California Air Resources Board

# Public Hearing to Consider Proposed Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation

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

*Public Hearing Date: November 17, 2022*
*Agenda Item No.: 22-15-4.*

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# List of Acronyms and Abbreviations

| | |
|---|---|
| AE | Associates Environmental |
| AGC | Associated General Contractors |
| ALA | American Lung Association in California |
| Alliance | California Alliance for Jobs |
| ASTM | American Society of Technology Application |
| ATCM | Air Toxics Control Measure |
| A4A | Airlines for America |
| BAAQMD | Bay Area Air Quality Management District |
| BACT | Best Available Control Technology |
| BD | Biodiesel |
| CAA | Federal Clean Air Act |
| CABA | California Advanced Biofuels Alliance |
| CalCIMA | California Construction and Industrial Materials Association |
| Caltrans | California Department of Transportation |
| CARB or ARB | California Air Resources Board or Board |
| CAT | Caterpillar |
| CCA | Coalition for Clean Air |
| CCEEB | California Council for Environmental and Economic Balance |
| CCR | California Code of Regulations |
| CDFA | California Department of Food and Agriculture |
| CIAQC | Construction Industry Air Quality Coalition |
| Clean Fuels | Clean Fuels Alliance of America |
| CORE | Clean Off-Road Equipment Voucher Incentive Project |
| DoD | Department of Defense |
| DOF | Department of Finance |
| EIN | Equipment Identification Number |
| FAAAA | Federal Aviation Administration Authorization Act |
| FSOR | Final Statement of Reason |
| GCEH | Global Clean Energy Holdings, Incorporated |
| GSE | Ground support equipment |
| HP | Horsepower |
| ISOR | Initial Statement of Reason for Rulemaking |
| LED | Low-emission diesel |
| LCFS | Low Carbon Fuel Standard |
| MPC | Marathon Petroleum Corporation |
| MY | Model Year |

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|---|---|
| NAAQS | National Ambient Air Quality Standards |
| NOx | Oxides of Nitrogen |
| NTDE | New Technology Diesel Engine |
| OAL | Office of Administrative Law |
| OEHHA | Office of Environmental Health Hazard Assessment |
| OEM | Original Equipment Manufacturer |
| PM | Particulate Matter |
| Operating Engineers | California Nevada Conference of Operating Engineers |
| ppb | Part per Billion |
| RD | Renewable Diesel, R99/R100 |
| SCC | Sierra Club California |
| SCCA | Southern California Contractors Association |
| SIP | State Implementation Plan |
| SMUD | Sacramento Municipal Utility District |
| SRIA | Standardized Regulatory Impact Assessment |
| SVCCC | Sustainable Energy, Incorporated, and Silicon Valley Clean Cities Coalition |
| TAC | Toxic Air Contaminant |
| TNRCC | Texas Natural Resources Consecration Commission |
| ULSD | Ultra-Low Sulfur Diesel |
| U.S. EPA | Unites States Environmental Protection Agency |
| WSPA | Western States Petroleum Association |
| ZETA | Zero-Emission Technology Application |
| ZEV | Zero-emission vehicle |
| ZE | Zero-emission |

# I. General

The Staff Report: Initial Statement of Reasons for Rulemaking (ISOR or Staff Report), entitled Proposed Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation (Proposed Amendments), released September 20, 2022, is incorporated by reference herein. The Staff Report contains a description of the rationale for the Proposed Amendments. On September 20, 2022, 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 are designed to further reduce criteria pollutant and toxic emissions from off-road diesel vehicles operating in California by phasing out the most polluting vehicles earlier or beyond what is required of the fleets in the In-Use Off-Road Diesel-Fueled Fleets Regulation (Current Regulation or Off-Road Regulation). Reducing these emissions will provide much needed public health protection for the millions of Californians who still breath unhealthy air, reduce community exposure to air toxics, and help to meet current health-based ambient air quality standards across California.

On November 17, 2022, the California Air Resources Board (CARB or Board) conducted a public hearing to consider the Proposed Amendments. The Board received 24 written comment letters during the 45-day comment period prior to, and on, the day of the Board Hearing, and heard oral testimony from 22 stakeholders during the Board Hearing. At the conclusion of the Board Hearing, the Board approved *Resolution 22-19* for adoption of the Proposed Amendments.

The Board directed the Executive Officer 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 Board further directed the Executive Officer to consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days, and to either present the Proposed Amendments to the Board for further consideration or take final action to adopt the Proposed Amendments after addressing all appropriate modifications.

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 and Availability of Additional Documents and Information" (15-Day Notice). The 15-Day Notice and modified regulatory language were posted on April 10, 2023, for public review and comment through April 25, 2023. During the comment period, the Board received eight additional written comments. Staff received and responded to the comments and determined that no further changes to the Regulatory Order were necessary.

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, as well as changes requested by the Board at the November 17, 2022, Board Hearing, 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.

## Mandates and Fiscal Impacts to Local Governments and School Districts

CARB has determined that this regulatory action will result in a mandate that affects local agencies or school districts.[1] However, these costs to local agencies are not reimbursable by the State under Government Code, title 2, division 4, part 7 (commencing with section 17500) because this action neither compels local agencies to provide new governmental functions (i.e., it does not require such agencies to provide additional services to the public), nor imposes requirements that apply only on local agencies or school districts.[2]

The direct costs from the Proposed Regulation can generally be categorized into two categories: (1) vehicles and maintenance costs, and (2) contracting costs for public works awarding bodies to receive Certificates of Reported Compliance from contractors. The vehicle and maintenance costs apply equally to private and public entities, so do not impose unique new requirements on local agencies and do not result in a reimbursable mandate.[3] The contracting requirements apply broadly to all prime contractors and all public works awarding bodies that contract for a project involving the use of vehicles subject to the Proposed Amendments, which effectively applies to most construction related contracting in the State where vehicles subject to the Off-Road Regulation are operating. Additionally, the contracting requirements do not require a higher level of service from public works awarding bodies because most agencies already require compliance with State law as a condition of getting a contract.

Therefore, the Proposed Amendments do not impose "costs mandated by the state" under section 17514 of the California Government Code.[4] Costs are also not reimbursable when they may be fully financed by local agencies raising their own fees.[5] Local governments may raise fees, if needed, to address the costs of the Proposed Amendments. Therefore, the Proposed Amendments do not impose a reimbursable mandate.

## Consideration of Alternatives

Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. During the development process of the Proposed Amendments,

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[1] Gov. Code, § 11346.9, subd. (a)(2).

[2] *County of Los Angeles v. State of California* 43 Cal.3d 46 (1987).

[3] *Id.*

[4] *County of Contra Costa vs. State of California*, 177 Cal App 3d 62.79 (1986).

[5] See, e.g., *Clovis Unified School Dist. v. Chiang* 188 Cal App. 4th 794, 812 (2010); *Connell v. Superior Court* 59 Cal. App. 4th 382, 397-403 (1997); *County of Fresno v. State of California* 53 Cal. 3d 482, 487-88 (1991); Gov. Code, § 17556, subd. (d).

CARB solicited public input regarding alternatives to achieving the Regulation's goals. CARB requested input on alternatives in multiple public workshops since May 2021. Staff evaluated several alternatives to the proposal, including suggestions from both public and industry stakeholders. CARB identified and evaluated several alternatives based on stakeholder comments, which are described in further detail in the ISOR, along with two alternatives selected for formal evaluation.

The two alternatives selected for formal evaluation include: (1) delayed requirements with additional provisions for small and ultra-small fleets (Alternative 1); and (2) accelerated requirements with Tier 3 phase-out (Alternative 2). The Board did not identify any reasonable alternatives that would lessen any adverse impact on small business. Alternative 1 included less stringent requirements for small and ultra-small fleets; however, CARB ultimately rejected that alternative.

For the reasons set forth in the Staff Report, in Staff's comments and responses at the Board 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. The two alternatives CARB selected for formal evaluation, and the reasons for rejection, are described in the next section.

### 1. Alternative 1: Less Stringent

Alternative 1 includes less stringent requirements for fleets that own and operate the vehicles subject to the Proposed Amendments. Alternative 1 adjusts the Proposed Amendments by delaying the phase-out of vehicles with Tier 0, Tier 1, and Tier 2 engines by two years. Additionally, Alternative 1 does not implement a phase-out of Tier 2 engines for small and ultra-small (fleets with less than 500 horsepower (hp)) fleets. Alternative 1 also delays the restrictions on adding Tier 3 and Tier 4 Interim (Tier 4i) vehicles to a fleet by two years when compared to the Proposed Amendments. Further, Alternative 1 does not require fleets to transition to R99/R100 renewable diesel (RD).[6] Finally, this alternative would not make changes to the contracting, prime contractor, or extended annual reporting requirements. Key elements of Alternative 1 include the following:

- Requirements for the Tier phase-out are adjusted based on the schedule in Table 1. Some exemptions apply, such as using a vehicle fewer than 200 hours per year (i.e., low-use). For all fleet sizes, low-use vehicles with Tier 0 or model year 1994 or older on-road engines would be required to be phased out by January 1, 2036.

[6] Fuel that is 99 or 100 percent renewable diesel.

**Table 1. Tier and Model Year Phase out Dates by Fleet Size under Alternative 1**

| Year (January 1) | Large Fleets | Medium Fleets | Small Fleets[7] |
|---|---|---|---|
| 2026 | Tier 0/MY 1994 or older on-road | | |
| 2028 | Tier 1/MY 1999 or older on-road | Tier 0/MY 1994 or older on-road | |
| 2030 | Tier 2/MY 2003 or older on-road | Tier 1/MY 1999 or older on-road | Tier 0/MY 1994 or older on-road |
| 2032 | | Tier 2/MY 2003 or older on-road | Tier 1/MY 1999 or older on-road |

- Requirements for the restrictions on the addition of a Tier 3 or Tier 4i vehicle or a model year (MY) 2006 or older on-road vehicle to a fleet are adjusted as shown in Table 2.

**Table 2. Compliance Dates for the Restrictions on Adding Vehicles under Alternative 1**

| Year (January 1) | Large Fleets | Medium Fleets | Small and Ultra-Small Fleets |
|---|---|---|---|
| 2024 | Tier 3 | | |
| 2026 | Tier 4i/MY 2006 or older on-road | Tier 3 | |
| 2038 | | Tier 4i/MY 2006 or older on-road | Tier 3 |
| 2030 | | | Tier 4i/MY 2006 or older on-road |

This alternative aligns with proposals and comments made by stakeholders advocating for delayed implementation of several key elements to the Proposed Amendments and to not require RD usage as part of the Proposed Amendments.

The total costs and emission benefits of Alternative 1 were assessed using the same methodology used for the Proposed Amendments. The overall cost of Alternative 1 was

[7] Ultra-small fleets would not have additional phase-out requirements under Alternative 1.

estimated to be approximately $2.68 billion over the 15 years of the analysis period (2023 through 2038), which is less expensive than the Proposed Amendments approved by the Board. However, CARB rejected this alternative for the following reasons:

- Alternative 1 would achieve fewer oxides of nitrogen (NOx) and particulate matter (PM) reductions and is less cost-effective than the Proposed Amendments.
- Alternative 1 delays the Tier phase-out for Tier 0, Tier 1, and Tier 2 vehicles in all fleet sizes, allowing the oldest equipment to continue to operate for several additional years. The delay in the Tier phase-out along with the delay in the restrictions on adding vehicles would result in fleets being able to add Tier 3 as replacements for their Tier 0 vehicles, therefore increasing NOx emissions and causing significant delays to achieving PM reductions in impacted communities throughout the state.
- To the extent the vehicles impacted by the Proposed Amendments are domiciled at a facility, Alternative 1 does not provide much needed localized reductions in toxic diesel PM.
- Alternative 1 does not achieve the reductions of 4.1 tons per day of NOx in 2037 that CARB committed to as part of the 2022 State Strategy for the State Implementation Plan (2022 SIP).[8] The alternative also does not align with the 2020 Mobile Source Strategy[9] goal of reducing statewide NOx emissions by 7.5 tons per day by 2031 and full turnover of remaining Tier 0 through Tier 2 engines in the fleet between 2024 and 2033.
- Alternative 1 does not include the requirement for fleets to use RD, which achieves significant near-term NOx reductions that are needed to help meet the federal ambient air quality standards for ozone and to achieve additional PM reductions in communities throughout the state.

### 2. Alternative 2: More Stringent

Alternative 2 includes more stringent requirements for fleets that own and operate the vehicles subject to the Proposed Amendments. Alternative 2 adjusts the Proposed Amendments by implementing the phase-out of vehicles with Tier 0, Tier 1, and Tier 2 engines earlier than the Proposed Amendments. Alternative 2 also imposes a phase-out of Tier 3 vehicles for all fleet sizes that is not required under the Proposed Amendments. Additionally, Alternative 2 implements the restrictions on adding Tier 3 and Tier 4i vehicles to large and medium fleets upon adoption of the proposal. For small fleets, Alternative 2 implements the restriction on adding Tier 3 vehicles upon adoption, and on adding Tier 4i vehicles two years earlier than the Proposed Amendments. This alternative would not make changes to the RD, contracting, prime contractor, or extended annual reporting

[8] CARB. (2022). 2022 State Strategy for the State Implementation Plan. September 22, 2022. *https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf*.

[9] CARB. (2021c). 2020 Mobile Source Strategy. Retrieved July 6, 2022, from *2020 Mobile Source Strategy (ca.gov).*

requirements in the Proposed Amendments. Key elements of Alternative 2 include the following:

- Requirements for the Tier phase-out are adjusted as shown in the schedule in Table 3. Some exemptions apply, such as for low-use vehicles (i.e., vehicles used fewer than 200 hours per year). For all fleet sizes, low-use vehicles with a Tier 0 engine or a model year 1994 or older on-road engine would be required to be phased-out by January 1, 2036.

**Table 3. Tier and Model Year Phase out Dates by Fleet Size under Alternative 2**

| Year (January 1) | Large Fleets | Medium Fleets | Small Fleets | Ultra-Small[10] |
|---|---|---|---|---|
| Upon adoption (Late 2023) | Tier 0/MY 1994 or older on-road | | | |
| 2024 | | Tier 0/MY1994 or older on-road | | |
| 2025 | Tier 1/MY1999 or older on-road | | | |
| 2026 | | Tier 1/MY 1999 or older on-road | Tier 0/MY 1994 or older on-road | |
| 2027 | Tier 2/MY 2003 or older on-road | | | |
| 2028 | | Tier 2/MY 2003 or older on-road | Tier 1/MY 1999 or older on-road | |
| 2029 | Tier 3 | | | |
| 2030 | | Tier 3 | Tier 2/MY 2003 or older on-road | |
| 2032 | | | Tier 3 | |
| 2036 | | | | Tier 2/MY 2003 or older on-road |

[10] The Current Regulation requires all vehicles in Ultra-small fleets to have Tier 2 or cleaner engines by January 1, 2029.

- Requirements for the restrictions on the addition of a Tier 3 or Tier 4i vehicle or a model year 2006 or older on-road vehicle to a fleet are adjusted as shown in the schedule in Table 4.

**Table 4. Compliance Dates for the Restrictions on Adding Vehicles under Alternative 2**

| Year | Large Fleets | Medium Fleets | Small and Ultra-Small Fleets |
|---|---|---|---|
| Adoption | Tier 4i/MY 2006 or older on-road | Tier 4i/MY 2006 or older on-road | Tier 3 or older |
| 2026 | | | Tier 4i/MY 2006 or older on-road |

This alternative aligns with proposals and comments made by stakeholders advocating to achieve additional emission reductions from this sector as quickly as possible and to require the phase-out of Tier 3 engines in California.

The total costs and emission benefits of Alternative 2 were assessed using the same methodology used for the Proposed Amendments. The overall cost of Alternative 2 was estimated to be approximately $4.27 billion over the 15 years of the analysis period (2023 through 2038), which is more expensive than the Proposed Amendments approved by the Board. CARB rejected this alternative for the following reasons:

- Alternative 2 imposes higher costs and low additional emission reductions; therefore, it would be less cost-effective to implement than the Proposed Amendments.
- Alternative 2 achieves greater emissions benefits in the early years of implementation primarily due to the accelerated timeline of the Tier phase out. This adjusted timeframe would pose a challenge for fleets to comply due to the immediate need for significant action. The Proposed Amendments attempt to balance the need for additional NOx and PM reductions with the cost impacts.
- Alternative 2's accelerated timeline creates significant additional costs in the near-term which could put fleets at risk of non-compliance or inability to continue their business at current levels. Furthermore, the additional near-term vehicle turnover required and the associated increase in demand for replacements could result in a shortage of vehicles that then causes vehicle costs to increase. Alternative 2 therefore may not be more effective at achieving emission benefits than the Proposed Amendments due to the potential lack of availability of vehicles and the compliance flexibility in the Off-Road Regulation that allows for delayed compliance if compliant vehicles are unavailable.

# II. Modifications Made to the Original Proposal

## A. Modifications Approved at the Board Hearing and Provided for in the 15-Day Comment Period

After the November 17, 2022, Board Hearing, CARB made modifications to the original proposal at the Board's direction and addressed comments submitted during the 45-day public comment period. CARB released the 15-Day Notice on April 10, 2023, which notified the public of additional documents added into the regulatory record and presented additional modifications to the regulatory text (15-Day Changes).

This section summarizes of the changes that were made to the initial proposal and were made available for a 15-day comment period. Staff proposed modifications to the Proposed Amendments in sections 2449, 2449.1 and 2449.2 of title 13 California Code of Regulations (CCR). CARB also added 47 documents to the public record and a document was incorporated by reference, as identified in the 15-Day Notice.

1. In sections 2449(c)(18)(A) and 2449(c)(18)(B), CARB staff removed the phrase "for a project" in the definition of activities that are considered emergency operations. This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text. The phrase "for a project" was redundant, and the removal does not change the intent of the Proposed Amendments.
2. In section 2449(c)(18)(B), CARB staff added the phrase "public and private" to clarify that public and private entities would be considered essential service utilities for activities that are considered emergency operations. This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text. The addition of this phrase does not change the intent of the Proposed Amendments. Broadband is as an entity that would be considered an essential service utility for activities that are considered emergency operations. This change is necessary to align with Executive Order N-73-20 that states, "effective emergency services require using broadband infrastructure to integrate data in real time from all available sources so decision makers at the local, regional, and statewide level have access to the information necessary for the protection of lives and property."
3. In section 2449(c)(28), CARB staff provided additional language specifying that participation in section 2449.1(e), known as the "Alternate Compliance Pathway to Achieve Additional Emissions Reductions through Adoption of Zero-Emission," does not impact the calculation of a fleet's size. This is necessary due to the addition of section 2449.1(e)(4), which allows a fleet to participate in the alternate compliance pathway for vehicles operating at a single facility. Clarification was needed to specify how a fleet's size is calculated when a portion of the fleet is participating in section 2449.1(e).

4. In section 2449(c)(49), CARB staff added specific language incorporating Title 40, Code of Regulations, Part 79 and added the dates of adoption for the two documents incorporated by reference used to define renewable diesel. This was added for the purpose of completeness.

5. Section 2449(d)(6)(I) was removed. CARB's intent with this provision was to provide assurance that the cleanest engines continue to be used in California even if CARB and the U.S. Environmental Protection Agency (U.S. EPA) off road engine standards do not remain aligned in the future (subsequent to Tier 4 Final). This provision would have required that new vehicles added to a fleet be equipped with a California-certified engine or a California-equivalent certified engine. CARB received feedback during the 45-day comment period that this provision was unclear to those persons directly affected by it. This change is necessary so that the requirements for what engine a fleet can add to their vehicle is clear to those persons directly affected by the requirement. Additionally, several commenters suggested CARB not include this requirement as part of the regulation until new engine certification standards are promulgated. CARB is committed to future amendments to ensure the intent of this provision is met in the event that CARB and U.S. EPA off road engine standards do not remain aligned in the future. Since section 2449(d)(6)(I) will no longer be a requirement for vehicles added to fleets, section 2449(d)(6) has been updated to only reference the requirements in subsections (A) through (H).

6. In section 2449(e)(9), CARB staff added the ability to exempt fleets from the Tier 4 Interim vehicle adding requirements in sections 2449(d)(6)(E) and 2449(d)(6)(F) if Tier 4 Final technology is not available. Section 2449(e)(9) is intended to provide CARB the ability to grant compliance flexibility in situations where Tier 4 Final vehicles are not available, but the original regulation only allowed compliance flexibility to provisions in section 2449.1. Adding in the Tier 4 Interim vehicle adding provisions in sections 2449(d)(6)(E) and (F) provides CARB the ability to grant additional compliance flexibility by allowing fleets to add Tier 4 Interim vehicles in these situations. This is necessary to provide fleets better cost-effective options when Tier 4 Final vehicles are not available while still achieving significant emissions reductions. Although section 2449(e)(9) was not amended in the initially proposed 45-Day Changes, this section is affected by the initially proposed 45-Day Changes of sections 2449(d)(6)(E) and 2449(d)(6)(F), so these 15-day changes were appropriate for inclusion in the 15-day changes.

7. In section 2449(f)(1)(A), CARB staff removed the language "or delivered." This removes the option for personal delivery of the application of an Equipment Identification Number (EIN). However, the option for mail delivery remains. This change was necessary for consistency with other provisions which require documentation be submitted to CARB. Also, CARB may not have staff present during all business hours to receive the applications due to current teleworking options for staff. Additionally, regulated entities are unable to personally deliver to a P.O. Box. This change does not significantly alter any fleet's ability to physically submit an application because the mail delivery option remains.

8. In section 2449(g)(2), CARB staff extended annual reporting dates for all fleet sizes through 2036. The timeframe for annual reporting under the Current Regulation was unclear as it is dependent on compliance with several provisions of the Current Regulation. Extending the annual reporting through 2036 removes any ambiguity for those persons directly affected by the annual reporting requirements. The annual reporting requirements are necessary for CARB to assess the effectiveness of the regulation and ensures CARB has the necessary information to verify compliance with the regulation. It is necessary for CARB to extend reporting through 2036 because the final compliance dates for most changes to the regulation are January 1, 2036, and requiring fleets to complete annual reporting through 2036 ensures CARB receives information to determine compliance with those final compliance dates.

9. In section 2449(g)(2)(C), CARB staff added flexibility allowing a fleet that is unable to take photographic evidence of low-use hour meter readings due to military security reasons to keep a written log as an alternative recordkeeping method. This change is necessary for vehicles operating at military facilities where security requirements would not allow photographs to be taken regardless of whether the fleet owned a camera. In section 2449(g)(2)(C), the subsections referenced for reporting requirements was reworded for clarity and without changing the subsection numbers. In section 2449(g)(2)(C), added the word "described" to improve sentence structure, but there was no other reasonable meaning of the phrase prior to the amendment.

10. In section 2449(g)(5)(A), CARB staff added new reporting requirements for fleets utilizing the renewable diesel exemption in section 2449.1(f)(2)(C). This exemption was newly added in the 15-day changes, and accompanying reporting requirements are necessary to ensure the effectiveness of the proposed renewable diesel requirements and that the exemption in section 2449.1(f)(2)(C) is being used appropriately. Section 2449(g)(5)(A) requires reporting to CARB on the location of the fleet or operations, the 10th percentile minimum ambient air low temperature in January for that location, and volumes of fuel used during the exemption time period. This reporting is necessary to ensure the effectiveness of the renewable diesel requirements. It is also needed to ensure that CARB receives appropriate data regarding the actions of the fleets utilizing this exemption so CARB can verify compliance with the regulation. The 10th percentile minimum ambient air low temperature is necessary to include in the reporting because that is the metric used to determine applicability in section 2449.1(f)(2)(C). Specifying that weather station data is a valid method for determining the 10th percentile minimum ambient air low temperature and a description of "10th percentile" is necessary to ensure regulated entities have clear direction for what is required of their calculation and what data is necessary for reporting purposes. It is necessary to add acceptable methods of submission (mail and email) to ensure that the regulated entities have clear instructions on how to properly submit the report required under this provision.

11. In section 2449(g)(5)(B), CARB staff added new reporting requirements for fleets utilizing the renewable diesel exemption in section 2449.1(f)(2)(D). This exemption was newly added in the 15-day changes and accompanying reporting requirements are necessary to ensure the effectiveness of the proposed renewable diesel requirements

and that the exemption in section 2449.1(f)(2)(D) is being used appropriately. Section 2449(g)(5)(B) requires reporting to CARB on the location of the fleet or operations, the temperature, and volumes of fuel used during the exemption time period. This reporting is necessary to ensure the effectiveness of the renewable diesel requirements. It is also needed to ensure that CARB receives appropriate data regarding the actions of the fleets utilizing this exemption to verify compliance with the regulation. Reporting within two weeks of use was selected to ensure that CARB staff receives critical documentation to verify compliance in a timely manner. This reporting requirement and two-week time frame is also necessary to provide time for fleets to gather the necessary documents. Specifying the records to document a temperature forecast is necessary so that the regulated entities have clear instructions on how to report forecasted temperatures to CARB. The date and the data source are necessary for CARB to verify that the forecast occurred with 14 days of the weather event and that the forecast was a commercial or government provided local weather forecast. It is necessary to add acceptable methods of submission (mail and email) to ensure that the regulated entities have clear instructions on how to properly submit the report required under this provision.

