request the addition of a separate exemption process for public fleets.

Commenter: [130-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Public Fleet Exemption Process" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

ii) Zero-Emissions Vehicle Purchase Exemption – Add Delivery Time

Criteria

Comment Summary: The commenters request that criteria related to delivery time of ordered ZEVs be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [037-15d, 079-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Delivery Time Criteria" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

jj) Zero-Emissions Vehicle Purchase Exemption – Add "Commercial Availability" Definition

Comment Summary: The commenters request a formal definition for "commercial availability."

Commenter: [037-15d, 055-15d, 125-15d, 135-15d, 160-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add 'Commercial Availability' Definition" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

kk) Zero-Emissions Vehicle Purchase Exemption – Add Process for Infrastructure Availability Issues

Comment Summary: The commenters request an exemption process for infrastructure availability issues.

Commenter: [008-15d, 079-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Process for Infrastructure Availability Issues" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

ll) Zero-Emissions Vehicle Purchase Exemption – Add Fleet Specification Criteria

Comment Summary: The commenters request that fleet specification criteria for ZEVs be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [007-15d, 008-15d, 037-15d, 055-15d, 079-15d, 112-15d, 113-15d, 121-15d, 125-15d, 133-15d, 139-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Fleet Specification Criteria” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

mm) Zero-Emissions Vehicle Purchase Exemption – Add Cost Criteria

Comment Summary: The commenters request that cost criteria be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [007-15d, 008-15d, 018-15d, 022-15d, 023-15d, 026-15d, 027-15d, 028-15d, 029-15d, 030-15d, 032-15d, 034-15d, 036-15d, 037-15d, 040-15d, 041-15d, 043-15d, 045-15d, 047-15d, 049-15d, 051-15d, 054-15d, 059-15d, 062-15d, 064-15d, 067-15d, 113-15d, 115-15d, 128-15d, 134-15d, 139-15d, 140-15d, 142-15d, 150-15d, 156-15d, 157-15d, 166-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Cost Criteria” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

nn) Zero-Emissions Vehicle Purchase Exemption – Add Range Criteria

Comment Summary: The commenters request that criteria for range be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Range Criteria” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

oo) Zero-Emissions Vehicle Purchase Exemption – Allow Fuel of Choice

Comment Summary: The commenters request that the ZEV Purchase Exemption permit fleet owners to purchase ZEVs according to their preferred fuel choice.

Commenter: [169-15d, 175-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Allow Fuel of Choice" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

pp) Zero-Emissions Vehicle Purchase Exemption – Add Safety Criteria

Comment Summary: The commenters request that criteria related to safety be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [007-15d, 008-15d, 044-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Safety Criteria" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

qq) Zero-Emissions Vehicle Purchase Exemption – Add Third Party Assessment of Availability

Comment Summary: The commenters request the addition of a third-party assessment of availability.

Commenter: [055-15d, 113-15d, 125-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Third Party Assessment of Availability" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

rr) Zero-Emissions Vehicle Purchase Exemption – Add Zero-Emissions Powertrain Certification Criteria

Comment Summary: The commenters request that ZEP certification criteria be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [037-15d, 139-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Add Zero-Emissions Powertrain Certification Criteria" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

18. Public Regulatory Process and Outreach Concerns

a) Process Concerns – Workshop Materials

Comment Summary: Commenter states numerous workshops did not provide materials and instead had "preview drafts" which inhibit thoughtful discussion of the Regulation.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. First, staff notes for the most recent public workshop commenter cites, staff posted draft regulatory text weeks before the workshop to allow stakeholders time to review and provide feedback at the workshop. The slide deck presented was to facilitate discussion of said Regulation text.

b) Process Concerns – Fifteen Days Not Enough Review Time

Comment Summary: Commenters state that the 15-day review period for changes is not enough time and recommends a higher number, including 30 or 45 days.

Commenter: [103-15d, 158-15d, 169-15d]

Agency Response: No changes were made in response to these comments. CARB complied with legal requirements to properly notice changes to the Regulation and release them for public comment for 15 days. See Government Code § 11346.8(c).

c) Process Concerns – Implementation Workgroup

Comment Summary: Commenter requests an implementation workgroup which will display CARB guidance in a public workshop process to provide transparency.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. CARB staff plan to assess various aspects of the Regulation in collaboration with stakeholders during implementation, which is consistent with other fleet Regulations implemented by CARB.

d) Process Concerns – Implementation Timing

Comment Summary: Commenter states the timeframe between the ACF 15-day changes and Board adoption is too close to the rule's implementation and leaves little time for making key decisions.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. CARB disagrees with this comment. This rulemaking was promulgated in accordance with the APA.

e) Process Concerns – No Time for Additional Changes

Comment Summary: Commenter states the current process does not provide time for a second 15-day comment period which limits the opportunity for further changes and questions the worth of the first 15-day comment period.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. The Board determined the first ACF 15-day changes were sufficient when the Board adopted the package at the second Board hearing.

f) Process Concerns – Workshop Timing

Comment Summary: Commenter states that workshops did not provide enough time for a detailed back and forth discussion to fully address issues.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. Staff worked with fleet managers and representatives for four years over the course of regulatory development. During the rulemaking process, CARB staff met with communities in evenings and nearly all public meetings were recorded and held online. In addition to the numerous workshops, workgroups, and other meetings held prior to the October 2022 Board hearing, an additional workshop and two workgroup meetings were held after the October 2022 Board hearing. In preparation for a second Board hearing on April 27, 2023, CARB staff provided a rulemaking package with significant updates based on stakeholder input, for a 15-day public comment period from March 23, 2023, to April 7, 2023.

g) Additional Public Process Needed Prior to Board Approval

Comment Summary: The commenters express concerns about the public process needed prior to Board approval.

Commenter: [105-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Additional Public Process Needed Prior to Board Approval” in “Public Regulatory Process and Outreach Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

h) Periodic Review of Regulatory Implementation Needed

Comment Summary: The commenters suggest that the Board should revisit the progress of Regulation implementation periodically, such as biennially, and include market assessment, infrastructure cost and development, ZEV cost, TCO, vehicle availability, supply chain, and other business impacts in collaboration with stakeholders. They also request that CARB assess the number and type of exemptions used annually and consider future amendments. Moreover, the commenters request that CARB and CEC track the development of California's capacity to power and support the ZEVs resulting from ACF and ACT

implementation, develop publicly available real-time data on whether charging infrastructure construction is on pace to meet ZEV needs, and modify the rules if the tracking data shows that infrastructure cannot support ZEVs deployed by ACT and ACF. They also call for CARB, CEC, and CPUC to work closely with utilities and fleet customers to ensure providers can provide the energy and infrastructure needed.

Commenter: [110-15d, 124-15d, 171-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Periodic Review of Regulatory Implementation Needed" in "Public Regulatory Process and Outreach Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

i) Public Regulatory Process and Outreach Concerns - Periodic Review of Regulatory Implementation Needed

Comment Summary: The commenters express public process concerns relative to needing a periodic review of regulatory implementation.

Commenter: [110-15d, 124-15d, 171-15d]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Periodic Review of Regulatory Implementation Needed" in "Public Regulatory Process and Outreach Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

19. Miscellaneous Issues

a) Support

Comment Summary: Commenters support the Regulation as is.

Commenter: [056-15d, 057-15d, 065-15d, 076-15d, 077-15d, 091-15d, 092-15d, 093-15d, 094-15d, 095-15d, 096-15d, 097-15d, 098-15d, 099-15d, 102-15d, 109-15d, 127-15d, 152-15d, 154-15d, 164-15d]

Agency Response: No changes were made in response to these comments. Thank you for the support.

b) General Opposition

Comment Summary: The commenters oppose the Regulation.

Commenter: [024-15d, 145-15d]

Agency Response: No changes were made in response to these comments. These comments are not directed to the 15-day changes to the ACF Regulation, so no response is required. The ACF Regulation is required to meet California's clean air goals.

c) Excessive Late Reporting Violations

Comment Summary: Commenter states that single, separate violations for late reporting can be excessive.

Commenter: [169-15d]

Agency Response: No changes were made in response to these comments. The Health and Safety Code and other authority citations under which the Regulation would be enforced were established by the Legislature; CARB is obligated to comply with the statutory requirements. Enforcement of CARB Regulations is also subject to established CARB enforcement policy and statutorily requires consideration of appropriate mitigating factors.

d) 15-Day Changes do not Address Concerns

Comment Summary: Commenter generally states that the changes and revised language under the ACF 15-day changes are insufficient, or do not address their concerns.

Commenter: [008-15d, 053-15d, 055-15d, 058-15d, 060-15d, 079-15d, 115-15d, 117-15d, 125-15d, 126-15d, 147-15d, 161-15d]

Agency Response: No changes were made in response to these comments. Changes made in the 15-day process addressed the Board's direction, stakeholder concerns, and were determined to be sufficient.

e) 15-Day Changes Are Out of Scope Allowed per Government Code section 11346.8(c)

Comment Summary: The commenters state that certain ACF 15-day changes to the Regulation are out of scope because the Board did not direct the changes in the first Board hearing, and are therefore not allowed, per Government Code section 11346.8(c), quoting "(c) No state agency may adopt, amend, or repeal a Regulation which has been changed from that which was originally made available to the public pursuant to Section 11346.5, unless the change is (1) non-substantial or solely grammatical in nature, or (2) sufficiently related to the original text that the public was adequately placed on notice that the change could result from the originally proposed regulatory action."

Commenter: [132-15d, 133-15d, 169-15d]

Agency Response: No changes were made in response to these comments. The commenter omitted the last half of section (2), stated here in full for context: "(2) sufficiently related to the original text that the public was adequately placed on notice that the change could result from the originally proposed regulatory action. If a sufficiently related change is made, the full text of the resulting adoption, amendment, or repeal, with the change clearly indicated, shall be made available to the public for at least 15 days before the agency adopts, amends, or repeals the resulting Regulation." The exemptions and extensions were included in the 45-Day Notice, discussed during the first Board Hearing and sufficiently related edits were made to said exemptions and extensions during the ACF 15-Day Notice period. Staff have fully complied with the resulting obligation to make the related changes available for the public, for 15 days before the agency adopts, amends, or repeals the resulting Regulation, the full

text of the resulting adoption, amendment, or repeal, with the change clearly indicated. CARB has complied fully with the requirements of this government code section.

f) Delay the Approval of the Advanced Clean Fleets Regulation

Comment Summary: The commenters state that CARB should postpone the Regulation due to various reasons, such as conducting further analysis, gathering more information, allowing advancements in technology and infrastructure, waiting for economic recovery, and facilitating necessary grid upgrades.

Commenter: [115-15d, 117-15d, 120-15d, 158-15d]

Agency Response: No changes were made in response to these comments. To meet various statutory goals, the Governor's goals, and other emissions reduction requirements, it is necessary to achieve these reductions as soon as possible. Sufficient economic, technological feasibility, infrastructure, and emissions analysis were conducted to support the Regulation timeframe and structure, and appropriate exemptions or extensions are included to address edge cases and provide flexibility. The Regulation timeframe was carefully balanced with achieving needed emissions reductions with a feasible phased-in timeframe for fleets. Delaying approval and implementation of the Regulation would result in reduced health and economic benefits and increase the burden of compliance on fleets to meet the same end goals in a more compressed timeframe.

g) Identical Submissions to 45-Day Comment Letters

Comment Summary: The commenters submitted comments identical to ones submitted during previous open comment periods.

