California Air Resources Board

Public Hearing to Consider the Proposed Amendments to the Heavy-Duty Engine and Vehicle Omnibus Regulation

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

Public Hearing Date: October 20, 2023
Agenda Item No.: EO-23-1-1

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List of Acronyms and Abbreviations

Acronym/Abbreviation	Definition
%	Percent
1B-MAW or 1-Bin MAW	Single-Bin Moving Average Window
3B-MAW or 3-Bin MAW	Three-Bin Moving Average Window
15-Day Notice	Notice of Public Availability of Modified Text
ABA	American Bus Association
ABT	Averaging, Banking, and Trading
ACF	Advanced Clean Fleets
ACT	Advanced Clean Trucks
ATA	American Trucking Association
bhp	Brake Horsepower
CA	California
CA DOT or Caltrans	California Department of Transportation
CARB or ARB or Board	California Air Resources Board
CBA	California Bus Association
CCR	California Code of Regulations
CIHD	Compression-Ignition and Heavy-Duty Certification
COA	Crane Owners Association
COVID or covid	Coronavirus Disease
CTA	California Trucking Association
CTP	Clean Truck Partnership
DEF	Diesel Exhaust Fluid
DPF	Diesel Particulate Filter
DTNA	Daimler Truck North America
EJ	Environmental Justice
EMA	Truck and Engine Manufacturers Association
EMFAC	CARB's Emissions Model or Emission FACtors Inventory Model
EO	Executive Officer
ePTO	electric Power Take-Off

Acronym/Abbreviation	Definition
FEL	Family Emission Limit
FSOR	Final Statement of Reasons
FTP	Federal Test Procedure
g	Grams
g/bhp-hr	Grams Per Brake Horsepower-Hour
GHG	Greenhouse Gas
GM	General Motors LLC
gNOx/bhp-hr	Grams of Oxides of Nitrogen Per Brake Horsepower-Hour
GVWR	Gross Vehicle Weight Rating
HD	Heavy-Duty
HDDE	Heavy-Duty Diesel Engine
HD-ZE	Heavy-Duty Zero-Emission
HD-ZEV	Heavy-Duty Zero-Emission Vehicle
HSC	Health and Safety Code
ICE	Internal Combustion Engine
IRP	International Registration Plan
ISOR or Staff Report	Initial Statement of Reasons
LBC	Link-Belt Cranes
lbs	Pounds
LCFS	Low Carbon Fuel Standard
MAC	Manufacturers Advisory Correspondence
MAW	Moving Average Window
MCI	Motor Coach Industries
MCO	Manufacturer's Certificate of Origin
MCOG	Mobile Crane Operators Group
MECA	Manufacturers of Emission Controls Association
MME	Municipal Maintenance Equipment
MY	Model Year

Acronym/Abbreviation	Definition
NFI	NFI Group Inc.
NOx	Oxides of Nitrogen
NTE	Not-to-Exceed
NZEV	Near Zero-Emission Vehicle
OBD	On-Board Diagnostic
OE	Original Equipment
OEM	Original Equipment Manufacturer
Omnibus	Heavy-Duty Engine and Vehicle Omnibus
PM	Particulate Matter
PM2.5	Fine Particulate Matter
ppb	Parts Per Billion
PSIP	Periodic Smoke Inspection Program
PTO	Power Take-Off
RNG	Renewable Natural Gas
RV	Recreational Vehicle
RVIA	RV Industry Association
SAE	SAE International
SI	Spark-Ignited
SLGA	State and Local Government Agency
SRIA	Standardized Regulatory Impact Assessment
U.S. EPA	United States Environmental Protection Agency
ZEV	Zero-Emission Vehicle

I. General

The Staff Report: Initial Statement of Reasons for Rulemaking (Staff Report), entitled Proposed Amendments to the Heavy-Duty (HD) Engine and Vehicle Omnibus Regulation (Omnibus), (hereinafter "Proposed Amendments") released August 1, 2023, is incorporated by reference herein.[1] The Staff Report contains a description of the rationale for the Proposed Amendments. On August 1, 2023, all references relied upon and identified in the Staff Report were made available to the public.

As explained in the Staff Report, the Proposed Amendments provide engine manufacturers additional flexibility to comply with the Omnibus regulation by allowing qualifying manufacturers to produce and certify greater numbers of 2024 through 2026 model year engines that do not meet the primary emission standards established by the Omnibus regulation (hereinafter "legacy engines"),[2] provided those manufacturers offset any emissions increases resulting from such legacy engines.

On March 23, 2023, the California Air Resources Board (Board or CARB) issued Resolution 23-15,[3] which delegated to the Executive Officer (EO) the authority to adopt, amend, and revoke emission standards and test procedures, compliance test procedures, and compliance flexibilities for new on-road motor vehicles. That delegation terminated on December 31, 2023.

On October 20, 2023, the EO conducted a public hearing under the authority granted by the Board in Resolution 23-15 to consider the Proposed Amendments. The EO received 47 written comment letters during the 45-day comment period, and an additional 8 written comments were submitted on the day of the EO Hearing. A total of 30 stakeholders submitted testimony during the EO Hearing. One additional written comment was submitted outside of the comment period. At the conclusion of the EO Hearing, the EO directed staff to determine if additional conforming modifications to the Proposed Amendments were appropriate and to make any proposed modified regulatory language available for public comment, with any additional supporting documents and information, for a period of at least 15 days as required by Government Code section 11346.8. The EO further directed staff to consider written comments submitted during the public review period and make any further modifications that were appropriate available for public comment for at least 15 days, and to either present the Proposed Amendments to the EO for further consideration or take final action to adopt the Proposed Amendments after addressing all appropriate modifications.

CARB staff's proposed changes and supporting documents were made available for a 15-day comment period through a "Notice of Public Availability of Modified Text" (15-Day Notice). The 15-Day Notice and modified regulatory language were posted on December 6, 2023, for public review and comment through December 21, 2023. During the comment period, the Board received 14 additional written comments. CARB staff has reviewed and responded to the comments in section IV of this document and determined that no further changes to the Regulation Order is necessary.

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[1] CARB, Staff Report: Initial Statement of Reasons for the Rulemaking: *Public Hearing to Consider the Proposed Amendments to the Heavy-Duty Engine and Vehicle Omnibus Regulation*. August 1, 2023.

[2] Legacy engine family is defined in title 13, California Code of Regulations, Section 1956.8(a)(2)(C)3.

[3] CARB, Board Meeting Agenda Item *23-3-3: Public Meeting to Consider Proposed Delegation of Authority to the Executive Officer to Consider Proposed Amendments to Mobile Source Regulations*. March 23, 2023.

On December 28, 2023, Executive Order R-23-006 was approved, adopting amendments to sections 1956.8, 1971.1 and 1971.5 of title 13, California Code of Regulations.

This Final Statement of Reasons (FSOR) updates the Staff Report by identifying and providing the rationale for the modifications made to the originally proposed regulatory text, including non-substantive modifications, and regulatory text circulated for public comment during the 15-day comment period. The FSOR also contains a summary of the comments received by CARB on the Proposed Amendments during the formal rulemaking process and CARB's responses to those comments.

A. Mandates and Fiscal Impacts to Local Governments and School Districts

The Board has determined that this regulatory action will not result in a mandate to any local agency or school district the costs of which are reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code.

B. Consideration of Alternatives

For the reasons set forth in the Staff Report, in CARB 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. Alternative 1: No Action

CARB staff considered Alternative 1, *i.e*., not making any changes to the Omnibus regulation, including its legacy engine provisions. Alternative 1 is the same as the baseline scenario and thus would not be expected to cause any changes to the benefits in terms of emissions, health benefits, or costs. Alternative 1 would result in $0 benefits and $0 costs.

Alternative 1 was rejected because it would not ensure adequate availability of heavy-duty diesel engines (HDDEs) in the California market for the 2024 through 2026 model years (MY). As described in the Staff Report, in February 2023, some HD engine manufacturers informed CARB staff that while the technology needed for HD diesel-fueled engines that comply with the Omnibus regulation is available, some manufacturers do not intend to produce Omnibus compliant engines for certain vehicle categories in 2024 through the 2026 MYs. Selecting Alternative 1 and maintaining the baseline would not ensure adequate availability of HDDEs in the California market for the 2024 through 2026 MYs. For this reason, Alternative 1 was rejected.

2. Alternative 2: Delay Omnibus Requirements in 2024

CARB staff additionally considered Alternative 2 where the Omnibus implementation would be delayed from 2024 MY to 2025. This would provide greater flexibility to manufacturers and result in a higher number of 2024 MY legacy engines in California, which would alleviate HDDE availability concerns in 2024. Alternative 2 would essentially allow 100% of the California engine sales volume, 22,881 units, to be legacy engines. Alternative 2 would not

require any offsets of the increased emissions of legacy engines sold in 2024. In this analysis the costs and benefits of the regulation are tracked for ten years of the 2024 MY engines useful life between 2024 through 2033. The time frame is slightly different from the Proposed Amendments because the engine MYs affected are different in the Proposed Amendments and Alternative 2.

a) Cost Savings

The total costs of Alternative 2 were assessed using the same modeled baseline conditions used for the Proposed Amendments. Without the requirement to offset excess emissions from legacy engine sales, the legacy engine provisions would yield a cost savings to produce engines which would be passed on to the fleets. In addition, there will be an operational cost savings to the fleet operators due to the decreased use of diesel exhaust fluid (DEF) in legacy engines valued at approximately $60 to $200 per engine on an annual basis. Fleets would be expected to save approximately $107 million statewide between 2024 and 2033. The annual savings for Alternative 2 are summarized in Table 1.

Table 1: Summary of Cost Savings Associated with Alternative 2

Calendar Year	Technology	Annual DEF Consumption	Total Savings
2024	$78,340,550	$2,853,739	$81,194,289
2025		$2,853,739	$2,853,739
2026		$2,853,739	$2,853,739
2027		$2,853,739	$2,853,739
2028		$2,853,739	$2,853,739
2029		$2,853,739	$2,853,739
2030		$2,853,739	$2,853,739
2031		$2,853,739	$2,853,739
2032		$2,853,739	$2,853,739
2033		$2,853,739	$2,853,739
Total	**$78,340,550**	**$28,537,390**	**$106,877,940**

b) Emissions Disbenefits

Alternative 2 would allow manufacturers to build engines that do not comply with the Omnibus requirements for the 2024 MY. The legacy engines bought during that period would result in increased nitrogen oxides (NOx) emissions.

The net impacts to the California emissions inventory for Alternative 2 were evaluated against the baseline scenario for the analysis period from 2024 through 2033 because the useful life used for 2024 MY engines is ten years. The baseline vehicle inventory includes the vehicle sales and population growth assumptions currently reflected in CARB's on-road emissions

inventory model (EMFAC) for combustion engines certified and intended for use in vehicles greater than 14,000 pounds gross vehicle weight rating (GVWR). The current EMFAC model reflects implementation of currently existing state and federal laws and regulations including the Truck and Bus Regulation, Drayage Truck Regulation, Idling Regulation, Phases 1 and 2 Greenhouse Gas Regulations, Innovative Clean Transit Regulation, the Optional Low NOx Program, the Advanced Clean Trucks (ACT) Regulation, and the Omnibus Regulation.

Table 2 summarizes the statewide daily and annual NOx emissions disbenefits due to Alternative 2. Alternative 2 would result in approximately 1,400 tons of excess NOx emissions between 2024 to 2033.

Table 2: Projected Statewide NOx Emission Disbenefits from Alternative 2 (tons/year)

Calendar Year	NOx Disbenefit (tons/day)	Annual NOx Disbenefit (tons/year)
2024	0.36	111
2025	0.65	202
2026	0.69	215
2027	0.60	188
2028	0.51	160
2029	0.45	140
2030	0.39	120
2031	0.34	106
2032	0.32	99
2033	0.30	93
Total		1,434

c) Health Costs

Alternative 2 would cause approximately 1,400 tons of excess NOx emissions and thereby increase the secondary formation of fine particulate matter (PM2.5), resulting in health disbenefits for individuals in California. The increase in health disbenefits is due to an increase in instances of premature mortality, increase in hospital and emergency room visits, and additional lost days of work. As part of setting the National Ambient Air Quality Standards for Ozone, United States Environmental Protection Agency (U.S. EPA) quantifies the health risk from exposure to PM2.5,[4] and CARB relies on the same health studies for this evaluation. The evaluation method used in this analysis is the same as the one used for CARB's proposed Low

[4] U.S. EPA, *Quantitative Health Risk Assessment for Particulate Matter (EPA-452/R-10-005)*. June 2010.

Carbon Fuel Standard (LCFS) 2018 Amendments,[5] the Heavy-Duty Vehicle Inspection Program and Periodic Smoke Inspection Program (currently known as Clean Truck Check),[6] and the ACT Regulation.[7]

CARB staff analyzed the value associated with five health outcomes for the business-as-usual scenario and Alternative 2: cardiopulmonary mortality, hospitalizations for cardiovascular illness, hospitalizations for respiratory illness, emergency room visits for respiratory illness, and emergency room visits for asthma. These health outcomes were selected because U.S. EPA has identified these as having a causal or likely causal relationship with exposure to PM2.5.[8] U.S. EPA examined other health endpoints such as cancer, reproductive and developmental effects, but determined there was only suggestive evidence for a relationship between these outcomes and PM2.5 exposure, and insufficient data to include these endpoints in the national health assessment analysis routinely performed by the U.S. EPA.

U.S. EPA has also determined a causal relationship between non-mortality cardiovascular effects and short and long-term exposure to PM2.5, and a likely causal relationship between non-mortality respiratory effects (including worsening asthma) and short and long-term PM2.5 exposure. These outcomes lead to hospitalizations and emergency room visits and are included in this analysis.

In general, health studies have shown that populations with low socioeconomic standings are more susceptible to health problems from exposure to air pollution. However, the models currently used by U.S. EPA and CARB do not have the granularity to account for this impact. The location and magnitude of projected emission reductions resulting from Alternative 2 are not known with sufficient accuracy to account for the socioeconomic impacts, and an attempt to do so would produce uncertainty ranges so large as to make conclusions difficult. CARB acknowledges this limitation.

Table 3 shows the estimated statewide-avoided premature morality, hospitalization, and emergency room visits for each air basin with the 95% confidence interval in parenthesis. Alternative 2 is expected to cause approximately 14 additional deaths.

Alternative 2 may also increase the occupational exposure of air pollution on California HD vehicle operators and other employees who work around vehicle traffic. However, CARB staff cannot quantify the potential effect of this occupational exposure due to lack of data on typical occupational exposure for these types of workers.

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[5] CARB, Staff Report: Initial Statement of Reasons for the Rulemaking: *Public Hearing to Consider Proposed Regulation to The Low Carbon Fuel Standard Regulation and To The Regulation On Commercialization Of Alternative Diesel Fuels*. March 6, 2018.

[6] CARB, Staff Report: Initial Statement of Reasons for the Rulemaking: *Proposed Regulation to The Heavy-Duty Vehicle Inspection Program and Periodic Smoke Inspection Program*. April 3, 2018.

[7] CARB, Staff Report: Initial Statement of Reasons for the Rulemaking: *Public Hearing to Consider the Proposed Advanced Clean Trucks Regulation*. October 22, 2019.

[8] In this document, we have quantified health benefits due to the reduction in secondary PM 2.5 expected from the proposed regulation. We expect the proposed regulation would also lead to additional, smaller health benefits due to ambient ozone reductions, but they are not quantified here.

Table 3: Additional Statewide Mortality and Morbidity Incidents Under Alternative 2 (95% confidence intervals)

Calendar Year	Cardiopulmonary Mortality	Hospitalizations for Cardiovascular Illness	Hospitalizations for Respiratory Illness	Emergency Room Visits
2024	1 (1 – 1)	0 (0 – 0)	0 (0 – 0)	0 (0 – 1)
2025	2 (1 – 2)	0 (0 – 0)	0 (0 – 1)	1 (1 – 1)
2026	2 (2 – 2)	0 (0 – 1)	0 (0 – 1)	1 (1 – 1)
2027	2 (1 – 2)	0 (0 – 0)	0 (0 – 1)	1 (1 – 1)
2028	2 (1 – 2)	0 (0 – 0)	0 (0 – 0)	1 (0 – 1)
2029	1 (1 – 2)	0 (0 – 0)	0 (0 – 0)	1 (0 – 1)
2030	1 (1 – 1)	0 (0 – 0)	0 (0 – 0)	1 (0 – 1)
2031	1 (1 – 1)	0 (0 – 0)	0 (0 – 0)	0 (0 – 1)
2032	1 (1 – 1)	0 (0 – 0)	0 (0 – 0)	0 (0 – 1)
2033	1 (1 – 1)	0 (0 – 0)	0 (0 – 0)	0 (0 – 1)
Total*	**14 (11 – 15)**	**2 (0 – 2)**	**2 (0 – 3)**	**6 (3 – 10)**

*Rounded to whole numbers. The totals may not exactly match the sum of annual projections in the table due to rounding.

Statewide valuation of health benefits was calculated by multiplying the value per incident in Table 4 by the statewide total number of incidents for 2024 through 2033. A summary of the cost analysis for monetized health benefits is provided in Table 4. The value for avoided premature mortality is based on willingness to pay, which is a statistical construct based on the aggregated dollar amount that a large group of people would be willing to pay for a reduction in their individual risks of dying in a year.[9]

Unlike mortality valuation, the cost-savings for avoided hospitalizations and emergency room visits are based on a combination of typical costs associated with hospitalization and the willingness of surveyed individuals to pay to avoid adverse outcomes that occur when hospitalized. These include hospital charges, post-hospitalization medical care, out-of-pocket expenses, lost earnings for both individuals and family members, lost recreation value, and lost household production (e.g., valuation of time-losses from inability to maintain the

[9] U.S. EPA, *An SAB Report on EPA's White Paper Valuing the Benefits of Fatal Cancer Risk Reduction (EPA-SAB-EEAC-00-013)*. July 27, 2000.

household or provide childcare).[10] The estimated total statewide health benefits derived from criteria emission reductions is estimated to be approximately $152 million.

Table 4: Statewide Valuation from Additional Mortality and Morbidity Incidents Under Alternative 2

Outcome	Value Per Incident (2022$)	Avoided Incidents	Total Valuation (2022$)
Avoided Premature Mortality	$11,222,126	14	$151,872,411
Avoided Cardiovascular Hospitalizations	$66,288	2	$123,914
Avoided Acute Respiratory Hospitalizations	$57,820	2	$129,016
Avoided Emergency Room Visits	$949	7	$6,191
Total		**25**	**$152,131,532**

d) Reason for Rejection

Alternative 2 provides flexibility to provide legacy engine sales to the public by halting enforcement of 2024 MY Omnibus requirements. Along with flexibility to meet manufacturer product plans, Alternative 2 also provides savings to the manufacturers and the fleet owners statewide by approximately $107 million between 2024 and 2033. Alternative 2 achieves this at the cost of approximately 1,400 tons in excess NOx emissions causing an estimated 14 premature deaths and other hospital visits valued at approximately $152 million dollars in costs statewide. The net disbenefit to the state would be valued at $45 million dollars between 2024 and 2033.

Alternative 2 was rejected because it is less effective in reducing emissions of criteria pollutants than the Omnibus regulation. As discussed above, Alternative 2 results in approximately an additional 1,400 tons of statewide NOx emissions between 2024 and 2033, compared to the Omnibus regulation. This factor is critical because California needs to achieve the greatest degree of emissions reductions of criteria pollutants such as NOx and particulate matter (PM) in order to reduce the serious risks to the health and welfare of Californians posed by such pollutants, and to attain state and federal ambient air quality standards as soon as possible. This Alternative therefore does not ensure that the Proposed Amendments would provide compliance flexibility to manufacturers while also ensuring the amendments will not reduce the emissions benefit of the Omnibus regulation. Furthermore, Alternative 2 is not both as effective in carrying out the purpose for which the amendments are proposed, and less burdensome to affected private persons than the Proposed Amendments, and is not more cost effective to affected private persons and equally effective in implementing the statutory policies and provisions of law authorizing CARB to enact the Omnibus regulation.

[10] Chestnut. L.G., et. al., *The Economic Value of Preventing Respiratory and Cardiovascular Hospitalizations*. July 18, 2008.

3. Small Business Alternative

The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business.