12. In section 2449(h)(10), CARB staff made several changes to clarify that the requirement is a recordkeeping requirement, clarify that the documents are intended to be maintained to demonstrate compliance with the renewable diesel requirement in 2449.1(f), and change the requirement to no longer require fleets to maintain fuel purchase records for each vehicle in their fleet. The intent of this provision is to ensure fleets are keeping appropriate records showing their overall fleet is procuring the appropriate fuel to comply with section 2449.1(f), but the language in the 45-Day Changes could be interpreted as requiring fleets to track and keep records for the fuel usage of every vehicle in their fleet. This interpretation does not match CARB's intent as seen in the purpose and rationale in the Staff Report. These changes were necessary to clarify that CARB's intent was not to require fleets to track fuel usage at the vehicle level. This change also continues to meet CARB's intent, which is to achieve implementation and enforcement benefits of maintaining a level playing field for compliant fleets conducting business in California. Language was also added to specify that the records must show the date and volumes of fuel purchased. This information is necessary to provide clear documentation expectations for fleets and to ensure the effectiveness of the proposed renewable diesel requirements by ensuring fleets comply with those requirements appropriately based on the time and the amount of fuel they purchased. This ensures the emissions reductions of the renewable diesel requirements are achieved.

13. In section 2449(j)(3), CARB staff added a link to the website where prime contractors can report noncompliance to CARB as well as an email address for this same purpose. This was necessary to ensure the regulated entities have clear instructions on how to report noncompliance to CARB and comply with this provision.

14. In section 2449(j)(3)(F), CARB staff made several changes that are non-substantial because they clarify without materially altering the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text, but are

identified here in the interests of full disclosure. The changes clarify the required identification number and improve the sentence structure, but there was no other reasonable meaning of the phrase prior to the amendment.

15. In section 2449(j)(5), CARB staff adjusted the language for clarity purposes. CARB received comments stating that the language in the 45-Day Changes was not clear in specifying the timeframe for which a short-term project would not be subject to this provision, so the language was adjusted to very clearly state that this provision applies "for any project where vehicles subject to this regulation will operate for eight (8) calendar days or more." This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text.

16. In section 2449.1(e), CARB staff changed the title of the section to "Alternate Compliance Pathway through Zero-Emission Technology" to better represent the content of the section. This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text.

17. In sections 2449.1(e)(1)(C) and 2449.1(e)(2), CARB staff changed the word "transition" to "technology" to better represent the intent of the phrase "zero-emission technology application." This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text.

18. In section 2449.1(e)(2)(A), CARB staff added additional information required to be submitted by a fleet during the Zero-Emission Technology Application (ZETA) process. This additional information includes fleet name, DOORS[11] fleet ID number, and contact information, all of which is necessary to properly identify and communicate with the fleet that is requesting the use of the alternate compliance pathway. As a result of adding subsection (A) the subsequent subsections were renumbered accordingly.

19. In section 2449.1(e)(2)(B), CARB staff added language specifying that if a fleet is applying for all their vehicles operating at a single facility per section 2449.1(e)(4), then the zero-emission percentage requirements apply to the total horsepower of all those vehicles at the facility and not the fleet's entire total horsepower. This is necessary due to the addition of section 2449.1(e)(4), which allows vehicles operating at a single facility to participate in this alternate compliance pathway. The zero-emission percentage requirements had to be clearly defined for this new type of participation. Also changed the word "transition" to "achieve" to better reflect the actions the fleet would be taking in order to meet these requirements.

20. In section 2449.1(e)(2)(H), CARB staff changed the word "transition" to "achieve" to better reflect the actions the fleet would be taking in order to meet these requirements.

[11] DOORS is the reporting tool for the In-Use Off-Road Diesel-Fueled Fleets Regulation. The DOORS fleet ID number is the number assigned by CARB when a fleet initially reports to CARB.

21. In section 2449.1(e)(3), CARB staff changed the title to include the word "approval" to better reflect the content of section 2449.1(e)(3).

22. In section 2449.1(e)(3)(A), CARB staff changed the phrase "accepted or considered by CARB" to "accepted by CARB" to remove any potential ambiguity caused by the word "consider."

23. In section 2449.1(e)(3)(C)1., CARB staff removed the language "or delivered." This removes the option for a personal delivery of the ZETA application, the options for mail or email delivery remain. This change was necessary for consistency with other provisions which require documentation be submitted to CARB. Also, CARB may not have staff present during all business hours to receive the applications due to current teleworking options for staff. Additionally, regulated entities are unable to personally deliver to a P.O. Box. This change does not significantly alter any fleet's ability to submit a ZETA because two delivery options remain that are less cumbersome for the fleet to implement.

24. In section 2449.1(e)(3)(E)1., CARB staff added language that the letter approving the ZETA will specify whether the entire fleet or whether only the vehicles operating at a single facility per section 2449.1(e)(4) will not be subject to the requirements outlined in sections 2449.1(a), (b), and (c). This is necessary due to the addition of section 2449.1(e)(4), which allows vehicles operating at a single facility to participate in this alternate compliance pathway and the approval letter must clearly explain what flexibility is being provided.

25. In section 2449.1(e)(3)(E)2., CARB staff updated the reference to the correct subsection accordingly as a result of these proposed modifications.

26. In section 2449.1(e)(3)(E)3., CARB staff removed the phrase "CARB may agree to make adjustments…" and replaced it with "CARB will follow the process outlined in section 2449.1(e)(2)(I)2." in order to remove any potential ambiguity with the word "may" and remove any ambiguity regarding the process CARB will follow under these circumstances.

27. In section 2449.1(e)(4), CARB staff added the option for vehicles operating at a single facility to participate in section 2449.1(e), the Alternate Compliance Pathway through Zero-Emission Technology. CARB received feedback during the 45-day comment period stating if a fleet wishing to reduce emissions by using zero-emission technology at a single facility were allowed to use this new alternate compliance pathway, then utilization of the provision might increase. CARB agrees that introducing this option for vehicles operating at a single facility could increase the utilization of this alternate compliance pathway and, therefore, could reduce emissions beyond those achieved from the current regulation by increasing the use of zero-emission technology. 15-day changes are proposed to allow this because higher utilization of the provision is in line with CARB's goal of encouraging fleets to maximize emission reductions by deploying zero-emission technology. This 15-day change is necessary to increase the utilization of the alternate compliance pathway. Additional reporting requirements specific to fleets using this provision for a subset of vehicles are also added to ensure the fleet's

compliance is tracked properly. The additional information is readily available to fleets choosing this provision. The vehicles, including EIN, are currently reported to CARB through the reporting required in section 2449(g) and this additional reporting ensures CARB can accurately identify which vehicles are participating in the alternate compliance pathway.

28. In section 2449.1(f)(1), CARB staff changed the phrase "use" to "procure" and added the phrase "and use this fuel" in all vehicles subject to the regulation. This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text. This change is necessary to better align with the proposed 15-day changes to section 2449(h)(10), where the recordkeeping requirement is focused on the fleet's procurement of fuel.

29. In section 2449.1(f)(2), CARB staff removed the word "fleets" because it was duplicative with the following subsections. This change does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text.

30. In section 2449.1(f)(2)(A), CARB staff added language allowing vehicles that operate in captive attainment regions to be exempted from the renewable diesel requirements in addition to fleets specifically designated as captive attainment area fleets. CARB received comments during the 45-day comment period stating that there could be cases in which a fleet is not designated as a captive attainment area fleet but is operating its vehicles in these areas, and these operations should be exempt as well. CARB agrees that this change is necessary because these operations should be exempted in order to provide additional flexibility to fleets that operate in regions that do not face the same air quality challenges as the non-attainment areas of California.

31. In sections 2449.1(f)(2)(A) and 2449.1(f)(2)(B), CARB staff added "fleet portion" to the exemptions to clarify that the exemptions apply to both fleets and fleet portions as defined in section 2449(c)(24). This is necessary to remove ambiguity as to when these exemptions apply.

32. In sections 2449.1(f)(2)(C) and 2449.1(f)(2)(D), CARB staff added an exemption to the renewable diesel requirements for fleets, fleet portions, or vehicles operating in cold temperatures. This change is necessary because comments were made during the 45-day comment period that demonstrated potential performance issues when using renewable diesel at cold temperatures and an exemption for these situations is necessary to prevent potential performance issues. The exemptions provide necessary limitations to ensure CARB continues to maximize the emission reductions achieved through renewable diesel. A detailed description of the added exemptions is provided below:

    a. Section 2449.1(f)(2)(C) allows fleets to procure and use low temperature-specific diesel fuel during the months of November, December, January, and February if a fleet, fleet portion, or vehicle is located or operated in a location where the 10th percentile minimum ambient air low temperature in January drops below 20 degrees Fahrenheit (20º F). This temperature threshold is necessary to

ensure that the exemption is clear to those persons directly affected by it and aligns with temperature profile maps in American Society for Testing Materials (ASTM) D975-21 used to estimate low temperature operability requirements for diesel fuel. The added exemption allows fleets to use low temperature-specific diesel fuel from October 15 through the end of February and to continue to use excess low temperature-specific diesel procured during this time period. This is necessary for fleets to be able to procure the appropriate fuel prior to the beginning of November and to ensure fleets can use the fuel they have procured so they do not incur excess costs.

b. Section 2449.1(f)(2)(D) allows fleets to procure and use low temperature-specific diesel fuel where the temperature drops below 20º F or a commercial or government provided local weather forecast predicts temperatures to drop below 20º F for the period of days in which the low temperature condition(s) occurs. Examples of commercial or government local weather forecast include, but are not limited to, those made by the National Weather Service, local television or print news, The Weather Channel, and other weather apps. This temperature threshold is necessary to ensure that the exemption is clear to those persons directly affected by it and aligns with temperature profile maps in ASTM D975-21 used to estimate low temperature operability requirements for diesel fuel. Additionally, the temperature forecast must occur within 14 days of the first day of the cold temperature event. The 14-day timeframe was selected because it should provide fleets with sufficient lead time to procure a low temperature-specific diesel while still being a reliable forecast. This exemption is necessary to allow fleets to use the appropriate cold temperature fuel when they operate vehicles in an area that does not meet the requirements in section 2449.1(f)(2)(C) or if a cold weather event occurs outside of the months of November, December, January, and February. This exemption allows fleets to continue to use excess low temperature-specific diesel procured during the weather event. This is necessary to ensure fleets can use the fuel they have procured so they do not incur excess costs.

33. In section 2449.1(f)(4), CARB staff changed the phrase "solely rent and do not themselves operate" to "provide for rent." This change is necessary as the original text unintentionally restricted the use of this provision to fleets that do not operate any of their own affected vehicles and to remove any ambiguity as to whether section 2449.1(f)(4) applied to customers that rent vehicles. This change is needed because fleets that, in addition to renting, also themselves operate affected vehicles could need this flexibility as well. The revision also includes clarifying language to better identify which fleet is being referenced in each piece of the provision. This clarifying language does not materially alter the requirements, rights, and responsibilities, conditions, or prescriptions contained in the original text. Also changed the language stating that "if CARB has a good faith reason to believe that a fleet that rented a vehicle was not compliant with the renewable diesel requirements…" because this language was discretionary and did not clearly describe when CARB would request

information from the fleet. This change was necessary to more clearly describe the expectations of the fleet and remove ambiguity.

## B. Non-Substantial Modifications

Subsequent to the modifications made in the 15-day public comment period mentioned above, staff identified the following additional non-substantive changes to the regulation:

- Throughout the regulatory text the formatting of spelling out numbers or using numerals follows the rule of spelling out numbers zero through ten, unless there are numbers greater than ten within the paragraph (all numbers greater than ten are represented numerically), in which case all numbers are represented numerically.
- Throughout the regulatory text the formatting of citing the CCR and the federal Code of Federal Regulations (CFR) has been updated to ensure all mentions of the respective titles (e.g., title 13, title 40, etc.) are lowercase and thus consistent with formatting in the currently published version of the regulatory text.
- In section 2449(c)(18), at ends of subsections (A) and (B), deleted commas and replaced with semicolons for improved punctuation and grammar.
- In section 2449(c)(49), deleted the two instances of "hereby" since its usage is superfluous and its deletion improves syntax.
- In section 2449(d)(4)(A), (B), and (C), removed hyphens from "newly-reported" to be consistent with our definition of "newly reported fleets" in section 2449(c)(38) that does not have a hyphen.
- In section 2449(f), accurately noted the changes in the numbering and renumbering of the respective subsections. The current CCR does not have a subsection heading for the first paragraph under subsection (f); however, in the proposed regulatory text released on September 20, 2022, for a 45-day public comment period that first paragraph was renumbered to be subsection (1) but it inadvertently was not underlined as new text. Due to this renumbering, all subsequent subsections and their respective cross references within the regulatory text also required renumbering and thus as of the final regulation order have been renumbered accordingly.
- In section 2449(g)(5)(A), deleted "to CARB" toward the end of this subsection since it was duplicative and its removal improves syntax.
- In section 2449(i)(3), added language to specify where records could be submitted to CARB to be consistent with the address as stated in other subsections of the regulatory text (e.g., section 2449(g)(5)(A)).
- In section 2449.1, added a hyphen to "phase-out" in the second paragraph in order to be consistent with how this term is used throughout the regulatory text.
- In section 2449.1(d), updated the title of this subsection heading to remove the "s" from "Emissions" so it correctly reads "Zero-Emission Vehicles" for consistency with how this term is used throughout the regulatory text.
- In section 2449.1(e)(1), added semi colons and removed commas from the ends of subsections (A) and (B) for improved grammar/punctuation of the listed regulatory text.

- In section 2449.1(e)(2), added "all of" to "must include the following," so it now reads, "must include all of the following" to make it abundantly clear that each subsection must be followed. The language was always intended to be inclusive as the "and" after subsection (H) implied; however, adding "all of" at the beginning clarifies this intent.
- In section 2449.1(f)(2), added a hyphen between "low" and "temperature" for consistency of grammar with how "low" is used throughout the regulatory text (e.g., "low-use, "low-population").

The above-described modifications constitute non-substantial changes to the regulatory text because they more accurately reflect the numbering of a section, and correct spelling and grammatical errors. Also, these modifications do not materially alter the requirements, rights, responsibilities, conditions or prescriptions contained in the original text of the Proposed Amendments.

## III. Documents Incorporated by Reference

The Amendments to the Off-Road Regulation adopted by the Board incorporate by reference the following documents:

- American Society for Testing Materials (ASTM) International, 2021. "Standard Specification for Diesel Fuel. Designation D975-21," August 1, 2021. Copyrighted.
- U.S. EPA, (2021). 40 CFR Part 79 – Registration of Fuels and Fuel Additives. July 1, 2021.

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

## IV. Summary of Comments and Agency Response

Written comments were received during the 45-day comment period in response to the September 20, 2022, public hearing notice, and written and oral comments were presented at the Board Hearing. Listed in Table 5 and Table 6 are the organizations and individuals that provided comments during the 45-day comment period. Listed in Table 7 are the organizations and individuals that provided comments during the 15-day comment period

## Tables of Commenters

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

| Commenter (Date) | Affiliation |
|---|---|
| Kehoe, Joshua (10/10/2022) | none submitted [Kehoe] |
| Guerrero, Adrian (10/14/2022) | none submitted [Guerrero] |
| Hendrickson, Jed A. (10/15/2022) | none submitted [Hendrickson] |
| Rancier, Mary Alyssa (11/7/2022) | Associated General Contractors of California [AGC of California] |
| McManus, Mike (11/7/2022) | Associated General Contractors San Diego [AGCSD] |
| Lane, John (11/7/2022) | Teichert Materials [Teichert] |
| Harper, Adam (11/7/2022) | California Construction and Industrial Materials Association [CalCIMA] |
| Garcia, Brent (11/7/2022) | Brewer Crane and Rigging [Brewer Crane] |
| Shepherd, Bob (11/7/2022) | The California Caterpillar Dealers [California CAT] |
| Leon, Manny (11/7/2022) | California Alliance for Jobs [Alliance] |
| Lewis, Michael (11/7/2022) | Construction Industry Air Quality Coalition [CIAQC] |
| Looney, Nicole (11/7/2022) | Sacramento Municipal Utility District [SMUD] |
| Magavern, Bill (11/7/2022) | Coalition for Clean Air [CCA] |
| Martinez, Adriano (11/7/2022) | The undersigned health, community, and environmental organizations [Earthjustice] |
| Baskins, Rebecca (11/7/2022) | California Advanced Biofuels Alliance and Clean Fuels Alliance of America [CABA and Clean Fuels] |
| Waxman, Nicole (11/7/2022) | Airlines for America [A4A] |
| Palmer, Jessica (11/7/2022) | Department of Defense [DoD] |

| Commenter (Date) | Affiliation |
|---|---|
| DePrimo, Jessica (11/7/2022) | Bay Area Air Quality Management District [BAAQMD] |
| Wolfe, Christine (11/7/2022) | California Council for Environmental and Economic Balance [CCEEB] |
| Verburg, Jim (11/7/2022) | Western States Petroleum Association [WSPA] |
| Phong, Hero (11/7/2022) | California Department of Transportation [Caltrans] |
| Lin, George (11/9/2022) | Caterpillar Incorporated [CAT] |
| McDonald, Brian (11/17/2022) | Tesoro Refining and Marketing Company LLC, subsidiary of Marathon Petroleum Corporation [MPC] |
| Bloomstine, Todd (11/17/2022) | Southern California Contractors Association [SCCA] |

## Table 6. Oral Comments Presented at the Board Hearing

| Commenter (Date) | Affiliation |
|---|---|
| Fernandez, Jerry (11/17/2022) | Service for abandonment of oil wells in the San Joaquin Valley and all of the state of California [C&J Well Services] |
| Bloomstine, Todd (11/17/2022) | Southern California Contractors Association [SCCA2] |
| Leon, Manny (11/17/2022) | California Alliance for Jobs [Alliance2] |
| Harper, Adam (11/17/2022) | California Construction and Industrial Materials Association [CalCIMA2] |
| Armstrong, Nicholas (11/17/2022) | Teichert Materials and current Chair of CalCIMA [Teichert2] |
| McDonald, Brian (11/17/2022) | Tesoro Refining and Marketing Company LLC, subsidiary of Marathon Petroleum Corporation [MPC2] |
| Barad, Daniel (11/17/2022) | Sierra Club California [SCC] |

| Commenter (Date) | Affiliation |
|---|---|
| Magavern, Bill (11/17/2022) | Coalition for Clean Air [CCA2] |
| Buckantz, Mike (11/17/2022) | Associates Environmental [AE] |
| Wolfe, Christine (11/17/2022) | California Council for Environmental and Economic Balance [CCEEB2] |
| Cremins, Matt (11/17/2022) | California Nevada Conference of Operating Engineers [Operating Engineers] |
| Derosier, Amanda Parsons (11/17/2022) | Global Clean Energy Holdings, Incorporated [GCEH] |
| Rancier, Mary Allyssa (11/17/2022) | Associated General Contractors of California [AGC of California2] |
| Lewis, Michael (11/17/2022) | Construction Industry Air Quality Coalition [CIAQC2] |
| Baskins, Rebecca (11/17/2022) | California Advanced Biofuels Alliance and Clean Fuels Alliance of America [CABA and Clean Fuels2] |
| Martinez, Adrian (11/17/2022) | The undersigned health, community, and environmental organizations [Earthjustice2] |
| Barrett, Will (11/17/2022) | American Lung Association in California [ALA] |
| Shepherd, Bob (11/17/2022) | The California Caterpillar Dealers [California CAT2] |
| Bui, Teresa (11/17/2022) | Pacific Environment [Pacific Environment] |
| Roest, Mark (11/17/2022) | Sustainable Energy, Incorporated, and Silicon Valley Clean Cities Coalition [SVCCC] |
| Abuda, Angela (11/17/2022) | Environment California [Environment California] |

## Table 7. Written Comments Received During the15-Day Comment Period

| Commenter, Date | Affiliation |
|---|---|
| Davis, Ken (4/10/2023) | none submitted [Davis] |
| Leon, Manuel (4/25/2023) | California Alliance for Jobs [Alliance] |
| Farias, Linus (4/25/2023) | California Council for Environmental and Economic Balance [CCEEB] |
| Rancier, Mary Alyssa (4/25/2023) | Associated General Contractors of California [AGC of California] and California Construction and Industrial Materials Association [CalCIMA] |
| Shepherd, Bob (4/25/2023 | California Caterpillar Dealers [California CAT] |
| Looney, Nicole (4/25/20230 | Sacramento Municipal Utility District [SMUD] |
| Michael, Reitzell (4/25/2023) | California Ski Industry Association [Ski California] |
| Lewis, Michael (4/25/2023) | Construction Industry Air Quality Coalition [CIAQC] |

## Comments Received Before and at the Board Hearing

The following notes about the comments and responses will help with understanding how the comments are structured and labeled:

- Comments are grouped thematically by section and subsection. Repetitive comments are listed under the same comment number and responded to holistically.
- Comments are excerpted verbatim unless otherwise noted. Verbatim excerpts are presented without quotation marks. Comments that have been summarized or quoted, are indicated by a preface such as "Commenter asserts that . . ." and are followed by quotation marks. Square brackets within comments signal the explanation of an abbreviation.
- In verbatim comment excerpts, CARB has not corrected or noted errors in the original (for example, by adding "[sic]"). Comment excerpts' formatting may differ from the formatting of the original comment. Some statements from the same comment letter were combined in one paragraph.
- Footnotes in comments generally have been omitted, though the footnote numbers may remain in the text of the comment excerpt.
- Emphasis added to comments were omitted.
- In general, CARB has noted where it made changes in response to the comment. Where it is not noted, no changes were made in response to the comment.

## 1. Comments in Support

**Comment 1:**

We appreciate you further enabled ZEV [zero-emission vehicle] and Electrification and Decarbonization opportunities that fleets will be able to take advantage of should they evolve with time. Enabling ZEV credit opportunities and the ZETA decarbonization process are appreciated and hopefully viable and affordable technologies and solutions will emerge in both areas. [CalCIMA]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 2:**

The Coalition for Clean Air supports adoption of the proposed In-Use Off-Road Diesel Regulation Amendments, with no weakening changes, because they will save lives and reduce illness. These amendments are necessary because Californians continue to suffer from the worst air quality in the nation by far. Many off-road engines emit unacceptable levels of toxic diesel exhaust into our communities.

The benefits of the proposed rule are substantial, and far outweigh the cost.

The Proposed Amendments are reasonable and feasible.

We also support the requirement to use renewable diesel in all fleets from 2024 on. Renewable diesel is a functionally equivalent substitute for petroleum diesel that reduces both criteria air pollutants and greenhouse gas emissions.…California badly needs the emission reductions from this proposed rule…. Emission reductions from upgrading off-road diesel engines will be significant and timely, as large air districts continue to struggle with attaining national ambient air quality standards. Staff project reductions in NOx of 6.4 tons per day, and in particulate matter of .68 tons per day, in 2025. These early reductions will help our residents breathe healthier air, and are counted on in the State Strategy for the State Implementation Plan that the Board adopted in September. [CCA]

We urge you to adopt the rule in front of you today without any reduction in stringency or any delay. The existing off-read diesel rule is one of the most effective measures this Board has adopted to reduce toxic diesel exhaust, but it is 15 years old and definitely is in need of the updates that are being proposed today. [CCA2]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 3:**

It is vital this rule be adopted this month to make sure California benefits from the large health benefits that will accrue. We appreciate ARB staff efforts to bring more emission reductions to breathers above the current off-road regulations.… The overwhelming benefits of these regulatory amendments require swift adoption by ARB.

While we recognize many of the rule provisions do not require zero-emissions, we appreciate ARB staff's efforts to allow more zero-emissions. We encourage continued work to convince fleets to shift to zero-emissions, especially because the electrification of off-road equipment is currently very promising.

Our organizations support ARB's efforts to increase accountability. The Prime Contractor requirements will allow for greater enforcement and transparency in compliance with California's regulations. [Earthjustice]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 4:**

We're here to support this rule. This is an important opportunity to get near-term emission reductions in a critical sector. We have an off-road pollution crisis in this state, as evidenced by the recent state strategy which shows a large portion of our emissions coming from off-road sector.

I think staff has done a good job of identifying some ways to hasten the, you know, retirement and moving away from what is very antiquated and old and heavily polluting equipment in the off-road sector.

I think this is an important step to provide immediate relief in the next five years to communities all across the state, but particularly in places like the South Coast Air Basin and the San Joaquin Basin - San Joaquin Valley, which are experiencing unconscionable levels of air pollution.