Commenter: [006-15d, 073-15d, 106-15d, 110-15d, 117-15d, 132-15d, 135-15d, 137-15d, 149-15d, 160-15d, 170-15d]

Agency Response: No changes were made in response to these comments. This letter is a duplicate submission. See responses to the previously submitted comment letter from the commenter or organization in the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

20. Out of Scope and Irrelevant Comments

a) Irrelevant or Off-Topic Comments

Comment Summary: Comment is off topic or irrelevant and not directed at ACF or to the procedures followed by the agency in proposing or adopting ACF.

Commenter: [109-15d, 117-15d, 121-15d]

Agency Response: No changes were made in response to these comments. This comment is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

b) Comments Out of Scope Not Directly Addressing the 15-Day Changes

Comment Summary: The commenters make assertions that are not directly related to the ACF 15-day changes.

Commenter: [001-15d, 003-15d, 005-15d, 007-15d, 008-15d, 009-15d, 010-15d, 011-15d, 012-15d, 014-15d, 015-15d, 016-15d, 017-15d, 018-15d, 019-15d, 020-15d, 021-15d, 022-15d, 023-15d, 025-15d, 026-15d, 027-15d, 028-15d, 029-15d, 030-15d, 031-15d, 032-15d, 033-15d, 034-15d, 035-15d, 036-15d, 037-15d, 038-15d, 039-15d, 040-15d, 041-15d, 042-15d, 043-15d, 044-15d, 045-15d, 046-15d, 047-15d, 048-15d, 049-15d, 050-15d, 051-15d, 052-15d, 053-15d, 054-15d, 058-15d, 059-15d, 060-15d, 061-15d, 062-15d, 063-15d, 064-15d, 065-15d, 066-15d, 067-15d, 068-15d, 070-15d, 071-15d, 074-15d, 075-15d, 078-15d, 079-15d, 081-15d, 082-15d, 083-15d, 084-15d, 085-15d, 086-15d, 087-15d, 088-15d, 089-15d, 090-15d, 095-15d, 100-15d, 101-15d, 103-15d, 104-15d, 109-15d, 110-15d, 111-15d, 112-15d, 113-15d, 115-15d, 116-15d, 117-15d, 118-15d, 119-15d, 120-15d, 121-15d, 122-15d, 125-15d, 128-15d, 131-15d, 133-15d, 134-15d, 135-15d, 136-15d, 137-15d, 138-15d, 140-15d, 141-15d, 142-15d, 143-15d, 148-15d, 149-15d, 150-15d, 153-15d, 154-15d, 155-15d, 156-15d, 157-15d, 158-15d, 159-15d, 160-15d, 162-15d, 165-15d, 166-15d, 167-15d, 171-15d, 172-15d, 173-15d, 174-15d, 175-15d, 176-15d, 177-15d]

Agency Response: No changes were made in response to these comments. The commenters make assertions that are not directly related to the ACF 15-day changes.

Second Board Hearing Public Comments with Agency Responses

1. Zero-Emissions Vehicle Technology Issues

a) Zero-Emissions Technology – Service Impacts

Comment Summary: Commenter states that water agencies will not be able to transition to ZEVs without severely impacting service and reliability.

Commenter: [124-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – General” in “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

b) Zero-Emissions Technology – Don’t Delay for Hydrogen Fuel Cell Vehicles

Comment Summary: Commenter states that CARB should focus on the electrification of all types of vehicles and not rely on hydrogen as part of the picture or a reason for a delay in implementation.

Commenter: [001-WT2, 008-WT2]

Agency Response: No changes were made in response to these comments. The intent of the Regulation is to transition fleets to ZEV consistent with Governor Newsom's Executive Order N-79-20 and public health needs identified in both the State SIP Strategy and the Climate Change Scoping Plan. ZEVs are defined as having no tailpipe emissions. Both FCEV and BEV are ZEVs and are treated equally in the Regulation.

a) Zero-Emissions Technology – Vehicle Safety Concerns

Comment Summary: Commenters state there are unknown and unquantified safety concerns for ZEVs hauling fuel and what happens if they crash.

Commenter: [130-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Technology – Vehicle Safety Concerns" in section "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Zero-Emissions Technology – Not Really Zero-Emissions due to Upstream Emissions

Comment Summary: Commenter states ZEVs aren't really zero because of upstream emissions from vehicle and battery production and electricity production.

Commenter: [117-OT2]

Agency Response: No changes were made in response to these comments. CARB has fulfilled its statutory obligations by conducting a full and robust EA, which included evaluations of upstream fuel cycle emissions which are insignificant in comparison to the tailpipe emissions reductions from this Regulation. Further, note that California has a number of separate requirements on transportation fuel production and feedstock collection to reduce upstream emission impacts. Additional information on lifecycle emissions analysis on ZEVs compared to liquid fuels is provided in Chapter IV.3. of this FSOR. For more information on lifecycle analysis and upstream emissions see CEQA EA Master Response 4 and RTC 270-4.

c) Zero-Emissions Technology – Severe Weather Impacts On Battery

Comment Summary: Commenter states that severe weather more quickly degrades a battery charge, and these conditions could render fleets inoperable at the worst possible times. Commenter does not specify what weather.

Commenter: [144-OT2]

Agency Response: No changes were made in response to these comments. Please see the response to weather impacts raised in section "Zero-Emissions Technology – Cold Weather" in section "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

d) Zero-Emissions Technology – Charging Times

Comment Summary: The commenters state that electric trucks take too long to charge, resulting in the need for more truck drivers and additional trips.

Commenter: [120-OT2, 130-OT2, 154-OT2, 201-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Charging Times” in section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

e) Zero-Emissions Technology – Commercial Vehicles

Comment Summary: The commenters indicate that some commercial vehicle segments will be more challenging to electrify than passenger cars, suggesting that different approaches may be needed.

Commenter: [121-OT2, 133-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Commercial Vehicles” in section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

f) Zero-Emissions Technology – Availability

Comment Summary: The commenters argue that specific types of vehicles are not available to suit their operational needs and that many vehicles listed on Appendix J of the ISOR may be open for order but not delivered in the ordered quantities. They claim that CARB's assertion of many commercially available ZEV trucks is incorrect, and that ZE truck production will not meet the demand when the ACF mandates begin. They emphasize concerns about vehicle availability at scale and the uncertainty of obtaining ZEVs in various classifications to remain compliant.

Commenter: [006-WT2, 009-WT2, 130-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Availability” in section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

g) Zero-Emissions Technology – Battery Recycling

Comment Summary: The commenters state that investments in battery recycling will be necessary due to the rule, questioning how the State will handle battery recycling from the influx of ZEVs. They request CARB to inform them of plans for managing hazardous waste disposal of ZEV batteries in coordination with the Department of Toxic Substances Control and EPA.

Commenter: [127-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Battery Recycling” in section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

h) Zero-Emissions Technology – Materials Mining

Comment Summary: The commenters express concerns about battery minerals and components being imported from China, impacting national security, and involving environmental impacts, child labor, and slave labor. They also mention concerns about the required mining and associated energy for battery production.

Commenter: [117-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Materials Mining” in section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

i) Zero-Emissions Technology – Range and Work Capacity

Comment Summary: The commenters state that ZEV technology is not ready for use due to limited range, work capacity, or capability. They argue that electric trucks cannot maintain enough charge for a full work shift, internal combustion engines are superior in loaded power and range, and ZEVs are not capable of performing the same job functions as current trucks. They also mention that available ZEVs do not meet GVWR, towing, or range specifications, and express concerns about inconsistencies in supply chains and disruptions in the timely delivery of goods due to inadequate range and performance of heavy-duty vehicles. They believe that the aggressive implementation schedule of ACF is questionable due to the commercial availability of ZEVs for various duty cycles.

Commenter: [010-WT2, 012-WT2, 057-OT2, 060-OT2, 069-OT2, 120-OT2, 130-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Range and Work Capacity” in section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

j) Zero-Emissions Technology – Emergency Response

Comment Summary: The commenters express concerns about the availability of EVs during emergency events, both declared and undeclared, as EVs cannot be independently powered or carry fuel without electricity, which may not be available during emergencies.

Commenter: [121-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Technology – Emergency Response” in

section “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

k) Zero-Emissions Vehicle Technology – General

Comment Summary: The commenters express concerns regarding ZEVs’ technological capabilities, emphasizing the need for a greater than one-to-one replacement rate to meet operational needs compared to conventional trucks. They argue that heavy-duty ZEVs are not yet able to serve the transportation industry effectively and raise questions about their reliability and development progress. The commenters request that CARB assess the feasibility of manufacturing ZEVs with equal capacity and power to conventional vehicles, which would enable one-to-one replacements. They point out specific cases, such as garbage trucks, where ZEV technology is not ready for large-scale adoption. The commenters also highlight the lack of evidence supporting the notion that ZEV development can achieve the necessary variety of vehicle configurations, sizes, and uses for fleets to comply with ACF within the proposed timelines.

Commenter: [006-WT2, 010-OT2, 049-OT2, 059-OT2, 064-OT2, 066-OT2, 069-OT2, 084-OT2, 144-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Technology – General” in “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

l) Zero-Emissions Vehicle Technology – Vehicle Weight

Comment Summary: The commenters express concerns about the weight of ZEVs, stating that the added weight impacts payload capabilities, road conditions, and overall vehicle performance. They mention that motor coaches operating at maximum gross vehicle road weight capacity would have reduced luggage capacity and difficulties servicing the same number of riders as ICE vehicles. Moreover, they argue that pairing battery weight with existing payload specs often exceeds axle GVWR, forcing a choice between retaining operation time and payload capacity, and that choosing payload could lead to a 25 percent to 65 percent reduction in operation time.

Commenter: [010-WT2, 012-WT2, 059-OT2, 120-OT2, 201-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Technology – Vehicle Weight” in “Zero-Emissions Vehicle Technology Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

2. Infrastructure and Grid Concerns

a) Grid Capacity and Resilience – Grid Capacity

Comment Summary: The commenters express concern about grid capacity.

Commenter: [004-OT2, 013-WT2, 084-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Grid Capacity and Resilience – Grid Capacity” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

b) Grid Capacity and Resilience – Grid Capacity During Emergencies and for Essential Services

Comment Summary: The commenters express concern about grid capacity and resilience during emergencies and for essential services.

Commenter: [006-WT2, 031-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Grid Capacity and Resilience – Grid Capacity During Emergencies and for Essential Services” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

c) Grid Capacity and Resilience – Grid Reliability

Comment Summary: The commenters express concern about grid reliability.

Commenter: [009-WT2, 012-OT2, 031-OT2, 130-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Grid Capacity and Resilience – Grid Reliability” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

d) Infrastructure Availability – General

Comment Summary: The commenters express general concerns about infrastructure availability.

Commenter: [019-WT2, 059-OT2, 060-OT2, 064-OT2, 066-OT2, 067-OT2, 069-OT2, 084-OT2, 126-OT2, 130-OT2, 144-OT2, 201-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Infrastructure Availability – General” in “Infrastructure and Grid Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

e) Infrastructure Availability – Rural and Remote Area Accessibility

Comment Summary: The commenters express concern about the accessibility of infrastructure in rural and remote areas.

Commenter: [015-OT2, 060-OT2, 133-OT2, 144-OT2, 154-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Availability – Rural and Remote Area Accessibility" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

f) ACF Resolution – Include Grid Reliability

Comment Summary: The commenters express concern about the need to include grid reliability in the Resolution.