II. Modifications Made to the Original Proposal

A. Modifications Provided for in the 15-Day Comment Period

After the October 20, 2023 EO Hearing, CARB staff proposed modifications to the original proposal at the EO's direction and addressed comments submitted during the 45-day public comment period. CARB staff released the 15-Day Notice on December 6, 2023, which notified the public of additional proposed modifications to the regulatory text (15-Day Changes).

This section summarizes the changes that were made to the initial proposal and were made available for a 15-day comment period. CARB staff proposed modifications to the Proposed Amendments in sections 1956.8 and 1971.1of Title 13 California Code of Regulations (13 CCR 1956.8 and 13 CCR 1971.1), California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles, and California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles.

1. 13 CCR 1956.8 Exhaust Emissions Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles, 2021 and Subsequent Zero-Emission Powertrains, and 2022 and Subsequent Model Heavy-Duty Hybrid Powertrains

a) In subsection 1956.8(a)(2)(C)3.b.iv.1, the text was modified to further clarify the intent of the regulations for manufacturers that use Option 1. The new language states that the excess NOx and PM emissions from this percentage of HD legacy engines exceeding the allowable legacy engine sales limits must be offset at four times the deficit balance. If a manufacturer accumulates both NOx and PM deficits from legacy engines above the specified threshold, then both NOx and PM balances must be offset at four times the normal rate. If a manufacturer only accumulates NOx deficits from legacy engine sales above the specified threshold with no PM deficits, then the manufacturer would only need to offset the NOx deficits at four times the normal rate. If a manufacturer only accumulates PM deficits from legacy engine sales above the specified threshold with no NOx deficits, then the manufacturer would only need to offset the PM deficits at four times the normal rate.
b) In subsection 1956.8(a)(2)(C)3.b.iv.2.C, the text was modified to further clarify the intent of the regulations for manufacturers that use Option 2. The new language states that the excess NOx and PM emissions from this percentage of HD legacy engines exceeding the allowable legacy engine sales limits must be offset at four times the deficit balance. If a manufacturer accumulates both NOx and PM deficits from legacy engines above the specified threshold, then both NOx and PM balances must be offset at four times the normal rate. If a manufacturer only accumulates NOx deficits from legacy engine sales above the specified threshold with no PM deficits, then the manufacturer would only need to offset the NOx deficits at four times the normal rate. If a manufacturer only accumulates PM deficits from legacy engine sales above the

specified threshold with no NOx deficits, then the manufacturer would only need to offset the PM deficits at four times the normal rate.

c) In subsection 1956.8(d), a placeholder is created for the most recent date of incorporation for CARB staff's amended "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles," adopted December 27, 2000. Since these test procedures were amended as part of this rulemaking, the referenced amendment date must be reflected in the California Code of Regulations.

d) In subsection 1956.8(j)(7), the definition of the family emission limit (FEL) has been modified to provide more flexibility to engine manufacturers that certify legacy engine families. Based on the changes, manufacturers can choose to specify the FEL value for each legacy engine family to either two or three decimal places. For example, a manufacturer can specify a PM FEL of 0.01 grams per brake horsepower-hour (g/bhp-hr) or 0.005 g/bhp-hr.

2. 13 CCR 1971.1. On-Board Diagnostic System Requirements - 2010 and Subsequent Model-Year Heavy-Duty Engines

a) Subsection 1971.1(d)(8.5.1) currently states that manufacturers electing to certify 2024, 2025, or 2026 model year HD engines to the provisions of subsection 1956.8(a)(2)(C)2 may implement on-board diagnostic (OBD) systems either complying with California OBD requirements set forth in 13 CCR, section 1971.1, or federal OBD requirements set forth in title 40, Code of Federal Regulations section 86.010-018, as last amended January 24, 2023. The proposed amendment to remove the option to certify to the California OBD requirements from subsection 1971.1(d)(8.5.1) is a necessary clarification to maintain alignment with the requirements in 13 CCR, subsection 1956.8(a)(2)(C)2, which specifies, in pertinent part, that engines certifying under that subsection are only required to submit the federal certificate of conformity demonstrating those engines comply with all federal requirements (including federal OBD requirements).

3. California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles

a) In subparagraph I.2.B, CARB staff proposes to modify the definition of California sales volume by removing the sale to the ultimate purchaser clause. This proposed amendment would provide additional flexibility to manufacturers in tracking which products are sold as new in the California market and which products are sold in other states. After the end of the model year, manufacturers would submit the required end-of-year production reports to CARB to identify the specific engines and vehicles that were sold in California. CARB staff would then use all available tools such as the California Department of Motor Vehicle registration data, warranty registration data, sales records and any other available data to verify the accuracy of the California sales volume for each manufacturer.

b) In subparagraph I.11.B.5.3.5.2(d)(1), the text was modified to further clarify the intent of the regulations for manufacturers that use Option 1. The proposed text explicitly indicates that excess NOx and excess PM emissions from heavy-duty legacy engines exceeding the allowable legacy engine sales limits must be offset at four times the deficit balance. If a manufacturer accumulates both NOx and PM deficits from legacy engines above the specified threshold, then both NOx and PM balances must be offset

at four times the normal rate. If a manufacturer only accumulates NOx deficits from legacy engine sales above the specified threshold with no PM deficits, then the manufacturer would only need to offset the NOx deficits at four times the normal rate. If a manufacturer only accumulates PM deficits from legacy engine sales above the specified threshold with no NOx deficits, then the manufacturer would only need to offset the PM deficits at four times the normal rate.

c) In subparagraph I.11.B.5.3.5.2(d)(2)(iii), the text was modified to further clarify the intent of the regulations for manufacturers that use Option 2. The proposed text explicitly indicates that the excess NOx and excess PM emissions from heavy-duty legacy engines exceeding the allowable legacy engine sales limits must be offset at four times the deficit balance. If a manufacturer accumulates both NOx and PM deficits from legacy engines above the specified threshold, then both NOx and PM balances must be offset at four times the normal rate. If a manufacturer only accumulates NOx deficits from legacy engine sales above the specified threshold with no PM deficits, then the manufacturer would only need to offset the NOx deficits at four times the normal rate. If a manufacturer only accumulates PM deficits from legacy engine sales above the specified threshold with no NOx deficits, then the manufacturer would only need to offset the PM deficits at four times the normal rate.

4. California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles

a) In subparagraph I.2.B, CARB staff proposes to modify the definition of California sales volume by removing the sale to ultimate purchaser clause. This proposed amendment would provide additional flexibility to manufacturers in tracking which products are sold as new in the California market and which products are sold in other states. After the end of the model year, manufacturers would submit the required end-of-year production reports to CARB to identify the specific engines and vehicles that were sold in California. CARB staff would then use all available tools such as the California Department of Motor Vehicle registration data, warranty registration data, sales records and any other available data to verify the accuracy of the California sales volume for each manufacturer.

In addition to the modifications described above, additional modifications correcting grammar, punctuation and spelling have been made throughout the proposed changes. These changes are nonsubstantive.

III. Documents Incorporated by Reference

The regulation and the incorporated test procedures adopted by the Executive Officer incorporate by reference the following documents:

“California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles”, adopted December 12, 2002, as last amended on December 28, 2023, incorporated by reference in 13 CCR 1956.8(b).

“California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles”, adopted December 27, 2000, as last amended on December 28, 2023, incorporated by reference in 13 CCR 1956.8(d).

Title 40 Code of Federal Regulations, Part 86 "§ 86.010-18 - On-board Diagnostics for engines used in applications greater than 14,000 pounds GVWR," as last amended January 24, 2023, incorporated by reference in 13 CCR 1971.1.

These test procedures are readily available from CARB upon request and were made available in the context of this rulemaking in the manner specified in Government Code section 11346.5(b). The amended test procedures are available online at CARB's *2023 Omnibus amendments website*.

These documents are incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to publish them in the California Code of Regulations. 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 California Code of Regulations 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, and written and oral comments were presented at the EO Hearing. Listed in Table 5 are the organizations and individuals that provided comments during the 45-day comment period. Listed in Table 6 and Table 7 are the organizations and individuals that provided written and oral comments at the EO Hearing. Listed in Table 8 are the organizations and individuals that provided comments during the 15-day comment period. Finally, Table 9 lists one organization that provided written comments outside of the comment period.

Table 5. Written Comments Received During the 45-Day Comment Period

Commenter (Date)	Affiliation
Blasco, Natalie (08/04/2023)	None submitted
Hendricks, Gregory (08/09/2023)	Salt Lake Express
Cole, Vickie (08/17/2023)	California Bus Association (CBA)
Gallup, Greg (08/18/2023)	Royal Coach Tours
Reed, Earl (08/18/2023)	Royal Coach Tours
Buffo, Gary (08/18/2023)	Pure Luxury Transportation

Commenter (Date)	Affiliation
Farhadi, Kamrouz (08/18/2023)	Starline Tours of Hollywood Inc.
Gallup, Greg (08/21/2023)	Royal Coach Tours
Rodriguez, Dan (08/22/2023)	Coach USA
Merritt, Jodi (08/24/2023)	H & L Charter
Streif, Phillip (08/24/2023)	Vandalia Bus Lines
Bianco, Kent (08/24/2023)	Bianco Tours
Collier, Casey (08/24/2023)	Lux Bus America
Magnano, Joe (08/24/2023)	SunDiego Charter
Vaughan, Robert (08/28/2023)	BEST-VIP Chauffeured Worldwide
Szilagyi, Todd (08/28/2023)	BEST-VIP Chauffeured Worldwide
Peebles, Thom (08/30/2023)	ABC Companies
Riddington, Chris (08/30/2023)	Classic Charter
Zhang, Katherine (08/30/2023)	King's VIP Transportation Inc
Wheeler, James (09/01/2023)	Municipal Maintenance Equipment (MME)
Maitland, Brent (09/03/2023)	NFI Group Inc. - Motor Coach Industries (MCI)
Shi, Andy (09/12/2023)	Inview Travel, Inc.
Clink, Ryan (09/14/2023)	Hexagon Agility
Fioritto, Robert (09/14/2023)	Coach Coach Coach Inc. DBA Coach 21
Erman, Ceyhun (09/15/2023)	TEMSA
Riddington, Chris (09/15/2023)	Classic Charter
Bragg, Kelan, (09/15/2023)	Crane Owners Association (COA)

Commenter (Date)	Affiliation
Dorr, Richard (09/15/2023)	Discovery Charters
Cole, Vickie (09/15/2023)	CBA
Johnson, Ian (09/15/2023)	Mobile Crane Operators Group (MCOG)
Torres, Chris (09/15/2023)	F & L Farms Trucking Inc.
Fischer, Terry (09/17/2023)	Transportation Charter Services, Inc
Soper, Andrew (09/18/2023)	Link-Belt Cranes (LBC)
Buffo, Gary (09/18/2023)	Pure Luxury Transportation
French, Timothy (09/18/2023)	Truck & Engine Manufacturers Association (EMA)
Onnen, Samantha (09/18/2023)	Santa Barbara Airbus
Guth, Clint (09/18/2023)	Transportation Enthusiast
Shimoda, Chris; Tunnell, Mike (09/18/2023)	California Trucking Association (CTA); American Trucking Association (ATA)
Thomson, John (09/18/2023)	Roush Industries
Ochs, Michael (09/18/2023)	RV Industry Association (RVIA)
Webb, Travis (09/18/2023)	Association of Equipment Manufacturers
Grace, Jeffrey (09/18/2023)	The Manitowoc Company (Manitowoc)
Buchanan, Brandon (09/18/2023)	American Bus Association (ABA)
Jones, Kathleen (09/18/2023)	Mt. Lassen Motor Transit Inc.
Wheeler, James (09/18/2023)	MME
Dalum, Joe (09/18/2023)	Odyne Systems, LLC
Hill-Starks, Leslie (09/18/2023)	Starks Enterprises Transportation Services Inc.

Table 6. Written Comments Received During the EO Hearing

Commenter (Date)	Affiliation
Angell, Randy (10/20/2023)	TEMSA North America
Rohde, Suzanne (10/20/2023)	ABA
Mesfin, Kim (10/20/2023)	Affinity Truck Center
Peebles, Thom (10/20/2023)	ABC Companies
Mesfin, Kim (10/20/2023)	Affinity Truck Center
Porter, Ashley (10/20/2023)	TEC Equipment
Rodriguez, Dan (10/20/2023)	Coach USA
VanderBee, Adam (10/20/2023)	TEC Equipment

Table 7. Oral Comments Presented at the EO Hearing
(Commenters are shown in the order in which they testified at the EO Hearing)

Commenter (Date)	Affiliation
Mandel, Jed (10/20/2023)	EMA
Kelly, Gage (10/20/2023)	ABC Companies
Vlaming, Michael (10/20/2023)	COA, MCOG
Porter, Ashley (10/20/2023)	TEC Equipment
Williams, Charles (10/20/2023)	American Stage Tours
VanderBee, Adam (10/20/2023)	TEC Equipment
Woods, Mark (10/20/2023)	Wildwood Express Trucking
Wheeler, James (10/20/2023)	MME
Angulo, Christopher (10/20/2023)	TEMSA North America
Lepe, Juan (10/20/2023)	MCI

Commenter (Date)	Affiliation
Wheeler, Frank (10/20/2023)	MME
Shimoda, Chris (10/20/2023)	CTA
Magavern, Bill (10/20/2023)	Coalition for Clean Air
Tunnell, Mike (10/20/2023)	ATA
Mesfin, Kim (10/20/2023)	Affinity Truck Center
Maitland, Brent (10/20/2023)	MCI
Brown, Kevin (10/20/2023)	Manufacturers of Emission Controls Association (MECA)
Gallup, Greg (10/20/2023)	Royal Coach Tours
Bento, Anthony (10/20/2023)	California New Car Dealers Association
Rohde, Suzanne (10/20/2023)	ABA
Rodriguez, Dan (10/20/2023)	Coach USA/Mega Bus
Recker, Alissa (10/20/2023)	Daimler Truck North America (DTNA)
Soper, Andrew (10/20/2023)	LBC
Morneau, Hugues (10/20/2023)	Prevost
Fischer, Terry (10/20/2023)	Transportation Charter Services
Peebles, Thom (10/20/2023)	ABC Companies
Singh, Manjeet (10/20/2023)	Bakersfield Truck Operator
Artie (10/20/2023)	Bakersfield Truck Operator
Nixon, James (10/20/2023)	Nixon Egli Equipment Company
Buchanan, Brandon (10/20/2023)	ABA
Riddington, Chris (10/20/2023)	Classic Charter Bus Company

Table 8. Written Comments Received During the 15-Day Comment Period

Commenter (Date)	Affiliation
Williams, Joseph (12/07/2023)	J.W. Advanced Technology
Pedersen, David (12/20/2023)	None submitted
Rodriguez, Dan (12/20/2023)	Coach USA
French, Timothy A. (12/20/2023)	EMA
Peebles, Thom (12/21/2023)	ABC Companies
Bogard, Dan (12/21/2023)	General Motors LLC (GM)
Buchanan, Brandon (12/21/2023)	ABA
Maitland, Brent (12/21/2023)	NFI Group Inc. - MCI
Fischer, Terry (12/21/2023)	Transportation Charter Services, Inc
Riddington, Chris (12/21/2023)	Classic Charter, Inc
Cole, Victoria (12/21/2023)	CBA
Guth, Clint (12/21/2023)	Ground Transportation Consultant
Giddens, Michael (12/21/2023)	Pacific Coachways Charter Services, Inc.
Rietesel, Kristel (12/21/2023)	Bay Area Clean Air Coalition

Table 9. Written Comments Submitted Outside of the Comment Period

Commenter (Date)	Affiliation
Maitland, Brent (10/23/2023)	MCI

A. Comments Received Before and at the EO Hearing

1. Comments in Support of the Rulemaking

Comment 1:

I am in favor of doing as much as possible to reduce emissions from these vehicles. We should always be looking for ways to reduce emissions and not for excuses as to why we can't, especially since the technology is available. (Blasco, Natalie)

Comment 2:

I propose to amend the legacy engine provisions in the Omnibus regulation to provide additional compliance flexibility to allow manufacturers to produce and certify greater numbers of 2024 through 2026 MY legacy engines, while also ensuring the proposed amendments will not reduce the emissions benefits of the Omnibus regulation. (Salt Lake Express)

Comment 3:

The proposed amendments are consistent with the comprehensive agreement that EMA and CARB entered into in July regarding the implementation and alignment of a suite of California and federal regulations ultimately aimed at transitioning the medium-duty and heavy-duty (MHD) vehicle sector to zero-emission vehicles. (See CARB website, "*CARB and truck and engine manufacturers announce unprecedented partnership to meet clean air goals*.") One component of that comprehensive agreement is CARB's commitment to align its Omnibus low-NOx regulations with EPA's Clean Trucks Plan regulations starting in model year 2027, and to expand the scope of the Omnibus legacy engine flexibilities during the interim period, model years 2024 through 2026. The current proposed amendments will implement the interim enhanced flexibilities for legacy MHD engines. In that regard, we appreciate the prompt actions that CARB staff are taking to address this important first step under the transformational agreement between EMA and CARB. (EMA)

Comment 4:

RVIA thanks CARB for recognizing the difficulties that engine manufacturers are having to supply a sufficient number of compliant engines to the various companies that are completing vehicles powered by heavy-duty diesel engines. Amending the legacy engine provisions will allow engine manufacturers the flexibility necessary to transition to compliant diesel engine technology. (RVIA)

Comment 5:

To this point, we were pleased to learn that - becoming aware of issues within the engine manufacturing world and determining additional compliance flexibility was needed to ensure a smooth transition to the Omnibus regulation standards – the Board's staff worked with the engine manufacturers to reach an agreement to provide flexibility and initiate this amendment process.

Specifically, we are pleased the Board has agreed to amend the Omnibus Regulation's 2027 and later Model Year requirements to align with the Environmental Protection Agency's Heavy-Duty Engine and Vehicle Standards 2022 final rule. We are also encouraged by the proposed revisions to the existing caps on legacy engines, intended to provide greater compliance flexibility for engine manufacturers for the transition period of MY 2024-MY 2026. (ABA)

Comment 6:

Today's hearing is part of CARB's process to finalize the critically important amendments expanding the flexibility provisions of the Omnibus Rule. While those amendments won't fully ameliorate the potential for limited availability of product in California, they will implement changes that allow for increased availability of medium- and heavy-duty engines in vehicles. As such, and consistent with our Clean Trucks Partnership agreement with CARB, we support the prompt adoption and finalization of the proposed amendments. (EMA)

Comment 7:

DTNA supports the proposed amendments to the legacy in the engine provisions. We believe these provisions are consistent with the Clean Truck Partnership that EMA and CARB entered into in July, and we sincerely appreciate the action that CARB staff is taking to provide additional flexibility for 2024 through 2026. These additional flexibilities, including the extension of some legacy volumes into 2026 under option 1 and the addition of option 2, are critical modifications. DTNA strongly encourages the executive officer to consider approving these amendments as proposed by staff. (DTNA)

Comment 8:

MECA supports the Executive Officer's proposed amendments to the heavy-duty engine and vehicle omnibus regulation for model years 2024 to 2026. We recognize the need for lead time to test and certify engines and new standards. And we understand the need for fleets that are available vehicles to continue to operate their businesses. (MECA)

Agency Response to Comments 1 through 8: CARB staff appreciates the supportive comments and thanks the commenters. No changes were made in response to these comments.

2. Comments Requesting Public Hearing

Comments 9 through 35:

Comments Summary: A total of twenty-seven (27) commenters requested a public hearing to be held. (CBA, Royal Coach Tours, Pure Luxury Transportation, Starline Tours of Hollywood Inc., Coach USA, H & L Charter, Vandalia Bus Lines, Bianco Travel & Tours, Lux Bus America, SunDiego Charter, BEST-VIP Chauffeured Worldwide, ABC Companies, Classic Charter, King's VIP Transportation Inc, MME, NFI Group Inc. - MCI, Inview Travel, Inc., Coach Coach Coach Inc. DBA Coach 21, TEMSA, Discovery Charters, LBC, Pure Luxury Transportation, Santa Barbara Airbus, Mt. Lassen Motor Transit Inc., Starks Enterprises Transportation Services Inc.)

Agency Response to Comments 9 through 35: CARB staff published the notice for public hearing on September 15, 2023, and held a public hearing on October 20, 2023.