We hope you will move forward adopting this plan and reject any efforts to weaken it, delay it, or just not move forward. [Earthjustice2]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 5:**

We support the proposed Off-Road Diesel-Fueled Fleet Amendments and urge the Board to adopt them today. We want to thank staff for their work on this rule and the time they took to meet with us over the past few months. Diesel pollution perpetuates the climate crisis and endangers the lives of Californians, too many of whom are burdened with the worst air quality in the country. As the State looks towards a zero-emission future, it is critical that it also plans for the retirement of combustion engines, prioritizing the oldest and dirtiest engines first. These amendments would do just that by setting a timeline for phasing out diesel -- dirty diesel off-road engines. [SCC]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 6:**

We're in strong support of this rule amendment package to cut cancer risk and save lives by reducing toxic diesel exhaust in communities and on job sites across California. We urge you to adopt this amended rule today without delay. The in-use amendments target real-world emission benefits, support attainment of health protective ozone standards, and will save hundreds of lives by phasing out the oldest, dirtiest equipment, up to 80 times more - you know, more high polluting in some cases, as noted earlier, and really bringing the cleanest possible equipment online as soon as possible.

The amendments are built on a long public process on an even longer standing existing rule that the Board has adopted. The proposals take appropriate steps specific to the various equipment and emission controls. And again, we really need to emphasize that these are amendments and have long been discussed with industry, trade associations, and fleets throughout the development process.

We support the proposed amendments before you today and urge you to adopt the package today really as the absolute minimum in terms of stringency and timing to bring these real-world health benefits online as quickly as possible. [ALA]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 7:**

We just want to echo the comments made in support by advocates like Earthjustice, American Lung Association, and Coalition for Clean Air…. Controlling off-road pollution is vital to protecting Californians. And while we recognize that the rule provisions do not require zero-emission, we do appreciate CARB's effort to allow for more zero-emission technology, as we are seeing with the rapid development of electrification technology. And so, with that, again, we are urging you to adopt the rule today. [Pacific Environment]

**Agency Response:** CARB appreciates the supportive comments and thanks the commenter. No changes were made in response to this comment.

**Comment 8:**

We encourage the further adoption of ultra-low carbon renewable fuels in further applications beyond off-road vehicles… Further, we encourage the Board to incentivize renewable diesel's enhanced use within the off-road vehicle rule to include its use in areas beyond the designated captive attainment area fleets…. We encourage CARB to prioritize innovative renewable fuels like Global Clean Energy's in more applications throughout the State. [GCEH]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 9:**

The Air District supports CARB's proposed amendments to the Off-Road Regulation including:

- Goal to accelerate air quality and health benefits in AB617 communities and statewide
- Goal to phase-out of Tier 0, 1, and 2 engines from operation in California
- New requirement for public agencies to collect Off-Road Regulation compliance documentation from the fleets with which they contract
- Additional time and flexibility in meeting compliance requirements for fleets that choose to adopt zero-emission (ZE) equipment
- Focus on individual engines rather than fleet averages
- Consistent application of the Off-Road Regulation across the State

[BAAQMD]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 10:**

We appreciate the inclusion of section 2449.1(f) to address circumstances in which renewable diesel may not be procured through fleets' normal fueling methods. [SMUD]

**Agency Response:** CARB appreciates the supportive comments and thanks the commenter. No changes were made in response to this comment.

## 2. Costs and Business Impacts

**Comment 11:**

The industry is already expending billions of dollars to comply with the existing Off-Road rule and is not able to continue this level of expenditure into the next decade.

The industry's calculation of the real cost of compliance with the current Off-Road rule is in the $6 to $20 billion dollar range and CARB's estimate is at an unrealistic $600 million. [AGCSD]

This regulatory market has already accelerated costs, increased turnover, decreased payback time on capital investment, and undoubtedly, therefore, increased prices on construction consumers. [CalCIMA]

The cost to comply is staggering. By piecemealing the rulemaking process and looking at only one type of equipment at a time, CARB has been able to avoid calculating the total cost to our industry both in dollars and jobs. [CIAQC]

AGC of California is concerned with the burdensome costs that the In-Use Off-Road Diesel Regulation will have on businesses….AGC of California urges CARB to understand the economic impact that this amendment will cause…. [AGC of California]

Significant negative financial impacts for construction industry: While the off-road diesel regulation does provide a phase in approach to transition into off-road vehicles with cleaner engines, the proposed regulation provides no financial support to assist companies with the cost associated with the proposed off-road diesel regulation. The vehicles in question are major capital investments for our members and are usually part of a multi-year capital investment plan. To think that companies can just purchase vehicles any time they want to is not based on the circumstances our members face on a daily, monthly, annual basis. [Alliance]

Madam Chair, SCCA contractors are high-road employers. They pay an entry level operating engineer $85 per hour for their work, $85 per hour. This regulation on the conservative end will eliminate 20 percent of the existing fleet, eliminating 38,000 seats for those workers. Once those jobs are eliminated, it will take a decade for the industry to recover, hire back those workers, and increase the industry's capacity. Madam Chair, we're on the precipice of another recession. We have high inflation, technology companies, primarily based in California, laying off tens of thousands of workers, and the LAO has signaled we're looking at a State deficit. [SCCA2]

**Agency Response:** No changes were made in response to this comment. CARB understands that the Current Regulation and the Proposed Amendments have an impact on fleets and require fleets to incur costs as they take actions to comply with the requirements. CARB considered the cumulative cost of the Proposed Amendments and did a full economic impact analysis that can be found in the Standardized Regulatory Impact Assessment (SRIA). CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of Senate Bill 617 (Chapter 496, Statutes of 2011) (SB 617) and the Department

of Finance (DOF). The SRIA represented a point-in-time estimate evaluating the cost and benefit impacts of the Proposed Amendments, including impacts to economic indicators like employment, Gross State Product, and output. The cost and economic analysis was updated in Chapter IX of the ISOR and then further updated in the Final Statement of Reasons Economic and Fiscal Impact Statement (Form STD. 399). In the SRIA and cost and economic analysis, CARB acknowledged that industries that operate vehicles subject to the Proposed Amendments would face costs and see net decreases in output growth and employment.

CARB's economic analysis of the Proposed Amendments included direct costs on affected businesses and economic impacts to business enterprise and individuals located in or doing business in California. CARB is required to use "a baseline that reflects the anticipated behavior of individuals and businesses in the absence of the proposed major regulation" and "identify the baseline it used."[12] Because existing regulations are included in the baseline, CARB calculates the total incremental cost of the specific Proposed Amendments as well as impacts of the Proposed Amendments on typical small, medium, and large fleets. The proper application of the baseline for the economic analysis would allow the commenter to assess the cumulative impact.

Each regulation can be evaluated separately based on its cost-effectiveness and a comparison of benefits and costs. CARB estimated that the Proposed Amendments would result in benefits of $7 billion and costs of $3 billon, indicating that the benefits of the Proposed Amendments outweigh the costs. CARB also calculated a cost-effectiveness ratio of $23,054 per weighted ton of emission reductions using the cost-effectiveness method provided in Appendix C of the Carl Moyer Guidelines.

It is unclear exactly what the commentor is referencing when stating that the rulemaking process was piecemealed and looked at only one type of equipment at a time. The Proposed Amendments were analyzed as a major regulation for which a SRIA was prepared, which is the State of California's highest level of economic analysis. The economic analysis included an evaluation of all equipment subject to the Proposed Amendments.

It is unclear exactly what the commenter is referencing in relation to its numbers, but CARB believes that the statement regarding a cost of compliance of $600 million is referencing cost estimates reported as part of the 2010 amendments and conducted using the methodology described in Appendix J. Cost and Economic Analysis Methodology. Technical Support Document: Proposed Regulation for In-Use Off-Road Diesel Vehicles.[13] These numbers are outside the scope of the Proposed Amendments. CARB did not use this methodology when conducting the cost analysis for the Proposed Amendments. CARB estimates a total cost of the Proposed Amendments of $1.97 billion over the analysis timeframe from 2023 through 2038.

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[12] This is required by the State Administrative Manual Standardized Regulatory Impact Assessment for Major Regulations. Available at: https://www.dgs.ca.gov/Resources/SAM/TOC/6000/6600

[13] Appendix J. Cost and Economic Analysis Methodology. Technical Support Document: Proposed Regulation for In-Use Off-Road Diesel Vehicles. April 2007. Available at: *https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2007/ordiesl07/tsdappj.pdf*.

Included in this analysis were costs to typical large, medium, small, and ultra-small fleets. To illustrate the feasibility of compliance for these typical businesses, CARB compared the maximum amortized annual cost with the average revenues of businesses in impacted industries.[14] Firms with fewer than 100 employees have lower annual revenues, which vary between $0.6 to $5.9 million. CARB does not receive employee data from fleets and cannot directly link firm size to fleet size. However, this information provides some context for the impact of the estimated compliance costs on businesses with different employee sizes. The maximum amortized cost for a large fleet would represent less than 1 percent of average annual revenues for firms with 100 employees or greater, and the maximum amortized cost for an ultra-small fleet (small business) would represent between 0.2 to 1.7 percent of average annual revenues for firms with fewer than 100 employees.

CARB analyzed the Proposed Amendments' impacts on businesses in Section 5.3. of the SRIA. Gross output was used as a measure for business impacts because it represents an industry's sales or receipts and tracks the quantity of goods or services produced in a given time period. Of the directly impacted industries, mining, construction, and commercial and industrial machinery and equipment rental and leasing were estimated to see the greatest impacts to output with an approximately 0.2 percent decrease in 2027 when compared with the baseline. A positive gross output was observed for all industries in the later years of the analysis period. CARB also analyzed the number of jobs created and eliminated from 2023 to 2038. Of the directly impacted industries, mining, construction, and commercial and industrial machinery and equipment repair and maintenance are estimated to see the greatest impacts to employment, with an approximately 0.2 percent decrease in baseline employment in 2027.

The Proposed Amendments are estimated to initially have a marginally negative impact on statewide employment from 2023 to 2031, followed by a positive impact on statewide employment from 2032 to 2038, when compared to the baseline.

Overall, the change in total employment is anticipated to be small, relative to the baseline employment for the California economy. The year with the largest employment change will be in 2027, which is expected to show a 0.05 percent decrease relative to baseline California employment. However, CARB recognizes that the costs and employment impacts will not be spread equally across all sectors of California's economy. The industries that operate the most vehicles and must comply with the tier phase-out provisions will see the greatest impacts since these provisions have the greatest cost impact. Because the construction sector represents more than 50 percent of the total off-road diesel vehicle population under the Proposed Amendments, this sector will experience the greatest share of the employment change. The construction industry is expected to experience the greatest decrease in employment in 2027 with a decrease of 0.22 percent, and the greatest increase in employment in 2034 with an increase of 0.15 percent.

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[14] U.S. Census Bureau. (2017). 2017 Statistics of U.S. Business Annual Data Tables by Establishment Industry: 6-digit NAICS. Retrieved May 5, 2022, from *https://www2.census.gov/programs-surveys/susb/datasets/2017/us_state_6digitnaics_2017.txt*.

However, CARB has a responsibility to protect Californians' health through addressing emissions of contaminants that degrade air quality. The requirements set in the Proposed Amendments are necessary to meet the additional emission reductions goals outlined in the 2022 SIP for NOx and PM emissions reductions. In addition, U.S. EPA is currently proposing to lower the annual PM2.5 National Ambient Air Quality Standard from the current 12 micrograms per cubic meter (μg/$m^3$) to a level ranging from 8-11 μg/$m^3$.[15] U.S. EPA is collecting public comments, and the new standard may not be finalized until late 2023/early 2024. Depending on the standard set by U.S. EPA, a vast majority of the state could be in nonattainment if the new standard is set at the bottom end of the range currently proposed.

The Proposed Amendments focus on turnover of the oldest vehicles operating in California, vehicles with Tier 0, Tier 1, or Tier 2 engines. The youngest of the Tier 0 engines will be 24 years old in 2024, the youngest Tier 1 engines will be 23 years old in 2026, and the youngest Tier 2 engines will be 21 years old in 2028, the years in which the tier phase-out requirements take effect for large fleets.[16] A Tier 0 engine is estimated to emit 80 times as much as a Tier 4 Final (100-175 hp); operating a Tier 0 engine just 100 hours per year emits the equivalent of a Tier 4 Final engine operating 8,000 hours per year. Further, diesel PM has been identified as a toxic air contaminant (TAC) by CARB, and it poses a significant public health risk, especially at the local level.

CARB has heard from many industry stakeholders that they retain these older vehicles in their fleet for a variety of purposes, but as they get older, they have reduced usage. To address this, the Proposed Regulations would allow for fleets to keep their vehicles subject to the tier phase-out in a low-use capacity, defined as operating less than 200 hours per year or less than 600 hours over three years. When designated as low-use, vehicles with Tier 0 engines could be retained in the fleet until 2036, and vehicles with Tier 1 or Tier 2 vehicles could be retained indefinitely.

Although CARB does have some incentive programs such as the Carl Moyer program, CARB does not have adequate incentive funding to assist all affected businesses with compliance with CARB's rules. To alleviate some of the challenges facing smaller fleets, which operate a greater proportion of older equipment, the Proposed Amendments include extended compliance timelines for small and ultra-small fleets. See response to Comment 13 regarding those extended timelines and the complementary role of incentive programs.

**Comment 12:**

Tier 4 final construction equipment is very expensive, much more so than CARB estimated in 2007. A new scraper can cost upwards of $2 million dollars. Very few companies can afford that kind of investment. Repowering an existing twin-engine scraper with Tier 4 final engines can cost $750,000 or more. Those are hard dollar costs to construction companies. If the equipment being replaced or repowered is beyond CARB's definition of useful life, according

[15] U.S. EPA. (2023). 88 Fed. Reg. 5558 (Jan. 27, 2023), Proposed Rule: Reconsideration of the National Ambient Air Quality Standards for Particulate Matter. Retrieved January 31, 2023, from 2023-00269.pdf (govinfo.gov).
[16] The years reported encompass engines across all horsepower ranges except for those greater than 750 horsepower.

to CARB's cost methodology, those costs are inappropriately excluded from CARB's stated cost of compliance. [AGCSD]

…CARB's fictional economic model…assumes most of the equipment has no value and its replacement cost is not a regulatory burden but rather a capitol necessity not attributable to the rule itself. It is junk analysis at its best! [CIAQC]

**Agency Response:** No changes were made in response to this comment. CARB respectfully disagrees with this comment. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of Senate Bill 617 (Chapter 496, Statutes of 2011) (SB 617) and the Department of Finance (DOF). CARB did not use estimates of Tier 4 Final costs from 2007 in the economic analysis of the Proposed Amendments. Useful life was not factored into CARB's cost methodology. The cost for new vehicles with Tier 4 final off-road diesel engines was estimated based on the following:

- Stakeholder survey input;
- Data gathered from grants for new vehicles with Tier 4 Final engines funded by the Carl Moyer Memorial Air Quality Standards Attainment Program between the years of 2015 through 2021; and
- Cost data provided by CIAQC in 2018 and converted to 2020 dollars.

The cost for used five-year-old vehicles with Tier 4 Final off-road diesel engines was estimated based on vehicle auction data from years 2019-2021.

In the analyses performed for the SRIA, CARB assumed that fleets would comply with the Tier Phase-Out provision with one of the following six compliance pathways:

- Retire the vehicle and purchase a brand-new vehicle (Tier 4 Final engine);
- Retire the vehicle and purchase a five-year-old used vehicle (Tier 4 Final engine);
- Retire the vehicle and not purchase a replacement vehicle;
- Designate the vehicle as permanent low use and purchase a brand-new vehicle (Tier 4 Final engine);
- Designate the vehicle as permanent low use and purchase a five-year-old used vehicle (Tier 4 Final engine); or
- Designate the vehicles as permanent low use and not purchase a replacement vehicle.

These six compliance pathways, along with the estimated frequencies each pathway is chosen by fleet size, were determined by analyzing stakeholder survey input. As can be seen from the list of the six compliance pathways, the survey results did not indicate that repowers are a common compliance pathway, and instead, showed that new or used vehicle purchases account for the vast majority of actions that fleets would take to comply with the Proposed Amendments. CARB performed the analyses consistent with the findings from the survey data, using vehicle cost estimates as indicated above. Further information about this cost analysis, including details about the survey, can be found in Section 3.1 Direct Cost Inputs in the SRIA. Details on the cost survey and the aggregated results can be found in Appendix D of the ISOR.

In evaluating the potential costs of the Proposed Amendments, CARB calculated all direct vehicle capital costs and accounted for the full replacement costs of vehicles that had to be replaced because of the Proposed Amendments. While fleets would most likely be able to recoup some costs by selling the retired or replaced vehicle on the used market, and while CARB does have data on resale values from past auctions, CARB decided to omit these possible recouped costs from this analysis due to the amount of uncertainty arising from the numerous factors that would impact the amount that could be recouped. These factors include the effect of the Tier phase-out, transportation costs, condition of the vehicle and other factors that may deteriorate the value of the vehicle in the future. CARB performed analyses as described above to obtain the capital costs used in the cost analysis and did not assume that the vehicles impacted by the regulation have no value nor that the costs of replacing those vehicles were not a cost of the Proposed Amendments.

**Comment 13:**

Replacement of any of these machines will require financing. This requires good credit track records, and an established profitable financial history. However, with most of the construction industry still struggling since the 2008 recession, many companies, especially small and medium size fleets, will not qualify based on their financial history, and thus will be forced to downsize or shut their doors to avoid costly fines. The heavy financing that will be necessary for compliance will also adversely affect a company's bonding capacity. [AGCSD]

**Agency Response**: No changes were made in response to this comment. The ability of any single business to qualify for financing is outside the scope of this rulemaking. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of SB 617 and the DOF.

CARB recognize that the Proposed Amendments will cause fleets to incur costs to comply with the new requirements and have worked to balance these impacts with the need for emissions reductions in setting the dates of the requirements. To alleviate some of the challenges facing smaller fleets, which operate a greater proportion of older equipment, small and ultra-small[17] fleet requirements for phasing-out older equipment and restrictions on adding equipment are delayed several years. For small fleets, the phase-out requirement for Tier 2 engines does not take effect until 2032, and Tier 4 Interim engines would still be allowed to be added through 2027. For ultra-small fleets, the phase-out requirement for Tier 2 engines does not take effect until 2036, and Tier 4 interim engines would still be allowed to be added through 2034. The final phase-out schedule in the amendments was the best option available for achieving the commitment in the 2022 SIP for the off-road measure. It achieves near-term reductions in diesel PM and the corresponding health benefits, while

[17] A small fleet has less than 2,500 total hp, and an ultra-small fleet has less than 500 total hp.

providing flexibility and longer compliance timeframes for the smaller fleets. The final Proposed Amendments language is feasible and cost-effective.

See response to Comment 11 regarding costs to typical fleets and the feasibility of compliance for these typical businesses. See responses to Comment 41 and Comment 43 regarding bonding.

For fleets planning to take actions earlier than the requirements, or those willing to try zero emission alternatives, financial incentive opportunities may be available for off-road diesel fleets in the Clean Off-Road Equipment Voucher Incentive Project (CORE), Carl Moyer Program, and Community Air Protection programs. The Carl Moyer Program is implemented in coordination with California's air pollution control and air quality management districts. CARB intends to work with local air districts to provide guidance on Carl Moyer Program eligible projects in the near term as well as coordinate and prioritize efforts to evaluate where the Carl Moyer Program may be updated to reflect opportunities available with the amended off-road diesel regulation. CARB will work with air districts and stakeholders to prioritize and ensure updates occur in a timely manner.

**Comment 14:**

This proposal will force companies to purchase much newer equipment at a time when interest rates are at a 12-year high. This will without doubt put inflationary pressure on construction costs and the state's economy at a period of high inflation. It is the worst possible time to impose these costs on the construction industry. [CIAQC]

**Agency Response:** No changes were made in response to this comment. CARB's SRIA, which was prepared pursuant to the requirements of SB 617 and DOF, estimated the total impact of the Proposed Amendments on the California economy. The Proposed Amendments will accelerate the replacement or retirement of those vehicles with older engine tiers and will result in incremental costs and cost-savings for businesses and governments through the early retirement of vehicles and the purchase of lower-emitting new and used vehicles. These changes in expenditures will indirectly affect employment, output, and investment in sectors that supply goods and provide services to the affected businesses. CARB's macroeconomic analysis included the Proposed Amendments' impact on employment, business, investments in California, individuals, Gross State Product, and the creation or eliminations of businesses. See response to Comment 11. While the Proposed Amendments will impose costs on business in California, CARB estimates total statewide benefits of over $7 billion over the analysis period of 2023 through 2038.

See response to Comment 13 regarding the need to balance near-term emission reductions with flexibility on compliance deadlines for smaller fleets.

CARB analyzed private domestic investment as a proxy for impacts on investments in California, because it provides an indicator of the future productive capacity of the economy. Private domestic investment is estimated to show a decrease of $282 million in 2023 compared to the baseline private investment value. The largest decrease of private investment is $919 million in 2027, which is followed by a positive trend resulting in an increase of $281 million by 2038 due to vehicle purchases and replacements made earlier in

the regulatory horizon. Businesses are expected to continue to realize increases in investments for several years past the lifetime of this analysis. In any given year, the impact is expected to represent changes of no more than 0.17 percent of the baseline investment.

**Comment 15:**

The Proposed Amendments will impose substantial economic and administrative burdens on the aviation industry beyond what are considered by the Proposed Amendments and its supporting Regulatory Impact Assessment. Based on current estimates from our members, the cost of replacement would be tens of millions of dollars, and these estimates do not account for the economic, administrative, and environmental burdens of having to retire equipment that may still have significant useful life remaining. [A4A]

**Agency Response:** No changes were made in response to this comment. See response to Comment 11. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of SB 617 and the DOF. CARB's cost analysis included the impact to individual industries by taking the total lifetime costs of the Proposed Amendments and allocating the costs proportionate to each industry's vehicle share within the statewide fleet, as determined by the industry's corresponding NAICS code. In the case of the air transportation industry, CARB estimates that the industry's vehicles comprise 3 percent of the vehicles subject to the Off-Road Regulation. The total lifetime costs (including amortized vehicle costs inclusive of sales tax), maintenance costs, reporting costs for prime contractors, RD exemption reporting costs, and extended annual reporting costs) are estimated to be $52 million for the air transportation industry from 2023 through 2038.

CARB also analyzed the impacts to California businesses in the SRIA using gross output as a measure for business impacts because it represents an industry's sales or receipts and tracks the quantity of goods or services produced in a given time period. For the air transportation industry in particular, CARB's analysis shows an overall slight decrease in gross output over the analysis timeframe of 2023 through 2038, with the largest decrease in gross annual output of 0.09 percent, when compared to the baseline, estimated to occur in 2027.

**Comment 16:**

Given the high cost and low emissions reductions associated with the proposed requirements for GSE, CARB must reconsider whether they are an effective method of reducing emissions. [A4A]

**Agency Response:** No changes were made in response to this comment. See response to Comment 15 for an example of estimated costs using the air transportation industry. Based on the results of the analysis, CARB does not believe that this cost is overly burdensome or infeasible for the air transportation industry to absorb. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of SB 617 and the DOF. CARB's analysis has shown that the

Proposed Amendments are feasible, cost-effective, and are an effective method of reducing emissions.

See response to Comment 11 regarding CARB's responsibility to protect Californians' health through addressing emissions of contaminants that degrade air quality. Airport ground support equipment (GSE) often operate in close proximity to large population centers. The vehicles targeted by the Proposed Amendments operate using the oldest and dirtiest off-road engines. A Tier 0 engine is estimated to produce 80 times as much emissions as a Tier 4 Final engine (100-175 hp); operating a Tier 0 engine just 100 hours per year produces the equivalent amount of emissions as a Tier 4 Final engine operating 8,000 hours per year. Diesel PM has been identified as a TAC by CARB, and it poses a significant public health risk, especially at the local level. The continued operation of these vehicles in close proximity to large populations and communities adversely impact Californians where they live and work. CARB estimates over $7 billion in total benefits from the Proposed Amendments. This includes monetized health benefits associated with 570 fewer premature deaths, 82 fewer hospital admissions for cardiovascular illnesses, 98 fewer hospital admissions for respiratory illnesses, and 277 fewer emergency room visits for asthma.

**Comment 17:**

…CARB's proposed recordkeeping and compliance obligations would necessitate the retention of additional staff to oversee fleets for each airline at each airport, which would introduce considerable costs for airlines. [A4A]

**Agency Response:** No changes were made in response to this comment. CARB disagrees that any fleet will need to hire additional staff to comply with the Proposed Amendments. The Current Regulation already requires annual reporting of fleets' compliance to CARB, and the recordkeeping associated with that reporting. CARB analyzed the additional costs associated with the Proposed Amendments, including additional recordkeeping and reporting. CARB's analysis found that the Proposed Amendments would require somewhere between 4 and 12 hours of staff time annually[18] to comply with the Proposed Amendments.