Commenter: [070-OT2]

Agency Response: No changes were made to the draft Resolution based on this comment. Grid reliability is discussed in the Resolution in a section, called "Infrastructure and Grid Readiness."

g) Funding for Infrastructure

Comment Summary: The commenters express concern about the need for infrastructure funding.

Commenter: [076-OT2]

Agency Response: No changes were made in response to these comments. The recently convened IPAG public meetings identified the need to provide greater support for small fleets and small businesses statewide through the Carl Moyer Program's incentives for infrastructure. Other programs related to funding for infrastructure are in section "Funding for Infrastructure" in "Funding and Incentive Program Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

h) Use of Generators – Air District Permitting

Comment Summary: Commenter states that they were considering temporary ZEV charging solutions that use a propane generator, but that it may not be permitted by a local air district.

Commenter: [006-OT2]

Agency Response: No changes were made in response to this comment. California's 35 local Air Pollution Control or Management Districts are responsible for addressing emissions from stationary sources through permits and local rules. Alternatives to propane generators are ZE mobile ZEV fueling providers that utilize batteries or fuel cells as a source of power.

3. Alternative Fuels and Combustion Vehicles

a) Combustion Vehicles – Require Cleanest Combustion First

Comment Summary: Commenters state that the Regulation should, when exemptions to purchase ICE vehicles are granted, require fleets to prioritize the most stringent HD Omnibus

standard vehicles available in ranking order, starting with the 20 milligram engines, then stepping down to 50+ milligram legacy diesel engines, to prevent the proliferation of diesel.

Commenter: [093-OT2]

Agency Response: No changes were made in response to these comments. The ISOR evaluated a concept called "Best Available Control Technology Concept" in Chapter IX.B.8. This alternative was rejected because it adds administrative burden to account for cleaner engines that are already accounted for in the HD Omnibus Regulation and would not achieve any new reductions by including them in the proposed Regulation. Please see responses to issues raised in section "Alternative Fuels" in "Infrastructure and Grid Concerns" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses" in the chapter on "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Alternative Fuels and Combustion Vehicles – Regulation Forces Legacy Diesel Trucks Over New Renewable Natural Gas Trucks

Comment Summary: The commenter states ACF stops RNG-invested fleets and forces them to remain on diesel vehicles which are dirtier because of its ZEV requirements.

Commenter: [117-OT2]

Agency Response: No changes were made in response to these comments. The commenter is mistaken, nothing in the Regulation forces a fleet to remain on diesel. In fact, it is the contrary, the Regulation is designed for an almost two-decade long phase-in of ZEV into existing combustion fleets regardless of fuel type. Please refer to the section "Alternative Fuels and Combustion Vehicles – Compressed Natural Gas is Cleaner Than Diesel" in the chapter on "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Alternative Fuels and Combustion Vehicles – Require Outdated "Low-NOx" Standard When Granted an Exemption

Comment Summary: Commenter requests that fleets be required to purchase the cleanest vehicles when granted an exemption. Another commenter states that the vehicles need to meet the certified to 0.02 NOx standards and to buy vehicles with engines meeting the 2027 0.02g NOx HD Omnibus standard during 2024-2026 when using the ZEV Purchase Exemption. Also, biomethane must be used for power.

Commenter: [073-OT2, 114-OT2, 156-OT2]

Agency Response: No changes were made in response to these comments. The ZEV Purchase Exemption already requires the purchase of the cleanest engine certified to the most stringent emission standard technically achievable. The 2027 "Optional low-NOx" standard has been superseded by the HD Omnibus Regulation and the complementary Clean Truck Check program that work together to ensure the California Certified engine is the lowest emitting ICE vehicle in use on California's roadways. Please see responses to issues raised in section "Alternative Fuels and Combustion Vehicles – Require "Optional Low NOx"

Combustion Vehicles Combusting Biomethane When Zero-Emission Vehicles Are Not Available” in the chapter on “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

d) Alternative Fuels and Combustion Vehicles – Include Natural Gas as a Zero-Emission

Comment Summary: The commenters request that California's future fleet policies broaden the definition of qualified technologies to encompass primary technologies currently powering the industry, such as natural gas. They argue that these technologies deserve inclusion and support in the state's policies.

Commenter: [010-WT2, 012-WT2, 030-WT2, 130-OT2]

Agency Response: No changes were made in response to these comments. The intent of the Regulation is to transition fleets to ZEV consistent with Governor Newsom’s Executive Order N-79-20 and public health needs identified in both the State SIP Strategy and the Climate Change Scoping Plan. Please refer to Chapter II.E.1. of the ACF ISOR for a discussion on the CNG. As discussed in Chapter IX.B.8. of the ACF ISOR, the number of Class 2b through 8 CNG vehicles projected for 2025 is relatively small at approximately one percent of California’s inventory. Expanding the market for CNG fleets could lead to stranded CNG fueling infrastructure assets as the ZEV market expands and more models become available.

e) Alternative Fuels and Combustion Vehicles – Allow Hydrogen Combustion as Bridge Technology for Infrastructure Development

Comment Summary: Commenter states that ACF should give special consideration of the infrastructure accelerating potential of zero carbon hydrogen fuel combustion engines stating that [H2ICE] technology would support CARB's zero carbon goals while facilitating hydrogen refueling infrastructure development and lower the costs of future fuel cell truck operations for fleets.

Commenter: [119-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Alternative Fuels and Combustion Vehicles – Low Carbon Intensity Fuels (Renewable Hydrogen)” in the chapter on “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

f) Alternative Fuels and Combustion Vehicles – Expand Market for Biomethane

Comment Summary: The commenter wants to work with CARB and CalRecycle on what to do with digester gases other than for transportation as they move towards electrification of their fleet. Finally, they state that CARB's assistance is crucial for the success of food waste diversion projects.

Commenter: [010-OT2, 021-OT2, 129-OT2, 131-OT2, 149-OT2]

Agency Response: No changes were made in response to these comments. However, the Board recognizes that the successful implementation of the food waste diversion requirements and methane emissions reductions mandated by SB 1383 are critical to the State's climate goals. The Board further recognizes that multiple reliable uses for non-fossil biomethane will be needed for successful implementation of the state's climate neutrality goals. The Board also recognizes the need for coordination meetings with other state agencies such as CEC, CPUC, State Water Resources Control Board, CalRecycle, CDFA, CNRA, Cal OSHA and other relevant stakeholders such as the California Association of Sanitation Agencies, California Air Pollution Control Officers Association, to implement SB 1383 and SB 1440.

g) Alternative Fuels and Combustion Vehicles – Do Not Allow Natural Gas Trucks when ZEV are Unavailable

Comment Summary: Commenter states that CARB should not allow the purchase of fracked gas vehicles when ZEVs are not available because natural gas trucks may have even worse consequences for climate and air quality than the very diesel trucks that this rule intends to phase out.

Commenter: [026-WT2, 111-OT2, 116-OT2]

Agency Response: No changes were made in response to these comments. Staff disagree; the Board determined flexibility was warranted in the Regulation for edge-case scenarios where ZEVs are not able to meet fleet needs. The Regulation takes a technology neutral approach to allowing purchase of ICE vehicles when exemptions are granted, which ensures that fleets have all relevant options for ICE vehicle purchases like they do today when not purchasing ZEVs. The Regulation will allow the purchase of a new combustion engine when granted an exemption, if it meets California's certification standard regardless of the fuel type. The Regulation will already phase out combustion as much as possible. The HD Omnibus regulation also ensures that combustion vehicles sold in California meet the same emissions standards, so there would be no difference in NOx emissions between a diesel and CNG truck sold starting in 2024. Concerns about natural gas and fracking is a fuel issue, and is addressed as part of the LCFS Regulation. LCFS assigns fuel pathways a CI score which considers how the fuel was made and transported for use, including what type of feedstocks, as well as manufacturing and production methods were used, including fracking. The commenter should be aware, most of the natural gas consumed in California's transportation sector is from renewable feedstocks because of the LCFS and federal Renewable Identification Number credits.

h) Alternative Fuels and Combustion Vehicles – Require Renewable Hydrogen in Hydrogen Fuel Cell Vehicles

Comment Summary: Commenters state the Regulation should not include hydrogen powered trucks, or if included, require the hydrogen fuel that powers FCEVs to be clean hydrogen not produced from methane due to the impacts of fossil produced hydrogen.

Commenter: [102-OT2]

Agency Response: No changes were made in response to these comments. However, staff agrees and explicitly states this in Chapter II.D.1 of the ISOR, "Electricity and hydrogen are currently the primary fuels for ZEVs, and both fuels must be produced using low carbon technology and feedstocks to minimize upstream emissions as the LCFS calculates life-cycle CI of fuel-vehicle systems."

i) Alternative Fuels and Combustion Vehicles – Add Senate Bill 1383 to the Last Paragraph in the Resolution

Comment Summary: The commenter states that the ACF Resolution should add reference to SB 1383 in the very last sentence.

Commenter: [070-OT2, 010-OT2, 118-OT2, 122-OT2, 123-OT2, 146-OT2, 152-OT2]

Agency Response: No changes were made in response to these comments. However, the draft Board Resolution 23-13 was changed in response to these comments. "SB 1383" was added before "SB 1440" of the last paragraph, for further clarification.

j) Alternative Fuels and Combustion Vehicles – Include Renewable Gases for Electricity Generation and Reliability to the Last Paragraph in the Resolution

Comment Summary: Commenter states that the ACF resolution should include biomethane, renewable hydrogen, other renewable gases as critical for electricity reliability in the long term. The commenter also states that "SB 1440 is limited to residential and small business uses, which are also supposed to be electrified in the coming decade. So that, at least in its current form, is really not the right long-term home either."

Commenter: [070-OT2]

Agency Response: No changes were made in response to these comments. The commenter correctly notes that buildings will increasingly be electrified in the coming years as directed by the Scoping Plan. However, as explained in Chapter II.D.1.a of the ISOR, California has the potential to produce approximately 90.6 billion cubic feet per year of RNG from dairy, landfill, municipal solid waste, and wastewater treatment facility sources, this represents only four to five percent of California's total annual consumption of natural gas. Furthermore, there is nothing in this Regulation precluding RNG from getting directed towards existing natural gas generation facilities.

k) Alternative Fuels and Combustion Vehicles – Modify the Resolution to Not Force Biomethane into the Pipeline

Summary: Commenters request staff to modify the resolution so that it does not choose a predetermined priority like pipeline injection for the RNG that commenters produce.

Commenter: [010-OT2]

Agency Response: No changes were made in response to these comments. The Board directed staff to prioritize policy discussions related to SB 1440 and SB 1383 implementation and discussions on how to transition biomethane into hard to decarbonize sectors, or as a

feedstock to produce hydrogen for FCEV fuel and to produce electricity to charge BEVs. This framework provides at least three viable options, not just one as the commenter suggests.

I) Alternative Fuels and Combustion Vehicles – Regulation Conflicts with SB 1383

Summary: Commenters state that the Regulation and SB 1383 conflict and that this rule prohibits an agency from complying with SB 1383.

Commenter: [131-OT2, 136-OT2]

Agency Response: No changes were made in response to these comments. Please see the section called, "Alternative Fuels and Combustion Vehicles – Rule Conflicts with Organic Waste Diversion" in the chapter on in the chapter on "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

4. Cost Comments

a) Costs – Cost of the Regulation

Comment Summary: The commenters state that the cost of the Regulation is excessive and may have negative effects on the economy, cost of living, vulnerable communities, businesses, or transportation system. The negative consequences may include fleets going out of business, loss of jobs, increased costs for customers, and more investment in vehicles and infrastructure. Commenters cite the impending economic slowdown.