3. Product Availability

Comments Summary: Several stakeholders provided comments indicating that manufacturers have informed them that engine allocations to their businesses would be severely reduced in 2024 to levels below their historical and forecasted demands for California. The types of businesses that provided comments involving product availability included:

- Motorcoach manufacturers, dealers, and operators and the associations that represent them,
- On-road crane manufacturers and operators and the associations that represent them,
- Municipal vehicle dealers and builders,
- RVIA,
- Truck dealerships, operators, CTA, ATA, and
- Dealerships for Volvo, Mack, and Isuzu Vehicles.

a) Motorcoaches

Comment 36:

MCI is proud to offer both diesel and battery electric coaches to our customers as well as providing support such as infrastructure planning to enable the transition to zero-emissions. Unfortunately, the impact of the regulation and subsequent agreement with EMA and engine manufacturers severely limits the number of allowable diesel engines for motor coaches, thus we, as well as our many California based customers will be significantly impacted. (NFI Group Inc. - MCI)

Comment 37:

Although we do appreciate the Air Resources Board's (CARB) proposal to align with the U.S. Environmental Protection Agency's (EPA's) 2022 Heavy-Duty Engine and Vehicle Standards final rule, including the new inducement schedules, the Omnibus regulation even with the proposed new legacy engine provisions, is going to interfere with my ability to purchase new motorcoaches over the next three years. Rather than put my business at risk from this hardship, I respectfully request that CARB provide a short-term exemption from the rule for motorcoach engines, during model year 2024 through model year 2026.

My company provides charter bus transportation to schools, military, emergency services, shuttles, weddings, camps and church groups throughout the Central Valley.

Please know that my company does support CARB's goal of reducing emissions and addressing climate change. Motorcoach operations have a long history of providing environmental benefits, particularly here in California. Motorcoaches are the most energy efficient and lowest emissions form of passenger transportation (on a per person basis), taking cars off the road and reducing congestion. Through the years our engines have become cleaner, and we are burning cleaner fuels. We also support advancement of emissions reducing technologies. But the advancement of these technologies cannot be at the expense of continuing our business.

Under the Omnibus regulation, even with the amendments to the legacy engine provisions, motorcoach manufacturers are not going to receive an adequate supply of engines to produce new motorcoaches for model years 2024 through 2026. Apparently, the rule restricts the number of legacy engines manufacturers can produce, and because these engines can go into trucks or motorcoaches, the motorcoach manufacturers are being told their allocation of engines will be few to none, during this time period. Based on this forecast, we are told no new motorcoach equipment will likely be available until model year 2027.

With 45 vehicles pre covid and 25 total vehicles now, as we hire more drivers, we will need to purchase new or newer vehicles. If new vehicles are not available, we will lose out on new business requiring such vehicles. This will put pressure on the used market as those prices

will rise with supply and demand. If new coaches are not available that keeps vehicles in service longer than they should not helping the air. We want the ability to upgrade to the latest and greatest in safety features that come with newer vehicles.

It will cause severe hardship to my company and operations if there are no new motorcoaches available for purchase over the next three years. Considering motorcoach operations already provide significant environmental benefits, and that this issue is only short-term, please amend the Omnibus regulation to include an exemption for engines used in motorcoaches for model years 2024-2026. (Classic Charter, Inc)

Comment 38:

Although we do appreciate the Air Resources Board's (CARB) proposal to align with the U.S. Environmental Protection Agency's (EPA's) 2022 Heavy-Duty Engine and Vehicle Standards final rule, including the new inducement schedules, the Omnibus regulation even with the proposed new legacy engine provisions, is going to interfere with my ability to purchase new motorcoaches over the next three years. Rather than put my business at risk from this hardship, I respectfully request that CARB provide a short-term exemption from the rule for motorcoach engines, during model year 2024 through model year 2026.

My company provides charter bus transportation to the Los Angeles, Orange County and San Diego markets. We currently have 93 vehicles in our fleet providing service for professional sports, collegiate sports travel, the Cruise industry, student tour travel, corporate transportation, the tour and travel industry the military and Fema.

Please know that my company does support CARB's goal of reducing emissions and addressing climate change. Motorcoach operations have a long history of providing environmental benefits, particularly here in California. Motorcoaches are the most energy efficient and lowest emissions form of passenger transportation (on a per person basis), taking cars off the road and reducing congestion. Through the years our engines have become cleaner, and we are burning cleaner fuels. We also support advancement of emissions reducing technologies. But the advancement of these technologies cannot be at the expense of continuing our business.

Under the Omnibus regulation, even with the amendments to the legacy engine provisions, motorcoach manufacturers are not going to receive an adequate supply of engines to produce new motorcoaches for model years 2024 through 2026. Apparently, the rule restricts the number of legacy engines manufacturers can produce, and because these engines can go into trucks or motorcoaches, the motorcoach manufacturers are being told their allocation of engines will be few to none, during this time period. Based on this forecast, we are told no new motorcoach equipment will likely be available until model year 2027.

In order to maintain a modern fleet and to keep up with the new EPA requirements we replace 12 vehicles pr year. The vehicles that we retire which are approximately 6 years old are sold out of state. The pandemic significantly affected our fleet replacement plan as we went through a 2-year period where the manufacturers were not producing new equipment due to the fact our industry was almost completely shuttered. Now that business in back we are 3 years behind in our fleet replacement plan and the current Omnibus rule inhibits us from purchasing new equipment for 2024 – 2026 forcing us to continue to operate older less environmentally friendly equipment with more antiquated technology. Furthermore, the older equipment is not equipped with the enhanced safety features that the State of California is requiring on new equipment which puts public safety at risk.

This rule puts operators in California at risk of staying in business because a great number of the business contract we service has provisions built in for equipment that is 3-5 years or newer. With the current rule we would be unable to comply with these contracts subsequently being in default and consequently losing the business. Without adequate passenger transportation available business from all market segments that do business in California would most likely not come to California and move their business to other states which would greatly affect the California economy and eliminate jobs.

It will cause severe hardship to my company and operations if there are no new motorcoaches available for purchase over the next three years. Considering motorcoach operations already provide significant environmental benefits, and that this issue is only short-term, please amend the Omnibus regulation to include an exemption for engines used in motorcoaches for model years 2024-2026. (Transportation Charter Services, Inc)

Comment 39:

In brief, ABA urges that CARB grant a short-term exemption from the certification standards of the Omnibus regulation for bus/motorcoach engines, covering MY 2024-MY 2026, to address a hardship for motorcoach operators in California. ABA also fully supports CARB's proposed amendments aligning the Omnibus regulation emission standards with the U.S. Environmental Protection Agency's (EPA's) Clean Trucks Plan NOx rule beginning in MY 2027 and the new inducement schedules for motorcoaches, but believes the amendments to the legacy engine provisions are insufficient to meet the needs of motorcoach manufacturers, creating a hardship for California motorcoach operators.

…

Bus fleet manufacturers are informing motorcoach operators there will be few to no new vehicles for MY 2024-MY 2026, based on the engine allocations engine manufacturers are providing to them under the proposed new legacy engine options. In other words, the flexibility provided to engine manufacturers under the Agreement does not appear to yield benefits or address the engine supply crisis for motorcoach manufacturers. This comes at a particularly challenging time for motorcoach operators as they struggle to recover from devastating losses caused by the COVID 19 pandemic. For this reason, and to avoid further delay in addressing the overarching pending engine supply crisis, ABA requests CARB provide additional flexibility to assist California motorcoach operators, by granting a short-term exemption from the Omnibus regulation engine certification standards for heavy-duty engines used in bus/motorcoach vehicles.

…

However, due to the new engine certifications required by the Omnibus regulation for MY 2024, including the proposed amended legacy provisions as per the Agreement, engine manufacturers are providing drastically reduced engine allocations to motorcoach manufacturers. These allocations range from only 1-5 engines for MY 2024, per vehicle manufacturer, and less than these numbers for MY 2025 and MY 2026.

…

For these reasons, ABA respectfully requests CARB to recognize the needs of California motorcoach operators, separate and apart from the truck industry, by providing a short-term exemption from the Omnibus regulation engine certification standards for bus/motorcoach engines, covering MY 2024-MY 2026. These fleet operators have no control over the evolution

of engine technology, the manner in which engine manufacturers are interpreting the Agreement or making allocations per the proposed legacy engine options. They simply want to continue to operate, renew their equipment to be good stewards of the environment, and continue to serve Californians, providing safe and efficient transportation. (ABA)

Comment 40:

However, although these are positives, the proposed Omnibus Regulation "Options" intended to provide greater compliance flexibility for legacy engines, do not address or appear to even recognize the needs of the bus industry, which, like trucks, also depends on these heavy-duty engines.

…

Nonetheless, the result is that our small volume vehicle manufacturers are in a serious bind - telling us they will have no new vehicles to sell to California bus fleet operators for possibly the next 3 years, due to a lack of engines from their manufacturer(s). The cause of the short supply being attributed to the new requirements of the Omnibus Low NOx Regulation, and this is even with the proposed legacy amendments.

This lack of engines will hit these bus manufactures very hard, as California is the largest motorcoach market in the U.S., with around 221 registered interstate operators, along with additional intrastate operators.

It will also cause a tremendous hardship for California fleet operators, who, after a devastating economic downturn caused by COVID-19, are now trying to upgrade their fleets and remain compliant with new California safety regulations. These fleet operators, who are primarily small, family-owned businesses, will be put at a disadvantage to fleet operators in other states, particularly in terms of competing for work that requires upgraded vehicles – such as contracts with the military or with companies in the Silicon Valley.

Motorcoach manufacturers do not have the same market leverage or volumes as the trucking industry, to entice engine manufacturers to be equitable in supplying engines under the proposed caps; and the motorcoach industry is unable to offer the same opportunities as the trucking industry for engine manufacturers to earn offsetting emission credits. In short, there are no real incentives for engine manufacturers to work with our vehicle manufacturers within the proposed legacy caps.

Further, because the motorcoach industry was not included or even thought of during the negotiations addressing the legacy options, our vehicle manufacturers have no insight as to how the engine manufacturers are even allocating supply under the option formulas – we only know, collectively, there will be few to no engines for the next three model years, and fleet operators will suffer as will their passengers who will need to find alternative methods of travel, which are likely to be less environmentally friendly.

So, we are here asking the Board for relief. In addition to the Amendments the Board is now considering, we need some form of an exemption or other flexibility under the Omnibus Regulation to ensure an engine supply for the bus industry.

We need this relief only for the short term, MY 2024-26, and the number of vehicles/engine units we are seeking is modest, particularly in comparison to the larger heavy-duty engine market. We understand the need for the Board to ensure changes to the Omnibus Regulation are "emissions neutral" or do not reduce the emissions benefits. But if no relief is provided or accommodation made for bus fleet operators, we fear this Regulation could end up hurting the

State's efforts to reach its emissions reduction goals– because a loss of bus operations, in turn, means more cars on the road and increased emissions. (ABA)

Comment 41:

The impact of COVID-19 on travel has further exacerbated our challenges. We are anticipating a deficit of new coach replacement cycles, which is projected to exceed 450 vehicles by the end of this year. To put this into perspective, the entire state of California's annual purchases from all suppliers averaged 253 units.

This situation brings us to the pressing issue of compliance with the current Omnibus regulation. With only one engine supplier, the 15 engines allocated to us represent a mere 14% of what we require for our California-based operators. Without an amendment to the legacy engine availability regulation, we risk putting our California motorcoach operators in jeopardy.

Failure to amend this regulation will force our customers, who require late-model buses, to seek operators from states not governed by the California Air Resources Board (CARB). Even worse, they may be compelled to turn away travelers, who might then resort to personal vehicles, thereby increasing emissions and directly contradicting the spirit of the regulation.

ABC Companies respectfully requests that the CARB Executive Officer exercise their authority to amend the Heavy-Duty Engine and Vehicle Omnibus regulation. We seek an exemption for private motorcoach operators, allowing them unrestricted use of currently available clean diesel engines until new 2027 CARB-compliant engines become commercially available for new motorcoach production. (ABC Companies)

Comment 42:

Unfortunately, recent discussions with three of the largest motorcoach manufacturers revealed their anticipation of scarce vehicle availability in California for at least the next three years. This scarcity is not solely attributed to supply chain disruptions, the ongoing UAW strike impacts engine manufacturing and other crucial bus components.

A more critical driver of this issue is the impact of the Omnibus Low NOx regulation on engine manufacturers, which leaves them unable to provide engines for motorcoaches. While there are similar challenges within the truck sector, it seems the amendments made by CARB and engine manufacturers primarily considered truck fleets, while excluding bus fleets.

I urge CARB to account for the requirements of the state's bus operators. Coach USA comprehends the urgency of combatting climate change, and we have contributed to substantial strides in this area. Our buses remove millions of carbon emitting cars from California's roads annually, emitting only 1.7 lbs PPX, which is significantly lower than the emissions of an average SUV that surpass 17 lbs. PPX. Due to the impact of COVID, we had to curtail expenses and postpone fleet acquisitions due to the substantial decrease in ridership that has yet to fully recover to pre-pandemic levels. Consequently, we might be left with no alternative but to reduce services, leading to potential layoffs. This would result in a decrease in environmentally responsible transportation options, posing a significant challenge for our customers, especially those from rural and economically disadvantaged communities who heavily rely on our services.

It is imperative for us to have the ability to acquire new motorcoaches as the transportation services we provide require them. Not only does the state depend on us, but, more importantly, so do our customers, including first-responders, essential workers, and

schoolchildren. While we recognize that this may be a short-term issue, for Coach USA, it is crucial for our continued operation in this environment. I earnestly implore CARB to collaborate with us to ensure the continuous operation, viability, and competitiveness of the motorcoach industry in California and nationally. These efforts can pave the way for a comprehensive strategy that not only addresses the immediate challenges but also fosters long-term growth and resilience. (Coach USA)

Comment 43:

From the conversations I've had with motorcoach operators throughout California, I believe that implementing this regulation without an extension or exemption to the motorcoach industry could be counterproductive.

…

Our ask here is to grant the motorcoach industry unrestricted use of the current clean diesel technology until a CARB-compliant engine is available for the motorcoach industry. (ABC Companies)

Comment 44:

New coach production is now close to pre-pandemic levels, but due to the fact that California coach operators will not be able to purchase new equipment for the next three years, this will put us behind in our fleet plans and will also put California at a huge disadvantage to the surrounding states that are not limited to new coach purchases. Customers such as professional sports teams, collegiate sports, and the tour travel industry require equipment that's three years or newer in their contracts; and will now outsource this to out-of-state companies rather than California-based operators. This will have a major impact -- negative impact on our industry and the people it employs. (American Stage Tours)

Comment 45:

We have only been using one engine manufacturer for our three size units we currently sell here in the United States. Cummins as the engine manufacturer is one of the options currently available in the U.S. TEMSA currently represents about 15 to 20 percent market share to the industry today and about 25 of our sales – 25 percent of our sales currently are sold here in California. Based on those figures and rising demand for our mid- to full-sized units, TEMSA will be drastically affected based on the number of CARB-compliant engines that have been assigned from allocations somehow from Cummins.

The new CARB-compliant engines will not be even available before 2026. TEMSA will not be able to meet the demands of our customers in California. So this will also drastic -- dramatically affect them with their contracts and needs.

Based on the above-stated comments, we believe TEMSA will not have sales of more than 100 coaches based on new regulations. So again not only affecting TEMSA but the customers of California who purchase directly from TEMSA.

This was a brief summary of who we are at TEMSA and we are here to ask the opportunity to continue to work with CARB to come up with a more successful solution to all the issues we are addressing here today. We support the Board's air emission goals set for the heavy-duty vehicles for (inaudible). (TEMSA)

Comment 46:

However, there are critical issues for diesel-engine availability in 2024 to 2026 needing a resolution. Due to the low NOx requirement and legacy provision, our allocation for the Cummins X12 engine for our leading model, the J4500, dropped 93 percent from a 77-unit average per year to only 5 units. This a about 7 percent of our market requirement. California is 10 to 12 percent of our annual business, so this is a significant negative impact.

This decline was not anticipated and we were not informed until around July 15th following CARB's agreement with the engine OEs. This was not a transparent process, and the small but important passenger carrying private motorcoach market, that is very different from the trucking market, were not included in this discussion.

Due to the normal lead times this is already affecting our production and we stress this is not a supply-chain issue, it’s a regulation limiting supply. The lack of flexibility in '24 to '26 will result in the purchase of older, less efficient vehicles with fewer safety features such as collision avoidance.

MCI and our small private operators are still recovering from the impact of COVID while planning a zero-emission future. We ask for an amendment, exemption or flexibility under the Omnibus Regulation specifically for 2024 to 2026 that addresses the small volume market engine allocation problem created by the legacy provision. (MCI)

Comment 47:

I've just now been informed just recent in the last few months through both my vendor manufacturers, MCI and Prevost, that there will not be any engines available for me to purchase for the next three years. This will now put me six years behind my current replacement fleet standard, which is now going to put me in jeopardy of 20 to 30 percent of my contracts that I have with customers that require a vehicle three or five years or newer. I am greatly concerned that this will reduce my volume, and motorcoach companies from outside the State of California will now come in that can meet these three- to five-year requirements for my customers, causing me to --unfortunately my business to shrink even further.

So I am asking for us to take a look at the standards and see if there's any kind of relief that can help out the motorcoach industry. (Royal Coach Tours)

Comment 48:

Since many years Prevost has sold an average of 90 vehicles annually in California, representing about 10 percent of its total sales. I'm here today to highlight that Prevost will have no product available to sell to California customers for the next three years, between 2024 and 2026, unless adjustments are made to the latest engine legacy provision being considered by CARB. The recent pandemic cost significant hardship for the motorcoach industry, virtually eliminating all sales. We've been working for many months to rebuild our production capacity coming out of the pandemic to meet customers' demand for newer product. However, just as we're now reaching pre-pandemic production levels the NOx regulation will prevent us from providing product to our California customers until we return to our national standard in 2027.

We cannot sell our legacy engines in '24 due to limited availability of NOx credit from unexpectedly lower heavy-duty zero-emission vehicle sales and the greater demand for credit to sell compliant diesel vehicle under the Omnibus NOx Regulation. (Prevost)

Comment 49:

New coach production is now back to pre-pandemic levels. But due to the fact I'm being told by the manufacturers that I will not be able to purchase new equipment for the next three years, this will put us even further behind and put California operators at a huge disadvantaged to surrounding states that are not limited.

2023 was the first year we could purchase. However, equipment finance companies weren't lending to our industry because they -- until they saw that our businesses had recovered.

Our company does the majority of professional sports in Southern California, and a few collegiate sports during travel; and they require contractually three years or newer equipment. With new regulations we run the risk that these markets will now source other-state companies rather than the California-based operators to maintain their age compliance. And this will have a major negative impact on our industry in California and the people that are employees. As well California has mandated certain safety equipment on new equipment. This mandate in safety equipment became available on new coaches in 2020 and very few coaches with this new equipment have gone into service during the pandemic, and now this rule will delay California DOT's requirement even further, putting public safety at risk. (Transportation Charter Services)

Comment 50:

However, 70 percent of our customers' needs remain for clean diesel. And with the impact of COVID on travel we're forecasting a deficit in new coach replacement cycles growing over 450 vehicles by the end of this year, bringing the challenge of a limited number of legacy engines available front and center. With one engine supplier our allocated 15 engines is practically 14 percent of what we need to support our California-based operators.

If we do not amend legacy engine availability, we will put our motorcoach operators in jeopardy. Many of them will leave and bring those from out of state. And in addition to that, or worst yet, their customers will get in their own vehicles, undermining the very spirit of this regulation.

Therefore, ABC Companies respectfully request that we allow an unrestricted use of the current technology, clean diesel engines, until a CARB-compliant engine is available. (ABC Companies)

Comment 51:

You have heard a lot of valuable information today from motorcoach leaders on how this affects us all. I won't duplicate but want to put it into my simple words, "Well, you're killing our industry."

You are telling bussers, "We can't buy new buses for three years as Californians." We -- when has CARB ever done that, told our industry, "We can't buy the newest engines"? CARB has always told us to buy the latest and greatest and get the cleanest engines we could. But now CARB is telling bussers, "We can't buy new buses." And the big corporations who CARB has made deals with won't sell those engines to us for three years. But these big corporations can sell them to the other 49 states, just not if you're a Californian.