**Comment 18:**

A4A supports CARB's goal of reducing emissions from off-road vehicles; however, the Proposed Amendments do not account for the operational infeasibility, lack of commercial availability, and substantial costs that they will pose for the aviation industry. [A4A]

**Agency Response:** No changes were made in response to this comment. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of SB 617 and the DOF. Furthermore, consistent with Government Code sections 11346, subdivision (b), and 11346.45, subdivision

[18] This number is variable and depends on the size of the fleet, compliance with the renewable diesel requirements, and whether the fleet also needs to comply with the contracting and prime contractors' requirements.

(a), and with the Board's long-standing practice, CARB held public workshops and other meetings with interested stakeholders during the development of the Proposed Amendments. This public process is described in detail in Chapter XIV of the ISOR. While the air transportation industry did not provide CARB any feedback on the hurdles that the air transportation industry would encounter due to the Proposed Amendments, CARB did take into account the feedback provided by other stakeholders, many of whom share similar concerns and challenges. The feasibility of the Proposed Amendments is described in detail in Chapter V of the ISOR. The Proposed Amendments require the phase-out of the oldest and highest-emitting vehicles in a fleet and the addition of the cleanest combustion technology, primarily Tier 4 Final. Tier 4 Final technology is readily available and has been manufactured since 2014. See response to Comment 60 regarding the feasibility of RD.

Per the requirements of Cal. Gov. Code Section 11346.3, CARB assessed the Proposed Amendments' potential for adverse economic impact on California business enterprises. Additionally, CARB developed a survey to better understand purchasing practices of off-road diesel vehicles and costs that stakeholders may incur as a result of the Proposed Amendments. CARB has considered the impact that the Proposed Amendments may have on employment and gross output in the air transportation industry. See responses to Comment 15, Comment 16, and Comment 17.

**Comment 19:**

Modifications in GSE due to the Proposed Amendments may require acquisition of supplemental pieces of equipment and charging infrastructure to provide the same level of service, which will impose large costs on airlines and airports. [A4A]

**Agency Response:** No changes were made in response to this comment. The Proposed Amendments do not require any fleet to acquire zero-emission technology, install charging infrastructure, or purchase supplemental pieces of equipment. While the Proposed Amendments include two optional compliance flexibilities for fleets that choose to acquire zero-emission technology, these are not mandatory actions for any fleet.

**Comment 20:**

The significant increase in costs will likely result in businesses either moving out of the state of California or going out of business completely. [AGC of California]

**Agency Response:** No changes were made in response to this comment. CARB understands that the Current Regulation and the Proposed Amendments have an impact on fleets and requires fleets to incur costs as they take actions to comply with the requirements. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of SB 617 and the DOF. As part of the analysis, CARB conducted case studies of a typical large, medium, and small fleet, including the actions each fleet would take to remain in compliance and the costs of such actions. In each case, the fleet may incur costs over the baseline in earlier years and may incur reduced costs compared to the baseline in later years as capital expenditures are

moved forward. Please see Section 3.2 Direct Costs on Typical Businesses in the SRIA for additional details.

See response to Comment 11 with regards to CARB's analysis on the impacts to businesses. The Off-Road Regulation applies equally to all businesses operating vehicles in California. If a business is intending to operate equipment and perform work in California, they must comply with the Off-Road Regulation, including the Proposed Amendments.

**Comment 21:**

We believe that the statewide fleet is going to shrink from a peak of 192,000 machines to 130,000 machines. That's fully one-third of the fleet that will have to go in order to meet the current fleet averages. Almost 19,000 machines have disappeared in the last two years alone to meet that standard. Every one of those machines represents a seat for a worker that is no longer available. [CIAQC2]

Our concern today is how the proposed changes to the off-road rule will reduce the overall size of the construction fleet and, in turn, reduce the state's ability to construct projects. The industry estimates the current regulation and the proposed amended regulation will reduce the fleet by 62,000 pieces of equipment. That's a 33% [percent] reduction in the total California construction fleet. Naturally, some of that equipment will be replaced with new equipment, but not all of it. A reduction of 20% would still result in 38,000 less pieces of equipment. [SCCA], [SCCA2]

Assuming the Air Resources Board moves forward with this proposed amendment, contractors will reduce their fleet and the "high road employers," much swooned over by the administration, legislature and academic world, will be forced to lay off the people that operate those machines. [SCCA], [SCCA2]

From what we have been told by our contractor partners, this regulation will result in a substantial decrease in available equipment for these increasingly important projects, which means less work opportunities for our members and apprentices, and an inability for the State to meet its urgent infrastructure needs. [Operating Engineers]

Most of the Tier 0, 1 and 2 equipment will have to be retired and will not likely be replaced within the next 5 years at today's costs…. Due to the costs of new Tier 4 Final equipment, it will severely limit the industry's ability to grow the fleet and leave a much cleaner and smaller fleet than CARB is currently projecting. [AGCSD]

**Agency Response:** No changes were made in response to this comment. See response to Comment 11 regarding the vehicles that fleets may need to replace due to the Proposed Amendments and CARB's analysis on the impacts to businesses, including employment. The commenter has not provided data to support the claim that the statewide fleet will shrink by one-third to comply with the Current Regulation. Nor has the commenter provided data that shows that employment correlates with number of machines owned. In October 2021, CARB developed a survey to help CARB better understand purchasing practices of off-road vehicles and costs that stakeholders may incur to comply with the potential Proposed Amendments. Based on the responses from the survey, CARB identified six compliance pathways that accounted for the most commonly taken actions, and these six were used to analyze direct

costs for vehicle owners. One of the pathways identified was retiring a vehicle and not replacing it with another, effectively reducing the size of the fleet. The survey results indicated that large fleets would take this course of action for 5 percent of their vehicles, while medium and small fleets would do the same for 12 percent of their vehicles. CARB used these compliance pathways to model the costs and impacts of the Proposed Amendments in the SRIA and subsequent updates to the analysis.

CARB did a cost benefit analysis for the Proposed Amendments in the SRIA. The health benefits of the Proposed Amendments ($7 billion) would far outweigh the compliance costs ($1.9 billion). Chapter III of the ISOR discusses the need to reduce emissions from in-use off-road vehicles to reduce exposure to harmful diesel pollution, particularly in highly impacted communities throughout the State, as well as the emission reductions necessary to meet commitments made in the 2022 State Strategy for the State Implementation Plan. See also responses to Comment 33 and Comment 35 regarding the need for the Proposed Amendments and the estimated health benefits from the Proposed Amendments.

**Comment 22:**

We ask that you consider the cumulative effect of this rule on our industry. We are implementing your Portable Equipment Rule, your Advanced Clean Fleets and Truck Rule, Heavy-Duty Vehicle Inspection and Maintenance, and Forklift Rule. We would ask that you include a thorough review of the impacts and costs of this rule to take place by the Board in 2027 to determine if the effects have been as you originally projected. [CIAQC2]

**Agency Response**: No changes were made in response to this comment. CARB's SRIA was prepared pursuant to the requirements of SB 617 and DOF, and CARB analyzed the cost of compliance and anticipated economic impact for the Proposed Amendments. See responses to Comment 11, and Comment 14. CARB has completed a thorough and accurate assessment of the impacts and costs for this rulemaking. A further review in 2027 is unnecessary. See responses to Comment 33 and Comment 35 regarding the need for the Proposed Amendments and the estimated health benefits from the Proposed Amendments..

**Comment 23:**

CARB's proposed phase-out of Tier 0, 1, and 2 engines, proposed restrictions on Tier 3 and 4i engines, and proposed renewable fuel requirements could affect the airline industry in numerous ways, including but not limited to: aircraft ground handling and movement at airports, fueling, ground power units, maintenance support, baggage transfer, and on-site aviation support operations. [A4A]

**Agency Response:** No changes were made in response to this comment. The commenter does not specify how the Proposed Amendments would adversely impact the airline industry. CARB understands that with new requirements, fleets will need to make adjustments to their operations. The Tier 0, Tier 1, and Tier 2 engines being required to be phased out are very old, and, according to data from the DOORS reporting system, vehicles with these engines

account for only about 10 percent of airport GSE in California.[19] Some of these vehicles that are not typically used very often may be designated as low-use vehicles. However, the rest will need to be retired in different phases, depending on the fleet size and the tier of the engine, with the final phase in 2032 for Tier 2 engines in small fleets.

The commenter also mentioned the restrictions on adding Tier 3 and Tier 4 Interim engines to the fleet, which take effect in 2024, and specifically for small fleets, 2028. Based on CARB's analysis, Tier 4 Final engines are available. Tier 4 Final standards were introduced in 2015 and today, make up over 50 percent of the current off-road fleet across all hp ratings, so fleets should not experience difficulties in finding new or used vehicles with Tier 4 Final engines.

Please see response to Comment 60 regarding RD feasibility.

**Comment 24:**

We would urge caution with these amendments and ask for more time to inspect the impact that they may have on the State's ability to meet our infrastructure needs as well as the impacts they may have on our apprentices seeking to be the future of our State's infrastructure workforce….

Again, we would respectfully urge caution and ask for more time to thoroughly examine the impacts this may have not just on our organization, but the infrastructure needs of the state as a whole. [Operating Engineers]

**Agency Response**: No changes were made in response to this comment. CARB considered the financial impacts of the Proposed Amendments and did a full economic impact analysis that can be found in the SRIA. CARB prepared the SRIA for the Proposed Amendments (Appendix B of the ISOR) pursuant to the requirements of SB 617 and the DOF. In addition, CARB analyzed a less-stringent alternative which would have delayed the implementation of the tier phase-out schedule by two years,[20] one year less than the commenter's proposal. CARB rejected this alternative because this alternative would produce benefits that were almost $3 billion less than under the Proposed Amendments, would be significantly less cost-effective, and would be unable to meet the 2022 SIP's commitment to achieve reductions of 4.1 tons per day of NOx in 2037. Furthermore, allowing the Tier 0, Tier 1, and Tier 2 engines to continue to operate for additional years, as proposed by the commenter, would not provide much-needed localized reductions in toxic diesel PM.

See also response to Comment 11 with regards to CARB's analysis on the impacts to businesses, including employment.

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[19]CARB. (2023). California Air Resources Board. 2023. Query of DOORS reporting system data for Airport Ground Support Equipment. This table provides the counts of Airport Ground Support Equipment reported into the DOORS reporting system, broken down by fuel type, and if the fuel type is diesel, also by the engine tier.
[20] This alternative also delayed implementation of the extension on adding vehicle provisions and did not include the renewable diesel mandate.

## 3. Emissions Estimates

**Comment 25:**

Since the adoption of the original off-road regulation in 2007 and the amendments in 2010 the emissions inventory for off-road equipment has been disputed and we believe, overestimated.... The industry is expected to pay for the elimination of emissions that never existed in the first place. The cost to reduce these "phantom" emissions in being unfairly borne by contractors throughout the state. Further, we believe that an accurate emissions inventory will reveal that this equipment emits less than originally assumed, does not operate at the number of hours originally projected and does not operate at the engine loads originally assumed…. In addition, CARB assumed that construction activity in California would fully recover from the 2008 recession in less than 5 years and would continue to generate emissions at their higher projected levels. [AGCSD]

**Agency Response:** No changes were made in response to this comment. CARB disagrees with the commenter that the inventory is inaccurate and that these are "phantom" emissions. CARB uses data acquired from a variety of sources, including surveys, sales data, fuel data, engine test data, and fleet compliance reporting data to develop its emissions models, taking into account population, age distribution, fuel use, activity, and emission factors and deterioration, as well as geography and industry. The emissions analysis performed as a part of this rulemaking activity was based on an updated off-road vehicle emissions inventory, which was released as Appendix F of the ISOR. As part of the regulatory development for the Proposed Amendments, CARB presented and requested comments on the development of the 2022 CARB Construction, Industrial, Mining, and Oil Drilling Emissions Inventory (2022 Off Road Inventory) at two public workshops. CARB covered data sources and methodology, including population, activity, and emission rates, in its presentation. Appendix F describes the data sources and methodology for estimating emissions, as well as forecasting and growth. The following inputs were updated:

- The population, rate of turnover, and impact of the Current Regulation were updated based on 2011 to 2021 reporting data,
- Annual activity based on a fleet survey conducted in 2020,
- Emission factors based on more recent data, and
- Growth projections based on 2010 to 2019 fuel use trends.

CARB's activity estimates are based on a fleet survey conducted by CARB in 2020. This survey was done on a voluntary basis and the responses provided information on 5,589 pieces of equipment operating in California in 2019. The survey included a question about hours of activity, and the data helped determine activity hour trends dependent on fleet size, horsepower bin, equipment type, and age.

CARB's activity estimates incorporate off-road fuel use data from the Energy Information Administration and the Board of Equalization, both reputable and reliable sources from the Federal and State governments, respectively. The information was used to cross-check the inventory's fuel usage to what was being reported by these sources. Based on this comparison, CARB reduced the activity within the inventory by 14 percent to be in line with

the fuel consumption reported. In addition, the reporting requirements of the Current Regulation generate data that make California unique among jurisdictions around the world in having a continuously updated and comprehensive dataset of operating off-road equipment.

The updated inventory shows that the vehicles in the off-road sector are indeed producing a significant amount of emissions that can be reduced through implementing the changes adopted as part of this rulemaking. These changes target the sizeable population of very old Tier 0, Tier 1, and Tier 2 engines shown by the latest data to still be operating in the state. These changes also introduce new reporting requirements, to ensure broad compliance, and a new requirement to use RD in pre-Tier 4 Final engines, which recent studies show to also have a significant impact on emissions.

**Comment 26:**

We believe an up-to-date emissions inventory will support a much lower emission contribution from our industry. Based on the data we received from CARB and analyzed in 2018 it was estimated by an industry coalition that over 35% of the off or road equipment in California will have to be retired between now and 2027 to meet the fleet averages established by the current regulation. Essentially all the Tier 0 and Tier 1 machines will need to be retired, excepting a small percentage of low use remaining, and over two-thirds of the Tier 2 will also need to be retired during this same timeframe. This will have a dramatic effect on the levels of emissions attributed to the construction industry beyond the significant reductions already achieved by the industry's cleaner fleets. That transition needs to be fully analyzed as part of any emissions modeling being conducted by CARB.

CARB must also realize the current DOORS fleet size is being artificially maintained by early turnover credits and low-use definitions as fleets approach the final compliance deadlines.… To meet the final fleet average, for machines in the 175 – 750 HP range fleets will have to have an equivalent size Tier 4 final engine for every Tier 3 engine in the fleet. For nearly all fleets, there is no ability to maintain any older engines in the fleet and still meet the required fleet averages. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The 2022 Off-Road Inventory, an update to the 2011 emissions inventory, was prepared as part of this rulemaking activity, included as part of the rulemaking package submitted for Board consideration (Appendix F of the ISOR), and subsequently approved in November 2022. This updated inventory model took into consideration various data sources, including surveys, equipment sales data, fuel data, engine test data, and fleet compliance reporting data. The updated inventory also incorporates fleets' expected compliance actions, such as the turnover rate between 2022 and 2027 that the commenter cited, to attain full compliance with existing federal and state emission standards for off-road diesel engines and diesel fuel, including the Current Regulation as amended in 2010.

Using the updated inventory as a baseline, CARB performed further modifications to forecast the number of in-use equipment each year from 2023 through 2038 for which there were direct costs or benefits associated with the Proposed Amendments. Based on observed trends that were built into the updated inventory model, despite the substantial turnover

rates, a significant number of Tier 0, Tier 1, and Tier 2 engines are expected to remain beyond 2027. In fact, of the engines present in 2022, about half of Tier 1 and Tier 2 engines are expected to be turned over, while only a third of Tier 0 engines are expected to be turned over. The remaining turnover is explained by the increasing attrition of Tier 3 and Tier 4 interim engines as those also near 20 years of age by 2027. This is why the Proposed Amendments target the sizeable populations of very old Tier 0, Tier 1, and Tier 2 engines shown by our latest data to still be operating in the state.

**Comment 27:**

As the overall emissions from this type of equipment reaches zero, it would be appropriate to focus on regulations for those air districts that cannot meet the federal attainment standards which in California is South Coast and San Joaquin. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The emissions from the vehicles subject to the Proposed Amendments are not reaching "zero." The off-road sector (excluding locomotives, aircraft, waterborne vessels, portable equipment, and agriculture) comprises about 14 percent of the total statewide NOx emissions, which is the second largest mobile source of NOx (on-road sources being first). See response to Comment 11 regarding the vehicles targeted by this regulation. See response to Comment 26 regarding the population of these vehicles remaining in California in the absence of the Proposed Amendments. See response to Comment 91 regarding the need for a statewide regulation.

**Comment 28:**

The staff can't guarantee to you that even one pound of those reductions are real, permanent, verifiable, and enforceable. In fact, the proposed amendments could, in some cases, result in emission increase and here's the reason.

The current regulation has resulted in many, if not most, of the lower tier engines being classified as low use with an operational cap of up to, but not exceeding, 200 operating hours a year. Under the proposed regulation, these engines can't be used by entities subject to the off-read diesel regulation, but they can be moved to sectors not subject to the requirements of this particular rule, where they could use them even beyond the 200-hour cap that's in place for most of these engines today. [AE]

**Agency Response:** No changes were made in response to this comment. CARB used data from a variety of sources including recent surveys, sales data, fuel data, engine test data, and fleet compliance reporting data to develop the 2022 Off-Road Inventory that was released in November 2022 as a part of the Proposed Amendments rulemaking package. CARB's emissions models consider population, age distribution, fuel use, activity, and emissions factors and deteriorations to estimate the equipment population, its associated emissions, and the expected emissions reductions due to implementing the Proposed Amendments.

The commenter incorrectly states that low-use vehicles may no longer be operated by entities subject to the Proposed Amendments. The Proposed Amendments sunset the year-by-year low-use provision, which was an option for fleets to determine, on an annual basis, whether they would use a vehicle less than 200 hours a year as part of their annual

compliance. However, the Proposed Amendments retained the option for fleet to consider permanent low-use as a compliance option for these vehicles and, in fact, expanded the permanent low-use definition. These low-use provisions of the Proposed Amendments allow for a fleet to continue to operate vehicles at a reduced level of under 200 hours per year, or under 600 hours in three years, beyond the Tier phase-out deadline, for an extended period of time. These provisions may be applied to low-use vehicles with Tier 0 engines until January 1, 2036, and to vehicles with Tier 1 and Tier 2 engines indefinitely.

The commenter raises a concern that equipment currently used by fleets subject to the Current Regulation and the Proposed Amendments could be sold to fleets in industries that are not subject to the Current Regulation and the Proposed Amendments. Most equipment being used by fleets in industries not subject to the Current Regulation and the Proposed Amendments are subject to other regulations specific to those industries, such as the Cargo Handling Equipment Regulation. See response to Comment 91 regarding agricultural equipment.

CARB disagrees with the claim that CARB cannot guarantee that the emissions reductions are "real, permanent, verifiable, and enforceable." All engines subject to the Proposed Amendments are required to be CARB or U.S. EPA certified. The certification standards include robust testing procedures and warranty requirements on the emissions controls, among other requirements. The Proposed Amendments require the operational phase-out of the oldest and dirtiest engines and require any vehicles added to fleets to have engines that are certified to the cleanest engines standards. CARB believes that these and other requirements of the Proposed Amendments will achieve real, permanent, verifiable, and enforceable emission reductions. Furthermore, CARB enforces all CARB regulations in accordance with its enforcement policy.[21]

**Comment 29:**

A statement was made by [C]ARB staff that the requirement to use renewable diesel was a critical element within the proposed rule because renewable diesel provided significant emission reductions in all older off-road equipment. The statement, and related implications, implies that the emission reductions related to renewable diesel are incorporated in the use of Tier 0, 1, and 2 off-road equipment but seemingly ignores that the proposed rule will quickly phase out this same equipment.

Before requiring the use and tracking of renewable diesel, consider these facts: 1. Ensure that the proposed rule has accounted for the fact that it appears that the rapid phase out of Tier 0, 1, and 2 equipment is accounted for in the justification. [Teichert]

**Agency Response:** No changes were made in response to this comment. CARB did not ignore the fact that the Proposed Amendments would phase out off-road vehicles with Tier 0, Tier 1, and Tier 2 engines already using RD.

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[21] CARB. (2020). Enforcement Policy, Updated – April 2020. Available at: *https://ww2.arb.ca.gov/resources/documents/enforcement-policy* .

The tier phase-out requirements are phased in over a number of years between 2024 and 2032, while the RD requirements implementation date begins on January 1, 2024, for all fleets, meaning there is almost a decade of time in which the RD requirements will be in effect while the tier phase-out requirements are gradually being phased in. In addition, Tier 3 and Tier 4 interim engines continue to operate in the off-road sector indefinitely where emissions reductions from the use of RD will continue to be achieved.

Finally, the emission reduction calculations performed by CARB for the RD requirements accounted for the removal of vehicles with Tier 0, Tier 1, and Tier 2 engines according to the phase-out schedule in the Proposed Amendments. In calculating the emissions benefits, CARB applied a benefit of 10 percent NOx reduction and 30 percent PM reduction only for non-Tier 4 Final engines. As Tier 0, Tier 1, and Tier 2 engines are phased out, the RD benefit is removed from these engines, so that the emissions reductions would not be overestimated. CARB did not ignore that the Proposed Amendments would require the phase-out of Tier 0, Tier 1, and Tier 2 engines and have structured the calculations to properly accommodate these interconnected provisions. This interaction between the RD and tier phase-out provisions also explains why the bulk of the benefits of the RD requirements are in the earlier years of implementation, with the benefits gradually declining as older engines are phased out and the proportion of Tier 4 Final engines increase. The points raised by this commenter are exactly why the effective date of the RD requirement cannot be pushed to a later date.

**Comment 30:**

The current regulation meets and exceeds your boards emission reduction requirements to protect public health from diesel PM. [CIAQC]

**Agency Response:** No changes were made in response to this comment. The Proposed Amendments are a critical element of CARB's strategy to achieve emission reductions from this sector, as approved by the Board in the 2020 Mobile Source Strategy. Without the Amendments, CARB will be unable to meet the 2022 SIP's commitment to achieve reductions of 4.1 tons per day of NOx in 2037. For further discussion of why the emission benefits of the Proposed Amendments are needed, see also response to Comment 33.

## 4. Tier Phase-Out

**Comment 31:**

Construction companies retain their equipment for decades because it is often specialty equipment which gets limited use and most of it will last for decades with proper maintenance. [AGCSD]

**Agency Response**: No changes were made in response to this comment. The Proposed Amendments target the phase-out of the oldest, highest emitting vehicles; specifically, vehicles with Tier 0 (or uncontrolled), Tier 1, and Tier 2 engines. Without the Proposed Amendments, the Current Regulation would allow for continued use, without hours of use limitations, of many vehicles with highly polluting older-tier engines. The NOx emissions of an average Tier 0 off-road engine are 80 times as high as those of a Tier 4 Final off-road engine. By 2024, when the first Tier 0 phase-out begins for large fleets, the youngest Tier 0 engines will already be 24 years old and the average age of all Tier 0's in all large fleets is 37 years old. By 2026, when the first Tier 0 phase-out begins for medium fleets, the youngest Tier 0 engines will already be 26 years old and the average age of all Tier 0's in all medium fleets will be 40 years old. By 2028, when the first Tier 0 phase-out begins for small fleets, the youngest Tier 0 engines will already be 28 years old and the average age of all Tier 0's in all small fleets will be 39 years old. The vast majority of vehicles subject to the Off-Road Regulation would not be considered specialty equipment, but are tractor/loader/backhoes, excavators, forklifts, and skid steer loaders.

The Proposed Amendments include provisions for vehicles with limited use. These provisions allow for a fleet to continue to operate these low-use vehicles at a reduced level of under 200 hours per year, or under 600 hours in three years beyond the Tier phase-out deadline. These provisions may be applied to low-use vehicles with Tier 0 engines until January 1, 2036, and to vehicles with Tier 1 and Tier 2 engines indefinitely. As indicated earlier, Tier 0 engines have uncontrolled emissions much higher than those of a Tier 4 Final off-road engine; in fact, just 100 hours of operation of a Tier 0 engine produces as much emissions as 8,000 hours of operation of a Tier 4 Final engine. For this reason, it is important to completely phase out engines with uncontrolled emissions from operations in California.

For vehicles that are highly customized or produced in very small volumes, the Proposed Amendments include Compliance Flexibility for Delays in Availability of Tier 3 or Tier 4 Vehicles. See response to Comment 37 regarding compliance flexibility.

**Comment 32:**

2449.1(c)[:] Tier Phase-Out Requirements. Meeting Tier 0 phase-out deadline of January 1, 2024 would be difficult for the Department of Defense (DoD) installations since budgets are submitted for Congressional approval three years in advance. Recommend phasing this requirement in for federal fleets in fiscal year number 3 after the rule implementation.