Commenter: [004-OT2, 060-OT2, 084-OT2, 120-OT2, 144-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Cost of the Regulation" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Costs – Zero-Emission Vehicle Costs

Comment Summary: The commenters express concern that ZEVs are currently unaffordable for many due to their high cost compared to combustion-powered vehicles. They note that ZEVs may require significant incentives and tax credits to be economical at the point-of-sale, which could place a financial burden on fleet owners. Some commenters disagree with the idea that the cost of ZEVs will come down over time, discuss cost increases for ZEVs, or that manufacturers will keep prices high when there is no competition.

Commenter: [019-WT2, 066-OT2, 120-OT2, 126-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Zero-Emission Vehicle Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Costs – State and Local Government Issues

Comment Summary: The commenters state that the Regulation will increase costs for local governments, leading to increased taxes, rates, or use of the city's general fund to recoup costs. Commenter cites concerns with the proposal and their typical two-year or five-year budget cycles.

Commenter: [006-OT2, 062-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – State and Local Government Issues" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

d) Costs – Infrastructure Costs

Comment Summary: The commenters raise concerns about the significant infrastructure costs required to support the deployment of ZEVs, including the costs for chargers, necessary site upgrades, and utility-side upgrades. The commenters also question where the funding for these costs will come from, given that the infrastructure requirements far exceed the state's ability to fund and support them.

Commenter: [006-OT2, 126-OT2, 201-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Infrastructure Costs" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

e) Costs – Small Fleets

Comment Summary: The commenters state that the proposed Regulation will negatively impact small fleets and small, family- owned businesses, potentially putting them out of business. They explain that smaller fleets may not be able to afford the cost of new vehicles, ZEVs, or necessary supporting infrastructure.

Commenter: [010-WT2, 012-WT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Small Fleets" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

f) Costs – Supply Chain Issues

Comment Summary: The commenters state that the Regulation will have negative impacts on the transportation sector, supply chains, and the cost of living in California. They also state the existing or future supply chain issues will increase costs of ZEVs or ZEV infrastructure, or that the Regulation will exacerbate these issues. They express concern that the Regulation will exacerbate existing and future supply chain issues which will impact the movement of critical goods like food, water, and medical supplies.

Commenter: [130-OT2, 201-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Costs – Supply Chain Issues" in "Cost Comments" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

5. 100 Percent ZEV Sales Issues

a) 100 Percent ZEV Sales Requirement and Fleet Size Applicability Thresholds

Comment Summary: Commenters are suggesting lowering the HPF fleet size applicability threshold below the originally proposed 50 trucks down to 10 tractors.

Commenter: [017-OT2, 020-WT2, 031-WT2, 033-WT2, 034-WT2, 041-OT2, 044-OT2, 053-OT2, 081-OT2, 102-OT2, 103-OT2, 104-OT2, 105-OT2, 106-OT2, 107-OT2, 108-OT2, 109-OT2, 110-OT2, 112-OT2, 113-OT2, 148-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "100 Percent ZEV Sales Requirement and Fleet Size Applicability Thresholds" in section "100 Percent ZEV Sales Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Feasibility of 100 Percent ZEV Sales Requirement by 2036

Comment Summary: The commenter states that the advancement of the 100 Percent ZEV Sales Requirement to 2036 will make the already challenging ACF implementation timeline even more challenging.

Commenter: [119-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Feasibility of 100 Percent ZEV Sales Requirement by 2036" in section "100 Percent ZEV Sales Issues" of the "15-Day Comment Period Public Comments with Agency Responses."

6. Drayage Truck Requirements Issues

a) Drayage - Cost of the Regulation

Comment Summary: The commenter states that the upfront costs of the Regulation are tremendous. The commenter states that robust and focused funding from state partners, such as CARB, will allow a transition of this magnitude to move forward.

Commenter: [035-WT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in sections "Drayage – Cost of the Regulation," "Drayage – Incentives," "Costs – Costs of the Regulation," "Costs – Cost Passthrough," "Costs – LCFS

Assumptions,” and “Costs – Supply Chain Issues” in “Cost Comments” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

b) Drayage – Daily Usage Exemption

Comment Summary: The commenter requests a daily use exemption for drayage trucks.

Commenter: [059-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Daily Usage Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

c) Drayage – Expand the Drayage Truck Definition

Comment Summary: The commenters request that the definition of a drayage truck be expanded to include additional vehicle types, specifically car carriers.

Commenter: [074-OT2, 077-OT2, 078-OT2, 079-OT2, 080-OT2, 081-OT2, 103-OT2, 107-OT2, 109-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Expand the Drayage Truck Definition” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

d) Drayage – Exemption – Combustion Vehicles Ordered Pre-2024

Comment Summary: The commenter states the January 1, 2024, deadline for drayage should allow for the registration of combustion vehicles purchased prior to the deadline that are not delivered until after deadline.

Commenter: [201-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Exemption – Combustion Vehicles Ordered Pre-2024” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

e) Drayage – Infrastructure Availability – Retail

Comment Summary: The commenter states there is a lack of publicly available infrastructure and urges targeted investment in the San Diego region to progress the development of ZE infrastructure to support small fleets and independent operators.

Commenter: [035-WT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Infrastructure Availability - Retail” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

f) Drayage – Less Stringent Regulation

Comment Summary: The commenters request that CARB makes the drayage Regulation less stringent by pushing out the regulatory deadline.

Commenter: [013-OT2, 157-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Drayage – Less Stringent Regulation" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

g) Drayage – One Visit Requirement

Comment Summary: The commenter states concern about the impact of the one visit per year requirement on the State's ability to handle cargo throughput and recommend removing it to add flexibility during unanticipated cargo surges.

Commenter: [035-WT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Drayage – One Visit Requirement" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

h) Drayage - Reporting

Comment Summary: The commenter suggests modifying Section 2014.1(a)(8) so that all Class 7 through 8 trucks which visit a California seaport must register in the CARB Online System and indicate whether they are drayage trucks or dedicated use trucks.

Commenter: [035-WT2]

Agency Response: No changes were made in response to these comments. The reporting requirements are specifically for drayage trucks as defined in the Regulation. Dedicated use trucks are excluded from the registration requirements.

i) Drayage – Supply Chain Issues

Comment Summary: The commenters state the proposed Drayage Regulation will negatively impact the drayage trucking industry and the overall supply chain, and subsequently raise the cost of goods. Commenter states that the drayage requirements could cause a mode shift from rail to trucks causing more diesel trucks to be on the road.

Commenter: [013-OT2, 014-OT2, 154-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Drayage – Supply Chain Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

j) Drayage - Support

Comment Summary: This comment is supportive of the process, stakeholder engagement, or actions in the rulemaking.

Commenter: [033-WT2]

Agency Response: No changes in response to this comment. CARB staff appreciate the supportive comment and thank the commenter.

k) Drayage – Vehicle Exemptions for Auto Transports

Comment Summary: The commenters state concern about the vehicle exemptions, specifically the auto transport vehicles.

Commenter: [013-OT2, 014-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Vehicle Exemptions for Auto Transports” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

l) Drayage – Zero-Emissions Vehicle – Mileage is Not Feasible

Comment Summary: The commenter states that there are currently no ZEV models that can make a round trip shipment to the ports. Commenter states that the extra charging time needed as a result will cause significant delays in deliveries.

Commenter: [013-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Drayage – Zero-Emissions Vehicle – Mileage is Not Feasible” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

7. High Priority Fleet Issues

a) High-Priority Fleets – NZEVs Should Not be Equal to ZEVs

Comment Summary: Commenter states that NZEVs should not be considered as ZEVs in the Regulation at any point.

Commenter: [148-OT2]

Agency Response: No changes were made in response to these comments. NZEVs offer flexibility for fleets as a bridge technology to introduce and experiment with ZE technology until the state of the ZEV market has advanced to the point of fulfilling the needs of their fleet. Forcing fleets to transition solely to ZEVs too early may be counterproductive in certain market segments as fleets may begin applying for additional exemption requests, delaying the introduction of ZE technology into their operation. The current NZEV provision was also chosen to be consistent with similar provisions within the ACT Regulation.

b) High-Priority Fleets - Lower Fleet Size Threshold Over Time

Comment Summary: Commenters request that the ACF Regulation needs to be stricter by lowering the fleet size threshold over time.

Commenter: [007-WT2]

Agency Response: No changes were made in response to these comments. No changes were made in response to these comments. Please see responses to issues raised in section "100 Percent ZEV Sales Requirement and Fleet Size Applicability Thresholds" of section "100 Percent ZEV Sales Issues" in the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) High-Priority Fleets – Add Averaging, Banking, and Trading

Comment Summary: The commenters suggest including an ABT mechanism in the Regulation, allowing fleets to trade credits generated by purchasing ZEVs.

Commenter: [052-OT2, 083-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "High-Priority Fleets – Add Credit Averaging, Banking, and Trading" of section "High Priority Fleet Issues" in the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

d) High-Priority Fleets – Do Not Count Backup Vehicle Mileage During Power Shut-Offs or Emergencies

Comment Summary: The commenters suggest updating the HPF backup vehicle provision by not including mileage accrued during a power shut-off or other emergency events.

Commenter: [058-OT2]

Agency Response: No changes were made in response to these comments. A provision that excludes mileage accrued during certain events is not necessary and may be difficult to implement and enforce. Most PSPS and outage events last only a few hours and do not typically occur with high frequency. Implementing such a provision would also require fleets to track vehicle use times and mileage during applicable events while CARB would have to verify whether events occurred and that the vehicle was operated during the event, increasing burden on both sides.

If backup vehicle mileage exemptions during emergency events become necessary, the Board has a long history of supporting amendments to Regulations if rule adjustments are needed.

e) High-Priority Fleets – Keep 50 Vehicle Threshold

Comment Summary: The commenters state that lowering the threshold from 50 trucks down to 10 would only exacerbate many issues with ZEVs.

Commenter: [032-WT2, 144-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "High-Priority Fleets – Keep 50 Vehicle Threshold" of section "High Priority Fleet Issues" in the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

f) High-Priority Fleets – Only Allow Near-Zero-Emissions Vehicle if No Zero-Emissions Vehicle is Available

Comment Summary: The commenters request permitting NZEV purchases only if a fleet genuinely cannot purchase and deploy ZEVs.

Commenter: [052-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "High-Priority Fleets – Only Allow Near-Zero-Emissions Vehicle if No Zero-Emissions Vehicle is Available" of section "High Priority Fleet Issues" in the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

g) High-Priority Fleets – Reduce Flexibility Between Zero-Emissions Vehicle Milestone Groups

Comment Summary: The commenters recommend not permitting fleets to rely exclusively on lighter duty vehicles to meet their compliance requirements so they may focus on Class 8 vehicles.

Commenter: [083-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "High-Priority Fleets – Reduce Flexibility Between Zero-Emissions Vehicle Milestone Groups" of section "High Priority Fleet Issues" in the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

h) Rental Vehicle Provision – Match Rental Demand to Supply

Comment Summary: Commenter states rental customers are the end users, as rental companies purchase ZEVs to become a conduit for ZEVs to the end users. The ACF Regulation should be changed to reflect this reality.