If CARB told all Californians it can't buy new cars until 2027 and/or we are dropping available cars by 90 percent to Californians, you would have mutiny on your hands. You may even get a call from your boss, Mr. Newsom, and say, "Hey, CARB Board, California needs to buy new

cars." But you're not doing that. But you're doing that to bussers. Why? Because you can. Big government, big corporations can push the little industry like ours around. So you will take your win and go about your business while leaving us out in the cold to run used equipment three years longer than we should. We are just mom & pop shops, small business owners, husband and wife teams, father-daughter teams, mother-son teams. You have heard us and you've heard our customers, like Mrs. Smith's 6th grade class who's riding in a 2014 bus instead of a 2024; or our servicemen who take -- we take from Fort Irwin to 29 Palms riding in a 2015 instead of a 2025. (Classic Charter Bus Company)

b) On-Road Cranes

Comments 52 and 53:

USEPA and CARB engine emissions standards for on-road diesel engines have been harmonized for more than a decade. During this time, manufacturers of heavy on-road cranes have incorporated these engines into the design of their vehicles, making the whole US a unified heavy on-road crane market. [The commenter] anticipates that the amendments will end this alignment and force engine manufacturers to choose actions that will leave heavy on-road crane manufacturers without enough on-road engines that can be introduced to the California market. Without sufficient engine availability, over 50% of the on-road cranes currently produced could be eliminated from the California market. (COA, MCOG)

Comments 54 and 55:

The United States Environmental Protection Agency and CARB engine emissions standards for on-road diesel engines have been harmonized for more than a decade. During this time, LBC / Manitowoc has incorporated these engines into the design of our products, making the whole United States a unified heavy-duty on-road crane market. The Omnibus regulations have ended this period of harmonization and with the recently proposed changes to the regulations we anticipate our ability to serve the California market will be eliminated. (LBC, Manitowoc)

Comment 56:

Our issue with the proposed amendment is the availability of mobile truck cranes that are equipped with on-road medium heavy-duty and heavy heavy-duty diesel engines, during the time period that the CARB regulations are out of alignment with the EPA engine regulations. Because of the small number of cranes sold each year the allocation of CARB-compliant engines by engine manufacturers to crane manufacturers will be drastically reduced and it is projected in some case to be zero. Without compliant engines these new truck cranes with on-road engines will not be able to be registered in California and because of production lead times, cranes that have been purchased or ordered will not be able to be utilized when delivered in 2024.

Our proposed solution is to make an adjustment to the existing N series federally compliant engine provision to allow on-road engine exemptions for cranes to allow (inaudible) their fleet. (COA, MCOG)

Comment 57:

We respectfully ask that the Board and CARB to consider expanding the scope of the N series exemption to include both all terrain cranes and hydraulic truck cranes using federally

compliant on-road engines. This would merely be a short-term solution until engine manufacturers develop engines that meet the Omnibus Regulations. (LBC)

Comment 58:

I'd like to speak in support of specialty crane owners and mobile crane owners group. Link-Belt and Manitowoc submitted written comments on the proposed amendments.

The manufacturers of specialty cranes have been told that due to the engine disallocations, small niche volume manufacturers such as crane manufacturers will not be receiving the necessary engines for the 2024 through 2026 model years. There's no commercially available zero-emission solution for these machines in the two- to three-year time frame in question, nor will there be an available engine that meets proposed emission requirements.

Our customers have a state mandate to update their fleets, and they'll be unable to get the cranes to do so. There's already a multi-year replacement backlog due to the economic impacts of COVID. And the engine restrictions will greatly exacerbate that, forcing customers to run older, more polluting cranes rather than upgrading to new engines.

Furthermore, these cranes are used to update and maintain critical infrastructure such as bridges, dams and sewer plants, and perform emergency cleanup. They are essential to maintain California's infrastructure.

There are only approximately 30 engines per year for specialty crane manufacturers, thus limiting the effect on emissions. (Nixon Egli Equipment Company)

c) Municipal Vehicles

Comment 59:

Recently, we have seen a drastic decrease in the number of both legacy engines and Omnibus-compliant engines available from our manufacturers. As a result, we are concerned that we, and other distributors like us, may be unable to fulfill our state and local government customers' vehicle replacement orders while zero emission vehicle engines are under development. If the Omnibus regulation is not amended to address this engine shortfall, there may be a significant and statewide adverse economic impact on businesses like ours, and on the ability of our public agency customers to provide services that are critical to statewide public health and safety and the protection of the environment. (MME)

Comment 60:

MME recommends that CARB consider a two-pronged approach to resolve the engine shortage problem as follows:

1) suspend the application to engine manufacturers of the Omnibus Regulation ICE sales restriction for State and Local Government Agency (SLGA) fleet vehicle engines, whether inside or outside of California, for model years 2024, 2025, and 2026; and

2) allow for ICE vehicles with legacy engines whose emissions are not offset under the Omnibus Regulation to be purchased inside or outside of California, added to SLGA fleets, and certified for use by SLGA fleets for model years 2024, 2025, and 2026. (MME)

Comment 61:

Our understanding is that the truck chassis manufacturers negotiated for adjustments in the MY2024-2026 Legacy rule that would allow for a small increase to available chassis volumes going into California. These Omnibus concessions included the use of emission credits and CARB 2024 engine spec revisions required to allow for these limited volumes. However, these limitations have resulted in substantial reductions and shortages against both historical and forecasted demand for CARB certified chassis to be sold into California. These shortfalls will result in substantial shortages of required vocational truck equipment to be sold to state, local, and private customers that provide essential products needed to maintain and support California's and Oregon's infrastructure and environmental clean-up requirements. (Association of Equipment Manufacturers)

Comment 62:

Omnibus Regulation set the benchmark for ACF which affects fleets. Currently OEMs are directing California-compliant engines mostly to California dealers, which are regulated by ACT. ACT requires combustion engines to be sold only when these California dealers have sold electric. Problem being, they're not selling electric. Therefore they can't sell enough combustion.

Further complicating the issue is that credits and offsets are controlled strictly by the OEMs. We recently had a conversation with one major manufacturer who very clearly said they're going make a business decision to not access, purchase or use those credits. So currently in its state we have major manufacturers of trucks having a path to provide combustion in a critical infrastructure segment and choosing not to.

We don't have a choice but to supply these critical vehicles, including street sweepers for Caltrans, sewer cleaning machines, trash trucks. All of this is critical to maintain infrastructure and support our communities.

We believe if Omnibus carves out for '24 to '26 an emergency category for this type of equipment and allows it to -- and allows these manufacturers of this type of equipment dealers to supply legacy engines not currently regulated with the new January 1 standard for that three-year window, we can bridge the gap, we can get where we need to go. But we will not make it in this current form. (MME)

Comment 63:

The current regulations, Omnibus and ACT, quite simply earn a shouting match relative to the languages. They don't work together. Independently they work well. But they don't work together as a directive to assist in fitting the critical needs we have. Most of the equipment we sell is equipment that's mounted on these diesel trucks. And because of the weight and pitch formula, et cetera, et cetera, isn't something that lends itself easily to electrification. The lack of engines and chassis available right now -- it's not engines, it's chassis. The chassis manufacturers control what amount of chassis hit the street and where they go. There's no directive that they must do one thing or another. They choose where they go.

So we're caught in a crossfire between ACT and Omnibus. And therefore we have 200 pieces of equipment now and order -- 150 of them apply to these engines. We've currently been informed by our manufacturers we'll have less than 30, with orders for 150 right now. So that poses a significant cost. (MME)

d) Recreational Vehicles

Comment 64:

By far, the vast majority of diesel engines used by motor home manufacturers are supplied by Cummins, Inc. Our manufacturers tell us that they have been informed by Cummins and their engine manufacturers that there will not be sufficient numbers of compliant heavy-duty engines available in the next couple of years due to the uncertainty generated by the Omnibus Low NOx rule. Restoring some needed flexibility will greatly assist in ensuring that engines will be available to maintain motor home production.

Without these engines, the RV industry will be unable to offer diesel motor homes in California, which will result in an economic loss of at least $100 million for California RV dealers alone and have similar impacts for motor home manufacturers, some of which are based in California.

RVIA continues to believe that diesel motor home engines should be exempt from the Heavy-Duty Engine and Vehicle Omnibus Regulation for the 2024 and 2025 engine model years in order to provide business certainty to motor home manufacturers. (RVIA)

e) Trucks

Comment 65:

While our organizations support adjustments to the regulation to increase the availability of new trucks sold in California until a national standard is reestablished, the proposed amendments fall short. These amendments, while providing some relief, do not address the overall lack of product availability nor the significant price increases being advanced by the regulation.

…

As indicated in our previous comments, missing from this rulemaking process has been a focus on the needs of the sellers and purchasers of these engines – the companies that will ultimately decide the rule's success or failure. We urge CARB to work with these stakeholders to identify additional modifications to the regulation to address product availability and costs issues.

Part of this effort should include immediately monitoring availability and cost metrics for the new trucks subject to this rulemaking to identify ways to reduce adverse impacts. Anecdotal information provided to CTA by its dealer members indicate vehicle allocation cuts as deep as 50-90% across all truck brands for the 2024 model year. This will result in devastating economic damages to these dealers, their employees and customers. (CTA, ATA)

Comment 66:

We have 60 trucks. We haul packing supplies throughout California for all the major packing houses. And one thing that -- we're having a real challenge with right now with the dealerships is, you know, trying to find out what they're going to be able to provide for new trucks for -- you know, just for next year, because we've got quite a few customers asking us what are availabilities going to be for the future and how we're going to manage this. I mean we're involved like with hauling citrus trees, drip irrigation, cardboard, pallets. And these companies are really in fear of what's going to happen to us and what's going to happen to their industry without our trucks.

But hopefully we can all come together and do the right thing. (Wildwood Express Trucking)

Comment 67:

Our California truck dealer members are reporting reductions in normal allocations of up to 60 to 90 percent. And then that's across brand. This is in stark contrast to the analysis that was done in the SRIA for the original low-NOx Omnibus Regulation which forecasted there would be a slight decrease in vehicle sales in California, and that's clearly not come to pass. While we appreciate the work that CARB and the OEMs are doing to make these standards work, clearly more needs to be done. You know, whether it is a legacy engine cap provision issue, or if it is an ACT credit issue, we just encourage CARB staff to keep working with the OEMs and, you know, quite frankly, listen to the dealer members who are testifying today to lessen the impact on their businesses in the lead into the 2027 national standard. (CTA)

Comment 68:

The success of the Omnibus Regulation depends on the sale of new trucks. We're here today because this regulation is disrupting the supply of new trucks into the California market. Member companies have reported sales allocation cuts as deep as 60 to 90 percent. This means that dealers are unable to sell and fleets are unable to purchase normal volumes of new trucks, greatly reducing the benefits of this regulation.

The proposed amendments do not adequately address these allocation cuts, while the benefit calculations do not reflect the sales restrictions. Further amending the regulation to reduce the supply constraints is needed to achieve the projected benefits. (ATA)

Comment 69:

Over the past several months we've received reports from our truck dealer members of declines in inventory of up to 90 percent in 2024 due to the Omnibus Regulation. This is after the announcement of CARB's agreement with the Engine Manufacturers Association. It's obvious that declines of vehicle supply of this magnitude would devastate California truck dealers and harm local businesses throughout the state.

A severe decline in new vehicle supply in California will also undermine our state's environmental goals, as it will delay retirement of the oldest, most polluting vehicles. It will further shift sales of noncompliant vehicles to out-of-state dealers, as manufacturers appear to be simply moving allocation of such vehicles from California dealers to non-California dealers in 2024. Many of those vehicles sold by out-of-state dealers will continue to be operated in California, further undermining our state's environmental goals.

In closing, we ask CARB and CARB staff to provide needed relief and clarity on these rules to avoid unnecessary harm to California's economy. (California New Car Dealers Association)

Comment 70:

Now, that a -- we try to keep our trucks compliant and everything and doing rotation on our trucks so that we don't do -- break down on the road. But now if we're going to do a rotation on our trucks and when we come to the dealership in California and ask them that we want to rotate our trucks, they say we don't have any trucks available. By that, it's forcing us to actually try to buy stuff out of state. And either move out of state, because we've got to move product out of 48 states, (inaudible) -- and moving it without any emissions, and it's okay for them. But people that are based out of California are getting (inaudible) for that removal (inaudible) living in California, one way or another being forced to move out of California because of these

emissions, which out-of-state trucks are still allowed to come into California, pick up freight that don't have emissions at all.

So therefore, I'd like to see if this could be pushed out a little bit to where we could still be able to buy trucks and be able to keep running our business out of California other than being forced to move out. (Artie)

f) Volvo, Mack, Isuzu Vehicles

Comment 71:

The challenges our customers are facing because of the current Omnibus regulations has a direct effect on the lively hood of our dealership and our employees. Year to date there has been close to 2,000 trucks registered in the Northern California market. With the new regulations we are expecting to see this number drop by 75-80%. This presents a significant economic hardship for our dealership and customers. Everything we do or see is touched by a Truck.

This is just a small glimpse into how the Omnibus regulations is affecting our customers and dealership. I ask that you take everything that has been presented today into consideration and delay the omnibus regulations to fit the timeline of the EPA. This will give our manufacturers the time needed to improve the technology to meet the demands of all the segments of trucking. (TEC Equipment)

Comment 72:

80% of our customers are small fleets that purchase 1-2 trucks per year and rely on our dealer inventory for their replacement needs. Come Jan 1, 2024, we will be in the unenviable position of advising them that we do not have any trucks to sell them, because we simply cannot afford to order/sell one battery electric rig for every diesel. We are already advising our customers of this restriction in advance. When faced with this sobering reality, their only options are either to move their operations outside of the state or continue to run their existing equipment to the end of its useful life. The former removes a tax base from the state, and the latter ensures that less fuel efficient, more polluting engines stay on the road longer. Unfortunately, there is a large subset that simply cannot afford to do either. They will merely go out of business. It will be the disadvantaged and independent operators affected first, but large fleets will not be immune.

We hope that you would at the very least consider .1g NOx as a present acceptable level for carbon neutrality. This at least gives us some opportunity to serve our CA customers next year, in contrast to being completely shut out of the market. (TEC Equipment)

Comment 73:

We are all behind improving our Valley air, but when our aspirational goals are technologically and financially unachievable by the forecasted timeline, it is irresponsible to press forward. CARB did not intend to regulate diesel trucks out of circulation prior to the availability of replacement zero emission technology for all classes of trucks, but that is where we are today. The July amendment we are gathered for today, involving complex mitigation credit formulas, was a great effort to make additional trucks available within our CA market place. Still too far, too fast. In May, I knew I would have zero diesel trucks available to sell. The net result was that I now have 37 trucks toward the 500 I would normally sell and 4 natural gas trucks. The rest have not been designed to certify and will not be available across all classes of truck function. I would normally have 450 trucks to start the year. The complex mitigation formulas

associated with credit recapture and higher prices all calculated in arrears is too complex for the business market place.

All brands of manufacturers are stymied by the credit calculations associated with the CA registrations. Fear of penalties keeps them excessively conservative in their CA production. The research and development dollars that go into designing, testing and certifying a .1 CARB 2024 engine, instead of putting those dollars into research and development of ZEV is dollars wasted. Customers will not pay $20k more for a first run trial engine that emits a microscopically smaller amount of NOx and consumes more expensive diesel than the truck they can buy today. Diesel prices continue to grow.

It is disingenuous and deceptive to the public to hold tight to this emissions reduction timeline, when in reality, customers will be forced to chase loopholes and work around this stringent regulation. OEMs of all brands will maintain current production of EPA emissions vehicles allowable in all 49 states by diverting production allotted to CA dealers and trucking businesses to states outside CA. Customers will be forced to move their purchases outside the state, but the law permits them to drive those vehicles up to 90% of the time in CA. Others will continue to run older trucks or will buy used units that pollute more than today's newer units.

…

CA feeds the nation and needs to keep product moving from the field and warehouses to the world. We should not give that responsibility to trucking companies outside CA.

We all like our garbage to be collected, the firemen to arrive when called and our store shelves to be full. If one of our garbage companies, fire departments or ambulances wrecks a truck or has a catastrophic engine failure, there are severely limited replacement diesel trucks available for purchase in the state of CA. We will go without. (Affinity Truck Center)

Agency Response to Comments 36 through 73:

The Omnibus regulation was approved for adoption by the Board in August 2020.[11] HD engine manufacturers have been aware of the Omnibus requirements since that time. In fact, since 2016, CARB staff has been conducting public workshops and collaborating with stakeholders.[12] Then, in 2019 CARB staff released a white paper[13] to inform affected stakeholders such as engine manufacturers, of the basic elements of the Omnibus regulation. Therefore, CARB believes that it has provided sufficient lead time to the engine manufacturers to redesign their products and to inform their customers how they plan to comply with the Omnibus requirements. Based on publicly available certification data, several manufacturers have already certified some 2023 and 2024 model year diesel and natural gas fueled engines to the Omnibus standards, indicating the technical feasibility of the Omnibus standards and the availability of enabling emission control technologies.[14]

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[11] CARB, *Heavy-Duty Omnibus Regulation.*

[12] CARB, *Heavy-Duty Low NOx: Meetings & Workshops.*

[13] CARB, Staff White Paper: *California Air Resources Board Staff Current Assessment of the Technical Feasibility of Lower NOx Standards and Associated Test Procedures for 2022 and Subsequent Model Year Medium-Duty and Heavy-Duty Diesel Engines*. April 18, 2019.

[14] Executive Orders for 2023 an2024 model year natural gas and diesel-fueled heavy-duty engines certified to the Omnibus standards: *A-021-0771*, *A-021-0772*, *A-021-0773*, *A-021-0777*, *A-021-0778*, *A-021-0779*, *A-290-0192*, *A-006-2414*, *A-010-2497*, *A-010-2498*, *A-010-2500.*

On February 9, 2023, CARB staff was informed that some HD engine manufacturers have changed their product plans and while the technology to produce an Omnibus compliant HD engine is available, some HD engine manufacturers do not intend to use that technology for 2024 to 2026 MYs. Recognizing the need for additional flexibility, CARB staff responded quickly and discussed this issue in a public workshop[15] held on February 13, 2023. After the workshop, CARB staff held multiple discussions with HD engine and vehicle manufacturers with regards to HD engine product availability in the California market.

On July 5, 2023, CARB, leading U.S. truck manufacturers, and EMA signed the Clean Truck Partnership (CTP) agreement.[16] The agreement, in pertinent part, commits CARB to initiate actions to provide the signatories additional compliance flexibility for the Omnibus regulation, which will help ensure that sufficient HD products are available to meet California's needs in the 2024-2026 MY period, without resulting in increased emissions. On August 1, 2023, CARB staff proposed amendments to the Omnibus regulation,[17] in part, to meet those commitments.

On December 6, 2023, CARB staff proposed additional amendments to the Omnibus regulation that modified the definition for California Sales Volume and the number of significant digits to be used for the FEL for legacy engines as well as other modifications intended to clarify the intent of the regulations. The 15-Day Notice and supporting documents were made available for a 15-day comment period through December 21, 2023.

The ACT regulation, adopted in 2021, requires manufacturers that certify Class 2b-8 chassis or complete vehicles with combustion engines to sell zero-emission trucks as an increasing percentage of their annual California sales of HD vehicles starting in 2024 MY. Several commenters suggested that the interaction between the ACT and the Omnibus regulations is a factor limiting manufacturers from producing and selling sufficient number of HD engines to meet the market demand in California during the 2024 through 2026 transition years. Their assertion is based on their premise that there will be fewer sales of HD zero-emission vehicles (HD-ZEV) causing manufacturers to sell fewer HD vehicles that use internal combustion engines to meet the percentage requirements of the ACT regulation. CARB disagrees with this premise. On October 23, 2023, Governor Gavin Newsom announced that California surpassed its zero-emission vehicle (ZEV) truck sales goal two years ahead of schedule, with 7.5% of all new trucks sold in California being ZEVs in 2022, with 7,639 ZEV trucks sold.[18] This announcement was based on the 2021 and 2022 ACT regulation reported data.[19]. The demonstrated early success of meeting the ACT requirements in 2022 indicates that sufficient ACT credits are available in the market to meet the market demand for internal combustion engines in California.