2449(e)(14)[:] Two-Engine Vehicles. The regulation, as is, prohibits two-engine vehicles from operating if either of the vehicle's engines do not comply with the Tier phase-out schedule.

The DoD operates several high-cost cranes with higher Tier (i.e., Tier 3 or Tier 4) drive engines and lower Tier (i.e., Tier 1 or Tier 2) auxiliary engines that installations would be required to turnover based on the auxiliary engine phase-out date. Because it is the drive engines that are responsible for the majority of emissions, recommend that two-engine vehicles be required to comply with the Tier phase-out schedule based on the primary drive engine Tier or that CARB propose an alternate schedule for two-engine vehicles. [DoD]

**Agency Response:** No changes were made in response to this comment. The Off-Road Regulation applies to federal fleets in the same way as for all other large fleets operating in California. CARB believes that it is important for federal agencies to take a leadership role in meeting compliance requirements at the same time as private businesses. The commenter has not provided CARB with information indicating that they would be unable to comply with the Proposed Amendments.

The Proposed Amendments were designed to complement the Current Regulation. Under the Current Regulation, large fleets not meeting their final fleet average target by January 1, 2023, are required to turn over 10 percent of their total hp each year until they meet that target. With respect to Department of Defense fleets, about eight percent of engines reported by these fleets are Tier 0 today. Many of these will need to be removed from the fleets in 2023 under the Current Regulation. For those vehicles that the Department of Defense needs to keep in a low-use capacity, the regulation has the option to keep these Tier 0 vehicles until 2036 under the permanent low-use provisions.

The Proposed Amendments, including the tier phase-out requirements, are necessary to achieve additional emissions reductions beyond the reductions achieved via the Current Regulation. These additional reductions are needed to meet the federal air quality standards and to improve public health throughout the State. The tier phase-out strategy was selected because it achieves the necessary emissions reductions in a cost-effective way that is easier to implement and enforce compared to other alternatives. The specific years for implementation of the tier phase-out were selected to gradually phase in the requirements while ensuring that all the tier phase-out requirements would be fully implemented by all fleet sizes by 2032 to meet the additional emission reductions goals outlined in the 2022 SIP. The large fleet[22] tier phase-out schedule is earlier than other fleet sizes because the Current Regulation's fleet average target requirements are earlier for large and medium fleets compared to small fleets, so including requirements for large fleets first is consistent with the timing of implementation of the Current Regulation.

CARB analyzed a less-stringent alternative which would have delayed the implementation of the tier phase-out schedule by two years,[23] one year less than the commenter's proposal. CARB rejected this alternative because this alternative would produce benefits that were almost $3 billion less than under the Proposed Amendments, would be significantly less cost-effective, and would be unable to meet the 2022 SIP's commitment to achieve reductions of

[22] Federal government fleets are considered large fleets for the purposes of the Off-Road Regulation.
[23] This alternative also delayed implementation of the extension on adding vehicle provisions and did not include the renewable diesel mandate.

4.1 tons per day of NOx in 2037. Furthermore, allowing the Tier 0, Tier 1, and Tier 2 engines to continue to operate for three additional years at Department of Defense facilities, as proposed by the commenter, would not provide much-needed localized reductions in toxic diesel PM.

Regarding two-engine vehicles, the Proposed Amendments have not changed the applicability of two-engine vehicles. Under the Current Regulation, both engines are included equally in the fleet average calculations, contribute to total hp of the fleet, and each needs to qualify as a low-use engine for the vehicle to benefit from the low use provision. In addition, the commenter has not provided data to support the statement that "it is the drive engines that are responsible for the majority of emissions." Many factors impact emissions from engines including, but not limited to, the standard to which the engine was certified, age of the engine, and hours of operation. Tier 1 and Tier 2 engines emit harmful pollutants at rates significantly higher than Tier 3 and Tier 4 engines. As discussed previously in this response, reductions from the removal from operation of all Tier 0, Tier 1, and Tier 2 engines in California are needed to meet the federal air quality standards and to improve public health throughout the State.

**Comment 33:**

AGC of California urges CARB to reconsider the tier phase out of Tier 0, 1, and 2 vehicles. [AGC of California]

**Agency Response:** No changes were made in response to this comment. As described in Chapter III of the ISOR, while the Current Regulation has greatly reduced emissions from affected off-road diesel vehicles, the off-road sector remains a major source of mobile source emissions, with a sizeable portion of these emissions from a relatively small population of older vehicles. In 2022, among the off-road vehicle population covered under the Current Regulation, fewer than 10 percent are powered with Tier 0 engines, but these engines are responsible for 30 percent of NOx emissions and over 40 percent of PM emissions. Combined with Tier 1 and Tier 2 engines as well, these 29 percent of vehicles are responsible for 60 percent of NOx emissions and 69 percent of PM emissions from off-road vehicles. Overall, the Proposed Amendments scenario is expected to reduce NOx and PM annual emissions from off-road vehicles by 75 percent and 44 percent, respectively, by 2036, compared to current levels.

The importance of achieving further NOx emissions reductions from the off-road sector is only getting more critical as the share of NOx emissions from the on-road sector as a portion of total emissions continues to decline due to CARB's robust on-road regulatory and incentive policies. Major populated regions in California are still in nonattainment with the federal PM2.5 and ozone standards. Seventeen areas in California are designated as in nonattainment, and of those, nine areas are classified as Moderate and above for the 70 parts per billion (ppb) ozone standard.[24] These areas include California's large urban regions as well as rural downwind areas, and more than half (21 million out of nearly 40 million) of

[24] Based on 2020 monitored ozone design values contoured over population by census tract.

Californians live in areas that exceed the 70 ppb ozone standard. NOx reductions from the off-road sector, one of the largest sources of NOx emissions in the State, are essential to meeting these air quality standards. In the 2022 SIP, CARB committed to reducing statewide NOx emissions by 4.1 tons per day by 2037 by implementing the Proposed Amendments, making the Proposed Amendments a critical action necessary to meeting California's NOx reduction goals.

California also needs additional reductions from the off-road sector to meet the PM2.5 air quality standards, especially for the two areas of the State with extreme air quality issues: the South Coast Air Basin and San Joaquin Valley. Also, U.S. EPA is proposing to lower the annual PM2.5 National Ambient Air Quality Standard (NAAQS) from the current 12 $\mu g/m^3$ to a level ranging from 8-11 $\mu g/m^3$.[25] U.S. EPA is currently collecting public comments, and the new standard may not be finalized until late 2023/early 2024. Depending on the standard set by U.S. EPA, a vast majority of the state could be in nonattainment if the new standard is set at the bottom end of the range currently proposed. In addition to meeting the PM2.5 ambient air quality standard, California also needs to reduce diesel PM emissions. Diesel PM has been identified as a TAC by CARB, and it poses a significant public health risk, especially at the local level.

The phase-out of Tier 0, Tier 1, and Tier 2 engines is a critical element of CARB's strategy to achieve emission reductions from this sector, as approved by the Board in the 2020 Mobile Source Strategy. Without the phase-out of these vehicles, CARB will be unable to meet the 2022 SIP's commitment to achieve reductions of 4.1 tons per day of NOx in 2037 (see Comment 32 regarding CARB's analysis of a less-stringent alternative).

**Comment 34:**

We cannot agree to the timeline for the operational backstop on old equipment. The proposed dates do not allow the current regulation turnover beyond the deadlines of 1/1/2023 [January 1, 2023] for large and medium fleets and 1/1/2028 [January 1, 2028] for small fleets to run its course in accordance with 2449(d)(9). Many fleets will still be legally turning over Tier 0, Tier 1 and even Tier 2 machines several years beyond the deadline while still legally operating these machines beyond 1/1/2023 [January 1, 2023] (and 1/1/2028 [January 1, 2028] for small fleets) as allowed under the current regulation. Your proposal to disallow operation of Tier 0 machines for large fleets beyond 1/1/2024 [January 1, 2024] defeats the whole concept of carryover credits for those fleets and would require a premature retirement of those machines for those fleets that maintained carryover credits.

AGCSD is concerned about the massive reduction in the construction fleet as the current regulation reaches its final fleet average between 2023 and 2026. Turnover should be allowed to run its course as provided under the current regulation. Fleets did their multi-year planning based on that commitment from CARB.

[25] U.S. EPA. (2023). 88 Fed. Reg. 5558 (Jan. 27, 2023), Proposed Rule: Reconsideration of the National Ambient Air Quality Standards for Particulate Matter. Retrieved January 31, 2023, from 2023-00269.pdf (govinfo.gov).

Circumventing the original turnover provisions/carryover credits by prematurely banning all Tier 0 in large fleets in 2023 is unworkable. Any additional forced turnover For Tier 0 and 1 should begin in 2026 and proceed at a reasonable rate of perhaps 20% [percent] per year. Tier 2 turnover could begin in 2028 with a five-year phase out. For small fleets it could begin in 2031.

CARB is now proposing to tell large fleets they must prematurely get rid of all their Tier 0 at one time in 2023; just one year after the carryover credits are taken away. Instead, they should be allowing at least 3 to 4 years after 1/1/2023 [January 1, 2023] to see how the current regulation plays out. [AGCSD]

CCEEB members, like others who've spoken today, have been relying on the fleet averaging methodology in order to comply with the requirements of the current regulation. [CEEB2]

**Agency Response:** No changes were made in response to this comment. One of the stated purposes of the Proposed Amendments are to achieve additional reductions beyond those the Current Regulation could achieve. See response to Comment 33 regarding CARB's need to achieve additional NOx and PM emission reductions. Even with the Current Regulation, a significant number of Tier 0, Tier 1, and Tier 2 engines are expected to remain beyond 2027 (see response to Comment 26). Maintaining the status quo would not meet the goals of the Proposed Amendments.

CARB is aware of the compliance requirements of the Current Regulation for fleets using the Best Available Control Technology (BACT) compliance path. Under the Current Regulation, fleets are required to meet a declining fleet average target or comply with BACT. Fleets that do not meet their fleet average target by January 1, 2023, for large and medium fleets, or by January 1, 2028, for small fleets are required to turnover 10 percent of their total hp every year until they meet the target. Carryover credits, referenced by the commenter, expired on January 1, 2023, for medium and large fleets, and will expire for small fleets on January 1, 2028, under the Current Regulation.

The Proposed Amendments were designed to complement the Current Regulation. For example, a large fleet that met its final fleet average target on January 1, 2023, would likely have very few, if any, Tier 0 vehicles remaining. This fleet would only be required to phase out operations of any remaining Tier 0 vehicles by January 1, 2024, or, for those the fleet would like to keep as low-use, designate as permanent low-use. For a large fleet that has not met its final fleet average target and must turn over 10 percent of its total hp in 2023 to comply with the Current Regulation, the fleet could prioritize the turnover of Tier 0 vehicles to help meet that 10 percent requirement. If the fleet has more than 10 percent of their hp in Tier 0 vehicles, then the Proposed Amendments allow for any extra Tier 0 hp that must be turned over be used in subsequent years to comply with the 10 percent turnover requirements of the Current Regulation. CARB estimates that vehicles with Tier 0 engines make up less than 5 percent of all vehicles in large fleets in 2024, and less than 4 percent of all vehicles in large fleets in 2024 when low-use vehicles are excluded.[26] The Proposed

[26] Estimate from the Off-Road Regulation Amendment Emissions Calculations for SRIA Main Proposal baseline inventory in 2024.

Amendments essentially prioritize the remaining turnover that needs to happen under the Current Regulation to the vehicles that have the dirtiest and oldest engines first. This approach will also help fleets that have not met their final fleet average target, as fleets will be removing the vehicles associated with the dirtiest emission factor and, if the vehicles are replaced, replacing the vehicles with newer engines associated with the cleanest emission factor.

See response to Comment 21 regarding the reduced size of the construction fleet.

See response to Comment 32 regarding CARB's analysis of a less stringent alternative.

**Comment 35:**

CARB is implementing Phase out schedules more aggressively than needed to meet the purposes of the rule and adopted Mobile Source Strategy. CalCIMA requests that additional time be provided for compliance with the obligations for the retirement of Tier 0, 1 and 2 equipment….

We propose the following amendment;

(1) Tier Phase-Out for Large Fleets

(A) Beginning January 1, 2025 ~~2024~~, a large fleet shall not operate any vehicle with a Tier 0 engine or a model year 1994 or earlier on-road engine in California.

(B) Beginning January 1, 2027 ~~2026~~, a large fleet shall not operate any vehicle with a Tier 1 engine or a model year 1999 or earlier on-road engine in California.

(C) Beginning January 1, 2029 ~~2028~~, a large fleet shall not operate any vehicle with a Tier 2 engine or a model year 2003 or earlier on-road engine in California.

(2) Tier Phase-Out for Medium Fleets

(A) Beginning January 1, 2027 ~~2026~~, a medium fleet shall not operate any vehicle with a Tier 0 engine or a model year 1994 or earlier on-road engine in California.

(B) Beginning January 1, 2029 ~~2028~~, a medium fleet shall not operate any vehicle with a Tier 1 engine or a model year 1999 or earlier on-road engine in California.

(C) Beginning on January 1, 2031 ~~2030~~, a medium fleet shall not operate a vehicle with a Tier 2 engine or a model year 2003 or earlier on-road engine in California.

(3) Tier Phase-Out for Small Fleets

(A) Beginning on January 1, 2029 ~~2028~~, a small fleet shall not operate a vehicle with a Tier 0 engine or a model year 1994 or earlier on-road engine in California.

(B) Beginning on January 1, 2031 ~~2030~~, a small fleet shall not operate a vehicle with a Tier 1 engine or a model year 1999 or earlier on-road engine in California.

(C) Beginning January 1, 2033 ~~2032~~, a small fleet shall not operate any vehicle with a Tier 2 engine or a model year 2003 or earlier on-road engine in California.

Please allow large fleets more than 9 months from rule adoption and review to plan on retiring and replacing all of their Tier 0 equipment.

Based on CARB's goals and targets, CARB has the capacity to extend the timeframe for these retirements within the adopted plans and strategies while still meeting the objectives and purpose of the regulatory change as noted within the SRIA. [CalCIMA]

We would like to request that the Board change the phaseout schedules by one year, as included in our comment letter. This keeps you within the guidelines of your mobility plan. [CalCIMA2]

CARB should delay the implementation dates of the engine phase out for Tier 0, Tier 1 and Tier 2 Large Fleets by one additional year.

CARB's requirement that Tier 0 Off-Road vehicles in a Large Fleet shall not operate starting January 1, 2024, does not provide enough time to properly plan for the replacement of the Tier 0 vehicles.

CARB must set attainable goals that allow for companies to efficiently transition off-road vehicles to higher Tier engines, not set aspirational goals with overburdened extensions. [MPC]

I do want to comment on the rule's proposed deadlines for replacing existing engines in vehicles. So really it's just about the time to plan, bid, and award contracts for this transition, you know, or purchase new vehicles. It's just too short. We do have some Tier 0 vehicles in our fleet, and essentially, we're facing a 13-month ban…. And so, you know, what we're asking is for an extension of these deadlines to transition our vehicles by at least one year. We think that that's enough to be able to, like I said, plan, bid, and, you know, more efficiently transition our vehicles to really what your goals are. [MPC2]

In our January 2022 comments, we requested that all implementation dates be pushed out by a year to accommodate both the supply chain challenges and the fact that the current regulation extends to 2023. At a minimum, fleets should have a process to apply for case-by-case extensions, with proper documentation and demonstration of supply chain delays. [CCEEB]

For these reasons, we ask that all implementation dates be pushed out by one year to accommodate both the supply chain challenges and the fact that the current regulation extends to 2023. [CCEEB2]

**Agency Response:** No changes were made in response to these comments. The Proposed Amendments are consistent with the 2020 Mobile Source Strategy, which set a goal of phasing out Tier 0, Tier 1, and Tier 2 engines between 2024-2033. The Proposed Amendments require phasing out most Tier 2's by January 1, 2032, which provides one year of full implementation to meet the goals in the 2020 Mobile Source Strategy. The Proposed Amendments also provide to the smallest fleets some flexibility that was not included in the 2020 Mobile Source Strategy, allowing them to operate their Tier 2 vehicles until January 1, 2036. The 2020 Mobile Source Strategy was not a commitment on behalf of CARB

to a particular compliance schedule. In fact, certain stakeholders have encouraged CARB to move even more quickly than what was established in the 2020 Mobile Source Strategy.

While the proposal by the commenters would, on the surface, meet the goal identified in the 2020 Mobile Source Strategy, CARB's analysis of the less stringent alternative did not meet the 2022 SIP's commitment to reduce NOx emissions by 4.1 tons per day in 2037. See response to Comment 32 regarding CARB's analysis of a less stringent alternative. See response to Comment 33 regarding CARB's need to achieve additional NOx and PM emission reductions. Additionally, with U.S. EPA proposing to lower the annual PM2.5 NAAQS, it is necessary for CARB to achieve as many PM reductions as possible, as quickly as possible, in order to support compliance with these future standards.

CARB also identified the need to reduce diesel PM emissions in Chapter II of the ISOR. Diesel PM has been identified as a TAC by CARB, and it poses a significant public health risk, especially at the local level. Any delay in the tier phase-out timeline perpetuates off-road vehicles with uncontrolled PM and NOx emissions operating throughout the state. The health benefits associated with the Proposed Amendments are significant and include:

- 570 fewer premature deaths (446 to 698, 95 percent confidence interval);
- 82 fewer hospital admissions for cardiovascular illnesses (0 to 161, 95 percent confidence interval);
- 98 fewer hospital admissions for respiratory illnesses (23 to 173, 95 percent confidence interval); and
- 277 fewer emergency room visits for asthma (175 to 378, 95 percent confidence interval).

The biggest health benefits are expected to occur in the South Coast, San Joaquin Valley, and San Francisco Bay Area air basins, which are high population centers in California and contain most of the Assembly Bill (AB) 617[27] communities that identified in their Community Emission Reduction Plans or Community Air Monitoring Plans that in-use off-road diesel activity is a community concern. Residents in these communities are often more vulnerable to environmental impacts as the result of health disparities, socio-economic inequities, and poor land use decisions. As discussed in Chapter II and Chapter X of the ISOR, the Proposed Amendments support the implementation of CARB's environmental justice and AB 617 policies and plans.

With regards to lead time for the replacement of Tier 0 vehicles, CARB believes it has provided adequate lead time for fleets to be aware that CARB will be implementing the phase-out of Tier 0 vehicles in 2024. CARB identified the need for full turnover of Tier 0, Tier 1, and Tier 2 engines subject to the Off-Road Regulation as part of the 2020 Mobile

[27] AB-617 (C. Garcia, Stats. 2017, ch. 136) Nonvehicular air pollution: criteria air pollutants and toxic air contaminants. California Health & Saf. Code §§ 39607.1, 40920.6, 40920.8, 42400, 42402, 42411, 42705.5, 44391.2. Retrieved July 6, 2022, from *https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB617.*

Source Strategy, initiated at a March 25, 2020, webinar where CARB presented a proposal to achieve this turnover by 2033. CARB conducted its first workshop on the Proposed Amendments on May 6, 2021, where CARB presented a proposed concept that aligned with the 2020 Mobile Source Strategy and included an initial implementation date for an operational backstop of Tier 0 vehicles in large fleets of January 1, 2024. CARB notified all fleets reported in DOORS of this workshop and the presentation was available to fleets on CARB's website for those fleets that were unable to attend. CARB then conducted two additional workshops as well as three workgroup meetings on target topics. Additionally, CARB included the amendments to the Off-Road Regulation in the materials presented during the 14-month development of the 2022 SIP that was approved by the Board in September 2022.

As discussed in the response to Comment 34, the Proposed Amendments are complementary to the requirements of the Current Regulation that fleets not meeting the final fleet average target by January 1, 2023, must turn over 10 percent of their total hp in 2023. Under the Current Regulation, a fleet would need to turn over its Tier 0 or Tier 1 engines prior to turning over its Tier 2 or later engines. Since Tier 0 engines have the largest impact on a fleet's ability to meet its fleet average target, a logical course of action would be that a fleet would choose to prioritize Tier 0 engines for turnover in 2023 under the Current Regulation, even without the Proposed Amendments. The Off-Road Regulation also includes provisions allowing designation of vehicles as limited use, as discussed in the response to Comment 31, which would allow limited use of Tier 0 vehicles until January 1, 2036, and to vehicles with Tier 1 and Tier 2 engines indefinitely.

**Comment 36:**

We appreciate the effort to expedite the phase out of old and inefficient equipment compared to the existing rule. The following chart provides the phase out proposed. [Commenter inserted Table 5. Tier and Model Year (MY) Phase-Out Dates by Fleet Size] Much of this Tier 0, 1, and 2 equipment is exceptionally old and heavily polluting. We recommend moving up the 2026, 2028, 2030, 2032, and 2036 dates in the attached chart up by two years – making the compliance dates 2024, 2026, 2028, 2030, 2032, and 2034. This would achieve desperately needed reductions in a more expeditious timeframe. [Earthjustice]

**Agency Response:** CARB made no changes in response to these comments. CARB modeled a more stringent alternative as part of the evaluation of regulatory alternatives in Chapter XII of the ISOR (SRIA Alternative 2). This alternative was rejected because it would impose significantly higher costs but would generate only small additional emission reductions beyond the Proposed Amendments over the implementation timeline and therefore would be less cost-effective to implement than the Proposed Amendments. The accelerated timeline of the more stringent alternative also would create significant additional costs in the near-term that could put fleets at risk of non-compliance or cause them to be unable to continue their business at current levels. CARB believes that the phase-out schedule presented in the Proposed Amendments is the best choice because it reduces these adverse effects, but still maintains the State's ability to meet the 2022 SIP commitments and other public health goals.

**Comment 37:**

CARB has not provided evidence to illustrate an adequate supply of vehicles or engines will be available to replace the 8,859 Tier 0 vehicles, 13,569 Tier 1 vehicles, and 21,139 Tier 2 vehicles used in California today within the time frames specified in the Regulation for Large, Medium and Small Fleets. Instead, CARB has bridged the availability of the Tier 4F engines and vehicles with a compliance extension due to delays in the manufacturers' or installers' ability to provide replacement engines and vehicles. While this extension creates a pathway for compliance it does so without regard for the anticipated or unanticipated need for a vehicle and places a significant administrative burden on the vehicle owner. [MPC]

While there is a compliance extension in the rule, you know, the extension mostly, you know, provides a pathway for, compliance but it's more on the manufacturing availability side, not necessarily addressing any certain needs is the facility might have for this equipment, so we would say it, you know, falls a little short on -- from our perspective. [MPC2]

Capital planning for vehicles subject to the proposed regulation often occurs 2-3 years out from receipt of equipment, as delivery of equipment typically takes approximately 1 year. These timelines have all been exacerbated by the supply chain crisis, precipitated by COVID-19. In our January 2022 comments, we requested that all implementation dates be pushed out by a year to accommodate both the supply chain issue challenges and the fact that the current regulation extends to 2023. At a minimum, fleets should have a process to apply for case-by-case extensions, with proper documentation and demonstration of supply chain delays. [CCEEB]

**Agency Response:** No changes were made in response to these comments. Based on CARB's analysis in Chapter V of the ISOR, Tier 4 Final engines are available and prevalent among all vehicle types that are subject to the Off-Road Regulation. Tier 4 Final standards were introduced in 2015 and today, make up over 50 percent of the current off-road fleet across all hp ratings.

The commenters also noted the possibility of new vehicle or equipment delays. The Current Regulation, modified by the Proposed Amendments, includes two provisions that could be utilized by a fleet if there is a manufacturing delay or if a Tier 4 replacement vehicle is not available. The first is Compliance Flexibility for Equipment Manufacturer or Installer Delays. This compliance flexibility allows for a fleet to continue to operate the vehicle that is required to be phased-out if the new equipment or vehicle has not been received due to manufacturing or installer delays. This compliance flexibility addresses manufacturing delays, and a fleet's need for the equipment during the timeframe of the delay. Recordkeeping and documentation associated with this compliance flexibility is minimal and includes proof-of-purchase and documentation of the delay.

The second provision is the Compliance Flexibility for Delays in Availability of Tier 3 or Tier 4 Vehicles. This compliance flexibility is available when there is a delay of availability of vehicles with Tier 4 engines to meet a fleet's needs or not available in sufficient numbers or in a sufficient range of makes, models, and sizes. The flexibility allows the Executive Officer to grant an extension to the tier phase-out requirements and the requirement to add a Tier 4 Final vehicle. Additional documentation must be provided to CARB. CARB believes the

documentation is necessary to ensure that the compliance flexibility is warranted but is not excessive to the point where it would be unmanageable.

**Comment 38:**

Under the current timeline, large fleets will be put in the position of having to make emergency adjustments to capital acquisition plans within less than one year. Asking businesses to budget millions of dollars in acquisition costs based upon a proposed rule structure which may or may not become law places businesses in untenable positions. [CalCIMA]

**Agency Response:** No changes were made in response to this comment. See response to Comment 35 regarding lead time for the Proposed Amendments. See responses to Comment 11 and Comment 13 regarding impacts to business.