Commenter: [047-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Rental Vehicle Provision – Match Rental Demand to Supply" of section "High Priority Fleet Issues" in the "15-Day Comment Period Public Comments with Agency Responses."

i) Rental Vehicle Provision - Subtract Exempt Vehicles from Rental Fleet Obligations

Comment Summary: Commenter states that some fleets have been expressly exempted from ACF due to the unique nature of their vehicle usage and that rental companies should appropriately subtract rentals provided to exempt entities from the denominator of the rental company's ACF ZEV Milestones Option requirements for their fleet.

Commenter: [047-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Rental Vehicle Provision - Count All Zero-Emissions Vehicle Rentals Toward Compliance" of the "15-Day Comment Period Public Comments with Agency Responses."

j) Rental Vehicle Provision – Count All Zero-Emissions Vehicle Rentals Toward Compliance

Comment Summary: Commenter states rentals of a ZEV should count towards compliance to drive rentals of ZEVs that would otherwise not be rented.

Commenter: [047-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Rental Vehicle Provision - Count All Zero-Emissions Vehicle Rentals Toward Compliance" of the "15-Day Comment Period Public Comments with Agency Responses."

8. State and Local Government Issues

a) State and Local Government – Small Fleets – Include Financial Hardship Exemption

Comment Summary: Commenter states the Regulation should include an automatic exemption for small public entities based on fiscal hardship.

Commenter: [024-OT2, 055-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – Small Fleets – Include Financial Hardship Exemption" in section "State and Local Government Issues" of the "15-Day Comment Period Public Comments with Agency Responses."

b) State and Local Government – Small Fleets – Include Smaller Counties

Comment Summary: Commenters state that small counties under 50,000 in population should be fully exempt, or be granted a 10-year delay, from the Regulation.

Commenter: [055-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – Small Fleets – Include Smaller Counties" in section "State and Local Government Issues" of the "15-Day Comment Period Public Comments with Agency Responses."

c) State and Local Government – Small Fleets – Include Fleets that Purchase Single Vehicles in a Year

Comment Summary: Commenter states the small fleet delayed implementation schedule in SLG Regulation should be extended to agencies that purchase less than two vehicles in a calendar year.

Commenter: [024-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – Small Fleets – Include Fleets that Purchase Single Vehicles in a Year" in section "State and Local Government Issues" of the "15-Day Comment Period Public Comments with Agency Responses."

d) State and Local Government – 13th Year Limit – Remove Limit

Comment Summary: Commenters state the 13th model year restriction should be removed from the SLG Regulation requirements.

Commenter: [004-WT2, 005-WT2, 008-OT2, 009-OT2, 012-OT2, , 020-OT2, 121-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – 13th Year Limit – Remove Limit" in section "State and Local Government Issues" of the "15-Day Comment Period Public Comments with Agency Responses."

e) State and Local Government – 13th Year Limit – Conflicts with Truck and Bus

Comment Summary: Commenter states that the 13th year provision creates an additional issue because certain vehicles would then be in violation of California's Truck and Bus Regulation, which requires any vehicle with a GVWR over 14,000 to be taken out of service after 13 years. Effectively, it would create a period of time where the utility would be unable to operate the vehicle in question while waiting for a decision on the exemption request.

Commenter: [002-OT2, 068-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "State and Local Government – 13th Year Limit – Conflicts with Truck and Bus" in section "State and Local Government Issues" of the "15-Day Comment Period Public Comments with Agency Responses."

f) State and Local Government – Delay Start Date

Comment Summary: The commenters ask for a delay in the start date of the SLG requirements.

Commenter: [024-OT2, 055-OT2, 124-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “State and Local Government – Delay Start Date” in “State and Local Government Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

9. Definitions Issues

a) Definition of Common Ownership and Control - Include Vehicles in the Fleet for One Year or Longer

Comment Summary: Commenters ask that the common ownership definition be limited to only relationships where businesses exclusively control contracted vehicle operations for a period of one year or longer.

Commenter: [001-OT2, 068-OT2]

Agency Response: No changes were made in response to these comments. The California fleet includes vehicles under common ownership or control, and, by definition, if a vehicle is operated in California at any time during a calendar year, it is considered part of the California fleet for the entire calendar year. The rationale for including fleet owners or controlling parties with combination fleets operated under common ownership or control totaling more than 50 vehicles is to maintain a level playing field with other regulated parties who own their trucks and compete for the same business. There is a wide range of business models for entities that compete for the same contracts and work in the trucking industry. Controlling parties are positioned to have visibility and control over the fleet as a whole that the owner-operators of these vehicles do not have. If vehicles under common ownership and control were only counted as part of the California fleet if they were in that fleet for at least a year, a loophole would be created whereby fleets could rotate the hiring and operating or hiring and directing the operation of vehicles for less than a year, but still effectively have 50 or more vehicles under their common ownership or control. This would reduce the total number of ZEVs and thus would reduce the expected emissions benefits from ACF.

Vehicles that are owned or managed on a day-to-day basis by the same person or entity are effectively under the control of that entity, whether in the fleet for a year, or more or less than a year. The controlling entity is therefore positioned to manage the composition of the whole fleet and should be responsible for compliance. This ensures that entities with a vehicle ownership model are treated the same as entities that use a common ownership and control model. This approach maintains a level playing field for companies using different vehicle ownership or control models and minimizes the potential for regulated parties to circumvent the rule requirements by changing their business model.

Entities with larger fleets and revenues are expected to have more flexibility to identify vehicles or routes in the fleet that can be transitioned to ZEs and are considered to be those best suited for transitioning to ZEVs before other fleets that more frequently tend to purchase used vehicles on the secondary market. Fleets that own, operate, or direct 50 or more vehicles, whether in that fleet for a year, or more or less than a year, also represent a substantial portion of the market and typically have multiple locations that may allow for infrastructure investments to likely be more prioritized. Additionally, the LER results largely support that the appropriate threshold is represented by the applicability criteria, as it incorporates approximately 70 percent of larger trucks that have a disproportionate impact on emissions.

b) Definition of Emergency Operations

Comment Summary: The commenters are requesting to expand the definition of "emergency operations" to include non-declared events such as localized storms, natural disasters, and site-specific fire events in schools, hospitals, or data centers, or other events that may cause prolonged or widespread network outages.

Commenter: [008-OT2, 018-WT2]

Agency Response: No changes were made in response to these comments. The definition of Emergency Operations as written in the ACF Regulation is consistent with other CARB Regulations. Please see responses to issues raised in the section "Definition of Emergency Operations / Emergency Support Vehicle" in the "Definition Issues" section of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Definition of Emergency Support Vehicle and Exemption Process

Comment Summary: The commenters are requesting a clearer definition on the "emergency support vehicle" along with the exemption process.

Commenter: [127-OT2]

Agency Response: No changes were made in response to these comments. See the response to the issues raised in the section called "Definition of Emergency Operations / Emergency Support Vehicle" in the "Definition Issues" section of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

10. Provisions, Reporting, and Recordkeeping Issues

a) Recordkeeping – ZEV Requirements

Comment Summary: Commenter states the requirement fleets keep documentation that a ZEV operates within California within a given model year conflicts with IRP requirements and limits ZEV flexibility in the interstate fleet.

Commenter: [071-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in the section "Recordkeeping – ZEV Requirements" in the

"Provisions, Reporting, and Recordkeeping Issues" section of the "15-Day Comment Period Public Comments with Agency Responses."

11. Exemptions and Extensions – General

a) Alternative Compliance Options Until More ZEVs Available

Comment Summary: The commenters generally suggest CARB allow alternative compliance options until more vehicles become available.

Commenter: [071-OT2]

Agency Response: No changes were made in response to these comments. The Regulation already has considerable flexibility for fleets to plan their compliance strategies. Please see responses to issues raised in the section "Allow Alternative Compliance Options Until More ZEVs Available" in the "Exemptions and Extensions – General" section of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Do Not Allow Natural Gas Vehicles

Comment Summary: Commenter states opposition to inclusion of exemptions for natural gas vehicles or requests a limit in exemptions for such vehicles.

Commenter: [033-WT2, 072-OT2, 074-OT2, 081-OT2, 106-OT2, 112-OT2, 125-OT2, 134-OT2, 141-OT2, 145-OT2]

Agency Response: No changes were made in response to these comments. The board directed staff to allow more time for fleets to transition to ZEVs that comply with SB 1383 requirements. This allows waste and wastewater fleets time to shift the biomethane collected into harder-to-decarbonize sectors other than transportation. This approach provides a more gradual shift, ensuring that these fleets do not lose out on their investments in natural gas vehicles, while still working towards the state's environmental objectives.

c) Exemption Should be a Last Resort

Comment Summary: Commenter states that exemptions and extensions in the Regulation should only be granted as a last resort if no other options are available.

Commenter: [083-OT2]

Agency Response: No changes were made in response to these comments. The exemptions and extensions included in the Regulation are specifically designed such that fleet owners would not have other choices and are meant to address situations outside of the fleet owner's control. The Board determined they provide appropriate flexibility while balancing the emissions and health goals of the Regulation.

d) EPA Certified Engines Instead of California Certified Engines

Comment Summary: Commenter requests the removal of the requirement to purchase California-certified engines as EPA- certified engines should be permissible.

Commenter: [059-OT2]

Agency Response: No changes were made in response to these comments. The Board approved the change to require fleets to purchase California certified engines when new engines are purchased so that all engines added to the fleet starting 2024 would meet the most stringent emissions standards deemed feasible.

e) Exemption Data Request

Comment Summary: Commenter would like CARB to post the number of exemptions granted.

Commenter: [063-OT2]

Agency Response: No changes were made in response to these comments. It is common practice to share implementation data on Regulations thorough CARB's website as long as confidential business and personally identifiable information is not. Data can be posted as a comma separated value file which would allow a user to import using various software programs and be used in data dashboards.

f) No Flexibilities Should be Granted

Comment Summary: Commenter states that no other vehicle should be allowed for purchase other than ZEVs.

Commenter: [023-OT2]

Agency Response: No changes were made in response to these comments. The Board recognizes the importance of transitioning to ZEVs, and it also acknowledges the need for flexibility in certain sectors. Therefore, certain exemptions have been placed in the ACF Regulation to accommodate situations where ZEVs do not meet specific operational requirements. The exemptions have been carefully designed to balance the need for flexibility in unique circumstances where the fleet owner would not be able to comply for circumstances beyond their control and otherwise achieve the maximum emissions reduction and health benefits.

g) No Time Frames on Exemptions and Extension

Comment Summary: Commenters state exemptions and extensions should be allowed to be extended as needed without specific time frames.

Commenter: [126-OT2]

Agency Response: No changes were made in response to these comments. The Board determined that the time for the exemption process is adequate. The time frames have been established to prevent misuse of exemptions and extensions, as well as to avoid creating loopholes for fleets.

h) Exempt Water Agencies

Comment Summary: The commenters state that the ACF Regulation fails to acknowledge the constraints experienced by rural and mountain county water purveyors who are considered first responders and should be exempt from the rule. The commenter requests that CARB acknowledge water purveyors (agencies) as first responders and exempt them from the Regulation.

Commenter: [006-WT2]

Agency Response: No changes were made in response to these comments. Please see discussion on why such exemptions are not appropriate in section "Exempt Water Agencies" in "Exempt Vehicles or Fleets" of the "15-Day Comment Period Public Comments with Agency Responses."

i) Consequence if Approval or Denial Not Provided Within 45 Days

Comment Summary: Commenter states the response timeframe language for the Executive Officer responding to complete exemption or extension requests should include language stating the exemption or extension would be deemed approved if no response was received within 45 days.