Even with the Proposed Amendments, the commenters are still expressing concerns regarding heavy-duty truck availability in California. After numerous meetings with manufacturers and dealers, CARB staff understands that there is currently a minimum 6-month wait time for a new diesel truck order delivery. This is primarily due to supply chain issues and the large number of

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[15] CARB, *Proposed Advanced Clean Fleets (ACF) Regulation Preliminary Language Revisions Workshop* (Pages 84-87). February 13, 2023.
[16] CARB, Press Release 23-18: *CARB and truck and engine manufacturers announce unprecedented partnership to meet clean air goals*. July 6, 2023.
[17] CARB, *Heavy-Duty Engine and Vehicle Omnibus Regulation Amendments.*
[18] Office of California Governor, Press Release: *California Hit ZEV Truck Sales Goal Two Years Ahead of Schedule*. October 23, 2023.
[19] CARB, *Advanced Clean Trucks Credit Summary Through the 2022 Model Year*. October 13, 2023.

back orders in the system. The issue of back orders is present at the national level and has nothing to do with any of CARB regulations. CARB staff does not anticipate this problem to disappear in the near future.

Furthermore, historical sales of HD diesel trucks in California show wide fluctuations in annual sales e.g., 4% increase in sales in 2017-2018 MYs, 39% increase in sales in 2018-2019 MYs, and 40% decrease in sales in 2019-2020 MYs. There is no evidence in the record before CARB that these fluctuations were due to CARB regulations.

Additionally, some manufacturers are providing quarterly allocation numbers to customers which has created confusion and concerns about product availability levels in 2024. Some fleets and dealers appear to have incorrectly interpreted quarterly allocations as annual allocations.

Some HD engine manufacturers are also using a safety margin (projecting smaller sales than allowed allocations) for their first quarter productions. It should be noted that the safety margin is a number that would most likely be revised on a quarterly basis by manufacturers. As the MY progresses, manufacturers would have a better idea about the mix of their legacy and non-legacy engine sales, and would most likely reduce or eliminate their safety margins by the end of the model year. Therefore, the full allocation of HD engines for the whole year will most likely be larger than four times the first quarter allocation. CARB staff has discussed the issue of safety margins with engine manufacturers and believes that removal of the safety margin by the end of model year would make sufficient number of HD engines available to meet the demand in California for many HD sectors including the motorcoach and on-road crane manufacturers.

As for the N-series Executive Orders, some manufacturers have already received Executive Orders for on-road cranes in the past under the exemption process described in 13 CCR 1956.8(f). The exemption process would continue to be available in 2024 and subsequent MYs, and would allow sales of up to 100 exempt HD engines per MY. Therefore, the process for issuing N-series Executive Orders will continue to be available to the on-road HD industry. This process will likely provide an option for manufacturers of both on-road cranes and motorcoaches to sell some vehicles with U.S. EPA-certified engines.

CARB therefore concludes that the product availability concerns expressed by the commenters appear to be the result of a “manufactured crisis.” That is, it appears that the California HD market demand could largely be met if engine/vehicle manufacturers take advantage of existing flexibilities in CARB regulations, such as the Omnibus legacy provisions and ability to buy and sell ACT credits. In addition, it appears that some HD engine manufacturers did not plan properly to meet the Omnibus requirements. For example, the option to generate emission credits in earlier years that could later be used was exercised by some HD engine manufacturers, but others did not use this flexibility. Ultimately, it is up to each individual HD engine and vehicle manufacturer to take full advantage of the provided flexibilities to meet the HD market demand in California.

4. Request for Exemptions

Comment 74:

ABC Companies is unique as a leader in zero emissions motorcoach sales and service, having sold and now maintaining 90 fully electric motorcoaches in the bay area. While transitioning many of our California based customers to zero emissions battery electric motorcoaches, it is

very clear that a strategy is needed to align the cadence of integrating zero and lower emissions motorcoaches with commercially available clean diesel engines. Specifically, our operators in California need an exemption allowing them to purchase currently compliant diesel engines until new lower emissions engines are commercially available in quantities that align with available chassis. In parallel, there is a critical need to deploy a publicly available charging infrastructure that is compatible with the needs of currently available electric motorcoaches. Without the ability to balance the availability of current diesel technology, lower emissions diesel technology and a supporting infrastructure for a growing fleet of electric motorcoaches, this critical industry is in jeopardy. (ABC Companies)

Comment 75:

Our primary concern arises from the limitations imposed by the regulations and subsequent agreements with the Engine Manufacturers Association (EMA) and engine manufacturers themselves. These restrictions severely restrict the number of permissible diesel engines for motorcoaches, causing substantial consequences for TEMSA and our numerous California-based customers.

Engine manufacturers have recently communicated their inability to develop engines that can meet the stringent CARB (California Air Resources Board) regulations until approximately 2027. Consequently. as a motorcoach manufacturer, we anticipate having very few, if any. engines available for building new motorcoaches during the MY2024 to MY2026 period for our California customers.

In light of these circumstances, we strongly believe that motorcoach manufacturers require an exemption allowing the sale of currently compliant diesel engines until new, lower-emission engines become commercially available in sufficient quantities.

…

Moreover, it is essential to assess the potential impact of these amendments on the state's transportation network and emissions reduction goals. (TEMSA)

Comments 76, 77, and 78:

The Heavy-Duty Engine and Vehicle Omnibus Regulation, as currently amended and proposed, will severely restrict the availability of new engines for heavy on-road cranes in 2024 and 2025, since engine manufacturers supplying heavy on-road crane manufacturers may choose to manufacture engines that comply only to USEPA standards in the size and power categories used in heavy on-road cranes for other preferred customers by sales. This would mean that certain cranes would not be available to the California market, which would adversely affect the ability of crane rental companies to comply with the Heavy Crane Provision of the Solid Waste Collection Vehicle Regulation for crane owners.

CARB has a track record of recognizing the heavy on-road crane industry for its unique engine needs. In 2006, CARB opened a process for All-Terrain Cranes to gain exemption from the requirement that on-road vehicles be manufactured with on-road engines. In 2019, CARB amended the Solid Waste Collection Vehicle Regulations to preserve the Heavy Crane Provision when amendments to the Truck and Bus Regulation were voided by a court ruling. Most recently, heavy on-road cranes were exempted from the Advanced Clean Fleets Regulation, which mandates subject vehicles to become electrified by 2042. [The commenter] once again calls on CARB to recognize the heavy on-road crane industry by providing an amendment to the Heavy-Duty Engine and Vehicle Omnibus Regulation. Such an amendment

would allow, uninhibited by legacy sales provisions, the sale of a small quantity (less than 50) USEPA certified on-road engines to heavy on-road crane manufacturers for the purpose of introduction to the California market. (COA, MCOG)

Thank you for taking the time to consider [the commenter's] request for CARB to consider the impact of the amendments on the new heavy on-road crane market and on crane owners in California, and to open an accommodation (or provide a mechanism) for heavy on-road crane manufacturers to sell cranes with engines complying with only USEPA emissions standards into the California market for the 2024 and 2025 engine model years. (COA, MCOG, Manitowoc)

Agency Response to Comments 74 through 78: No changes were made in response to these comments. See also *Agency Response to Comments 36 through 73.*

The Delegation of Authority to the Executive Officer under Resolution 23-15 allows the Executive Officer to provide additional flexibility so long as "… such flexibility can be provided in emissions-neutral manner." Providing a pure exemption to any engine manufacturer would lead to a scenario where the net emissions from HD engines in California would increase beyond the levels arising from the initial Omnibus regulation.

Therefore, the request by the commenters is outside the scope of this rulemaking. It should also be noted that there already is an exemption process for 100 exempt HD engine sales per calendar year in California under 13 CCR 1956.8(f).

5. Cost and Business Impacts

Comment 79:

I 100% support the idea of cleaning up emissions, although we must not do so in a way that puts an undue burden on manufacturers and working Americans. Many older vehicles still have a lot of life in them. The additional cost to scrap them in favor of newer vehicles eliminates any benefit of a cleaner engine. (Salt Lake Express)

Agency Response: No changes were made in response to this comment. The Proposed Amendments are designed to provide additional flexibility to transition to Omnibus requirements while maintaining the originally anticipated emissions benefits of the program. The Proposed Amendments only set new emissions standards and requirements for HD engine manufacturers, and does not impose any new requirement for fleet operators to scrap older vehicles.

Comment 80:

The ISOR indicates "market forces may cause a fleet to be willing to purchase legacy engines at a premium price estimated to be $606.2 to $2,044.1, equal to the DEF cost savings per legacy engines." (p. 14) Instead, our members are indicating a price increase of roughly $10,000 more per truck with a legacy engine when purchased instate compared to purchasing the same truck outside the state. (CTA, ATA)

Comment 81:

The cost of the regulation also need an honest assessment. Our members are reporting upcharges of 10- to 15,000 dollars for a new 2024 model year truck being sold in California. This is as much as 7 and a half times higher than the 2,000 dollar price increase staff have estimated. Lowering the offset cap limit is one option for reducing these significant upcharges.

The regulatory documents simply do not reflect how the regulation is impacting truck dealerships and trucking fleets in the state. Limiting new truck sales will not produce the benefits being promised and will force some fleets to hold on to existing equipment longer, a further disbenefit. The agency needs to address the real impacts that are occurring from this regulation which will continue with the proposed amendments and work on modification to ensure its sales volumes, align with the benefits being --(inaudible) (ATA)

Agency Response to Comments 80 and 81: No changes were made in response to these comments.

The baseline for this analysis assumes that new 2024-2026 MY HD engines sold in California meet the Omnibus standards. Compared to the baseline, a legacy engine costs less than an Omnibus compliant engine. The manufacturers would use Averaging, Banking, and Trading (ABT) credits or mitigation programs to offset excess emissions from legacy engines.

The $10,000 or more surcharge for a legacy engine that is quoted in comments 80 and 81 are estimates of the cost of a legacy engine sold in California relative to engines sold outside of the state that are not subject to Omnibus standards. This is not the correct point of comparison. For assessing the impacts of this regulation, the proper comparison is the cost for manufacturers to produce and sell Omnibus compliant engines versus the cost for a manufacturer to produce and sell legacy engines in 2024 through 2026 with offset emissions. This is because in the absence of the amendments all new 2024-2026 MY HD engines sold in California must meet the Omnibus standards.

CARB staff believes that the costs to produce and sell a legacy engine will be lower than or equal to the costs of altering product plans to produce and sell Omnibus complaint engines in 2024-2026. CARB staff has estimated per engine cost savings to manufacturers due to lower cost legacy engine technology and anticipates that these cost savings will offset costs associated with offsetting excess emissions. (ISOR Section VIII.A). If instead, the costs of legacy engines and accompanying mitigation strategies are greater than an Omnibus compliant engine, then manufacturers would instead choose to produce and sell Omnibus compliant engines, which is the behavior anticipated in the baseline.

The commentor has stated that: “Limiting new truck sales will not produce the benefits being promised and will force some fleets to hold on to existing equipment longer, a further disbenefit.” In fact, the Omnibus legacy amendments have been proposed to provide engine manufacturers additional flexibility to supply increased numbers of legacy engines while also not adversely affecting the emissions reductions of the initial Omnibus regulation.

6. Stringency

Comment 82:

Odyne supports CARB efforts to reduce medium and heavy-duty vehicle NOx emissions and provides the following suggestion to improve the effectiveness of the proposed regulations:

- Increase the stringency of NOx emissions regulations that would apply to Power Take-Off operation or mandate the use of electric Power Take-Offs (ePTOs) for work trucks that typically power truck-mounted equipment with chassis diesel engines.
- Require vehicles to track engine hours when the power take-off (PTO) is operated using the diesel engine and collect the hours during the Periodic Smoke Inspection Program (PSIP) to determine the approximate severity of emissions during PTO operations (Odyne Systems, LLC)

Agency Response: No changes were made in response to this comment.

The objective of the Proposed Amendments is to provide manufacturers additional flexibility during the 2024 through 2026 MY transition years to the more stringent Omnibus standards.

In terms of emissions during PTO operations, the pre-existing certification and Not-to-Exceed based in-use standards do not control the majority of the engine operation that occurs under sustained low load and idling operations due to low aftertreatment temperatures. The Omnibus regulation, however, established more stringent emissions standards on existing certification cycles as well as new low load cycle designed to ensure emissions are controlled under the majority of engine operations currently not controlled. Similarly, the pre-existing in-use testing program was also revamped with a new three-bin moving average window (3B-MAW) methodology that now ensures emissions are controlled under the majority of in-use operations including idling, low load and medium-to-high loads. Thus, similar to any other HD engine operation, emissions under PTO operations are also subject to the in-use standards based on the load that the engine experiences during the PTO operation. Therefore, CARB staff believes that the existing Omnibus in-use emissions standards would also lead to lower emissions during PTO operation.

Comment 83:

Overall, Roush does not object to the specific modifications being proposed in the new amendments. That said, we believe these challenges should have been addressed through the simple and straightforward approach of (1) eliminating the 0.10 NOx family emissions limit (FEL) cap for all relevant engines for the 2024-26 MY, and (2) allowing any manufacturer (not just so-called “legacy” diesel engines) the additional compliance flexibilities proposed here. (Roush Industries)

Agency Response: No changes were made in response to this comment.

In item (1), the commenter uses the phrase "all relevant engines". It is not clear whether by "relevant engines", the commenter is referring to legacy engines or all engines (legacy and non-legacy engines certified to the Omnibus standards). Additionally, during the development of the original Omnibus regulation, the commenter did not provide any feedback regarding where the maximum FEL should be set. Nevertheless, CARB staff would like to clarify the rationale for setting the maximum FELs incorporated in the Omnibus regulation. The Omnibus standards were developed to achieve maximum technologically feasible and cost-effective emission reductions from all HD engines in California. The regulation also provides flexibilities to manufacturers to meet the applicable emission standards during 2024-2026 MY transition years. One of those flexibilities allows manufacturers to certify to an FEL above the applicable certification standards of 0.050 g/bhp-hr NOx on the federal test procedure (FTP) and ramped modal cycle, and 0.200 g/bhp-hr NOx on the low load cycle. The maximum FEL must be set at a value such that it ensures HD engines subject to the Omnibus standards will become lower emitting than today's engines and as such, must be set at a value below the current NOx standard of 0.20 g/bhp-hr. Based on certification data and effectiveness of existing control technologies, CARB staff set the maximum NOx FEL at 0.10 g/bhp-hr. If by relevant engines the commenter intends to mean legacy engines, then consistent with the comment, the maximum NOx FEL for legacy diesel engines was set at the current standard of 0.20 g/bhp-hr.

In item (2), the commenter asks that any manufacturer be allowed to utilize Omnibus’ compliance flexibilities. Any manufacturer that certifies HD diesel engines in California is allowed to certify legacy engines. The fact that an engine manufacturer did not sign the CTP agreement does not impact its ability to certify legacy engines.

Comment 84:

I want to bring us back to the first point made in the staff presentation, which is air quality. That is the primary mission of this agency; and, you know, unfortunately despite a lot of progress, we're still in a situation where tens of millions of Californians are breathing unhealthy air, people are being sickened and killed by our air pollution. And the biggest single problem we have with air pollution in California is toxic diesel exhaust. The heavy-duty omnibus measure is one of the most important steps that CARB has taken to reduce diesel exhaust, and for that reason we supported it strongly when it was adopted by the Board.

So we are not thrilled by these changes which envision more legacy diesel engines being sold in California. Nevertheless, I think what is best for public health is to have this measure finalized and implemented and enforced as soon as possible. So we recommend that you do that. (Coalition for Clean Air)

Agency Response: No changes were made in response to this comment. The proposed legacy engine provisions are not expected to result in emissions increases or decreases since any excess emissions from each legacy engine would have to be offset using credits from the HD zero-emission (HD-ZE) averaging set or combustion credits of the same averaging set. If HD-ZE or combustion credits are not available, manufacturers would have the option to offset excess emissions by performing projects in disadvantaged communities. CARB staff held a workshop on October 24, 2023, to seek feedback with regards to possible projects in disadvantaged communities.

Comment 85:

MECA has worked with CARB and others at Southwest Research Institute to demonstrate that the model year 2024 FTP standards can be met with improved calibrations applied to current active treatment architectures. The underlying need for these amendments lie with the compressed implementation timeline based by engine manufacturers and not the availability of technology.

Emission control suppliers have made investments to deliver the technologies to meet the model year 2024 standards. And these amendments significantly reduce the rate of return on those investments.

Although we support the assurance that these amendments will not lead to increase in NOx emissions, we are concerned with the precedent and associated risks of trading mobility source regulatory compliance with supplemental emission projects once rules are finalized. (MECA)

Agency Response: No changes were made in response to this comment. It should be noted that raising the legacy engine sales caps will not decrease the sales of advanced emission control technologies for meeting the 2024 MY Omnibus standards. The legacy engine sales caps are being increased in this rulemaking to provide additional flexibility to manufacturers in the 2024 through 2026 transition years.

Although the technology to produce 2024 MY compliant HD engines exists today, some manufacturers have made the business decision to not use this technology in their production plans. Therefore, emission control suppliers would not have been able to sell advanced technologies to these engine manufacturers. On the other hand, raising the legacy engine sales caps would allow manufacturers to sell more legacy engines in California which in turn

would enable MECA and its members to continue selling more traditional emission control technologies such as diesel particulate filters and selective catalytic reduction systems.

The proposed legacy engine provisions are not expected to result in emissions increases or decreases since any excess emissions from each legacy engine would have to be offset using credits from the HD-ZE averaging set or combustion credits from the same averaging set. If HD-ZE or combustion credits are not available, manufacturers must offset excess emissions by performing projects in disadvantaged communities. CARB staff held a workshop on October 24, 2023, to seek feedback with regards to possible projects in disadvantaged communities.

7. OBD

Comment 86:

CARB will need to address certain OBD-related issues, including those pertaining to test article aging and durability testing, to guard against additional product availability issues. The proposed Omnibus amendments include other revisions to certain of the other OBD requirements applicable to 2024 through 2026 model year engines. Those amendments will need to account for a number of relevant issues, including the need to coordinate quickly on the requisite diagnostics for the “2-Bin” moving average window (MAW) in-use testing procedures that CARB, like EPA, has agreed to implement. None of those necessary 2-Bin communication and diagnostic protocols, including those that need to be developed in coordination with SAE, have been developed and finalized. This is a significant issue that needs to be addressed promptly. (EMA)

Agency Response: No changes were made in response to this comment. The Proposed Amendments include OBD amendments for HD engines rated above 525 brake horsepower. With the Proposed Amendments, these engines are only required to meet the federal OBD requirements and do not need to comply with the California OBD requirements.

For OBD test article aging, CARB OBD staff will explore existing regulatory flexibilities with the manufacturers during the OBD application review and approval process, and if needed will also consider revising the appropriate OBD regulations in a future rulemaking program.

As for the data communication and diagnostics protocols, the 2-bin moving average window (2B-MAW) methodology applies to portable emissions monitoring systems based in-use compliance testing and will replace the not-to-exceed (NTE) methodology starting with 2024 model year engines. While the NOx emission tracking bins in the OBD regulation currently include the NTE bin and not the new 2B-MAW structure, no tailpipe compliance decisions are made based on the data in the NTE bin, the purpose of which is simply to provide another view of in-use performance that could serve as a flag for potential emissions issues. In a future rulemaking, CARB intends to update the NOx emission tracking structure in the OBD regulation to include 2B-MAW bins. Staff will work with stakeholders and appropriate standards organizations to develop this technical proposal and will factor in the time needed for development of communication standards and implementation by the engine manufacturers.

8. Off-Cycle In-Use Test Protocol for Otto-Cycle/Spark-Ignited Engines

Comment 87:

The off-cycle in-use test protocol (single-bin moving average window, or "1-bin MAW") included for Otto-cycle/Spark-Ignited ("SI") engines in the 2021 Omnibus Rule should be either significantly revised or eliminated entirely. This test method was never properly researched or validated during the initial Omnibus rulemaking, with the assumption that EPA would review the procedure as part of their Clean Trucks Initiative rulemaking and ARB would simply adopt any modifications accordingly. EPA determined that off-cycle standards for SI engines were not necessary and therefore did not conduct any verification of the testing methodology. ARB already intends to eliminate these standards in 2027MY as stated in the CTP agreement.[20] We suggest therefore that the best path forward is to simply remove the standards from the Omnibus for 24-26MY as well. If ARB wishes to maintain an off-cycle SI standard for model years 2024-26, Roush would be pleased to work with staff to resolve the technical problems with the proposed test protocol and support the public comment and review process that such changes would require.[21] (Roush Industries)

Agency Response: No changes were made in response to this comment. CARB staff will conduct a workshop in the first quarter of 2024 to discuss concepts for the 2027 and subsequent model year alignment with the federal regulations. Therefore, any changes for 2027 and later model year requirements will be considered later and is beyond the scope of this rulemaking.