**Comment 39:**

With the potential for new equipment manufacturer delays and grant approvals taking longer than a year, the primary concern with the amendment is the short, less than two-year window many fleets will have to begin complying with the proposed amendments, including the deadlines for the ZE compliance flexibility option. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. As the commenter states, the initial tier phase-out compliance date for large fleets is January 1, 2024. The second, and subsequent, tier phase-out deadlines take effect in 2026 and later, for large fleets. Medium and small fleets have later compliance dates, beginning on January 1, 2026, and January 1, 2028, respectively. While CARB understands that the initial compliance dates are approaching soon, see response to Comment 32 as to why these deadlines are necessary. The ability for a grant to be approved within any timeframe is outside the scope of this rulemaking.

The zero-emission compliance flexibility noted by the commenter is a new option included in the Proposed Amendments. This new option provides a fleet purchasing a zero-emission vehicle the option to continue using a vehicle with a Tier 1 or Tier 2 engine subject to the tier phase-out requirement for up to two years beyond the specified phase-out date, provided that the zero-emission vehicle meets specified criteria, is added to the fleet on or after January 1, 2024, and is purchased and placed in service prior to the year in which the tier phase-out takes effect. The earliest dates this provision could apply would be the Tier 1 phase-out dates, which are January 1, 2026, for large fleets, January 1, 2028, for medium fleets, and January 1, 2030, for small fleets. This is longer than the two-year window noted by the commenter.

**Comment 40:**

Concerns I want to specifically highlight here are the impractical transition timelines for vehicles and the negative economic and financial impacts to the construction industry. In regard to the vehicle transition requirements, we find the transition schedule to be unreasonably accelerated and impractical. The present and future economic and geopolitical issues we are and will be experiencing should be taken into account in the development of

the vehicle transition requirements for large, medium, and small fleets. We ask that the vehicle transition schedule be reconsidered with deadlines set for later dates, as specified in many of the comment letters submitted to staff. [Alliance2]

**Agency Response:** No changes were made in response to this comment. See response to Comment 35 regarding the delay in the tier phase-out. See response to Comment 37 regarding compliance flexibility for manufacturer delays. See response to Comment 34 regarding how the Proposed Amendments complement the Current Regulation. See response to Comment 35 regarding lead time for the tier phase-out provisions. See responses to Comment 11 and Comment 13 regarding the economic and financial impacts to the construction industry due to the Proposed Amendments.

**Comment 41:**

Elimination of the Tier 0 machines for large fleets by the end of 2023. The current regulation allowed fleets to use carryover credits until the end of this year, after which they are required to turn over 10% [percent] of their horsepower starting with Tier 0 and Tier 1 machines following 1/1/2023 [January 1, 2023]. The proposal demands large fleets turn over all remaining Tier 0 machines by the end of next year irrespective of whether or not this will require the retirement of more than 10% [percent]. This not only creates bonding issues for these large fleets, but it also creates issues with their ability to finance costly new replacement machines because in one fail swoop their assets needed to show financial worth are eliminated. Our industry has repeatedly stated that the turnover of this equipment (and the Tier 1 and most of the Tier 2 equipment), which runs very few hours at best, will already be depleted within the ensuing two (maximum three years for a few) following the end of this year for these fleets to meet the final required NOx fleet average. We do not see where staff has provided any justification for any acceleration. We have asked that the deadline for large fleets to eliminate Tier 0 be extended to be parallel to the medium fleet phase out of 1/1/2026 [January 1, 2026]. [CIAQC]

The elimination of Tier 0 should be extended from 2023 to 2026. [CIAQC2]

The Tier 0 ban by 2024 for large fleets will put an unexpected financial burden on those fleets that have used early compliance carryover credits and planned the compliance years in advance of 2023. The deadline must follow more closely the current regulation design, which would meet the goal closer to 2025 or 2026, instead of 2024. Given the cost of replacement of these machines, we ask the Board to allow these large fleets a 2026 deadline instead of the proposed accelerated 2024 deadline. [California CAT2]

However, this amendment demands high priority fleets to turn over all remaining Tier 0 equipment by the end of next year regardless of whether this will require retirement of more than 10%. This not only creates bonding issues for these large fleets, but it also creates issues with businesses being able to finance costly new replacements. Tier 0, 1, and 2 vehicles are seldom used, but serve as a back-up in case problems arise from the higher tier vehicles.… Additionally, since Tier 0, 1, and 2 vehicles are seldomly used they would not have significant negative impact on the environment. AGC of California urges CARB to exempt Tier 0, 1, and 2 vehicles from the phase-out if they qualify as low-use vehicles. [AGC of California]

Finally, this equipment is an "asset" carried on the books of a company to provide collateral for bonding purposes. That enables a company to bid for work based on the "bondable" capacity of the firm. Even if the asset is never used it provides a financial benefit to the company. For that reason, many companies retain equipment in their fleets and registered with the DOORS program even though they are seldom used. [AGCSD]

**Agency Response:** No changes were made in response to these comments. For clarification, the compliance deadline for the Tier 0 phase-out for large fleets is January 1, 2024, and is not in 2023. See response to Comment 35 regarding the delay in the tier phase-out. See response to Comment 34 regarding how the Proposed Amendments complement the Current Regulation. See response to Comment 13 regarding a fleets ability to finance. See response to Comment 26 regarding population of Tier 0, Tier 1, and Tier 2 vehicles remaining in the fleet. Per the 2022 Off-Road Inventory, the Tier 0 Tier phase-out for large fleets in 2024 will affect less than four percent of the engines in large fleets.

The commenters note that the vehicles subject to the tier phase-out are operated "very few hours at best" and are necessary for a fleet to keep to not create bonding issues for the fleet. The Proposed Amendments will allow for a fleet to keep low-use Tier 0, Tier 1, and Tier 2 vehicles in the fleet with some limitations. The Proposed Amendments include a provision for vehicles that are used less than 200 hours per year or less than 600 hours over three years as permanent low-use vehicles. A Tier 0 permanent low-use vehicle may remain in the fleet until January 1, 2036, while Tier 1 and Tier 2 permanent low-use vehicles may remain in the fleet indefinitely. The fleet is required to report hours of operation to CARB and retain documentation of the vehicle hours meter when the hours of operation are recorded. This provides fleets an opportunity to retain those vehicles necessary for bonding purposes but, importantly, puts limitations on their usage to ensure the emission reductions of the Proposed Amendments are achieved.

**Comment 42:**

Are snow removal vehicles now subject to these phase-out requirements? I think previously CARB mentioned that snow removal vehicles would be exempt, correct? [Caltrans]

**Agency Response:** No changes were made in response to this comment. Per section 2449(e)(4) of the Current Regulation, dedicated snow removal vehicles are exempt from the performance requirements of section 2449.1, and this was not modified in the Proposed Amendments. Additionally, publicly owned vehicles used exclusively to support snow removal operations, but which do not meet the dedicated snow removal vehicle definition (such as a loader without a special snow removal attachment), are also exempt from the performance requirements in section 2449.1. If a vehicle does not meet the definition of a dedicated snow removal vehicle or is not a publicly owned vehicle used exclusively to support snow removal operations, then it will be subject to tier phase-out requirements.

## 5. Expansion of Adding Vehicle Requirements

**Comment 43:**

AGC of California asserts that the phase out of Tier 3 be extended to at least January 1, 2026, as Tier 3 still largely represents the available equipment repower options. Furthermore, Tier 4 interim should not be banned from purchase at all as the current NOx fleet average is based on fleets meeting a final fleet average equivalent to Tier 4 interim. The ban of Tier 4 interim equipment in 2024 will be an immense burden for the owners to sell their Tier 4 interim equipment at a reduced asset value which will result in bonding and financial stability issues. We assert that the ban of Tier 4 interim equipment come no sooner than 2030. [AGC of California]

Tier 4 final equipment are difficult to obtain. And this will only get worse as the demand for them increases due to this regulation. We assert that the phaseout of Tier 3 be extended to at least January 1st, 2026, as Tier 3 still largely represents the available equipment repower options.

Tier 4 interim should not be banned from purchase at all, as the current NOx fleet average is based on fleets meeting a final fleet average equivalent to Tier 4 interim. We assert that the ban of Tier 4 interim equipment come no sooner than 2030. [AGC of California2]

Phase out of Tier 3 should be extended to 1/1/2026 [January 1, 2026] at minimum for fleets. Tier 3 still represents the majority of the available equipment repower options. Tier 4 Interim should not be banned from purchase at all. The current NOx fleet average is based upon fleets meeting a final fleet average equivalent to Tier 4 Interim, so this should not be eliminated as a purchase option at all. If a phase out of purchased equipment is to be used for equipment certified to this level, it must be no earlier than 2030. [Brewer Crane]

The ban on this equipment in 2024 will bring havoc to the ability for the owners of this equipment to sell their Tier 4 Interim, excepting out of state at a much reduced asset value. This again creates issues with bonding and financial stability for fleets to purchase Tier 4 Final equipment. [Brewer Crane], [California CAT], [CIAQC]

Phase out of Tier 3 should be extended to 1/1/2026 [January 1, 2026] at minimum for fleets. Banning Tier 3 purchase by 1/1/2024 [January 1, 2024], especially those in small fleets that will be banned from Tier 2 purchases at the end of 2022, will make it more costly and more difficult for small fleets to reach their final compliance. As for the small fleets they have not even reached 2026 where a Tier 3 average is required.

Tier 4 Interim should not be banned from purchase at all. The current NOx fleet average is based upon fleets meeting a final fleet average equivalent to Tier 4 Interim, so this should not be eliminated as a purchase option at all. If a phase out of purchased equipment is to be used for equipment certified to this level, it must be no earlier than 2030. [CIAQC]

Phaseout of Tier 3 should be extended to 2028. Tier 2 is already banned. Tier 4 interim should not be banned at all in 2004 – or '24. The current final fleet average is equivalent to a Tier 4 interim. Most fleets will need that equipment to achieve compliance and the compressed two-year schedule is just too extreme. [CIAQC2]

What is surprising is how quickly Tier IV Interim vehicles are being limited.

The proposal to remove Tier IV interim vehicles from the used equipment market prematurely will accelerate the impacts already being felt by the construction industry.

We need to have enough equipment to implement a massive re-engineering of human infrastructure. To help ensure used equipment availability we request CARB also strike 2449(d)(6)(E)&(F). [CalCIMA]

Banning Tier 3 purchases in 2023 is too early. We would propose 2028 for large and medium fleets and 1/1/2030 for small fleets. This would still allow for Tier 3 repowers, and it would still allow contractors to manage construction jobs efficiently in the selection of the right equipment for each job. It would also work better with the small fleets to allow more time between the ban on Tier 2 in 2023 and their fleet average of Tier 3 by 2025.

All size fleets should not be banned from repowering existing equipment to Tier 3. For medium and large equipment, Tier 3 repowers are still the only real option. Beyond 2025, small fleets should still have the opportunity to purchase and again, just as important, they too should still have the ability to repower with Tier 3.

On the concept of banning Tier 4 Interim – this is unacceptable and must be discarded…. Any ban on Tier 4 Interim should only a minimum of 2 years after Tier 5 is available, and only if Tier 5 is readily available at that time.

For both Tier 3 and Tier 4 Interim bans this creates a severe impact on the used equipment and rental markets. This is a no go for rental. So many rental fleets will have Tier 4 Interim in their fleets and if there is a ban there will be nowhere but out of state and AG to sell these. That makes resale value of these machines less than market value and unduly financially penalizes those who comply. [AGCSD]

Tier 4 Interim should not be banned from purchase at all. The current NOx fleet average is based upon fleets meeting a final fleet average equivalent to Tier 4 Interim, so this should not be eliminated as a purchase option at all. If a phase out of purchased equipment is to be used for equipment certified to this level, we suggest it only be considered when Tier 5 becomes the standard, and such machines are readily available. We suggest this should not occur any sooner than 2030 in order that should a Tier 5 standard be adopted, machines with a Tier 5 engine could be readily available for purchase across most all machine models.

Remove the Tier 4 Interim ban altogether. In alternative, the regulation could be stated to ban purchases of Tier 4 Interim machines when Tier 5 may be the standard and machines are readily available, but no earlier than 2030. [California CAT]

We also disagree on the ban of Tier 4i engines, until the Tier 5 Regulations or the Tier 5 emissions can be qualified, and therefore, we have sufficient supply of these engines in stock to be able to support putting them in equipment. [C&J Well Services]

As a Tier 4 interim purchased ban on 2024, we do not agree that this is necessary. All fleets must ultimately reach a final fleet average of Tier 4 interim, so why remove machines that assist all fleets in reaching the final goal. We suggest a Tier 4 interim purchase ban only go

into effect if a more stringent standard beyond on Tier 4 final is adopted by CARB. But such a ban should not occur any earlier than 2030. [California CAT2]

**Agency Response:** No changes were made in response to these comments. The Proposed Amendments are intended to realize additional emissions reductions beyond those of the Current Regulation, and hence need to be stricter than the Current Regulation in order to meet 2022 SIP commitments. The ban on adding Tier 3 and Tier 4 Interim is necessary to achieve additional emission reductions beyond the Current Regulation, specifically, the 2022 SIP's commitment to reductions of 4.1 tons per day of NOx in 2037. The expanded adding vehicle restriction limits the addition of engines to only the engines that are certified to the cleanest standards; currently these are the Tier 4 Final standards.

The Proposed Amendments, as adopted, do not include the requirement to phase out Tier 3 engines that are already in use by fleets, so fleets that already own vehicles with Tier 3 engines may continue to use these vehicles. Fleets may also continue to repower older engines already in their fleets to Tier 3 engines, as these engines will not be subject to a Tier phase-out in the Proposed Amendments. However, because both Tier 3 and Tier 4 Interim engines will be subject to the expanded Adding Vehicle requirements, fleets may not add vehicles with older engines to their fleets after the dates specified in the Proposed Amendments. See response to Comment 11 regarding CARB's analysis on the impacts to business resulting from the Proposed Amendments and response to Comment 12 regarding CARB's analysis on the cost of adding Tier 4 Final engines and the resale value of existing vehicles.

Based on CARB's analysis, Tier 4 Final engines are readily available. The Tier 4 Final standards were introduced in 2015 and today, make up over 50 percent of the current off-road fleet across all hp ratings. The commenter also noted the possibility of delays and shortages of deliveries of new Tier 4 Final engines. If there is a delay in delivery of vehicles with Tier 4 Final engines, or if there are an insufficient number or insufficient range of makes and models with Tier 4 Final engines, the Current Regulation includes flexibility provisions for fleets. Those provisions allow for fleets (individually or as a group) to request that the CARB Executive Officer issue a compliance extension allowing the continued operation of the fleet's existing vehicles until replacement vehicles are delivered or are available. The Current Regulation accommodates situations like these with a Compliance Flexibility for Delays in Availability of Tier 3 or Tier 4 Vehicles and Compliance Flexibility for Equipment Manufacturer Delays. See response Comment 37 to for more information on these compliance flexibilities.

The commenters also expressed concern about the impact of the Adding Vehicle requirements on the resale and bonding value of equipment with Tier 4 Interim engines and suggested a date no sooner than 2030. CARB does not believe the Proposed Amendments will have a negative impact on fleets' bonding or financial stability. While the Proposed Amendments' ban on adding Tier 4 Interim engines begins on January 1, 2024, for large and medium fleets, data from CARB's cost survey[28] indicate that the majority of purchasers of

[28] CARB's cost survey and aggregated responses can be found in Appendix D of the ISOR.

used equipment are small fleets. Under the Proposed Amendments, the ban on adding Tier 4 Interim engines for small fleets begins on January 1, 2028, which is close to the year suggested by the commenter. The smallest fleets, with 500 hp or less, have a further extended timeline, with the ban on adding Tier 4 Interim engines not beginning until January 1, 2035. The much later implementation of the Tier 4 Interim restriction for small and ultra-small fleets should mean that larger fleets in the process of selling their used Tier 4 Interim fleets would still have a market for their vehicles for several years. See also response to Comment 41 regarding retaining assets for bonding purposes.

This restriction on adding older engines, however, does not prevent fleets from continuing to use vehicles with Tier 3 and Tier 4 Interim engines that fleets already owned prior to the restriction on adding vehicles takes effect. The restriction also does not prevent fleets from repowering older engines that are already in the fleet to Tier 3 or Tier 4 Interim engines, even after the respective vehicle adding restriction effective dates.

CARB disagrees with the commenters that a ban on adding Tier 4 Interim engines should be after Tier 5 is available. Tier 4 Final engines (both new and used) have been produced for the last 10 years and are available as an option today, before the restriction on adding Tier 4 Interim engines takes effect. Tier 4 Final engines emit fewer NOx emissions than Tier 4 Interim engines. The restriction on adding Tier 4 Interim engines can be implemented to obtain additional emissions reductions independently of when Tier 5 engines become widely available.

**Comment 44:**

2449(6)(E) and (F)[:] Relevant to the ban on adding Tier 4 interims it subsections (E) and (F), it is recommended that an exemption be added for engines that do not have a Tier 4 final model available. [DoD]

**Agency Response:** No changes were made in response to this comment. See response to Comment 43 regarding the flexibilities already available for situations in which a Tier 4 Final model is not available.

**Comment 45:**

A ban on Tier 3 machines should be extended to 1/1/2026 [January 1, 2026] at minimum for fleets. A ban on the Tier 3 purchases by fleets as quickly as 1/1/2024 [January 1, 2024], especially those in small fleets that will be banned from Tier 2 purchases at the end of 2022, will create issues with used equipment sales out of large and medium fleets trying to meet the final compliance, and it will make it more difficult for small fleets to reach their final compliance. As for the small fleets, they have not even reached 2026 where a Tier 3 average is required.

Move the deadline for Tier 3 purchases to 1/1/2026 [January 1, 2026]. [California CAT]

On the Tier 3 deadline, the deadline should be moved to 2026 instead of 2024. Small fleets will be banned on purchasing Tier 2 at the end of this year. And then only a year later, they'll be banned on Tier 3 even though those fleets are not required to be at a Tier 3 fleet average until sometime in 2026. [California CAT2]

**Agency Response:** No changes were made in response to this comment. See response to Comment 43 regarding the necessity of banning the addition of vehicles with Tier 3 engines. The commenter also noted the connection between the 2026 fleet average target and final 2028 fleet average target of small fleets under the Current Regulation with the emissions factors of Tier 2 and Tier 3 engines. CARB agrees that both the Current Regulation's fleet average targets and the adding vehicle restriction effective dates should be viewed together, and that these were part of CARB's considerations in setting the timeframe of this requirement in the Proposed Amendments. In fact, contrary to the commenter's observation, purchasing Tier 3 engines would not help small fleets attain their required fleet average targets in 2026 or 2028, as the emission factors of Tier 3 engines exceeds small fleets' fleet average targets from those years. Because of this, CARB believes that most small fleets would not have chosen to add vehicles with Tier 3 engines to their fleets in 2026 and beyond, even in the absence of the Proposed Amendments, so the impact of this requirement to the small fleets purchasing vehicles as well as to the large and medium fleets seeking to sell vehicles with Tier 3 engines should be limited.

**Comment 46:**

Impractical Vehicle Transition: The recently amended regulation seeks to now ban adding vehicles beginning on January 1, 2024, with a Tier 3 engine to large, medium, and small fleets. The amended draft regulation would enact a similar ban on adding Tier 4 interims for large and medium fleets beginning January 2024, and January 1, 2028, for small fleets. Real world issues such as supply chain issues, etc. must be taken into account. Therefore, we believe such a ban must be deleted. [Alliance]

**Agency Response:** No changes were made in response to this comment. See response to Comment 45 regarding an analysis of impacts of the Tier 3 adding vehicle ban, and the response to Comment 43 regarding the Tier 4 Interim adding vehicle ban's timeframe and flexibilities to address the supply chain issues noted by the commenter.

**Comment 47:**

The timing of the Tier 3 and Tier 4 interim purchases bans, currently the deadline for a Tier 3 engine in portable equipment is December 31st of 2024. This regulation, if approved, will change that to January 1st, 2024 disproportionately impacting the companies that have expended time, energy, resources to meet the previously established time frame. In fact, it appears the industry will be challenged even to meet the December 31st, 2024 time frame. Therefore, we recommend extending the current deadline to January 1st, of 2026. We currently in January purchased 16 Tier 4 final engines. We have only been able to receive four of those 16 engines into inventory. The others are either on boats or waiting to come in from some place. So it has extremely limited our ability to be able to switch these engines out at the rapid pace that this is happening. [C&J Well Services]

**Agency Response:** No changes were made in response to this comment. The Proposed Amendments do not make any modifications to the Portable Equipment Air Toxics Control Measure (ATCM). Recall that the Current Regulation and the Proposed Amendments apply to self-propelled vehicles that cannot be registered and driven safely on-road or were not

designed to be driven on-road, even if they have been modified to be driven safely on-road, with a few other specific inclusions that could otherwise be considered on-road vehicles (e.g., workover rigs). However, the Potable Engine ATCM applies only to portable engines that are not self-propelled, including, but not limited to, engines used in confined and unconfined abrasive blasting, Portland concrete batch plants, sand and gravel screening, rock crushing, unheated pavement recycling and crushing operations, power generation, excluding cogeneration; pumps, compressors, pile-driving hammers, welding, and woodchippers. The Current Regulation does not include any adding vehicle ban on Tier 3 engines. The Proposed Amendments' ban on adding vehicles with Tier 3 engines beginning on January 1, 2024, would therefore, be a new requirement, not a modification of an existing requirement. It is also not a modification of an existing requirement in the Portable Engine ATCM.

Please also see the response to Comment 37 regarding instances where deliveries of vehicles with Tier 4 Final engines may be delayed.

## 6. 2028 Adding Vehicle Requirements

The comments below were made in response to section 2449(d)(6)(I) in the 45-Day Changes of the Proposed Amendments. CARB removed this section as part of the 15-Day Changes. As described in the 15-Day Changes, CARB's intent with this provision was to provide assurance that the cleanest engines continue to be used in California even if CARB and U.S. EPA off-road engine standards do not remain aligned in the future beyond the Tier 4 Final standard. CARB received the comments below that demonstrated to CARB that this provision was unclear to the regulated parties. Additionally, several commenters suggested CARB not include this requirement as part of the regulation until new engine certification standards are promulgated. In the interest of completeness, CARB has responded to each comment below.

**Comment 48:**

"We request that CARB completely strike the mandate to buy and add only California Tier V vehicles effective in 2028." The commenter asserts that "CARB is effectively separating the costs of implementing the 2028 standards on fleets in CA by adopting the mandate before the standard is set," and that "the emissions reductions of these yet-to-be-set thresholds cannot be quantified, the State cannot claim reductions towards our Clean Air Act obligations from them."

The commenter asserts that "Implementation as written denies [small and medium fleets] the ability to make used vehicle purchases" and that "[n]o analysis of the competitive disadvantage this may place on entrepreneurial and small businesses has been provided." According to the commenter "such an analysis is impossible without knowing the what the standards will be." The commenter asserts that the Off-Road regulation and Tier V standards cannot be "separate regulatory activities if CARB intertwines them in policy before the Standard is set."

"We propose that CARB review the Tier IV Interim and above fleet population obligations and emergent technology along with the capacity of the sector to meet society's construction needs concurrent with amendment of this rule to incorporate Tier V implementation at a future date." [CalCIMA]

Remove Section 2449(d)(6)(I). This section must be removed. It appears from the ISOR that CARB is already assuming 'Tier 5' will be adopted and that if CARB and EPA standards are not aligned, CARB will still require a vehicle with a 'Tier 5' engine and will reject a fleet owners' ability to add a vehicle certified through [U.S.] EPA. Having two separate standards and having CARB only allow the more stringent standard will not only adversely and detrimentally affect the availability of off-road mobile equipment to end users in California, including agriculture even though they are not affected by this in-use regulation but they are affected by new machine availability, but it will also affect the industrial engine and portable engine availability in California.