Commenter: [133-OT2]

Agency Response: No Changes were made in response to these comments. Please see responses to issues raised in section "Consequence if Approval or Denial Not Provided Within 45 Days" in "Exemptions and Extensions – General" of the "15-Day Comment Period Public Comments with Agency Responses."

j) Include a "Catch All" Exemption for Scenarios Not Contemplated by the Regulation

Comment Summary: The commenters propose a "catch-all" process to delay compliance requirements on a fleet-specific basis for reasons not contemplated by the Regulation, emphasizing the need for flexibility to address complex scenarios when unique needs or circumstances do not fit within simplified exemption criteria.

Commenter: [052-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Include a "Catch All" Exemption for Scenarios Not Contemplated by the Regulation" in "Exemptions and Extensions – General" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

k) Criteria and Process are Too Complex

Comment Summary: The commenter has concerns the extensions necessitate onerous and detailed applications from small business owners.

Commenter: [130-OT2]

Agency Response: No changes were made in response to these comments. The HPF Regulation targets larger fleets of 50 or more vehicles or with \$50 Million in annual revenues, which are not small fleets. Please see responses to issues raised in section "Criteria and Process 15-Day Changes Are Too Complex" in "Exemptions and Extensions – General" of the "15-Day Comment Period Public Comments with Agency Responses."

I) Exemptions Offload Responsibility to Truck Owners

Comment Summary: The commenters state the many exemptions in this proposal are designed to offload responsibility for nonperformance to truck owners. CARB, utilities, and municipalities face no penalties for the extreme goals of the proposed Regulation.

Commenter: [019-WT2]

Agency Response: No changes were made in response to these comments. The Regulation is designed to meet Governor's EO N-79-20 and many other objectives which are described in Chapter II. A of the Staff Report. The exemptions and extensions are designed to assist a fleet owner who is experiencing circumstances outside of their control, and for edge cases while maintaining a level the playing field during an almost two-decade long transition to ZE. The provisions in this Regulation were designed to be flexible while fair, and to help facilitate communication between fleet owners and the growing number of manufacturers in the medium-to heavy-duty ZEV ecosystem.

12. Exemptions and Extensions – Daily Usage

a) Daily Usage Exemption – Master Response

Comment Summary: The commenters suggest the need for exemptions when ZEVs are available but not operationally feasible or cannot meet duty cycles.

Commenter: [121-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Daily Usage Exemption – Master" in "Exemptions and Extensions – Daily Usage" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Daily Usage Exemption – Include Additional Usage Factors

Comment Summary: The commenters suggest modifying the daily use exemption criteria to include additional relevant usage factors such as the effects of temperature and weight on the performance of ZEVs compared to conventional vehicles.

Commenter: [012-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Daily Usage Exemption – Include Additional Usage Factors" in "Exemptions and Extensions – Daily Usage" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Daily Usage Exemption – Allow Three Highest Values

Comment Summary: The commenters argue against excluding the three highest values from calculations for Daily Usage Exemption.

Commenter: [004-WT2, 005-WT2, 008-OT2, 009-OT2, 020-OT2, 068-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Daily Usage Exemption – Allow Three Highest Values” in “Exemptions and Extensions – Daily Usage” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

13. Exemptions and Extensions – Non-Repairable Vehicles

a) Non-Repairable Vehicles – Allow New Vehicle Purchase Instead of Used

Comment Summary: Commenters state the Non-Repairable Vehicle Exemption should allow purchase of new vehicles.

Commenter: [068-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Non-Repairable Vehicles – Allow New Vehicle Purchase Instead of Used” in section “Exemptions and Extensions – Non-Repairable Vehicles” of the “15-Day Comment Period Public Comments with Agency Responses.”

b) Non-Repairable Vehicles – Allow Exemption to Apply to Non-Repairable Engine or Vehicle

Comment Summary: Commenter states that the Non-Repairable Vehicle Exemption should allow for either the engine or the vehicle to be considered non-repairable and qualify for the exemption.

Commenter: [068-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Non-Repairable Vehicles – Allow Exemption to Apply to Non-Repairable Engine or Vehicle” in section “Exemptions and Extensions – Non-Repairable Vehicles” of the “15-Day Comment Period Public Comments with Agency Responses.”

14. Exemptions and Extensions – Infrastructure Delays

a) Infrastructure Delay Extension – Construction Permit Timing Concerns

Comment Summary: Commenter states many fleets with EV plans that are well underway won't be able to secure construction permits prior to December 31st of this year, which is the deadline necessary for the construction exemptions for near-term drayage model year and Group 1 ZEV Milestone deadlines.

Commenter: [151-OT2]

Agency Response: No changes were made in response to these comments. The Board determined this was sufficient time for fleets to take advanced action ahead of compliance deadlines. The Regulation was modified so the Infrastructure Delay provision was expanded to include utility delays in site electrification; if this is the case, this delay would be known prior to obtaining construction permits. Fleets with multiple locations would not be able to request an extension unless they were able to show that every location experienced a delay, reducing the likelihood that the fleet would need the extension. The commenter does not provide specific examples, and the comment is speculative that such timeframes could not be met. For additional discussion, see section "Infrastructure Delay Extension – Construction Permit Timing Concerns" in section "Exemptions and Extensions - Infrastructure Delays" of "15-Day Comment Period Public Comments with Agency Responses."

b) Infrastructure Delay Extension – Include Lack of Access to Public Charging

Comment Summary: Commenter states the Infrastructure Delay Provision needs to account for lack of access to public charging.

Commenter: [059-OT2, 069-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Include Lack of Access to Public Charging" in section "Exemptions and Extensions – Infrastructure Delays" of the "15-Day Comment Period Public Comments with Agency Responses."

c) Infrastructure Delay Extension – Allow Alternative Infrastructure Exemption Based on Fleet Plan

Comment Summary: The commenters propose an alternative infrastructure exemption with an interim compliance plan where CARB reviews and verifies infrastructure plans from each regulated fleet, demonstrating their progress on projects. If approved by CARB, the fleet could achieve "Interim Compliance" and delay site-associated vehicle purchases.

Commenter: [071-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Allow Alternative Infrastructure Exemption Based on Fleet Plan" in section "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

d) Infrastructure Delay Extension – Allow More Time for Extension

Comment Summary: The commenters state more time is needed for the Site Electrification Delay and request the Board give the EO discretion to allow fleets more than 5 years should no alternative charging solutions exist.

Commenter: [001-OT2, 069-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Infrastructure Delay Extension – Allow More Time for Extension" in "Exemptions and Extensions – Infrastructure Delays" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

15. Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events

a) Emergency Provisions – Expand to Non-Declared Emergencies, Remove Mutual Aid Agreements, and Allow Fleets to Set Their Own Internal Combustion Engine Vehicle Cap

Comment Summary: The commenters express concern about ACF's unintended consequences on public utilities and their ability to provide essential services, particularly during emergency events. They argue that the Regulation lacks necessary exemptions, impairing their ability to respond to emergencies and service needs crucial to heavy equipment and emergency systems operation.

Commenter: [002-OT2, 006-WT2, 008-OT2, 024-OT2, 049-OT2, 055-OT2, 138-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Emergency Provisions – Expand to Non-Declared Emergencies, Remove Mutual Aid Agreements, and Allow Fleets to Set Their Own Internal Combustion Engine Vehicle Cap" in "Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

b) Mutual Aid Assistance Exemption – Master Response

Comment Summary: The commenters state has concerns that partner agencies will not have the capacity to send vehicles to support mutual aid events.

Commenter: [049-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Mutual Aid Assistance Exemption – Master Response" in "Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

c) Mutual Aid Assistance Exemption – Mobile Fueling Issues

Comment Summary: The commenters would like CARB to consider the practicality of ZEV mobile fueling requirements of the Mutual Aid Assistance provision.

Commenter: [049-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Mutual Aid Assistance Exemption – Mobile Fueling

Issues” in “Exemptions and Extensions – Mutual Aid and Exemptions Pursuant to Declared Emergency Events” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

16. Exemptions and Extensions – Waste and Wastewater

a) Waste and Wastewater Fleets – Provision Restricts Biomethane Use

Comment Summary: Commenters state the Waste and Wastewater Fleets provision restricts their ability to utilize the RNG that will soon be generated due to SB 1383.

Commenter: [010-OT2, 021-OT2, 123-OT2, 129-OT2, 131-OT2, 136-OT2, 149-OT2]

Agency Response: No changes were made in response to these comments. The Board directed staff to include a provision for waste and wastewater fleets that recognized investments already made to address SB 1383 compliance. The Board adopted the Regulation with the proposed Waste and Wastewater Fleet Option included. The Board also adjusted the Resolution to specifically include SB 1383 where they direct staff to prioritize policy discussions related to SB 1440 (and now SB 1383) implementation and discussions on how to transition biomethane into hard to decarbonize sectors, or as a feedstock to produce hydrogen for FCEV fuel and to produce electricity to charge BEVs.

b) Waste and Wastewater Fleets – Oppose Extension

Comment Summary: Commenter opposes the delay given to waste and wastewater fleets, which surrenders emissions benefits.

Commenter: [048-OT2]

Agency Response: No changes were made in response to these comments. The Board directed staff to include a delay for waste and wastewater fleets to recognize investments made in support of biomethane production from diverted organic wastes, and the Board adopted the Regulation with these changes included.

c) Waste and Wastewater Fleets – Include Licenses or Permits and Non-Municipal Contracts

Comment Summary: Commenter states the waste definition should not only include fleets contracted with a municipality, as some jurisdictions do not have contracts and instead use license or permit systems and should be modified to include these.

Commenter: [057-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Waste and Wastewater Fleets – Include Licenses or Permits and Non-Municipal Contracts” in “Exemptions and Extensions – Waste and Wastewater” of the “15-Day Comment Period Public Comments with Agency Responses.”

d) Waste and Wastewater Fleets – Allow All Organic Waste Diversion Activities an Extension

Comment Summary: Commenter requests that rendering operations and non-franchise waste fleets providing waste diversion services using alternative fuels such as biodiesel and RD should also receive an extension under the Waste and Wastewater Fleet Option, as they are essential to SB 1383 implementation.

Commenter: [057-OT2, 129-OT2, 136-OT2]

Agency Response: No changes were made as result of this comment. Please see responses to issues raised in sections “Alternative Fuels and Combustion Vehicles – Rule Conflicts with Organic Waste Diversion” in the chapter on “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses” and “Waste and Wastewater Fleets – Include Other Senate Bill 1383 Activities” in “Exemptions and Extensions – Waste and Wastewater” of the “15-Day Comment Period Public Comments with Agency Responses.”

17. Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption

a) Zero-Emissions Vehicle Purchase Exemption – Create Manufacturer List

Comment Summary: The commenter request that CARB provide a list of available manufacturers that have market-ready vehicles in the medium to heavy-duty Class 2b through 8.

Commenter: [024-OT2]

Agency Response: No changes were made in response to these comments. Providing a list of vehicle configurations not offered as ZEVs rather than a list of manufacturers that offer market-ready ZEVs is more useful for fleet owners seeking a needed vehicle. Should a list of manufacturers with market-ready vehicles be provided, the fleet owner would need to contact the manufacturer to determine the available ZEVs. Providing a list of configurations that are not offered as ZEVs eliminates this step and directly provides the information that fleet owners require. Additionally, there would be no end date for maintaining such a list with no apparent advantage or purpose for doing so. Whereas a list of vehicle configurations that are not available to purchase as a ZEV is expected to be smaller and will become shorter as more configurations are offered as the market develops.

b) Zero-Emissions Vehicle Purchase Exemption – Create Availability List Instead of Unavailability List

Comment Summary: The commenters request that CARB create a ZEV availability list instead of an unavailability list.