Furthermore, the 1-bin MAW requirement for Otto-cycle engines was already adopted in the original Omnibus rulemaking. The current amendments are only focused on providing additional flexibility to manufacturers by incorporating the specific requirements that were outlined in the CTP. During the initial Omnibus rulemaking, CARB staff made modifications to the proposed 1-bin MAW methodology for Otto-cycle engines to address comments from manufacturers.[22] However, Roush never provided any comment on the proposed 1-bin MAW during the development of the Omnibus regulation. Elimination of the 1-bin MAW for the transitional period of 2024-2026 MYs is therefore beyond the scope of this rulemaking.

9. CTP Agreement

Comment 88:

Given the activities leading to the recent amendments to the Omnibus Rule, it is important to point out that Roush was not invited to, and therefore did not, participate in the discussions that resulted in the CTP agreement between CARB and members of the EMA as well as a separate equivalent agreement with Ford Motor Company. Accordingly, Roush is not a signatory to that agreement and is not bound by its terms and conditions. (Roush Industries)

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[20] This provision is not dealt with directly in the CTP agreement. However, the CTP states that "CARB plans to harmonize with the U.S. EPA 2027 CTP NOx rule with the exceptions noted in Appendix B", and Appendix B does not include an exception for SI off-cycle standards.

[21] Note that the CTP agreement includes a commitment from ARB to remove the mandatory recall provisions associated with the off-cycle test procedures for all engines. We welcome this change, but do not believe it is sufficient to resolve the concerns with the procedure itself.

[22] CARB. Final Statement of Reasons for Rulemaking: *Public Hearing to Consider the Proposed Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments* (Page 143). October 15, 2021.

Agency Response: No changes were made in response to this comment. This comment raises an issue that is not within the scope of the notice of this regulatory action, and consequently, no response is required.

Comment 89:

Roush also objects to ARB's use of "extra-regulatory" and non-public negotiations to develop and enter into the CTP agreement with members of EMA. We believe this type of private negotiation, only made public after the State of California and multiple publicly owned companies had signed the commitment, subverts the mandated process of transparent public input and review that is a cornerstone of our environmental regulatory system. The focus of the agreement on OEMs complying with regulatory language even if the Omnibus Rule is overturned or never fully implemented, and eliminating future legal and public challenges, undermines the important legal protections afforded by the administrative process. Agreements relating to the ACT program and the internal combustion sales ban, in particular, will generate excess costs for consumers and commercial fleets that will not receive the variety of products that ordinarily would be present in a functioning competitive market. There are times when individual stakeholder and regulatory staff discussions are appropriate when proprietary information is involved; however, in this case, instead of those discussions furthering understanding and public discourse and review, they have served to cut off the process and exclude affected stakeholders from providing meaningful input. (Roush Industries)

Agency Response: No changes were made in response to this comment. As a threshold matter, CARB responds that this comment raises an issue that is not within the scope of the notice of this regulatory action, and consequently, no response is required. Notwithstanding that response, CARB is additionally providing the following response:

CARB has been delegated broad and extensive statutory authority to regulate emissions from HD vehicles and engines. For instance, Health and Safety Code (HSC) sections 39002 and 39003 place the responsibility for controlling air pollution from motor vehicles on CARB. CARB is authorized to adopt standards, rules and regulations, and to perform such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law (§§ 39600 and 39601), must act "as expeditiously as feasible to reduce NOx emissions from diesel vehicles and other categories of vehicular sources which significantly contribute to air pollution problems" (§ 43013(h)), must achieve the maximum degree of emissions reductions possible from vehicular sources in order to accomplish the attainment of state standards at the earliest practicable date (§ 43018(a)) and must adopt standards and regulations that will result in the most cost-effective combination of control measures on all classes of motor vehicles, including but not limited to, reductions in exhaust and evaporative emissions and reductions in in-use emissions through improvements in motor vehicle emission system durability and performance (§ 43018(c)). Furthermore, CARB can exercise additional powers needed to efficiently administer the powers expressly granted by a statute, or as may fairly be implied from a statute granting the powers. Calfarm Ins. Co. v. Deukmejian (1989) 48 Cal.3d 805, 824. Consequently, CARB is not precluded from deciding, in certain instances, that the most appropriate and effective means to carry out its statutory directives is to utilize processes and procedures such as entering into binding agreements or voluntary measures.

Moreover, it cannot be disputed that CARB is now proceeding to propose the adoption of these Proposed Amendments in accordance with the provisions of the Administrative Procedures Act. All stakeholders will have the opportunity to submit comments during the rulemaking formal comment period. Therefore, CARB staff does not believe that any stakeholders have been excluded from providing meaningful input.

10. U.S. EPA Waiver and Section 177 States

Comment 90:

Importantly, the final Omnibus Rule and EPA waiver have not been completed so that other states can adopt the Omnibus Rule requirements in a timely and coordinated fashion. The 2024-2026MY NOx standard for California was adopted with early compliance provisions at its heart—ARB was fully aware that the 0.05 NOx standard was ambitious, and therefore provided flexibility for engine manufacturers to receive credit for early certification of cleaner NOx engines. California explicitly allowed credit accumulation beginning in the 2021MY. A number of OEMs, including Roush, took advantage of these Averaging, Banking, and Trading ("ABT") provisions and accumulated California NOx credits in the 2023MY. No other state adopted the Omnibus Rule in 2021; Oregon is positioned to be the first state to try to adopt the rule in the 2024MY if an EPA waiver is granted to California, with the remaining adopting states having the program take effect in 2025MY or 2026MY. To our knowledge, none of these states has promulgated an ABT program associated with their proposed Omnibus Rule. We assume this is due to the lack of a finalized California Omnibus Rule with a valid EPA waiver allowing for implementation. This gap will likely lead to the unfortunate situation where states could immediately implement the rule without any ABT credit pooling or established ABT credit balances because the program language does not allow credits to be accumulated prior to adoption. This could result in the states adopting the Omnibus Rule requirements with a more stringent ABT requirement than California itself, which we believe was not the original intent of the rule and would run counter to the requirement in section 177 of the Clean Air Act which allows states to adopt California standards so long as they are identical. We note that ARB seems to be aware of this concern given the provision in the CTP agreement stating the intent, beginning with model year 2027, to roll all 2026MY and earlier credits into a single 50-state pool based on EPA's 0.20 NOx standard, and the commitment from ARB to help create a 50-state pool for the ACT program. Notwithstanding this provision, the issue of NOx credits during the 2024-26MY timeframe remains unresolved. (Roush Industries)

Agency Response: No changes were made in response to this comment. This comment raises an issue that is not within the scope of the notice of this regulatory action, and consequently, no response is required.

11. Miscellaneous Comments

Comment 91:

The continued assault on small business in this state is ridiculous. The members of this board are appointed at the pleasure of the current governor. They only agree with the staff that puts out the information to them. The staff is hired with the same leanings that the governor has.

These people make laws that we, as the business people have to abide by. Most are draconian in nature, as this amendment is. There is no extra money in our budgets to continually purchase new equipment. We need to be able to life cycle our current units out.

Most of the "science" comes from people who can skew it the way they want it to produce the result they desire. Our air is the cleanest it has ever been. We cannot go back to the horse and buggy as most of the people involved in this desire. This has an impact on the cost of everything in our state. (F & L Farms Trucking Inc.)

Agency Response: No changes were made in response to this comment. CARB staff values input from a wide range of stakeholders, including small businesses, in the rulemaking process.

Comment 92:

Clear guidance is needed to help fleets and dealerships navigate the complex maze of potential compliance scenarios created by the overlay of this regulation, Manufacturers Advisory Correspondence 22-04, the ACT and ACF regulations, and the CARB/EMA Enforcement Discretion letter. While each of these documents can influence a fleet's purchase decision, differences in the terminology used in the various documents are creating confusion and uncertainty among sellers and purchasers. (CTA, ATA)

Agency Response: No changes were made in response to this comment. This comment appears to be related to the ACT and ACF regulations which are outside the scope of this rulemaking.

Comment 93:

Notwithstanding the substantive changes to the Omnibus Rule, Roush objects to the process used to revise the rule. As the Board is aware, concerns relating to insufficient lead time for the 2024-26MY standards were raised repeatedly during the development of the initial Omnibus Rule. During the regulatory development process, it was very evident that the required research had not been completed for key portions of the regulation. The Board, nonetheless, proceeded with approval instead of potentially delaying implementation to satisfy the procedural requirements and work through those issues raised regarding lead time. When it became clear that objections to the Omnibus Rule package in its existing form continued to pose significant problems for engine availability in the 2024MY, ARB requested that EPA "defer action" on the preemption waiver request for the Omnibus Rule to allow ARB to work with industry and other stakeholders. As of this writing, the Omnibus Rule still requires further modification, as the proposed amendments really only address 2024MY engine availability and do not resolve the Omnibus Rule's other shortfalls. (Roush Industries)

Agency Response: No changes were made in response to this comment. This comment appears to be addressed to the rulemaking action associated with the initial Omnibus regulation, and is accordingly outside the scope of the Proposed Amendments.

Comment 94:

In fact, candidly, it's my understanding that when discussions were held between Board staff and engine manufacturers, at least from the perspective of the engine manufacturers, the focus was on meeting the needs of the state's trucking industry, with no thought given to California bus operators. We had no notice the discussions were even occurring. I know the Staff Report for today's hearing references a February 13 workshop where amendments were discussed; however, we were unaware of this workshop and looking back at the records, the title of the event references the Advance Clean Fleets rule, not the Omnibus Regulation. It only became clear that a discussion of amendments to the Omnibus Regulation took place by looking through the slide deck. Also, at the time this workshop occurred, engine manufacturers had not informed bus manufacturers of issues related to possible engine shortages. We would have no reason to be on notice for this event.

Further, in reviewing the supporting materials for this hearing and even the underlying regulation, references, and calculations for emission reductions, all appear to be related to

California's truck operations, with little to no reference to bus operations. Yet, these regulations will have an outsized effect on the bus industry.

We do not believe this was an intentional oversight by the Board, but instead simply an unfortunate circumstance of not really knowing or understanding our industry. Also, from an engine manufacturing perspective, our industry is a "small volume customer" – with demand not nearly the scale of the trucking industry. (ABA)

Agency Response: No changes were made in response to this comment. Please note that the Omnibus regulation sets more stringent emissions standards and requirements for new HD engines. Therefore, the Omnibus regulation directly impacts the HD engine manufacturers and their products. This is regardless of the type of the vehicle the HD engine is used for.

On February 9, 2023, CARB staff was informed that some HD engine manufacturers have changed their product plans and although the technology to produce an Omnibus compliant HD engine is available, some HD engine manufacturers do not intend to use that technology for 2024 to 2026 MYs. CARB staff subsequently informed HD diesel OEMs, EMA, and U.S. EPA that CARB staff was soliciting feedback with regards to the legacy engine provisions of the Omnibus Regulation in 13 CCR section 1956.8(a)(2)(C)3, and further information would be provided in the ACF Workshop on February 13, 2023. Stakeholders can stay informed by subscribing to CARB's email listserv[23] and participating in CARB's public workshops and meetings. Due to the Omnibus being an engine emission regulation, CARB staff primarily directed their communications toward engine OEMs. However, it is advisable for various sectors of vehicle manufacturers and operators to proactively improve their interactions with these engine OEMs.

Furthermore, the notice of the Proposed Amendments was published on August 1, 2023, and CARB staff has been in contact with ABA and its members since that time. Therefore, both ABA and its members have had the opportunity to discuss their concerns with CARB staff with regards to the amendments.

It should also be noted that the Omnibus regulation was approved for adoption in the August 2020 board hearing, so HD engine manufacturers had ample time to redesign their products and inform their customers about their future product plans.

Comment 95:

So my concern is trucking is already going through a lot of trouble since 1980. There's a lot of depression anxiety in the trucking community. This is the worst time we're seeing. And these new CARB law, they're going to make it worse. So because the spot rates they're in the record low. We don't have any bills right now. If the CARB is going to apply the new law, we're going to suffer a lot. We have to move out of state; if we have to buy a new house in another state, start from zero, which is going to hurt family, children, everybody. And the State is also going to face a big problem. We don't want to buy any untested trucks, because this just -- just in case, if my truck get totaled, I'm not going to be able to buy another truck. So I have to fire my employee or the -- at the (inaudible). So I am concerned over these new laws. (Singh, Manjeet)

Agency Response: No changes were made in response to this comment. CARB's mission is to promote and protect public health, welfare, and ecological resources through effective

[23] CARB. *Heavy-Duty Low NOx email listserv*.

reduction of air pollutants while recognizing and considering effects on the economy. The regulatory process, including the Proposed Amendments, is designed to address pressing environmental and health concerns. CARB staff works to strike a balance between the need for cleaner air and the economic impacts on businesses. CARB staff is committed to creating regulations that are both environmentally responsible and economically feasible. The goal is to move towards cleaner technologies gradually to allow businesses to plan and adapt. Furthermore, as part of the certification process, manufacturers have to demonstrate durability of their products by testing the engine and aftertreatment system for a significant portion of the engine's useful life in the laboratory. There is also a required warranty period. Therefore, staff does not believe that a certified Omnibus compliant engine can be considered as an untested engine. The hardware would have to go through the same rigorous certification process that the older engines would need to go through. Moreover, the Omnibus regulation only establishes emissions standards for new engines and vehicles, it does not require owners to purchase new trucks or new engines.

Comment 96:

I just wanted to highlight and reiterate a number of points that were made by earlier commenters, primarily looking at the efficiency that motorcoaches provide which leads us to be an environmental solution and a good partner to help you reach your environmental goals.

Motorcoaches transport on average 35 -- take on average 35 cars off the road as part of the 55 to 80 passengers they carry with each trip.

There is a reason why motorcoaches are often used to support critical infrastructure, at least contributing to evacuation efforts from wildfires such as you've had in California in recent years, evacuations from hurricanes, and participation most recently in the news in Hawaii with those wildfires as well.

We also support the critical functions of transit agencies and -- if there's moving people from home to work; support Amtrak, the intercity passenger rail with the Amtrak throughway service, more than -- of the top 30 pairs served by Amtrak throughway, more than half of those exist in California. So you're a critical partner for movement of large numbers of people.

We also support Department of Defense. And of the 34 military bases in California, all of those are served by motorcoaches.

And so, as is we mentioned, more than a third of the industry within California has been harmed by the pandemic and forced to close their doors. Vehicle lifecycles are typically 7 to 10 years have been dramatically increased and delayed as a result of the lack of credit and the lack of ridership. We are just now starting to recover, and we've just now been assisting with the implementation of removing vehicles with older than 2010 engines from the roads. We are a critical partner. We're critical to the transportation of large groups of people. And we're a great partner for you in reaching your environmental goals. (ABA)

Agency Response: No changes were made in response to this comment. CARB staff appreciates the critical role of the motorcoach industry in supporting transportation and reducing emissions.

Comment 97:

CARB has regulated aspirational goals to meet our much needed air quality improvements. I feel we have gone too far, far too fast. We have regulated laws in a boardroom without consistent input from stakeholders operating in the industry and on the street. I know you

speak to the Manufacturers regularly, but they are also not on the ground working with customers and the equipment. I am very hopeful that you are soliciting for these exact people to weigh in on the administration of ACF.

…

The CARB NOx regulation is a shell game that deceives the EJ groups and all CA residents into believing CARB is aggressively helping to clean California air. (Affinity Truck Center)

Agency Response: No changes were made in response to this comment. CARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. The regulatory process, including the Proposed Amendments, is designed to address pressing environmental and health concerns. CARB staff works to strike a balance between the need for cleaner air and the economic impacts on businesses. The rulemaking is a public process, and all stakeholders are invited to participate in CARB's public workshops and meetings and comment on the proposed regulations.

In terms of the comment calling the Omnibus regulation a shell game, it is important to note that over the past 50 years, CARB has been developing programs that significantly reduced emissions from mobile and other sources improving air quality and helping mitigate climate change. During this period, CARB's regulations, based on extensive research, have resulted in emission control technology improvements that significantly reduced exposure to high ozone levels and PM2.5. To put into perspective, these regulations have reduced smog alerts from approximately 186 per year in the 1960s to none today.[24] California's air quality has improved dramatically, while achieving economic growth and becoming a world leader in environmental policies and clean technologies. However, despite this progress, more than half of Californians still live in areas that exceed the most stringent 70 parts per billion (ppb) federal ozone standard, with many areas also exceeding the previous ozone standards of 75 and 80 ppb. Furthermore, a disproportionate number of those most impacted by high ozone levels live in low-income and disadvantaged communities. Thus, further reductions of NOx and PM2.5 emissions are critical for attaining California's air quality goals. The Omnibus regulation is expected to contribute significant emissions reductions towards achieving the commitments in the 2016 State Strategy for the State Implementation Plan.

Comments 98 and 99:

Heavy-duty on-road mobile cranes and their owners provide vital services critical to California's citizens. Services include, but are not limited to, heavy civil improvement projects, conventional and renewable energy infrastructure, and emergency response. Without the opportunity to modernize and refresh crane fleets, the proposed regulation changes will limit California based end user's ability serve the people of California. Additionally, circumstances of this regulation will inhibit crane fleet owners' ability to comply with the Heavy Crane Provision of the Solid Waste Collection Vehicle Regulation to phase in heavy on-road cranes that have 2010 or newer engines. The regulation requires the phase out of heavy on-road cranes with engines older than 2010, from January 1, 2024, through January 1, 2027. (LBC, Manitowoc)

Up to 40% of the heavy on-road cranes in fleets are affected. (LBC)

[24] CARB, *Proposed 2022 State SIP Strategy*. August 12, 2022.

Comments 100 and 101:

Crane owners are required by the Heavy Crane Provision of the Solid Waste Collection Vehicle Regulation to phase in heavy on-road cranes that have 2010 or newer engines. The regulation requires the phase out of heavy on-road cranes with engines older than 2010, from January 1, 2024, through January 1, 2027. Up to 40% of the heavy on-road cranes in fleets are affected. When heavy on-road crane manufacturers are unable to supply the California market with sufficient new cranes due to the amendments, California crane rental companies will be forced to turn to the used crane market to meet their compliance requirements—assuming there are compliant used cranes available. It is vitally important that cranes with the latest engine technology be available in order to enable the [commenter's] members to continue to upgrade their fleets in an economically efficient manner. [The commenter] requests that CARB consider additional amendments, which will keep new heavy on-road cranes available to the California market. (MCOG, COA)

Agency Response to Comments 98 through 101: No changes were made in response to these comments. The Heavy Crane provision in the Solid Waste Collection Vehicle Regulation requires owners of heavy cranes with engines older than MY 2010, to upgrade them with 2010 or newer MY engines, from January 1, 2019, through January 1, 2027. In the 2024 through 2026 compliance years, when the first phase of the Omnibus regulation takes effect, owners can comply by upgrading their older heavy-cranes with either an Omnibus compliant engine that either meets the Omnibus standard of 0.050 g/hp-hr or a legacy engine whose excess emissions have been offset. CARB staff believes that the Proposed Amendments to the legacy engine provisions would significantly improve availability of engines to meet the California market demand for heavy cranes in the 2024-2026 MYs. It should also be noted that on-road crane manufacturers can take advantage of the existing exemption process for 100 exempt HD engine sales per calendar year in California under 13 CCR 1956.8(f). See also *Agency Response to Comments 36 through 73*.

12. Comments Beyond the Scope of this Rulemaking

a) 2027+ MY Requirements

Comment 102:

We are concerned that CARB may fall short of achieving its mission in connection with the Omnibus Amendments. Specifically, it appears that many of the environmental benefits assumed to result from the initial Omnibus regulation of 0.02 g NOx/bhp ("Omnibus Regulation") will be materially altered or rendered invalid as a result of the Omnibus Amendments, which raises the NOx level to 0.035 g/bhp in 2027. Put another way, by relaxing the NOx requirements under the Omnibus Amendments, CARB's conclusions relating to the Omnibus Regulation are now incorrect. Accordingly, we request that CARB revisit the environmental conclusions underlying the Omnibus Regulation to determine whether and to what extent these conclusions need to be amended given the Omnibus Amendments, and perform any additional environmental analysis as is required under applicable law. (Hexagon Agility Inc.)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking because the Proposed Amendments do not include any changes to the Omnibus emissions standards for 2027 and later MYs, and consequently no response is required. The proposed amendments to the Omnibus standards for 2027 and later MYs will be considered in a separate rulemaking action.