First, if a more stringent standard is adopted and becomes effective 1/1/2028 [January 1, 2028], within the current [U.S.] EPA and regulations a manufacturer is allowed to use up current inventory into a new model year. Second, equipment manufacturers, similar to

auto and truck manufacturers, start labeling their machine model years several months back into the prior year. Third, if [U.S.] EPA and CARB agree a flexibility engine provision will be included in any transition between Tier 4 Final and a possible more stringent California standard, a flexibility engine would not meet the current standard but it would still be labeled as a 2028 engine and would still be certified as such and that must be acceptable. Fourth, we understand Tier 4 Final machines would still be allowed to be added to a fleet (and our hopes are Tier 4 Interim will as well as per our earlier comment), even if a more stringent standard in California is adopted; however, the current wording does not make this clear. Again, this section must be removed. It is premature and unnecessary and inappropriate to include this regulation. [California CAT]

Section 2449(d)(6)(I) needs to be removed for reasons stated in our letter and Caterpillar's letter. This statement is not appropriate in this in-use regulation. This statement only belongs in the new engine standard regulation, if and when that occurs. [California CAT2]

We have concerns that section 2249(d) with the Tier 5, it seems to me the way it's written that it may conflict with [U.S.] EPA and the Tier 5 engines. And it won't allow us to add vehicles unless they're [U.S.] EPA certified, but it may not be CARB certified at the time. So we would request that you take a look at that and until that is resolved, we recommend postponing the implementation of this section. [C&J Well Services]

First, we want to ensure the concept of "Tier 5" is not integrated into any amendments to the regulation. Given that there are only two air districts in the country that would benefit from such an engine it is unlikely that manufacturers would see much of a market to justify the development costs for such an engine with so limited a market. It would also undoubtedly be an extremely expensive engine. [AGCSD]

Delete the mandate to buy and add only Tier V vehicles effective in 2028. We are concerned that [C]ARB has yet to adopt the standards for what a Tier V engine is but is prepared to require purchase of such engines beginning in 2028. Based on the speculative nature of such a requirement, we are unable to determine the impact such a requirement would have on vehicle availability and costs. Including such a mandate within this rule is wholly inappropriate since [C]ARB is deferring any analysis or discussion of costs to implementation of this requirement to a future process yet establishing the mandate in this rulemaking. [Alliance]

We would ask that you remove section 2449(d)(6)(I). It assumes yet undeveloped engine would be required that is not certified by [U.S.] EPA but approved by CARB. It's inappropriate to include that language at this – at this time. [CIAQC2]

**Agency Response:**

The Proposed Amendments were amended to delete the requirement that after 2028, only California -certified engines can be used in 2028 model year (MY) vehicles. As described in the 15-Day Notice, CARB received feedback during the 45-day comment period that this provision was unclear. Additionally, several commenters suggested CARB not include this

requirement as part of the regulation until new engine certification standards are promulgated.

CARB also acknowledges that it has not yet proposed Tier V standards for off-road engines but is scheduled to do so in the next few years. CARB is committed to future amendments to ensure the intent of this provision is met in the event that CARB and U.S. EPA off-road engine standards do not remain aligned.

CARB disagrees with the commenter's assertion that the Proposed Amendments do not consider impacts on entrepreneurs and small businesses. Per the requirements of California Government Code Section 11346.3, CARB assessed the potential for adverse economic impact on California business enterprises. Direct Costs on Small Businesses, including ultra-small fleet owners, were analyzed and considered. Direct costs on individuals were also analyzed and can be found in the SRIA. See responses to Comment 11 and Comment 13 regarding the impacts to businesses.

**Comment 49:**

§2449 (d)(6)(1) requires that new engines or vehicles added to a fleet in 2028 and later must be California certified….We question whether CARB has the authority to discriminate against in-use U.S. EPA certified products in this way. A more important issue is that CARB lacks sufficient justification to implement such a change. In fact, it is not currently possible for anyone to substantively comment on the impact of such a change because the requirements that will eventually apply to model year 2028 off-road products are not yet known. A future 'Tier 5" off-road regulation is in the early stages of conceptualization. A draft is likely 2 or more years away from being made available. Any previous costs studies and impacts to fleets conducted by CARB would not be applicable to an undefined future regulation. [CAT]

**Agency Response:** CARB has removed these requirements from the Proposed Amendments. See response to Comment 48:

Notwithstanding that response, CARB disagrees with the comment. The commenter has not specified how or why proposed section 2449(d)(6)(1) could discriminate against in-use U.S. EPA certified products, especially since U.S. EPA adopts standards and emission-related requirements for new nonroad engines and equipment. See CAA § 213; 42 U.S.C. § 7547; EMA v. U.S. EPA, 88 F.3d 1075, 1089 1090 (D.C. Cir. 1996). There are no "in-use U.S. EPA certified products" because the U.S. EPA is not authorized by the Clean Air Act to adopt standards and other requirements related to emission control for in use engines. 42 U.S.C. § 7547.

## 7. Contracting Requirements

**Comment 50:**

Contractors are not interested in policing CARB'S programs. CARB needs to devise a certification program that provides compliance certificates on a machine-by-machine basis. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The proposed contracting requirements are: (1) to obtain and retain copies of the valid Certificates of Reported Compliance for the fleet selected for the contract and their listed subcontractors, if applicable; and (2) not enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet selected for the contract and their listed subcontractors, if applicable. CARB issues Certificates of Reported Compliance annually to fleets that are in compliance with the Off-Road Regulation. The proposed contracting requirements will help ensure the expected emissions reductions of the Off-Road Regulation are achieved and will reduce unfair competition. See response to Comment 52 regarding additional requirements for prime contractors.

CARB presented an early proposal that included CARB issuing a certificate on a machine-by-machine basis that would then be used by contractors to determine whether vehicles would be allowed to operate at a job site, deny non-compliant vehicles access to the job site, and then report any non-compliant vehicles to CARB. CARB heard from many stakeholders that this would be overly burdensome to implement. CARB worked with stakeholders to adjust the contracting requirements to the current proposal as a workable solution that achieves CARB's goal of ensuring emission reductions are achieved, enforceability of the regulation, while not being overly burdensome for contractors to implement.

**Comment 51:**

Lack of resources to self-police: For a project involving the use of vehicles subject to this regulation, the prime contractor or public works awarding body, as applicable, must obtain copies of the valid Certificates of Reported Compliance, as described in section 2449(n), for the fleet selected for the contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet. We believe demonstration of a valid Certificate is preferable versus any type of self-policing requirement placed on the prime contractor. [Alliance]

**Agency Response:** CARB agrees, and the Proposed Amendments are consistent with the commenter's preference. No changes were made in response to this comment. See responses to Comment 50 and Comment 52.

## 8. Prime Contractor Requirements

**Comment 52:**

The requirement in Section 2449(j)(3) that requires the prime contractor to notify CARB of non-compliance from a fleet entity is not necessary and should be removed. While we appreciate staff's intent to even the playing field between compliant and non-compliant fleets, DOORS is already set up to determine if a fleet is non-compliant. Because CARB is the entity responsible for enforcement action, it is more appropriate for CARB to utilize its reporting system and investigate the non-compliant fleets instead of relying on contracting entities. [CCEEB]

Additionally, these requirements require contractors to essentially police the regulation which should be conducted by CARB enforcement staff. It is unacceptable to ask contractors to turn in other contractors that might not have a compliance certificate. AGC of California urges CARB to remove the prime contractor requirements as we believe that these requirements should be carried out by CARB staff. [AGC of California]

We urge CARB to remove prime contractor requirements, as this is an inappropriate role for contractors to play. We believe that it can and should be carried out by CARB staff. [AGC of California2]

**Agency Response:** No changes were made in response to these comments. The Proposed Amendments include additional requirements for prime contractors that will provide additional mechanisms for CARB to become aware of and investigate situations in which fleets do not have valid Certificates of Reported Compliance and for CARB to receive critical information related to responsible parties from the prime contractors when performing inspections at job sites.

Applying verification compliance responsibilities to parties who have direct oversight over the fleets will expand CARB's ability to achieve compliance and ensure the emissions reductions of the regulation are achieved. This will also allow CARB to achieve its implementation goals more effectively, including maintaining a level playing field for compliant vehicles conducting business in California and reducing the monetary advantage of noncompliant fleets and vehicle owners that try to circumvent the requirements of the Off-Road Regulation.

The requirement to report observed non-compliance is necessary to create an additional mechanism for CARB to become aware of and investigate situations in which fleets do not have valid Certificates of Reported Compliance and in which vehicles are noncompliant (such as vehicles without a label). CARB believes the contracting requirement to obtain a Certificate of Reported Compliance should address most issues regarding non-compliance. However, CARB's decade of enforcing this regulation has taught us that roughly 10 to 15 percent of inspections identify non-compliant fleets or vehicles not reported to CARB. CARB does not have records reported in DOORS for all non-compliant fleets and vehicles so relying solely on CARBs reporting system is not practical. This requirement is a simple and effective way to achieve better enforcement outcomes.

**Comment 53:**

We cannot agree with the requirement in the regulation to put our contractors to be the police in this regulation in managing their construction contracts. That policing should only be the task of your enforcement staff. Asking contractors to turn in other contractors that might not have a compliance certificate is unacceptable. This can also lead to lawsuits our industry cannot tolerate financially. [CIAQC]

Contractors should not be responsible for enforcement. A certificate of reported compliance is sufficient for determining contractor subcompliance - subcontractor compliance. [CIAQC2]

**Agency Response:** No changes were made in response to this comment. See response to Comment 52 regarding the prime contractor requirements. The commenter has not provided any information to support the claim that the Proposed Amendments would result in lawsuits on industry and the Proposed Amendments only require factual information to be submitted to CARB.

**Comment 54:**

We also believe an 8-day timeframe prior to requiring notification posting is important to exempt small and short duration projects from the criteria…. As such we would suggest this clarifying modification:

(5) The prime contractor shall prominently display signage, in lettering larger than size 14-point type, within 8 calendar days of a vehicle subject to this regulation operating at a job site. ~~at each of the prime contractor's job sites, and~~ The signage will be displayed in a conspicuous place where notices to employees are customarily posted at the job site or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. ~~The sign shall be posted by the eighth calendar day after the first day on which any vehicle subject to this regulation is operating at the job site.~~ An exemption to this posting requirement is permitted if the operational time of a project is seven calendar days or less. The signage must include the following language, verbatim: [CalCIMA]

**Agency Response:** As part of the 15-Day Changes, CARB modified section 2449(j)(5) to address the fact that the language in the 45-Day Changes was not clear in specifying the timeframe for which a short-term project would not be subject to this provision. The language was adjusted to state clearly that "The prime contractor shall prominently display signage for any project where vehicles subject to this regulation will operate for eight calendar days or more."

## 9. Renewable Diesel Cost

**Comment 55:**

A mandate to use renewable R99 or R100 diesel by the end of next year is infeasible. Not only will this drive up the cost of the fuel when everybody with off-road equipment will be seeking to purchase this fuel, but many of our clients are in contracts that last more than a year making such a change costly, if not infeasible. [Brewer Crane]

Additionally, many contractors have fuel contracts that last more than a year, thereby making a fueling change even more costly, if not infeasible. [AGC of California]

Currently this fuel is subsidized to hold down the cost. It is also in limited supply which will dramatically increase the cost when the subsidies end and the mandate begins. The cost per gallon could easily double or triple. [AGCSD]

If the proposed regulation is approved on November 17, 2022 with a 1/1/2024 [January 1, 2024] mandate for use of renewable R99 or R100 diesel, by the time the regulation is approved by the Office of Administrative Law (OAL) it will likely be several months into 2023. This will mean everybody will be approaching vendors of this fuel with less than a year to meet compliance. This will be virtually impossible. Not only will this drive up the cost of the fuel when the nearly 13,000 off-road fleets subject to DOORS with nearly 200,000 off-road machines will be seeking to purchase this fuel all at once, but many of these fleets have current diesel contracts that extend out more than a year making such a change costly, if not infeasible. [California CAT]

As for renewable fuel, that mandate is 1/1/2024 [January 1, 2024]. If this Board approves these changes today, it will be well within the year next year before final approval by OAL, thus 12,000 fleets will be scrambling all at once to meet the 2024 deadline. Laws of supply and demand will most certainly raise the cost of this fuel. [California CAT2]

A mandate to use renewable R99 or R100 diesel by the end of next year is infeasible. Not only will this drive up the cost of the fuel when everybody with off-road equipment will be seeking to purchase this fuel, but many of our clients are in contracts that last more than a year making such a change costly, if not infeasible. [CIAQC]

The limited supply of renewable fuel will also push up the price with such an early 2024 mandate. [ACGSD]

**Agency Response:** No changes were made in response to these comments. CARB believes there will not be additional costs associated with the RD requirements, because RD prices in California have historically been and continue to be similar to conventional diesel prices, generally due to credits generated through the Low Carbon Fuel Standards (LCFS) Program. The commenter is incorrect in stating that RD is subsidized. The LCFS regulations implemented by CARB set annual carbon intensity standards, or benchmarks, which reduce over time, for gasoline, diesel, and the fuels that replace them. Fuels and fuel blendstocks with carbon intensities below the benchmark generate credits which can be sold to offset the costs of the lower carbon intensity fuel to consumers; RD is generally one such lower carbon intensity fuel. CARB acknowledges that short-term forecasts for fuel prices can change

abruptly, due to unexpected shocks in the economy. These shocks lead to fluctuations in diesel prices, which can make predicting future diesel prices difficult. However, historical data also show that the price trends for RD and conventional diesel generally move together so that users of either fuel should experience similar impacts as a result of these price changes.

CARB acknowledges that these requirements will require fleets to make adjustments to their fueling contracts and this process can take time, but the Board adopted the Proposed Amendments on November 17, 2022, providing fleets over a year's notice in advance of the RD requirements taking effect on January 1, 2024. Furthermore, CARB conducted a public workgroup specific to RD in September 2021 and included a RD requirement in the regulatory amendments concepts that were presented at the December 2021 public workshop. Fleets have ample time to make adjustments to their fueling contracts in anticipation of these RD requirements taking effect. The requirement also has in place an exemption in the situation that a fleet is unable to procure RD. This exemption ensures that if a fleet faces a specific barrier that prevents them from obtaining RD, then they will not face noncompliance even if most fleets are able to obtain RD and achieve the necessary emissions reductions of the Proposed Amendments.

**Comment 56:**

Due to feedstock and transportation costs, our members have expressed that renewable diesel is approximately $2 more a gallon than dyed gasoline which makes it difficult for current projects to stay on budget. [AGC of California]

For instance, the additional cost of feedstock procurement and transportation of fuel make renewable diesel approximately $2 more a gallon than red-dyed diesel. [AGC of California2]

**Agency Response:** No changes were made in response to this comment. See response to Comment 55 on RD costs. Red dye, an indicator that the fuel is untaxed and is meant to be used only by vehicles and equipment not traveling on roads, is injected into the supplier's diesel stock at the time of pick-up. Because off-road vehicles are by definition not intended to be driven on roads, red-dyed diesel is often used in the vehicles subject to this regulation. Red-dyed RD is available in California, and there should be no difference in the cost to inject red-dye into RD versus fossil diesel. Therefore CARB does not believe that the price difference between red-dyed RD and red-dyed conventional diesel, as noted by the commenter, will materialize. In the event a fleet is unable to procure red-dyed RD, any fleet can obtain a tax refund for all non-red-dyed RD used in applications where the use of red-dyed diesel is allowed by law.

**Comment 57:**

Rather than a mandate this should be created as an incentive program. [AGCSD]

We believe that there should first be an incentive for early use of this fuel… [AGC of California]

We believe CARB should instead be offering some sort of incentive for early use of this fuel… [Brewer Crane], [CIAQC]

Fleets should be able to acquire incentives for earlier use of this fuel. [California CAT]

[I]n the interim perhaps provide incentives for use -- early use of the fuel. [California CAT2]

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

CARB does not believe an incentive is the correct approach because the cost of RD is not the primary barrier for adoption of this fuel. As discussed in the response to Comment 55, the use of RD is not expected to impose additional costs to fleets. RD is currently available in volumes that exceed the volume of fuel needed to fuel the vehicles subject to the Proposed Amendments. As discussed in detail in Chapter V of the ISOR, production of RD is expected to grow in the coming years due to expansions of existing plants and the construction of new plants. The total existing and new RD production of greater than five billion gallons per year is expected to be sufficient to meet the total annual diesel demand of 270 million gallons from off road vehicles subject to the Off-Road Regulation in California, as estimated in the 2022 Off Road Inventory. For these reasons CARB believes an incentive would not be effective in achieving the emissions reductions that the RD requirements are intended to achieve, and that a regulatory approach is both the most appropriate and most effective approach.

## 10. Renewable Diesel Requirements

**Comment 58:**

Begin mandate no earlier than January 1, 2028 to allow contractors time to adjust. [AGC of California]

Set the deadline for 1/1/2028 [January 1, 2028]. [Brewer Crane], [CIAQC]

Many of these fleets have multiple sites across the state which will need more time for the adjustment.… Move the deadline for the R99/R100 mandate to 1/1/2028 [January 1, 2028] to allow sufficient time for fleets to convert […] [California CAT]

We suggest CARB instead delay the mandate until 2028…[California CAT2]

2449.1(f)[:] Renewable Diesel Requirements. Recommend that federal fleets be given a transitional period from January 1, 2024, to January 1, 2025 to switch to renewable diesel based on anticipated challenges related to DoD procurement of sufficient renewable diesel supply and additional necessary supply equipment (i.e. refuelers and/or tanks). [DoD]

**Agency Response:** No changes were made in response to these comments. The RD requirements are necessary to achieve additional emissions reductions beyond the reductions achieved via the Current Regulation. January 1, 2024, was selected because CARB expects a sufficient supply of RD to be available to a majority of fleets in that timeframe, and because implementing this requirement as quickly as possible will achieve immediate and substantial emissions reductions. Use of RD generates the greatest benefit in older technology engines, a 10 percent reduction in NOx emissions and 30 percent reduction in PM emissions when used in pre-Tier 4 Final engines. As older fleet vehicles are gradually replaced by Tier 4 Final engines as a result of the Tier phase-out and added vehicle restriction provisions, the RD requirements' benefits gradually decline. Fleets composed exclusively of vehicles with Tier 4 Final engines are exempt from the RD requirement altogether. The RD requirements will achieve 3,431 tons of NOx and 657 tons of PM reductions cumulatively from January 1, 2024, to January 1, 2028. These reductions would not be realized if the mandate were delayed until January 1, 2028.

CARB acknowledges that these requirements will require fleets to make adjustments to their fueling contracts and that this process can take time, but the Board adopted the Proposed Amendments on November 17, 2022, providing fleets over a year's notice in advance of the RD requirements taking effect on January 1, 2024. Furthermore, CARB conducted a public workgroup specific to RD in September 2021 and included a RD requirement in the regulatory amendments concepts that were presented at the December 2021 public workshop. Fleets have ample time to make adjustments to their fueling contracts in anticipation of these RD requirements taking effect. The requirement also has in place an exemption in the situation that a fleet is unable to procure RD. This exemption ensures that if a fleet faces a specific barrier that prevents them from obtaining RD, then they will not face noncompliance even if most fleets are able to obtain RD and achieve the necessary emissions reductions of the Proposed Amendments.

**Comment 59:**

Since renewable fuel is essentially ineffective for Tier 4 Final, a mandate will have little effect on NOx reduction. [AGCSD]

**Agency Response:** No changes were made in response to this comment. CARB agrees that the use of RD in Tier 4 Final engines shows less of an emission reduction benefit and that is why CARB established an exemption to the RD Requirement in section 2449.1(F)(1). This exemption would be for any fleet that is composed entirely of vehicles with Tier 4 Final engines, MY 2010 or newer on-road engines, or ZEVs. Fleets that have a mix of Tier 4 Final and other engine tiers in their fleet will achieve significant NOx emissions reductions from their fleet, meaning the RD requirements will be accomplishing the intended goal of achieving additional emissions reductions compared to the Current Regulation. The exemption was developed specifically for a fleet composed entirely of vehicles with Tier 4 Final engines because a vehicle level exemption would be overly burdensome to fleets. If vehicles with Tier 4 Final engines were exempted from the RD requirements, fleets would then have to track fuel usage at the individual vehicle level as well as procure both RD and CARB ultra-low sulfur diesel (ULSD). Fleets would also need to ensure that the two fuels were used in the appropriate vehicles. Combined, all the additional recordkeeping required would be extremely burdensome for fleets to implement and difficult for CARB to enforce.

**Comment 60:**

We cannot agree with the rosy picture staff states on the availability of this fuel for all, including that which is already mandated for marine in the Harbor Craft regulation. Many of our clients have multiple sites across the state that will need time for the adjustment. [Brewer Crane], [CIAQC]

So I don't think the fuels will be available to use like we thought we might have. [C&J Well Services]

Further, with this mandate being a little over a year away, we are quite doubtful such demand can be met. [California CAT]

**Agency Response:** No changes were made in response to these comments. RD is currently available in volumes that exceed the volume of fuel needed to fuel the vehicles subject to the Proposed Amendments. It is expected that by January 1, 2024, when the proposed RD requirements would take effect, RD production facilities will be able to produce a sufficient supply of RD to meet not only the annual demand of the off-road vehicles subject to the Off-Road Regulation, but other sectors' fueling demands as well. As discussed in detail in Chapter V of the ISOR, production of RD is expected to grow in the coming years due to expansions of existing plants and the construction of new plants. The total existing and new RD production of greater than five billion gallons per year will be sufficient to meet the total annual diesel demand of 270 million gallons from off road vehicles subject to the Off-Road Regulation in California, as estimated in the 2022 Off Road Inventory. Additionally, as discussed in response to Comment 58, the Proposed Amendments include an exemption in the situation that a fleet is unable to procure RD. This exemption ensures that if a fleet faces a specific barrier that prevents them from obtaining RD, then they will not face

noncompliance while the majority of fleets are able to obtain RD and achieve the necessary emissions reductions of the Proposed Amendments.

There are no operational concerns for RD. As described in Chapter V of the ISOR, RD can be used interchangeably or combined in any proportion with conventional CARB ULSD in off road engines. The storage life characteristics of RD are not significantly different from conventional CARB ULSD and, because RD is chemically similar to conventional CARB ULSD, RD does not require infrastructure changes for storage, piping, or pumping, nor are there any diesel engine modifications required in order to use it as a fuel.

**Comment 61:**

We believe other drop-in fuel replacements, such as blends of renewable diesel and biodiesel, should be an available alternative in the regulation, especially when the regulation is worded to default to allow the use of 100 percent petroleum diesel in the event renewable diesel is unavailable. [CABA and Clean Fuels], [CABA and Clean Fuels2]

Compared to petroleum diesel, R80/B20 can not only reduce nitrogen oxides (NOx) by 10% [percent], but also reduces total hydrocarbons (THC) by more than 20% [percent], particulate matter (PM) by more than 40% [percent] and carbon monoxide (CO) by more than 25% [percent]. One-hundred percent renewable diesel (R100) compared to petroleum diesel, can reduce NOx by about 15% [percent], THC by 12% [percent], PM by 37% [percent] and CO by 24% [percent]. The full suite of benefits provided by R80/B20 blends only enhances the emissions reductions renewable diesel and biodiesel can provide alone. Because biodiesel reduces PM more than renewable diesel, an important goal for the Off-Road Regulation should be to maximize the amount of biodiesel used by off-road fleets while balancing the need for reducing other pollutants, such as NOx. An R80/B20 blend achieves this optimal balance of GHG, PM and NOx reductions while reducing costs for fleet operators. There is no single solution to help California achieve its ambitious goals. Allowing blend alternatives (e.g. R80/B20), as well as R99 in the Off-Road Regulation, will help California achieve emission benefits immediately while the state pursues its decarbonization efforts, enhance local air quality in disadvantaged and EJ communities, and ease any potential cost and supply concerns. We ask that such blends be incorporated into the proposed amendments. [CABA and Clean Fuels]

While both fuels provide significant benefits on their own, blending the fuels together maximizes both the environmental and economic profiles of biodiesel and renewable diesel. Renewable diesel biodiesel comprise of up to 20 biodiesel and 80 percent renewable diesel or R80/B20 will reduce emissions, perform higher, and provide supply and cost benefits to California communities. [CABA and Clean Fuels2]

At the very least, biodiesel and renewable diesel blends should be required for use in regulated fleets when R99/R100 is not available…. To address this, we provided staff with the following . . .

(e) Renewable Diesel Requirements

(1) Starting on January 1, 2024, all fleets subject to this regulation are required to use R99 renewable diesel fuel in all vehicles subject to this regulation, subject to the exemptions provided in section 2449.1(e)(2) below.

(2) The following fleets are exempt from the renewable diesel requirements in section 2449.1(e)(1):

a. Any fleet that is designated as a captive attainment area fleet, as described in section 2449(c)(6); and

b. Any fleet that is comprised of at least 90% [percent] vehicles with Tier 4 final engines or model year 2007 or newer on-road engines.

c. Any fleet for which at least 90% [percent] of the total hours of operation of the fleet is performed with Tier 4 final engines or model year 2007 or newer on-road engines.

(3) If R99 renewable diesel is unavailable to a portion of a fleet through its normal refueling methods, those vehicles for which R99 renewable diesel is unavailable are not required to comply with Section 2449.1e(1) but are instead required to use a diesel fuel that meets the requirements specified in the order below:

a. If R99 is unavailable, the vehicles must use an R75/B20 blend (up to 20% [percent] biodiesel blended with at least 75% [percent] renewable diesel);

b. If R75/B20 is unavailable, the vehicles must use an R55/B20 blend (up to 20% [percent] biodiesel blended with at least 55% [percent] renewable diesel);

c. If R55/B20 is unavailable, the vehicles may use CARB diesel.