Commenter: [062-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Create

Availability List Instead of Unavailability List” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

c) Zero-Emissions Vehicle Purchase Exemption – Add Cost Criteria

Comment Summary: The commenters request that cost criteria be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [062-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Cost Criteria” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

d) Zero-Emissions Vehicle Purchase Exemption – Add Manufacturer Criteria

Comment Summary: The commenters request that criteria related to manufacturers producing ZEVs be incorporated into the ZEV Purchase Exemption criteria.

Commenter: [024-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Add Manufacturer Criteria” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

e) Zero-Emissions Vehicle Purchase Exemption – Concerns Over Next Higher Weight Class Requirement

Comment Summary: The commenters express concerns over not being forced to buy higher class vehicles unnecessarily.

Commenter: [012-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Zero-Emissions Vehicle Purchase Exemption – Concerns Over Next Higher Weight Class Requirement” in “Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption” of the “15-Day Comment Period Public Comments with Agency Responses.”

f) Zero-Emissions Vehicle Purchase Exemption – Include Appeal Process

Comment Summary: The commenters request the inclusion of an appeal process.

Commenter: [049-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Zero-Emissions Vehicle Purchase Exemption – Include Appeal Process" in "Exemptions and Extensions – Zero-Emissions Vehicle Purchase Exemption" of the "15-Day Comment Period Public Comments with Agency Responses."

18. Public Regulatory Process, Funding and Outreach Concerns

a) Outreach Needed for Small Fleets

Comment Summary: Small fleet owners are not sure if they are subject to the ACF Regulation and need help navigating meeting the fleet requirements (e.g., drayage fleets).

Commenter: [035-WT2, 133-OT2]

Agency Response: No changes were made in response to these comments. These comments are not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.. The HPF Regulation does not affect fleets with less than 50 vehicles under control or less than \$50 Million in annual revenues. However, CARB offers several support programs that assist fleets of all sizes in their transition to using ZEVs, but include elements focused on smaller fleets. These include increased funding opportunities and loan assistance targeted to small fleets, and a suite of educational resources and events. CARB is also launching a technical assistance program called Cal Fleet Advisor which will offer direct individual assistance on ZEV purchasing, infrastructure planning, funding assistance, and more.

b) Outreach - General

Comment Summary: Commenter states that there is a need for more educational programs so people know about the infrastructure funding that's out there, TCO, and what's happening with infrastructure truck as a service and charging as a service models.

Commenter: [053-OT2]

Agency Response: No changes were made in response to these comments. CARB provides information on the ZEV TruckStop page at <https://ww2.arb.ca.gov/sites/default/files/truckstop/zev/zevinfo.html> that includes terminology and new ways of operating for many vehicle owners, as well as where to find resources to better understand ZE fueling and plan for infrastructure. The general web page also provides links to: How to subscribe to CARB's GovDelivery email for updates on medium- and heavy-duty ZEV Regulation development and education events; Incentive funding opportunities; the ZEV market; Demonstration and Pilot projects; and Infrastructure information. In addition, CARB hosts day long educational events with the goal of assisting medium- and heavy-duty vehicle owners in their transition to ZE technologies. These free Next-Stop to Zero events includes presentations and roundtable discussions by manufacturers, experienced real-world fleets, funding experts, and various other subject matter experts. Attendees learn about ZE terminology, funding opportunities, the ZEV market, fueling infrastructure planning, and more. Stakeholders may also explore the "Past Events" section to view previous agendas, participants, and recordings of the events. CARB welcomes any input on how to implement the outreach program more effectively and

successfully. Staff will continue to engage in stakeholder outreach and education during implementation of the Regulation.

c) Public Process – Provide an Additional Comment Period

Comment Summary: Commenter states it would be appropriate to provide staff time to review the cumulative effects of the EPA proposals and to reopen the public comment period to consider the implications of this proposed national mandate on the ACF requirements.

Commenter: [018-WT2, 138-OT2]

Agency Response: No changes were made in response to these comments. This comment is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond. Notwithstanding that response, EPA has only proposed Phase 3 GHG standards for medium and heavy duty vehicles at this time, and those standards are proposed to take effect in model year 2027. We have established within this rulemaking record the need to take timely action and, while it is good to see EPA pressing for cleaner federal standards, it does not change the need for California to move ahead with standards sooner in 2024.

d) Public Process – Assess ACF Regulation Implementation and Make Amendments as Needed

Comment Summary: Commenter states that follow-up rulemaking be conducted to review progress of the ACF Regulation and make amendments as needed.

Commenter: [009-OT2, 151-OT2]

Agency Response: No changes were made in response to these comments. Per Resolution 23-13, "there is still a need to push for more ZEV deployments beyond the proposed ACF Regulation in future measures as proposed in the 2022 State SIP Strategy including the ZE Truck Measure that will be heard by the Board in 2028." This will provide an opportunity for the public to comment on the proposed ZE Truck Measure and provide any input regarding lessons learned during the early implementation phase of the ACF Regulation. The Board can consider amendments to regulations as needed.

e) Public Process – Establish an Advisory Group

Comment Summary: Commenter requests the establishment of a fleet advisory group.

Commenter: [005-OT2]

Agency Response: No changes were made in response to these comments. However, CARB staff agrees that advisory groups are an asset for effective and successful regulatory implementation. CARB has a long history of creating and using advisory groups to optimize implementation. For example, TRAC was formed to facilitate communication with its stakeholders and to obtain stakeholder feedback on the implementation tools used for the Truck and Bus and the Heavy-Duty Diesel Greenhouse Gas Emissions Reductions Regulations. The goals of TRAC were to help CARB staff fine tune outreach, training, and

implementation materials and provide a mechanism for stakeholders to discuss other implementation issues. CARB also formed the Off-Road Implementation Advisory Group to assist staff with outreach and implementation of the Off-Road Regulation. Both the Off-Road Implementation Advisory Group and TRAC had members that included a cross-section of fleets, engine manufacturers, retrofit manufacturers and installers, equipment dealers and manufacturers, other public agencies, trade groups, and industry organizations. In addition, both groups had subcommittees that were formed to address focused implementation topics.

Also related, during the November 19, 2021, Board hearing wherein the Carl Moyer Program cost-effectiveness limits for on-road heavy-duty ZEVs were approved, the Board members expressed strong interest in further accelerating California's transition to ZE heavy-duty vehicles and to advance equity work. Staff hosted the IPAG public meetings in response to that interest. The meetings, led by former Vice Chair Berg and Board members Hurt and Kracov, provided a forum for discussing policy level issues related to the implementation of the Carl Moyer Program for on-road heavy-duty vehicles.

f) Funding for Local Government Fleets

Comment Summary: The commenters express concerns about funding assistance for cities, as most granting organizations require EV charging infrastructure to be publicly accessible, which is incompatible with secure facilities. They ask the Board to consider additional funding for local governments affected by the Regulation, as traditional budgeting processes do not cover high upfront infrastructure costs.

Commenter: [024-OT2, 055-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section "Funding for Local Government Fleets" in "Funding and Incentive Program Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

g) Funding and Incentive Program Issues

Comment Summary: The commenters emphasize the need for CARB to provide funding to make the Regulation feasible, stating that programs like HVIP and LCFS should be increased without restricting them to small fleets only. They highlight the importance of substantial financial assistance to lower vehicle purchasing costs and achieve price parity for businesses, particularly during the initial phases of ACF implementation. Additionally, the commenters mention the need for complementary measures to ensure adequate infrastructure and incentives, such as the HVIP, are made available. They argue that since the Regulation creates a framework for an entire energy transition in the truck market, grants are necessary to advance the marketplace.

Commenter: [076-OT2, 081-OT2, 126-OT2, 145-OT2, 145-OT2]

Agency Response: No changes were made in response to these comments. The Regulation is not predicated on availability of incentive funds. The Board recently convened a working group called IPAG that explored and welcomed ideas on key issues in providing greater

support and access for small fleets and small businesses statewide, improving environmental justice performance of the program, and accelerating ZE truck funding while better partnering vehicle adoption with infrastructure expansions. The IPAG public meetings identified the need to provide greater support for small fleets and small businesses statewide, as well as to further promote program participation by increasing equitable access to ZE technologies for on-road heavy-duty vehicles through the Carl Moyer Program's On-Road Heavy-Duty Voucher Incentive Program and through the Carl Moyer Program's incentives for infrastructure.

Please see responses to issues raised in section "Provide Funding for Advanced Clean Fleets" in "Funding and Incentive Program Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

19. Miscellaneous Issues

a) General – Should Have Parity for Zero-Emissions Vehicle and Near-Zero-Emissions Vehicle Fuel Types

Comment Summary: Commenters state CARB should ensure parity in its Regulation for the use of battery-electric, plug-in hybrid, and FCEVs.

Commenter: [084-OT2]

Agency Response: No changes were made in response to these comments. The Regulation already provides compliance parity by treating BEVs and FCEVs as fully compliant ZEVs. The HPF Regulation also treats plug-in hybrids with a minimum all-electric range, as defined in the Regulation as an "NZEV", with full compliance parity to ZEVs until the 2035 model year, and this flexibility was extended to fleets subject to the SLG Regulation as part of the 15-day changes.

b) General – Safety Concerns

Comment Summary: No amount of wishing for the goals and timelines mandated in this Regulation will make them achievable. This Regulation will have severe detrimental consequences for our state and country. The safety of our residents will be harmed by this Regulation.

Commenter: [013-WT2]

Agency Response: No changes were made in response to these comments. CARB disagrees that the ACF Regulation will have severe detrimental consequences for our state and country, and that the safety of Californians will be compromised. As described in Chapter IV. of the ACF ISOR, the Regulation will result in a number of benefits to health, air quality, climate, energy savings, job creation, and businesses. For example, the Regulation is estimated to result in health benefits savings of \$57.8 billion and reduce cardiopulmonary mortalities by 5,519, particularly for people living in communities impacted the most by poor air quality. In addition, the Regulation will dramatically reduce GHGs to help stabilize the climate, which will benefit all communities.

Please see responses to the goal and timeline issue raised in section “Regulation Not Feasible” in “Miscellaneous Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

c) General – Support

Comment Summary: Commenters support the Regulation as is.

Commenter: [002-WT2, 003-WT2, 006-WT2, 011-WT2, 014-WT2, 015-WT2, 016-OT2, 016-OT2, 017-WT2, 018-OT2, 019-OT2, 021-WT2, 022-OT2, 022-WT2, 023-WT2, 024-WT2, 025-OT2, 025-WT2, 026-OT2, 027-OT2, 027-WT2, 028-OT2, 028-WT2, 030-OT2, 032-OT2, 033-OT2, 034-OT2, 035-OT2, 036]

Agency Response: No changes were made in response to these comments. Staff appreciate your support.

d) General – Opposition

Comment Summary: The commenters generally oppose the Regulation.

Commenter: [130-OT2]

Agency Response: No changes were made in response to these comments. Staff thanks commenter for their comment.

e) Resolution – Safety Concerns at Wastewater Treatment Plants Storing Hydrogen

Summary: Commenter is suggesting changes to the draft Resolution to consider safety at wastewater treatment plants that store hydrogen and suggests competing interests between EPA Risk Management Program requirements administered through the California Accidental Release Program is already discouraging the production of green hydrogen from biomethane at treatment plants in California. Specifically, the commenter notes a sanitation district would likely exceed the threshold quantity for storing hydrogen gas onsite, triggering what sanitation districts call a significant and costly regulatory compliance burden.