Comment 103:

ABA further hopes, that in pursuing amendments to the CARB Omnibus Low NOx rule, that they will also incorporate the EPA's motorcoach derate schedule as was included in the EPA Clean Trucks Plan NOx final rule but was not explicitly spelled out in the Omnibus Low NOx rule or the Agreement with the Engine Manufacturers. (ABA)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking. The proposed amendments to the Omnibus standards for 2027 and later MYs will be considered in a separate rulemaking action. CARB staff encourages the commenter to participate in that rulemaking process.

Comment 104:

Most importantly, MECA urges CARB to move forward as quickly as possible to finalize the adoption of subsequent amendments to align the 2027 and later model year requirements with U.S. EPA's Clean Truck Rule to ensure the timeline to introduce these engines is retained. (MECA)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking. The proposed amendments to the Omnibus standards for 2027 and later MYs will be considered in a separate rulemaking action.

Comment 105:

I respectfully ask that CARB realigned CA NOx emissions with that of our other 49 states under EPA NOx regulations. Those three additional years will let CA retain small business truck purchases within CA generating necessary tax revenue and retaining jobs down stream of truck sales. The 2027 EPA regulation of .035 is even stricter than CARB's stair step approach to further regulating out the last 2% of NOx. The OEMs need that time and all those research and development dollars to create ZERO emissions vehicles across all truck classes and functions.

…

Please delay the CARB NOx Omnibus CA regulation to align with EPA NOx 2027, so manufacturers can invest those R&D dollars into viable ZEV technologies and charging infrastructure. We must avoid the coming supply chain disruptions and job loss that will result from the legislation up for approval today. (Affinity Truck Center)

Agency Response: No changes were made in response to this comment. CARB staff already considered the costs and benefits of the Omnibus regulation when the original regulation was introduced to the board in August 2020. The 2024-2026 MY Omnibus requirements will indeed help improve the air quality in California while providing additional flexibilities to the engine manufacturers through an emissions neutral solution.

In terms of 2027 and later MY requirements, the proposed amendments to the Omnibus standards for 2027 and later MYs will be considered in a separate rulemaking action.

b) ACT and ACF Regulations

Comment 106:

It is premature for CARB to proceed with finalizing the ACF, considering the "open for comment" status of the Omnibus Low NOx rule and issues regarding viable technology and

infrastructure development. The ABA therefore requests the rule proceeding be delayed until these matters can be resolved, and to enable CARB to gain a better understanding of motorcoach operations. Alternatively, because Motorcoach operations contribute to environmentally responsible transportation efforts, they are not heavy polluters but instead mitigators and are more like public transit operations (without the fully subsidized support); and because motorcoaches are not well suited for electrification, at this time, ABA seeks an exemption for motorcoaches from the ACF. The ABA looks forward to seeing the industry advance toward ZEVs in a responsible manner, but it must be done in a reasonable and economically feasible manner to be successful. (Royal Coach Tours)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking.

Comment 107:

During the Advanced Clean Fleet Regulation ("ACF") rulemaking process, industry stakeholders repeatedly asked that CARB include a requirement in ACF that if zero-emission technologies were not available, fleets would be required to purchase the next cleanest technology available (e.g., near-zero emission technologies). CARB repeatedly declined to include this requirement on the grounds that the Omnibus Regulation already functioned in this capacity; that is, because the Omnibus Regulation required a baseline of 0.02 g NOx/bhp—an aggressive standard equivalent to near-zero technologies— that negated the need for the "next cleanest" clause to be added. However, now that the Omnibus Amendment lowers the required level to align with the U.S. Environmental Protection Agency ("EPA") at 0.35 g NOx/bhp, beginning in 2027, the argument asserted by CARB in connection with the ACF rulemaking is invalid. Indeed, the environmental benefits of the Omnibus Regulation are weakened, likely requiring additional environmental analysis. As such, for CARB to achieve the same air quality benefits previously anticipated under the Omnibus Regulation, it must require under ACF that fleets use the next cleanest technology, or near zero emission vehicles rated at 0.02 g NOx/bhp. This will allow CARB to retain the same environmental benefits previously alleged to be able to be achieved under the Omnibus Regulation. (Hexagon Agility Inc)

Agency Response: No changes were made in response to this comment. The comment deals with the ACF requirements and alignment of Omnibus with the U.S. EPA 2027 requirements and therefore is outside the scope of this rulemaking. The proposed amendments to the Omnibus standards for 2027 and later MYs will be considered in a separate rulemaking action. See also *Agency Response to Comment 102*.

Comment 108:

As also recognized under the comprehensive agreement between CARB and EMA, implementation of the ACT regulations will need to be monitored closely so CARB and EMA can – as set forth in their comprehensive agreement – "work together cooperatively to resolve issues that may warrant regulatory amendments to CARB's regulations," and to "actively promote the infrastructure development needed to support the successful implementation of the ACT regulations. (EMA)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking. CARB staff appreciates the supportive partnership from EMA and will work collaboratively with EMA for the implementation and any necessary amendments of the ACT regulations as specified in the agreement.

Comment 109:

To meet the ZEV requirements of 9% starting in 2024, significant lead time is needed to complete the research and development process to produce electrified equipment. In addition to the need for extensive safety testing prior to production, factories that produce equipment like street sweepers and vacuum trucks also need to reconfigure their production lines to change over to ZEV manufacturing. This will also involve retraining of manufacturing employees who assemble these trucks to address proper safety procedures for assembling the electrified equipment to these ZEV chassis. Additionally, infrastructure will need to be developed for safely replacing and recycling these large battery packs. A rough estimate of 3-4 years to phase in the ZEV production is needed. (Association of Equipment Manufacturers)

Comment 110:

Motorcoach travel is not capable of operating as a solely battery propelled unit. The infrastructure does not exist. The current infrastructure is significantly flawed & broken. The batteries take up so much space there is not sufficient space for passengers belongings. The range & charge time - even if the infrastructure was in place & worked - is too short / slow to meet the demands of motorcoach travel. (Guth, Clint)

Comment 111:

As part of CARB's efforts to revisit the assumptions/diligence underlying the Omnibus Regulation, Hexagon encourages CARB to consider the well to wheel (or lifecycle) approach to calculating emissions. Hexagon is concerned that CARB's tailpipe only emissions perspective is inherently flawed, allowing for environmental and social consequences beyond just California air quality. For example, CARB is not considering the impact of mining for minerals like lithium and cobalt in order to manufacture battery electric heavy duty vehicles. Likewise, CARB is not taking into account electricity that is powered by coal or other non-green sources. These types of factors can only be considered when using a well to wheel approach. CARB staff should not ignore issues that have the potential to undermine their mission; intended or not. We know that this is a heavy request given the impact to the Advanced Clean Fleet regulation, but we believe in "Clean Air Everywhere," not just in California. (Hexagon Agility Inc.)

Agency Response to Comments 109 through 111: No changes were made in response to this comment. These comments are outside the scope of this rulemaking. The Omnibus regulation does not mandate any HD-ZEV sales requirements.

c) Renewable Fuels

Comment 112:

Hexagon encourages CARB to adopt regulations that advance and promote RNG, not only because it is the fuel with the lowest CI factor available today, but because it will help pave the way for a zero-emission future. (Hexagon Agility Inc.)

Agency Response: No changes were made in response to this comment. Although CARB staff understand the benefits of renewable natural gas (RNG) compared to other fossil fuels, the objective of the Omnibus regulation is to set stringent engine emission standards that are fuel neutral. Advancing specific fuels in this rulemaking is outside the scope of this regulation.

Comment 113:

These same diesels could be mandated to utilize only renewable fuels and still operate during their useful life while keeping our communities clean, safe and our supply chain undisrupted. We need to prevent job loss in this transitional time.

We are all in on ZEV and cleaning our air. The technology with limited range, high cost and first run product failure is only available in the day cab, return to base application. 80% of the trucks I sell are sleeper trucks that haul the ag products we grow across the nation.

Without a technologically proven, affordable ZEV or near ZEV solution for all classes of diesel trucks, you cannot aggressively ban today's diesel engine without a viable alternative.

…

Please go back to the table and look at trucks by class and by purpose. Let's drive zero emissions trucks hard into the classes where they fit. Look harder at alternative renewable fuel options for existing combustion engines on the road. 53% of the trucks on the road in CA today are older than 2010 clean diesel technology. Put the money and incentives into getting those old vehicle off the road and into today's clean diesel vehicle. We would instantly have 83% cleaner air. (Affinity Truck Center)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking. The Omnibus regulation does not mandate any HD-ZEV sales requirements. See also *Agency Response to Comment 112*.

Additionally, CARB staff would like to clarify that the commenter's statement claiming that "53% of the trucks on the road in CA today are older than 2010 clean diesel technology" does not match CARB's data. According to the EMFAC model, as of 2023, only 7% of heavy HD vehicles have engines older than 2010, contributing to a mere 2% of the total vehicle miles traveled within this vehicle category. This positive trend is largely attributed to CARB's Truck and Bus Regulation, which required by January 1, 2023, nearly all trucks and buses must have 2010 or newer model year engines.[25]

Furthermore, existing incentive programs, such as the Volkswagen Environmental Mitigation Trust and the Carl Moyer Program, have played a crucial role in incentivizing the transition to cleaner fleets and mandating the scrappage of old vehicles.

B. Comments Received During the 15-Day Comment Period

1. Product Availability

Comments 114 through 117:

For the past six months, [the commenter] (and motorcoach vehicle manufacturers), tried (or has worked with ABA, and members of the California Bus Association) to engage with CARB on the Heavy-Duty Engine and Vehicle and Omnibus Regulation (Omnibus Regulation) to find a path toward compliance for California bus fleet operators that will not jeopardize their businesses. As the full title of the Omnibus Regulation states, this regulation impacts both engines and vehicles; however, based on our discussions and engagement with CARB to date, the Agency appears to be solely focused on working with original equipment manufacturers (OEM) of engines to the disadvantage of vehicle manufacturers and fleet

[25] CARB. *Truck and Bus Regulation.*

operators, in the bus and truck industries. From the outset of the process to develop this regulation, it appears CARB engaged engine manufacturers only, without reaching out or engaging vehicle manufacturers or fleet operators. Even in regard to negotiations held earlier this year in response to concerns raised with the Omnibus Regulation, CARB again relied solely on engine OEM input without considering input from or the effects of the amendments on vehicle OEMs and end user fleet operators. [The commenter] once again takes this opportunity to restate its position, and incorporates its previous comments submitted in this proceeding by reference, that without providing additional flexibility under the Omnibus Regulation for Model Years 2024-2026, vehicle OEMs will not be in position to provide sufficient compliant motorcoach vehicles for sale in the California market, and California bus fleet businesses and the air quality of the state will suffer.

…

Again, [the commenter] urges CARB to reconsider its position and provide additional flexibility in the Omnibus Regulation for use of legacy engines in new motorcoaches for market during the MY 2024-2026 period, as was provided for transit operations. Motorcoaches are an environmentally sensitive form of mass transportation that can assist CARB in reaching its emission targets and should be promoted. (Coach USA, ABC Companies, ABA, CBA)

Comments 118, 119, and 120:

For the past six months, several interested fleet operators, the California Bus Association and the motorcoach vehicle manufacturers, tried to engage with CARB on the Heavy-Duty Engine and Vehicle and Omnibus Regulation (Omnibus Regulation) to find a path toward compliance for California bus fleet operators that will not jeopardize our businesses. As the full title of the Omnibus Regulation states, this regulation impacts both engines and vehicles; however, based on our discussions and engagement with CARB to date, the Agency appears to be solely focused on working with original equipment manufacturers (OEM) of engines to the disadvantage of vehicle manufacturers and fleet operators, in the bus and truck industries. From the outset of the process to develop this regulation, it appears CARB engaged engine manufacturers only, without reaching out or engaging vehicle manufacturers or fleet operators. Even in regard to negotiations held earlier this year in response to concerns raised with the Omnibus Regulation, CARB again relied solely on engine OEM input without considering input from or the effects of the amendments on vehicle OEMs and end user fleet operators (*https://ww2.arb.ca.gov/sites/default/files/2023-07/Final%20Agreement%20between%20CARB%20and%20EMA%202023_06_27.pdf*). As was mentioned by many who submitted comments seeking a public hearing, the motorcoach industry needs additional flexibility under the Omnibus Regulation for Model Years 2024-2026, as the vehicle OEMs will not be in position to provide sufficient compliant motorcoach vehicles for sale in the California market, and my business, my passengers, my employees and the air quality of the state will suffer.

…

Again, we urge CARB to reconsider its position and provide additional flexibility in the Omnibus Regulation for the use of legacy engines in new motorcoaches for market during the MY 2024-2026 period, as was provided for transit bus operations. Motorcoaches are an environmentally responsible form of mass transportation that can assist CARB in reaching its emission targets by reducing congestion and should be promoted and incentivized, rather than limited or hindered by reducing the availability of new equipment. (Transportation Charter Services, Inc, Classic Charter, Inc, Pacific Coachways Charter Services, Inc.)

Agency Response to Comments 114 through 120: No changes were made in response to these comments. Please refer to *Agency Response to Comments 36 through 73* regarding product availability.

It should again be emphasized that the Omnibus regulation sets more stringent emissions standards and requirements for HD engines, so the primary stakeholders are HD engine manufacturers.

As indicated by the commenters, CARB staff has been engaged in multiple discussions with the motorcoach manufacturers and operators since August 2023. During these conversations, CARB staff has clearly outlined CARB's position with regards to the CTP. Based on information received from multiple sources, it appears that HD engine manufacturers are allocating their HD engine sales based on economic reasons (sell HD engines to the highest bidders).

Furthermore, some HD engine manufacturers are also using a safety margin (projecting smaller sales than allowed allocations) for their first quarter productions. CARB staff believes that the safety margin is a number that would most likely be revised on a quarterly basis by manufacturers. As the MY progresses, manufacturers would have a better idea about the mix of their legacy and non-legacy engine sales, and would most likely reduce or eliminate their safety margins by the end of the model year. Therefore, the full allocation of HD engines for the whole year will most likely be larger than four times the first quarter allocation. Based on the data received from some stakeholders, CARB staff has performed an analysis of the safety margins, and it is estimated that the removal of the safety margin by the end of model year would make sufficient number of HD engines available to meet the demand in California.

Therefore, CARB staff believes that sufficient flexibility has been provided by the agency to the HD engine manufacturers. Ultimately, HD engine manufacturers will have the sole discretion on allocating the engine supplies to their customers. Furthermore, vehicle manufacturers could also use the provision specified in 13 CCR 1968(f) which allows a vehicle manufacturer to install limited number of federal certified engines for up to a total of 100 HD vehicles per year for all manufacturers combined. See also *Agency Response to Comment 121*.

2. Alternative Options

Comment 121:

MCI is proud to offer both diesel and zero-emission coaches to our customers as well as support such as infrastructure planning to enable the transition to zero emissions. Unfortunately, the impact of the regulation and subsequent agreement with EMA and engine manufacturers severely limits the number of allowable diesel engines for motor coaches, thus we, as well as our many California based customers will be significantly impacted.

…

We respectfully request additional clarification regarding the use of offsetting Zero Emissions credits as well as a possible exemption as a small volume manufacturer which is referenced in the text from prior communications below.

I have summarized some of the key points below, many of which have been the topics of ongoing discussion and emails between MCI, our engine OE Cummins and CARB staff which are in addition to our 9/5 hearing request that was previously filed for comment with CARB:

- We have collaborated with CBA and key operators to provide unified information to the CARB team which has been submitted as requested. This includes both historical California private motorcoach sales history and the engines allocated to each coach builder by engine OE.
- Overall, the industry is 200-300 units annually, obviously sales are lower post COVID as both demand and production essentially ceased and we are collectively recovering and renewing fleets.
- In an MCI example, our main selling models which include the J4500 using the Cummins X12 engine have averaged seventy-seven (77) units per year (5-year pre-COVID average excluding public sector), yet we have been allocated 5 units from Cummins which is about 7% of our normal volume. We believe this impact is similar for all major bus builders. We report our data in aggregate to the American Bus Association who can assemble more detail if needed. Despite the data we've provided showing our deficit, there continues to be internal CARB discussion indicating that we would have enough engines. This is simply not the case and is due to the Omnibus legacy cap.
- The exact mechanics that resulted in our allocation of engines from the application of the legacy provision formula have not been clearly outlined, the process was not transparent, and we were not able to see the outcome of the calculation until around July 15th.
- Following the hearing on and at the suggestion of CARB we collaborated with Cummins to better understand and clarify the use of offsetting credits which would meet the CARB requirement of Net Neutral and/or decrease in total emissions. We believe we have a solution and only wish to have further discussion on our compliance strategy.
  …
- In communication with CARB's CIHD section back in June 2023 (Email attached "RE: Exemption 12 CCR...), we were informed the 1956.8(f) exemption path would not apply to on-road vehicles but request it be allowed this point based on the proposal below. It seems this is based on historical context rather than legal applicability as this exemption is located within the On-Road Heavy-Duty Certification Program. We would like to further discuss this as a possible alternative to provide the much-needed flexibility we seek to obtain engine supply.
- In our discussions with Cummins, we understand that several alternatives were proposed by Cummins, which could have merit.
- MCI would like to propose an option that would align with CARB's, and other environmental organizations' goals in reducing emissions. This option would be emissions-neutral, not anti-competitive and would remain fair to any engine manufacturers that will produce CARB-certified diesel engines next year.
- We propose as follows: CARB has established NOx emissions provisions to allow offset of Legacy engines' emissions, and MCI only wants to be able to use Zero Emission credits MCI / New Flyer (MCI's sister company) has earned, or Cummins' earned credits and mitigation projects beyond the Legacy sales cap quantity. We've outlined previously that total sales volumes are well below the threshold for a small volume manufacturer. If we are allowed to use emissions offsets beyond the cap quantity, then this would remain an emissions-neutral solution, a justification that CARB used in its Statement of Reasons when it proposed the new Legacy sales cap options. We are only requesting using the same strategy and request be implemented in conjunction with CARB's existing exemption authority described in 13 CCR 1956.8(f).
- In various communications including our 10/20 hearing, we are a small volume manufacture so continue to seek flexibility under this provision. (NFI Group Inc. - MCI)

Agency Response: No changes were made in response to this comment. Please refer to *Agency Response to Comments 36 through 73* and *Comments 114 through 120* regarding product availability.

CARB staff would emphasize that the inclusion of any small volume manufacturer exemption would directly lead to:

a) Modification of legacy engine sales caps, which is a violation of the CTP agreement, and

b) Increase in NOx emissions from HD trucks which is beyond the EO delegation of authority provided under Resolution 23-15.

The legacy engine provisions include the requirement that each HD engine manufacturer must certify and sell at least one engine family that complies with the Omnibus requirements for 2024 MY. The intent of the Omnibus regulation is to require engine manufacturers to develop and market cleaner HD engines. Limited legacy engine sales were only intended as a transitional flexibility. Any attempts to remove the legacy engine sales caps all together would be counter to the overall intent of the Omnibus regulation.

CARB staff would like to clarify that 13 CCR 1956.8(f) is still an available option for on-road HD vehicle manufacturers. The provision allows the sale of up to 100 HD vehicles that use federally certified engines in California. To qualify for this exemption, a vehicle manufacturer is required to submit to the Executive Officer justification for the need of the exemption and must demonstrate that due to circumstances beyond its control, California certified on-road engines are unavailable for use in the vehicle.

3. Proposed Modifications to 13 CCR 1956.8

Comments 122 through 128:

In reference to the proposed modifications to Subsection 1956.8(a)(2)(C)3.b.iv., of Title 13, California Code of Regulations (CCR) and the Diesel Engine Test Procedures incorporated by reference in Section 1956.8(b), of Title 13, CCR. The purpose of these modifications, per the Notice, is to further clarify the intent of these regulations for manufacturers that choose to use either Options 1 or 2. Although [the commenter] appreciates CARB's intent, [the commenter] and the vehicle OEMs urges CARB to provide further clarification. Specifically, we continue to seek explicit clarification from CARB on what "offset" means, in terms of use of credits to address legacy engine emission deficits. (Coach USA, ABC Companies, ABA, Transportation Charter Services, Inc, Classic Charter, Inc, CBA, Pacific Coachways Charter Services, Inc.)

Motorcoach vehicle OEMs have zero-emission vehicle (ZEV) credits, and have held discussions with engine OEMs, for the purpose of using these credits to acquire legacy engines for use in their vehicles. However, we are told by both the vehicle and engine OEMs that there is confusion on whether these "credits" are acceptable for compliance with the Omnibus Regulation legacy engine options, and of more concern, the OEMs are unable to obtain clarification from CARB. Vehicle OEMs are pursuing every effort to prepare for compliance with the Omnibus Regulation, however this cannot be accomplished without further clarification and assistance from the Agency who authored the regulation. (Coach USA, ABA, Transportation Charter Services, Inc, Classic Charter, Inc, CBA, Pacific Coachways Charter Services, Inc.)

…

[The commenter] also urges CARB to provide further clarification, as part of these proposed modifications, and outreach to assist both engine and vehicle OEMs in preparing to comply with the legacy options amendments to the Omnibus Regulation. (Coach USA, ABC Companies, ABA, Transportation Charter Services, Inc, Classic Charter, Inc, CBA, Pacific Coachways Charter Services, Inc.)

Agency Response to Comments 122 through 128: No changes were made in response to these comments. CARB staff has already received end-of-year credit reports and requests from the manufacturers of HD-ZE powertrains and vehicles for the 2022 MY. Based on those end-of-year reports, the HD-ZE powertrain and vehicle manufacturers should be aware of the available HD-ZE credit balances available to them. CARB staff has not been included in the referenced discussions between the engine and vehicle manufacturers, so CARB staff cannot comment further on the nature and validity of the confusion referenced by the commenter.

CARB staff believes that the test procedures provide sufficient clarity in how the HD-ZE credits can be generated. Nonetheless, CARB staff from the regulatory development side and the regulatory implementation side would be more than happy to participate in joint conversations between the engine and vehicle manufacturers to provide additional clarification if needed.

4. Proposed Modifications to 13 CCR 1971.1

Comments 129 through 135:

In reference to the proposed modification to Section 1971.1, Title 13, CCR, On-Board Diagnostic (OBD) System Requirements, [the commenter] supports the removal of the option to certify to OBD systems to California OBD requirements in Section 1971.1, and instead establish national consistency with federal requirements. The importance of setting consistent and uniform emissions standards cannot be understated. Business operations cannot function among various jurisdictions without a uniform approach to regulation, this is particularly true for the transportation industry, which routinely crosses jurisdictions. This is why [the commenter] is fully supportive of CARB's realignment of the Omnibus Regulation standards with the federal standards for MY 2027 and beyond. National uniformity in these matters is critical. (Coach USA, ABA, Transportation Charter Services, Inc, Classic Charter, Inc, CBA, Pacific Coachways Charter Services, Inc.)

…

We also support and encourage CARB to seek every opportunity to reconcile their emissions standards and protocols with federal emissions standards and protocols, in support of national uniform standards that allow businesses to function in interstate commerce. (Coach USA, ABC Companies, ABA, Transportation Charter Services, Inc, Classic Charter, Inc, CBA, Pacific Coachways Charter Services, Inc.)

Agency Response to Comments 129 through 135: CARB staff appreciates the supportive comments and thanks the commenters. No changes were made in response to these comments.

5. Sales Reporting

Comment 136:

GM supports California’s authority to set state standards that will be at least as protective of public health and welfare as applicable Federal standards, as outlined in section 209(b) of the

Clean Air Act. GM appreciates the ability to engage with CARB as California develops, proposes, finalizes, and ultimately seeks a waiver of Federal preemption to implement its regulations.

On June 28, 2023, GM affirmed its continued commitment to achieving significant reductions of air pollutants in California as a signatory to the Clean Truck Partnership Agreement (Agreement). CARB's workshop on proposed amendments to the Low NOx Omnibus rule, and its publication of proposed amendments, are important steps toward CARB fulfilling its commitments in that co-signed Agreement. GM is hopeful that CARB will propose and finalize administrative processes for Low NOx Omnibus initial reporting and certification, and ultimate compliance that are practicable to administer and consistent with CARB issued guidance on initial ACT credit reporting, and are not inconsistent with Federal regulations.

GM urges CARB to finalize a Low NOx Omnibus amended rule that uses "delivered for sale" as the sole metric for generating and counting credits and deficits, and determining compliance initially and ultimately. The "delivered to the ultimate purchaser and placed in service in California" language would give rise to extraordinary administrative burden, confusion among dealers and customers, and require extended discussions between regulators and manufacturers to clarify and reinterpret mutually agreed compliance accounting, all for indiscernible emissions inventory benefit vs. "delivered for sale".

GM's concerns with the "delivered to the ultimate purchaser and placed in service in California" include:

- GM has limited influence on dealer inventory decisions, and where customers register their property. Administrative burden for a California rule as proposed would extend to dealers in all 50 states, including states that have not opted into California standards, and even then would include some uncertainty. The choices of independent entities, beyond GM's control or influence and not subject to the Low NOx Omnibus regulation, should not be able to alter GM's compliance status.
- "CA" labels (and other Section 177 state labels) for 50-state certified internal combustion engine vehicles are not practicable against the backdrop of multiple California regulations, with some states opting into some California regulations, but not others. For instance, many states may choose to opt in to ACT and not elect to adopt Low NOx Omnibus in the same year, possibly prompting separate labels for each California regulation. Alternatively, GM may elect to certify Class 2b-3 ZEVs against an Advanced Clean Cars II program, possibly further complicating any "CA" label strategy for Class 2b-8 vehicles delivered for sale in California.
- The timeline for determining "delivered to the ultimate purchaser and placed in service in California" is uncertain – "ultimate" compliance status could be uncertain for weeks, months, or years after the end of a model year. Availability to registration information varies by state and so too may the timing of the "ultimate" compliance status.
- The terms of the Clean Trucks Partnership Agreement were based on the mutual recognition that an agency compliance determination or company reporting requirement based on anything other than "delivered for sale" would be impractical to administer.

GM maintains its commitment to increasingly bringing to market and delivering for sale vehicles with zero- emissions technologies and affirms its commitment to a successful Clean Trucks Partnership Agreement. (GM)

Agency Response: No changes were made in response to this comment. CARB staff appreciates the comments in support of the Omnibus regulation and supportive partnership. As

described in Chapter II above and based on a request from engine manufacturers, CARB staff has already proposed to modify the definition for “California Sales Volume” by removing “sold to an ultimate purchaser” clause and replacing it with " produced and delivered for sale” clause. The proposed modification is intended to provide additional flexibility to manufacturers in tracking and reporting which products are sold as new in the California market and which products are sold in other states. Thus, the concern expressed in the comment regarding compliance based on the “delivery to the ultimate purchaser” is not valid as CARB staff has already proposed modifications to the California Sales Volume definition that is in line with what the commenter is asking in its comments.

The “CA” labeling requirement applies only to California or 50-state certified legacy engine families that are produced and delivered for sale in California. The “CA” labeling requirement would not apply to engine families produced and delivered for sale outside California including 177 states that adopted the Omnibus regulation. It would be up to the state that adopted the Omnibus regulation to require labeling. Furthermore, the labeling requirement applies to the engines and not the vehicles. In the HD sector, there are separate labeling requirements for the engines and vehicles. Legacy engine families are only used in class 4-8 vehicles, so there should not be any possibility of complications or overlap with the Advanced Clean Cars II program.

Furthermore, it appears that the comment regarding the text “delivered to the ultimate purchaser and placed in service in California” is referring to a proposed amendment to a definition that appears in the ACT regulation, and is consequently beyond the scope of this rulemaking. The preliminary draft regulation text is available at *ACT website*.

Comment 137:

Notwithstanding our overall support for CARB’s proposals, EMA does have a remaining concern about one aspect of the proposed 15-day changes. More specifically, while EMA supports the proposed revision to base “California sales volumes” on “California-certified engines, vehicles or powertrains produced and delivered for sale in the State of California” (as opposed to engines, vehicles or powertrains “sold to an ultimate purchaser” in the State of California), the Notice for the 15-day changes raises concerns about the ultimate efficacy of the revisions. In describing the definitional changes, the Notice states that:

> “After the end of the model year, manufacturers would submit the required end-of-year production reports to CARB to identify the specific engines and vehicles that were sold in California. CARB staff would then use all available tools such as the California Department of Motor Vehicles registration data, warranty registration data, sales records and any other available data to verify the accuracy of the California sales volume for each manufacturer.”

The foregoing language in the Notice potentially creates the same type of practical problem that EMA and CARB have been working hard to resolve. That problem stems from the fact that manufacturers do not have ultimate control of where still-new non-mitigated, non-capped California-certified legacy-engine-powered vehicles (Non-Mitigated Legacy Vehicles) may be operated or registered after their initial sale. In other words, manufacturers do not have ultimate control over whether some number of still-new Non-Mitigated Legacy Vehicles may end up in California. Only the owners/operators of those vehicles have that ultimate control. Accordingly, what EMA members have proposed to do to mitigate the potential “leakage” of Non-Mitigated Legacy Vehicles into California is to ensure that Non-Mitigated Legacy Vehicles do not have a “CA” designation on their engine labels, and that the Manufacturer’s Certificate

of Origin (MCO) for those vehicles confirms that they are not intended for registration or primary use in California.

As a practical matter, that is all manufacturers can do. After that, if an owner/operator chooses to flout manufacturers' restrictions by basing a Non-Mitigated Legacy Vehicle in California, that breach needs to be the responsibility of the owner/operator, not the manufacturer. Indeed, California's Vehicle Code confirms as much. Sections 4000 through 4000.6 of the Vehicle Code require the owners of heavy-duty vehicles operating in California to obtain California registrations and, among other things, to be in compliance with the standards established by CARB under the Health and Safety Code. Those owners that fail to do so are subject to monetary penalties. Thus, there is an established mechanism for addressing CARB's concern without shifting potential owner/operator liabilities onto manufacturers. As EMA and CARB have discussed, it is important to resolve this issue in a clear manner. Otherwise, the uncertainties regarding the imposition of potential liabilities for Non-Mitigated Legacy Vehicles well after the close of a model year could have negative impacts on the broader market for new heavy-duty motor vehicles. That adverse consequence is something we are working hard to address even now.

Accordingly, in light of the foregoing, and consistent with our other ongoing discussions to implement the Clean Trucks Partnership, EMA requests that CARB exclude from the Final Statement of Reasons for the Omnibus amendments the language quoted above from the notice for the 15-day changes, and instead include a statement confirming that CARB intends to verify manufacturers' year-end California sales volumes consistent with the engine-labeling and MCO approach that will be delineated in the Manufacturers Advisory Circular (MAC) that CARB will be issuing pursuant to the Clean Trucks Partnership. In that respect, the Partnership Agreement states that CARB will issue "a MAC prescribing how to determine legacy engine cap compliance (for example, via engine labeling data)." The Agreement further confirms that "CARB staff's intent is to be flexible regarding de minimus accidental leakage of non-legacy engines into California." (EMA)

Agency Response: No changes were made in response to this comment. As discussed in the 15-Day Notice, the proposed amendment to base "California sales volumes" on "California-certified engines, vehicles or powertrains produced and delivered for sale in the State of California" rather than on "sold to an ultimate purchaser" is intended to provide additional flexibility to manufacturers in tracking and reporting which products are sold as new in the California market and which products are sold in other states. The 15-Day Notice further indicates that, after the end of the model year, manufacturers would comply by submitting the required end-of-year production reports to CARB to identify the specific engines and vehicles that were sold in California. However, CARB is required to verify the accuracy of the end of year reports submitted by the manufacturers. As discussed in the 15-Day Notice, CARB staff would use all available tools including Department of Motor Vehicles registration data, sales records, and any other data to verify the accuracy of the submitted end of year reports.

It should be noted that commercial vehicles that operate in California have the option to obtain International Registration Plan (IRP)[26] in lieu of California registration. The use of IRP registration further complicates the location/state where the new truck is originally purchased and where the new truck is primarily used.

[26] California Department of Motor Vehicles, *International Registration Plan.*

CARB has issued an enforcement discretion letter[27] to EMA that states, in pertinent part, "CARB has determined that initiating enforcement actions based on the aforementioned scenarios affecting sales or labeling of 50-state legacy engines to customers registering those vehicles outside of California is not warranted. This enforcement discretion only applies to EMA and the other signatory parties to the Clean Truck Partnership agreement as of July 5, 2023, and only extends to sales of MY 2024 engines."

EMA's suggestion that CARB should verify manufacturers' year-end California sales volumes via engine-labeling and MCO would basically translate into CARB only relying on the manufacturer reporting for verification without performing an independent verification. CARB staff will certainly take the information in the end-of-year reports into consideration. However, CARB staff would use all available data and tools to identify the responsible party for any non-compliance situations. See also *Agency Response to Comment 136*.

6. Public Hearing

Comments 138, 139, and 140:

[The commenter] has a vital interest in CARB's proposed action to amend the Omnibus regulation, and believe it is important for the Board to hold a public hearing on this matter to fully assess both the proposed amendments and their impact, as well as the steps leading to the development of these amendments. (Transportation Charter Services, Inc, Classic Charter, Inc, Pacific Coachways Charter Services, Inc.)

Comment 141:

We continue to request the Board allow working group sessions and public hearings before moving forward with the proposed amendments to the Omnibus regulation. (NFI Group Inc. - MCI)

Agency Response to Comments 138 through 141: CARB staff published the notice for public hearing on September 15, 2023, and held a public hearing on October 20, 2023. The *webcast archive* and *transcript of the hearing* are available online to the public. CARB staff welcomes continued discussion with stakeholders.

7. Stringency

Comment 142:

I mostly support the proposed amendments but would like to see the offset amounts be increased from "4 [sic] times" to "as much as possible". This is because attaining the state and federal air-quality standards is only half the battle (especially since said standards aren't actually protective); the real importance of the regulation is to minimize emissions since any amount of air pollution is harmful and deadly. Requiring the greatest-achievable offsets would save lives and money and encourage manufacturers and dealers to innovate and lead in reducing emissions. (Pedersen, David)

Comment 143:

[27] CARB, Omnibus Enforcement Discretion Letter: *Exercise of Enforcement Discretion of the California Heavy-Duty Engine and Vehicle Omnibus Regulation For Specified Entities*. December 17, 2023.

We support the proposed amendments but would like to see the offset amounts be increased as much as possible, since there are no safe levels of air pollution. This would save health, lives, money, and lead to innovation. (Bay Area Clean Air Coalition)

Agency Response to Comments 142 and 143: No changes were made in response to these comments. CARB staff works to strike a balance between the need for cleaner air and the economic impacts on businesses. CARB staff is committed to creating regulations that are both environmentally responsible and economically feasible. The offset amounts must be quantifiable and enforceable.

In this case, CARB staff believes that the four times multiplier provides a sufficiently strong barrier and manufacturers are not likely to exceed the specified legacy engine sales thresholds. Offsetting the emissions deficits at four times the normal rate would be economically cumbersome and is not a cost-effective approach. Therefore, CARB staff does not see a valid reason for increasing the value of the four times multiplier.

8. Miscellaneous Comments

Comment 144:

We all want the same in life - the opportunity of life, liberty & the pursuit of happiness. In that quest we seek clean air, water, healthy food sources, the ability to provide for ourselves & our families. Technology is developing at rapid paces in all industries - some will argue faster than the public can handle (AI as an example). With that, the heavy duty engine manufacturers have worked tirelessly to create clean engine exhaust solutions. The new proposals for 2024 & newer cannot be met by any of the engine manufacturers for several years. This means new heavy duty trucks & Motorcoaches won't be able to be sold new in California for at least the next 3 years. This decline will lead to school children unable to attend extracurricular activities such as sporting events, band competitions, camps due to equipment shortages. We aren't even talking about the rising cost of shipping for goods & services from the trucking companies, purely motorcoach companies alone & their passengers will drastically suffer. The largest consuming market of motorcoach travel is likely students, traveling workers, the military & lower income earners trying to visit loved ones. Actions have consequences. Your ambitions at this time are over zealous & will negatively impact those that most need assistance. I kindly ask you to adjust your mandates to be more inclusive to all Californians & its visitors. (Guth, Clint)

Agency Response: No changes were made in response to this comment. The commenter asserts that “The new proposals for 2024 & newer cannot be met by any of the engine manufacturers for several years.” While the commenter has not identified the source of this information, the assertion is in contrast with the regulatory requirements as well as manufacturers plans to comply with those requirements. In order to certify and sell HD legacy engines in California in 2024 MY, each certifying engine manufacturer must certify at least one engine family meeting the Omnibus requirements. (13 CCR 1956.8(a)(2)(C)3.b.vi.) Indeed, several manufacturers including Cummins Inc., Ford Motor Company, Detroit Diesel

Corporation, and General Motors have already certified natural gas and diesel fueled HD engines to the Omnibus standards.[28]

For additional information regarding product availability issues, please see *Agency Response to Comments 36 through 73*.

9. Comments Beyond the Scope of this Rulemaking

Comment 145:

It is not my intention to undermine the situation in the language of the C.A.R.B staff and work there in, but my mission in the fight against pollution from heavy-duty vehicles tailpipe soot is on going even though manufacturing of heavy-duty vehicles are on going there's still a present air pollution from the heavy-duty sectors, and power plants! Funding is extremely important to manufacturing of tailpipe soot system, at J.W. Advanced Technology we continue seeking funding to combat tailpipe soot. My mission statement is heavy-duty filter is the solution to pollution.

There are many different types of vehicle tailpipe soot ultrafine 0.3 particulate affecting public health upper respiratory system, you can't just turn the exhaust tailpipe in a different direction to hide the soot on the sides of the trailer or change the tailpipe to the top of a trailer, the affects are the same, any vehicles in the rear of the trailer will be affected by the soot from combustion engine, so I believe that a special particulate filter system is our solution to pollution. Thank you for the opportunity to request funding for this climate change and GHG project. (Williams, Joseph)

Agency Response: No changes were made in response to this comment. This comment is outside the scope of this rulemaking. Diesel particulate filters (DPF) have become the most effective technology for the control of diesel particulate emissions with high efficiencies. DPFs have been in use in all HD diesel engines since model year 2007. CARB's regulations have been instrumental in driving the development and commercialization of the DPF technology. The commenter can seek funding through CARB and local air districts' technology demonstration programs if the commenter can demonstrate that his technology surpasses the current DPF technology.

C. Comments Submitted Outside of the Comment Period

1. Product Availability

Comment 146:

Critical Issues Regarding Diesel Engine Availability (2024-2026):

- Due to Low NOx requirement and legacy provision, Cummins X12 engine allocation for the J4500 model dropped 93% from 77 units/year to only 5 units/year.
- CA represents 10-12% of annual business so this is significant negative impact on the company.

[28] Executive Orders for 2023 an2024 model year natural gas and diesel-fueled heavy-duty engines certified to the Omnibus standards: *A-021-0771*, *A-021-0772*, *A-021-0773*, *A-021-0777*, *A-021-0778*, *A-021-0779*, *A-290-0192*, *A-006-2414*, *A-010-2497*, *A-010-2498*, *A-010-2500*.

Impact and concerns:

- The decline in engine allocation not anticipated, affecting production timelines.
- This is not a supply chain issue; it is the regulation limiting supply.
- The current regulation with limited flexibility in 2024-26 may lead to purchase of older, less efficient vehicles with fewer safety features.
- MCI and small private operators still recovering from COVID impact while planning for a Zero Emission future.
- Lack of transparency in the decision-making process, private motorcoach market not included in discussions which resulted in the agreement with the engine manufacturers and EMA.

Request for Amendment or Flexibility:

- Request for amendment, exemption, or flexibility under the Omnibus Regulation specifically for 2024-26 to address the engine allocation problem caused by the legacy provision.
- In addition, efforts to bring CARB, the Bus Builders and the Engine OE's together to discuss and work through a path forward together has not happened, so we recommend this. (MCI)

Agency Response: No changes were made in response to this comment. A similar comment (*Comment 46*) was submitted by the commenter during the comment period and is addressed by CARB staff in *Agency Response to Comments 36 through 73.* In addition, upon request by the commenter, on January 9, 2024, CARB staff met with representatives from bus builders, motorcoach operators, and an engine manufacturer. At the meeting, CARB staff discussed all available solutions to engine availability issues including availability of HD-ZE credits and existing exemption provisions such as those described in 13 CCR 1956.8(f).

V. Peer Review

HSC 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 rule may be subject to this peer review process. Similar to the existing Omnibus regulation rulemaking, CARB determined that these amendments to the Omnibus regulation are based on a technical and engineering basis, rather than a scientific basis or scientific portion subject to peer review, and is therefore not subject to the requirement of section 57004.