Commenter: [025-WT2]

Agency Response: No changes were made in response to these comments. However, the Board added the Division of Occupational Safety and Health better known as Cal OSHA, to the last paragraph in the list of other relevant stakeholders CARB will be collaborating with to direct biomethane to other markets besides combustion vehicle fuel.

f) Delay the Approval of the Advanced Clean Fleets Regulation

Comment Summary: The commenters request a delay of the approval of the ACF Regulation.

Commenter: [062-OT2, 010-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Delay the Approval of the Advanced Clean Fleets

Regulation” in “Miscellaneous Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

g) Delay Start Date of the Regulation for High Priority and Federal, State, and Local Government Fleets

Comment Summary: The commenters request to delay the start date of the ACF Regulation for HPF and SLG.

Commenter: [064-OT2, 144-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Delay Start Date of the Regulation for High Priority and Federal, State, and Local Government Fleets” in “Miscellaneous Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

h) Regulation Not Feasible

Comment Summary: The commenters state that the Regulation is not feasible.

Commenter: [005-OT2, 007-OT2, 013-WT2, 019-WT2, 059-OT2, 126-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Regulation Not Feasible” in “Miscellaneous Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

i) Strengthen the Regulation

Comment Summary: The commenters state that they generally want the Regulation to be strengthened.

Commenter: [029-OT2, 039-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Strengthen the Regulation” in “Miscellaneous Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

j) The 200 Truck Study was Done Wrong

Comment Summary: Commenter states 200 truck study was done incorrectly and was corrected. Commenter states CNG is cleaner than diesel.

Commenter: [142-OT2]

Agency Response: The commenter is providing only a brief statement about a comprehensive, multi-year, four-phase program, conducted by the University of California at Riverside and West Virginia University who collaborated on one of the world’s largest efforts to test in-use heavy-duty vehicle tailpipe emissions. The 200 Truck Study went through a lengthy review process and corrections were made which is standard practice for engineering

studies. The final, published study is corrected, as the commenter notes, and this is the version included in the ACF record as part of the ACF 15-Day Notice. The study shows CNG and diesel engines both emit above the standards and are still emitting criteria pollutants. For further discussion on why CNG is not cleaner than diesel, please see responses to issues raised in section “Alternative Fuels and Combustion Vehicles – Compressed Natural Gas is Cleaner Than Diesel” in section “Alternative Fuels and Combustion Vehicles” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

k) Rule Should Be Based on Tailpipe Emissions, Not Truck Age

Comment Summary: The commenter states technology to deliver cleaner tailpipe emissions is changing rapidly and that the proposed Regulation should measure emissions, not the age of vehicles.

Commenter: [019-WT2]

Agency Response: No changes were made in response to these comments. Measuring in use emissions for each fleet would add unnecessary complexity to the regulation and would impose unnecessary administrative burden on fleet owners and CARB staff. This approach is not necessary to achieve the same results as the Regulation.

l) ACF Regulation Not Feasible for Fleets Based in Baja California

Comment Summary: Commenter states that fleets based in Baja California that are affected by ACF are not able to transition as quickly as California fleets that have access to funding, infrastructure, and private capital that is not available to fleets in Baja.

Commenter: [201-OT2]

Agency Response: No changes were made in response to these comments. CARB staff have held several meetings with representatives from both sides of the Mexican border. CARB expanded the exemptions and extensions of the ACF regulation in the 15 day changes in part to address these and other related concerns. The ACF Regulation addresses concerns with the inability to install infrastructure when a fleet owner experiences delays beyond their control, through the Infrastructure Delay provision. In addition, certain issues may be addressed by the Daily Usage Exemption. This temporary exemption from the ZEV addition requirement allows the purchase of a new ICE vehicle of a given configuration if a new ZEV is available but it cannot be placed anywhere in the California fleet while meeting the daily usage needs of any existing vehicle in the fleet provided the eligibility criteria is met.

m) Align Advanced Clean Fleets with Advanced Clean Trucks

Comment Summary: The commenters state that the ACF Regulation should be aligned with the ACT Regulation.

Commenter: [140-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Align Advanced Clean Fleets with Advanced Clean

Trucks” in “Miscellaneous Issues” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

n) Periodic Review of Regulatory Implementation Needed

Comment Summary: The commenters request a periodic review of regulatory implementation.

Commenter: [005-OT2, 015-OT2, 063-OT2, 124-OT2, 126-OT2, 133-OT2, 139-OT2]

Agency Response: No changes were made in response to these comments. Please see responses to issues raised in section “Periodic Review of Regulatory Implementation Needed” in “Public Regulatory Process and Outreach Concerns” of the “45-Day Comment Period and First Board Hearing Public Comments with Agency Responses.”

o) Change ACT Requirements

Comment Summary: The commenters request changes to ACT requirements as follows: match ACT to ACF, smooth sales requirements, and update the schedule to match the latest technology and obtain more federal funding through IRA.

Commenter: [046-OT2, 056-OT2, 067-OT2]

Agency Response: No changes were made in response to these comments. The Board did not direct staff to consider amending ACT, and this would require additional analysis which would not be directed at meeting the goals of ACF. However, the Board approved the ACF Resolution, which includes a commitment to align ACT to be consistent with the 2022 SIP in a future rulemaking.

p) Add Truck Types and Fleet Sizes Not Included in the ACF Regulation

Comment Summary: Commenters recommend that the Board adopt additional rules to address trucks not covered by ACF, such as those truck types not covered by the ACF Regulation and those in smaller fleets.

Commenter: [046-OT2, 056-OT2]

Agency Response: No changes were made in response to these comments. ACF covers all truck types owned by affected fleets that are over 8,500 lbs. GVWR. The Board has already adopted the State Implementation Plan that includes a future Zero-Emissions Truck Measure to be brought before the Board for consideration in 2028. This measure will evaluate various strategies that could facilitate a smoother and more equitable transition to ZEVs for truck owners not covered by ACF. The Board will be evaluating the most effective proposals. For more information, please refer to the February 10, 2023, Memorandum to the Board.¹⁹⁰

¹⁹⁰ CARB, Advanced Clean Fleets Regulation High Priority Fleet Size Analysis, 2023 (web link: https://ww2.arb.ca.gov/sites/default/files/2023-02/HPF%20Fleet%20Size%20Board%20Memo_ADA.pdf, last accessed March 2023).

q) Wait to Vote Until FCEV Technology Matures

Comment Summary: The commenter requests the Board wait to vote just a few more years for FCEV technology to be ready and available.

Commenter: [201-OT2]

Agency Response: No changes were made in response to this comment. Please see responses to issues raised in section "Zero-Emissions Technology – Battery Technology Not Ready" in "Zero-Emissions Vehicle Technology Issues" of the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses."

r) Duplicate Submission

Comment Summary: The commenters submitted comments identical to ones submitted during previous open comment periods.

Commenter: [018-WT2]

Agency Response: No changes were made in response to these comments. This letter is a duplicate submission. See responses to the previously submitted comment letter from the commenter or organization in either the "45-Day Comment Period and First Board Hearing Public Comments with Agency Responses" or the "15-Day Comment Period Public Comments with Agency Responses."

s) Supports Other Commenters – 128-OT2

Comment Summary: Commenter supports comments made by both CASA and Clean Water SoCal and the wastewater sector.

Commenter: [128-OT2]

Agency Response: The comments supported by the commenter are already summarized and responded to in other parts of this FSOR and do not require a different response here. See agency responses to commenters 122-OT2 and 123-OT2.

20. Out of Scope and Irrelevant Comments

a) Irrelevant

Comment Summary: Comment is off topic or irrelevant and not directed at the ACF Regulation or to the procedures followed by the agency in proposing or adopting ACF.

Commenter: [029-WT2, 041-OT2, 098-OT2, 130-OT2]

Agency Response: No changes were made in response to these comments. These comments is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

b) Out of Scope - Zero-Emission Powertrain Certification

Comment Summary: The commenters request that CARB revisit the ZEP Certification program/Regulation to set performance standards for batteries and components used in electric trucks.

Commenter: [119-OT2]

Agency Response: No changes were made in response to these comments. This comment is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond. However, the ZEP Certification Regulation does require that the manufacturer offer a 3-year, 50,000-mile warranty.

c) Out of Scope – Safety Concerns

Comment Summary: Commenter requests that this rulemaking ensure that commercial vehicles are designed in a way that makes them safer for pedestrians and those outside the vehicle.

Commenter: [016-WT2]

Agency Response: No changes were made in response to these comments. This comment is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond.

d) Out of Scope – Environmental Justice for Workers

Comment Summary: CARB must commit to environmental justice for workers across transportation sector, including those in manufacturing.

Commenter: [153-OT2]

Agency Response: No changes were made in response to these comments. This comment is not directed at the ACF Regulation or the process by which it was adopted and therefore CARB is not required to respond. However, many of CARB's statewide heavy-duty demonstration and pilot projects include training and skill-building related to the project's infrastructure and vehicle maintenance and repair, including providing pathways for participants towards clean transportation jobs.

V. Peer Review

Health and Safety Code section 57004 sets forth requirements for peer review of identified portions of rulemakings proposed by entities within the California Environmental Protection Agency, including CARB. Specifically, the scientific basis or scientific portion of a proposed Regulation may be subject to this peer review process. Here, CARB determined that the rulemaking did not contain a scientific basis or scientific portion subject to peer review, and thus no peer review as set forth in section 57004 needed to be performed.

ACF is not based on new scientific principles or bases under the statutes. The Regulation is premised on established science and the application of technological principles. It is not

premised on new scientific principles or research and is therefore not subject to the requirements for peer review under section 57004 of the Health and Safety Code. The Regulation requires fleet medium- and heavy-duty manufacturers to produce and sell ZEVs and requires large businesses, fleets, and government agencies to purchase and report information on their vehicles and how they use them.

Requirements to purchase or turnover fleets to ZEVs do not establish “a regulatory level, standard, or other requirement for the protection of public health or the environment,” such as an ambient air quality standard or toxic exposure level. As such, it does not have a “scientific basis” or “scientific portions” that form the foundations of a regulatory standard or level. The scientific studies and assessments used to analyze the potential environmental impacts of these Regulations, such as the findings that diesel particulate is a toxic air contaminant and that GHGs contribute to climate change, were developed previously and subject to public review.

The technological factors CARB considered for these Regulations are all aspects of engineering design. They reflect the application of established scientific and engineering principles to develop appropriate and feasible emission control standards and related requirements and performing engineering evaluations of technical feasibility and costs. They did not involve analysis of new scientific findings or the development of new scientific theories.

Moreover, the scientific studies and assessments used to analyze the potential health and environmental impacts of these Regulations, such as the findings that engine emissions are air contaminants and that GHGs contribute to climate change, were developed previously and subjected to peer review.

Subjecting CARB’s application of engineering principles in developing the Regulations would result in repetitious review of established science. As the California Environmental Protection Agency has concluded in its guidance for conducting peer review and determining when review is required, Regulations that rely on established science that is used in substantially the same context or manner as when it was previously subject to peer review, including Regulations that rely on technical, economic, or technological issues, such as pollution control standards and manufacturing requirements for vehicle emission standards including these, are not subject to review under Health and Safety Code section 57004. (California Environmental Protection Agency, *CalEPA External Scientific Peer Review Program, Guidance for Staff of CalEPA Organizations* (June 2022), page 8.)