Documentation for demonstrating the unavailability of the fuels set forth in section 2449.1(e)(1) or (e)(3)a. or b. above must comply with section 2449.1(e)(4).

(4) If at any point a fleet asserts its inability to comply with section 2449.1(e)(1) due to the unavailability of R99 or any fuel specified in section 2449(e)(3)a. or b., the fleet must have documentation showing the unavailability of that fuel and the fleet operator's attempts to obtain the fuel. This documentation may include communications from fuel providers, contract bids, or maps of fueling stations near a job site. A fleet's normal fueling methods shall include such factors as job site, storage site or retail station refueling. Refueling methods shall not refer to a specific distributor or brand of fuel. Fleets must make reasonable attempts to obtain R99 renewable diesel, at a minimum, on a quarterly basis or when vehicles move to a new job site.

(4) Fleets that solely rent vehicles to other entities must include language in their rental contract that the recipient of the rented vehicle must comply with the R99 renewable diesel requirements in section 2449.1(e) and, if R99 is unavailable, the requirements in section 2449.1(e)(3). Such fleets that include such language in their rental contracts will not be held liable if a rented vehicle under their ownership is not compliant with section 2449.1(e) as a result of the renter's actions, but the fleet must report to CARB the entity that rented the vehicle and did not comply with section 2449.1(e). [CABA and Clean Fuels]

WSPA believes that this potential concern over R99/R100 availability, resulting in the need to exercise the backstop provisions of § 2449.1(f)(3), can be reduced by allowing the use of biodiesel/renewable diesel blend. We, therefore, recommend that CARB add the following language to § 2449.1(f)(1): "Beginning January 1, 2024, all fleets subject to this regulation are required to use R99 or R100 renewable diesel fuel or a biodiesel/renewable diesel blend in all their vehicles subject to this regulation, … subject to the exemptions provided in section 2449.1(f)(2) below." [WSPA]

**Agency Response:** No changes were made in response to these comments. A regulatory alternative that included biodiesel blends was considered but was rejected due to Staff's findings that allowing biodiesel blends had the potential to increase NOx emissions.

As discussed in the biodiesel regulatory alternative in Chapter XII of the ISOR and as shown in the studies referenced in the ISOR, biodiesel may provide a greater PM benefit compared to R99 or R100 RD. However, the data from these studies show that the proportions of RD and biodiesel in fuel blends do affect the resulting NOx emissions, with higher blends of biodiesel producing greater NOx emissions. Because these studies highlight the uncertainties in the resulting NOx emissions from biodiesel blends and because one of the primary goals of the Proposed Amendments is to achieve near term NOx reductions, staff rejected this alternative. Requiring biodiesel fuel blends would limit CARB's ability to fully realize the NOx emission reductions needed from the regulation.

There are also concerns with adverse impacts on the equipment when requiring higher concentrations of biodiesel, as it is not a "drop in fuel" like R99 or R100 RD.

Specifically for the concept of using biodiesel or biodiesel blends when RD is unavailable as described by the commenters, this concept would add much greater complexity and burden on fleets trying to comply with our requirements, and it is expected that if a fleet is facing challenges obtaining RD, then they would face similar challenges in obtaining biodiesel or a biodiesel blend. See response to Comment 60 on the availability of RD.

As the commenter summarized from the reference provided, R80/B20 blends reduce NOx by 10 percent while R100 reduces NOx by 15 percent. This agrees with CARB's assessment in the biodiesel regulatory alternative in the ISOR, which is that although biodiesel blends may provide greater PM emission reductions, they provide fewer NOx emission reductions. Achieving both NOx and PM reductions is the primary goal of the Proposed Amendments. It should also be noted that the reference used by the commenter shows emission comparisons to federal ULSD rather than CARB ULSD, so the values are not representative of California reductions.

The commenter also requested a change to an exemption for Tier 4 Final fleets from 100 percent in the Proposed Amendments to 90 percent (section 2449.1(f)(2)(B)), and a new exemption for fleets with operations of 90 percent Tier 4 Final vehicles. CARB did not make this change. This would require extensive tracking of fuel at the vehicle, as well as tracking of usage at the vehicle level statewide for each fleet. This is a significant undertaking and CARB received feedback from stakeholders that this would not be manageable and would be costly to implement.

**Comment 62:**

Furthermore, over the past six consecutive quarters (Q1 2021 – Q2 2022), biodiesel and renewable diesel blends have exceeded the 2.75 to 1 ratio determined by CARB as being NOx neutral for biodiesel/renewable diesel blends used in older legacy vehicles, as established by the recent amendments to the Alternative Diesel Fuel (ADF) regulation. This, coupled with the high turnover to new technology diesel engines (NTDE), means that any remaining NOx concerns involving biodiesel used in California vehicles have been effectively addressed by the market. [CABA and Clean Fuels] [CABA and Clean Fuels2]

**Agency Response:** No changes were made in response to this comment. See response to Comment 61 on why biodiesel blends will not be allowed in lieu of RD under the Proposed Amendments. Promoting fuel that is NOx neutral is not the goal of the Proposed Amendments; the goal of the Proposed Amendments is to achieve additional NOx emission reductions. Requiring fuel that maximizes the NOx emission reductions in an economical and technologically feasible way is the most effective way of achieving this goal, hence the requirement to use RD.

Also, the high turnover to NTDEs is more reflective of on-road vehicles, not the off-road vehicles covered under the Proposed Amendments. While we have seen progress in the off-road sector under the Current Regulation, a significant population of older vehicles remain. See response to Comment 26 regarding the population of Tier 0, Tier 1, and Tier 2 vehicles that would remain in the fleet in the absence of the Proposed Amendments. Even after full implementation of the Proposed Amendments, Tier 1 and Tier 2 vehicles will remain in the fleet in low use as well as Tier 3 and Tier 4 interim vehicles, which are not subject to the tier phase-out provisions.

**Comment 63:**

As the supply of renewable diesel is growing, biodiesel is currently available to help ease supply concerns. Blending biodiesel into renewable diesel will also decrease the cost of renewable diesel alone, easing consumer concerns of availability and cost. [CABA and Clean Fuels]

**Agency Response:** No changes were made in response to this comment. See response to Comment 60 on the availability of RD. Biodiesel is not necessary to help ease supply concerns because there is ample supply of RD to meet the fueling needs of off-road diesel fleets. Also see response to Comment 55 on RD cost. Historical data shows RD at cost parity with CARB ULSD so there should not be any concerns from consumers related to cost.

**Comment 64:**

I am writing to express my concern over wording in the current legislation that appears to only allow renewable diesel while prohibiting biodiesel blends:

I do not see an explanation of why this provision was added.

The LED [low-emission diesel] study shows clear advantages in reduced PM emissions for the studied "legacy" Tier 3 engine utilizing both RD and the BD [biodiesel]/RD blends. NOx

emissions were not increased except for the 50/50 blend of RD/BD, and in that case the magnitude of the difference was very small. My assumption here is these findings apply to Tier 0, 1, and 2 engines as well. And likely some Tier 4i engines.

I also would also comment the results for the "legacy" engine in that study (which is a Tier 3 engine) supported the use of BD blends in reducing emissions.

Under the assumption there will be ongoing use of Tier 4i, 3, and lower engines for some time, biodiesel blends seem to be advantageous in reducing NOx and PM emissions. For Tier 4 Final engines equipped with all the emission-reducing bells and whistles, the actual differences in NOx output are quite small, regardless of statistical significance in the LED study. Therefore, I see no potential benefit in restricting BD/RD blends in this legislation. [Kehoe]

**Agency Response:** No changes were made in response to this comment. See response to Comment 61 on why biodiesel blends were not allowed in lieu of RD under the Proposed Amendments.

**Comment 65:**

As referenced in the ISOR, 'Federal and State programs provide substantial economic value to low-CI [carbon intensity] fuels for producers, importers, and blenders, through the use of market signals,' and 'Nearly all domestically produced and imported renewable diesel is used in California due to" economic benefits under the Low Carbon Fuel Standard.' Such a fuels-focused approach also has much greater reach and penetration, as it will affect all categories of diesel equipment and vehicles, not just those subject to the In-Use Off-Road rule. CARB has already developed a regulatory mechanism to incentivize the production and marketing of RD in the state. Fleet rules should remain fuel-neutral and allow market mechanisms to drive what will likely be a natural transition to increased RD use. [CCEEB]

We wish to note that market-based fuels-focused programs, like the Low Carbon Fuel Standard, are the more appropriate place to incentivize the use of renewable diesel, rather than forcing specific fuels into specific end uses. [CCEEB2]

**Agency Response:** No changes were made in response to this comment. CARB agrees that fuel-focused programs and policies, such as the LCFS program, have been instrumental in encouraging the transition to RD use. The Proposed Amendment's goal is to accelerate the use of cleaner technology and achieve additional emissions reductions. Having programs to both (1) encourage increasing the supply of low-carbon intensity RD, and (2) require the use of RD where the greatest emissions reductions can be achieved, in pre-Tier 4 Final engines, is the most effective way of maximizing emission reductions from combustion engines.

In addition, the majority of RD that is currently incentivized by the LCFS is being used in the on-road heavy-duty sector where vehicles are required to have model year 2010 or newer engines that have selective catalytic reduction and PM filters. When used in engines with this technology, there are carbon emission benefits, but minimal NOx and PM emissions reductions. Shifting some of the currently available RD use from on-road to off-road vehicles with older tiered engines would allow the primary goal of the Proposed Amendments, a significant reduction in NOx and PM emissions, to be realized. With no end user

requirements in place, this shift would be unlikely to occur, and the emissions reductions would not be attained.

Adopting fleet requirements to use RD is consistent with CARB's policy approach and this already been implemented in other CARB fleet regulations, such as the Commercial Harbor Craft Regulation.

**Comment 66:**

Should CARB retain the RD requirement, one option to further facilitate compliance would be to add case by case exemptions where renewable diesel is unavailable to use. For example, if a vendor's renewable diesel supply has been compromised through unforeseen technical difficulties, a fleet would need a temporary exemption until the vendor can supply RD. This will be particularly helpful as fleets transition to renewable diesel. [CCEEB]

WSPA is concerned that the R99/R100 requirement in proposed § 2449.1(f) may create issues due to potential constraints in delivery modes, storage capacity, and/or short-term supply. It is apparent that CARB shares this concern as the potential unavailability of R99 is addressed in proposed § 2449.1(f)(3) which reads in part as follows: 'If a portion of a fleet is unable to procure R99 or R100 renewable diesel through its normal refueling methods, … those vehicles for which renewable diesel could not be procured are not required to comply with Section 2449.1(f)(1)[.]' [WSPA]

**Agency Response:** No changes were made in response to these comments. See response to Comment 60 regarding the availability of RD. CARB understands that fleets may encounter very specific circumstances that could prevent fleets from procuring RD. Earlier in the rulemaking process, CARB received feedback from several stakeholders regarding these potential constraints noted by the commenters. To address these limited situations, CARB established an exemption in section 2449.1(f)(3), with recordkeeping requirements, that fleets may utilize, when necessary, and not face noncompliance. The structure of this exemption should allow for the commenters' situations to be properly exempted.

**Comment 67:**

Incremental access to 99 percent renewable diesel (R99) or 100 percent renewable diesel (R100) by January 1, 2024, may be challenge to both suppliers of renewable diesel and customers requesting it. Shifts in product distribution is not simple and requires coordination at multiple levels to minimize impacts to both suppliers and customers. For example, today, the distribution of R99/R100 requires dedicated tankage to claim the fuel's environmental attribute, as demand for R99/R100 increases additional dedicated tankage and loading rack throughput will come from systems currently supplying petroleum fuels. This shift, from supplying petroleum fuels to renewable fuels within existing networks will take time and require thoughtful execution to minimize fuel supply disruptions. [MPC]

**Agency Response:** No changes were made in response to this comment. See response to Comment 60 on the availability of RD. See response to Comment 58 on why setting an implementation start date of January 1, 2024, is necessary and appropriate. CARB understands that shifting to RD will take some effort at multiple levels of the supply chain,

but this effort is both feasible and necessary to achieve the emissions reductions needed to fulfill the commitments set in the 2022 SIP.

**Comment 68:**

We're also concerned with the proposed deadline for R99 and R100. A lot of the contracts that are written for diesel fuel require, you know, year or two-year contracts with our vendors. [C&J Well Services]

**Agency Response:** No changes were made in response to this comment. The Proposed Amendments do not, by their terms, apply to private contracts or otherwise impermissibly interfere with them. The commenter has not provided evidence that "a lot of" the contracts for diesel fuel require a year or two-year contracts with vendor. See response to Comment 58 on why setting an implementation start date of January 1, 2024, is necessary and appropriate.

**Comment 69:**

[C]ARB needs to define "available" in cost terms relative to conventional diesel. Would renewable diesel that costs three times as much as conventional diesel be considered "available"?" [CIAQC]

We don't believe the staff projections on the availability of renewable fuel. We would suggest that you add a definition of "if available" that includes relative costs, remote sites, in-state producers, fleet mix, long-term contract requirements, et cetera. [CIAQC2]

**Agency Response:** No changes were made in response to this comment. See response to Comment 60 on the availability of RD. CARB is aware of stakeholders' concerns about the availability of RD. To address these concerns, CARB introduced an exemption, with recordkeeping requirements, for the limited circumstances in which RD is unavailable or impossible to be procured, in section 2449.1(f)(3). See response to Comment 55 regarding RD cost. The commenter has not provided evidence for the assertion that RD prices will cost significantly more than RD, and based on current cost data, CARB does not believe that is the case, so defining "available" in terms of cost is unnecessary.

**Comment 70:**

The Proposed Amendments' requirements for renewable diesel could impermissibly interfere with aircraft operations, prices, and services, and CARB must exempt airlines from such regulations.

The Proposed Amendments require the use of R99 or R100 renewable diesel in off-road diesel vehicles. Fuel that is 99 percent or 100 percent renewable diesel is not always readily available or available at an economically feasible price point...This means that even where R99- or R100-compatible GSE options are available, they may not necessarily be supported by adequate fuel availability. CARB's Proposed Amendments assume the market will respond to regulation by making the fuel widely available and lowering the price of renewable fuel. If that assumption is mistaken, the cost of fueling off-road GSE could increase dramatically, imposing problematic operational challenges for carriers that will affect routes, prices and

services. Because of the constraints on CARB's authority to regulate airlines…the Proposed Amendments should exempt airlines from the R99 and R100 fuel requirements in instances where those fuels are unavailable or economically or logistically infeasible. [A4A]

**Agency Response:** No changes were made in response to this comment. The commenter has not provided a basis for the statement that RD could impermissibly interfere with aircraft operations. Renewable diesel conforms to the Standard Specification for Diesel Fuel (American Society for Testing Materials (ASTM) D975-21) and meets CARB's requirements for ultra-low sulfur diesel (ULSD), so RD can be used interchangeably or combined in any proportion with conventional CARB ULSD in off-road engines. The storage life characteristics of RD are not significantly different from conventional CARB ULSD and, because RD is chemically similar to conventional CARB ULSD, RD does not require infrastructure changes for storage, piping, or pumping, nor are there any diesel engine modifications required in order to use it as a fuel. Furthermore, CARB and the State Water Resources Control Board issued a joint statement[29] in 2013 that RD should be treated no differently than conventional CARB diesel that is legal for sale in California.

See response to Comment 60 regarding availability of RD.

See response to Comment 55 regarding RD cost.

See responses to Comment 87 regarding how CARB is not preempted from regulating GSE and see responses to Comment 89 and Comment 90 regarding CARB's authority to regulate GSE.

**Comment 71:**

Rental companies will also have no control over the fuel being used by customers. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The RD requirement in section 2449.1(f)(4) requires that rental companies add language to their rental contracts stating that the lessee is required to comply with the RD requirements and that the rental company will not be held liable if a rented vehicle under their ownership is not compliant with section 2449.1(f). The commenter's concern regarding rental companies is already addressed in the Proposed Amendments.

[29] CARB and State Water Resources Control Board. (2013). Joint Statement: Renewable Diesel Should Be Treated the Same as Conventional Diesel. July 31, 2013. Retrieved February 14, 2023, from https://ww2.arb.ca.gov/sites/default/files/2018-08/Renewable_Diesel_Joint_Statement_7-31-13.pdf.

## 11. Renewable Diesel at Low Temperatures

**Comment 72:**

At renewable diesel's cloud point, the fuel rapidly gels and solidifies rendering the fuel useless which can also damage the equipment and pose as a safety concern for those operating the equipment….We encourage CARB to develop an exemption allowing fleets to use a mix of diesel and renewable diesel during cold climates to ensure that companies have reliable fuel that does not cause disruptions to their work." [AGC of California]

Renewable diesel has proven to be problematic in cold climates due to its associated cloud point. Renewable diesel can solidify in equipment in climates that reach temperatures 23 degrees Fahrenheit or lower, which not only damages the equipment, but also poses a safety concern for the operator. We assert CARB to add an exemption to allow fleets to use a mix of Diesel 1 and renewable diesel in these situations to prevent any disruption. [AGC of California2]

SMUD requests a modification to section 2449.1(f) to address other circumstances in which renewable diesel may not be feasible. For example, SMUD has experienced issues with HDRD gelling and clogging inside our equipment at lower temperatures or higher altitudes….We are concerned this scenario would not be covered in section 2449.1(f), as currently proposed, and request the exemption be modified to address circumstances where renewable diesel fueling is not suitable based on conditions in which the engine must operate. We recommend that CARB consider a waiver to accommodate the use of diesel fuel when renewable diesel is unusable. [SMUD]

We'd like to acknowledge that we would support a 15-day change related to the renewable diesel, as without this, we believe there's significant impacts to operational abilities in cold weather. [Teichert2]

**Agency Response:** CARB staff made changes based on this comment. As part of the 15-Day Changes, CARB modified sections 2449.1(f)(2)(C) and 2449.1(f)(2)(D), adding an exemption to the RD requirements for fleets, fleet portions, or vehicles operating in cold temperatures.

Section 2449.1(f)(2)(C) allows fleets to procure and use low temperature-specific diesel fuel during the months of November, December, January, and February if a fleet, fleet portion, or vehicle is located or operated in a location where the 10th percentile minimum ambient air low temperature in January drops below 20 degrees Fahrenheit (20º F).

Section 2449.1(f)(2)(D) allows fleets to procure and use low temperature-specific diesel fuel where the temperature drops below 20º F or is forecast to drop below 20º F for the period of days in which the low temperature condition(s) occurs.

These modifications address the concerns raised by the commenter by ensuring that in low-temperature situations, fleets are able to use fuel that will not have performance issues or have the potential to disrupt the fleet's work.

**Comment 73:**

Proposed rule does not currently address cold intolerance of Renewable diesel.

Off-road diesel equipment is fueled in many cases well before a typical weather forecast can reasonably predict cold temperatures at certain elevations and certain times of the year.

If renewable diesel is in tanks or fuel lines of equipment and the temperatures reach the cloud point and freeze point, equipment can be rendered inoperable and/or can be damaged. In most cases, this equipment is needed to conduct business such as highway construction and maintenance, general contracting, mining, safety, and a myriad of other important and beneficial services. For this reason, 20º F is a reasonable safe threshold to ensure that fuel does not cloud/freeze and business and the welfare of the general public is not unduly put at risk.

Proposed language to address areas where cold weather and non-attainment could pose significant risk to the operation of off-road equipment:

2449 (c) Definitions

(##?) "Cold Weather" means daytime low temperatures for any location in the State where temperatures can reasonably be expected to fall below 20ºF, based on history, or where daytime low temperatures are reasonably expected to fall below 20ºF within 15 calendar days of planned operation of equipment subject to this section based on forecasts from the National Weather Service specific to the equipment and area in question.

2449.1 (f)(2) Exemptions

The following fleets are exempt from the renewable diesel requirements in section 2449.1(f)(1):

(C) Any equipment that can reasonably be expected to operate in areas where cold weather can reasonably be expected, or during periods in any part of the State where cold weather is reasonably forecast to occur within 15 days of planned operation. [Teichert]

Cold weather adaptability is a significant concern in those areas of the state which may fall below 20 degrees Fahrenheit.... Many such areas are already exempted in total due to air basin compliance, but adjustments for remaining areas are necessary. [CalCIMA]

**Agency Response:** CARB staff made changes based on this comment. As part of the 15-Day Changes, CARB added an exemption to the RD requirements for fleets, fleet portions, or vehicles operating in cold temperatures. See response to Comment 72 for further discussion regarding the RD cloud point exemption. CARB agrees with the commenter that 20º F is a reasonable threshold to ensure safe operation of vehicles subject to the regulation and to not put businesses and the general public at risk and has set the exemption in 2449.1(f)(2) for cold temperatures at this temperature threshold.

**Comment 74:**

Regarding 2449.1(f) Renewable Diesel
Requirements on page 84, are (dedicated and non-dedicated) snow removal vehicles required to use Renewable Diesel? Also, are non-snow removal diesel vehicles required to use Renewable Diesel at high elevations in the winter? We have had major troubles in the past with Renewable Diesel gelling in the winter at the higher elevations during January 2017 (Caltrans Districts affected include 2,3,9, and 10). Multiple storage tanks and snow vehicles were rendered inoperable as a result. [Images attached to comment purport to show the physical state of diesel fuel at low ambient temperatures]

Another thing to keep in mind is that a diesel vehicle can fill up with renewable diesel at a low elevation location and then drive up to a freezing location. In this scenario, a driver can be left stranded in an area with low cell reception, or the vehicle may even become inoperable on the roadway during a blizzard with low visibility. [Caltrans]

**Agency Response:** CARB staff made changes based on this comment. See response to Comment 72 for further discussion regarding the RD cloud point exemption. Per section 2449(e)(4) of the Current Regulation, dedicated snow removal vehicles are exempt from the performance requirements of section 2449.1 (including the renewable diesel requirements), and this was not modified in the Proposed Amendments. Additionally, publicly owned vehicles used exclusively to support snow removal operations, but which do not meet the dedicated snow removal vehicle definition (such as a loader without a special snow removal attachment), are also exempt from the performance requirements in section 2449.1. If a vehicle does not meet the definition of a dedicated snow removal vehicle or is not a publicly owned vehicle used exclusively to support snow removal operations, then it would be subject to RD requirements. As snow removal operations occur in the winter, the 15-Day Notice changes discussed in the response to Comment 72 describe exemptions that address concerns surrounding diesel operations in cold temperatures, such as those experienced at high elevations in the winter.

## 12. Renewable Diesel Record Keeping

**Comment 75:**

We are concerned that end user requirements, such as those proposed in the In-Use Off-Road rule, could get ahead of efforts to produce and distribute RD across the state. In the early years, as refinery capacity and supporting infrastructure are built out, the requirements in Section 2449.1(f) seem to create unnecessary recordkeeping burden on fleets by requiring them to demonstrate that neither they nor their fuel providers were able to procure RD. [CCEEB]

**Agency Response:** No changes were made in response to this comment. See response to Comment 60 on the availability of renewable diesel. CARB understands that the recordkeeping requirements of section 2449.1(f)(3) will create some level of additional burden on the fleets, but recordkeeping is necessary to ensure fleets are not misusing the flexibility and to ensure the emissions reductions of the Proposed Amendments are achieved. Although this flexibility could have been removed, CARB believes that it is necessary to ensure that fleets who attempt to comply with the RD requirement in section 2449.1(f)(1), but are unable to comply due to external circumstances, are able to stay in compliance with the Off-Road Regulation. The recordkeeping requirements to verify that fleets are using the flexibility properly are a necessary addition if fleets wish to use this optional flexibility. CARB also believes that this flexibility will see minimal use because, as discussed in the response to Comment 60, renewable diesel is available in the capacity necessary to meet the demand.

**Comment 76:**

While AGC of California and its members appreciate the stipulation in the draft language that provides flexibility to fleets regarding renewable diesel if it is deemed unavailable through normal refueling methods, it still poses an increased administrative burden on contractors. [AGC of California]

**Agency Response:** No changes were made in response to this comment. See response to Comment 75 on why the recordkeeping requirements are necessary for the implementation of the unavailability of RD exemption. CARB understands that the recordkeeping requirements to document unavailability of RD will create some additional work on fleets, however CARB believes that the requirements are not overly burdensome. The Proposed Amendments require three items: (1) a description of the fleet's normal refueling methods, (2) a description of the fleet's attempt to obtain RD, (3) and documentation showing the inability to procure RD such as communications or contract bids. This information should be readily available to the fleet.

**Comment 77:**

Before requiring the use and tracking of renewable diesel, consider these facts:… Recordkeeping of the use of renewable diesel in each piece of equipment is a significant administrative burden.…[C]ARB proposed requirement that all off-road equipment use and track renewable diesel is not necessary to meet the proposed stated purpose of NOx and PM reduction.…The harm comes from the recordkeeping provisions that require all

operators to track renewable diesel use in each piece of equipment and then certify annually that tracking has been performed in such a manner. This is not a trivial exercise and adds to the burden on business….For the reasons stated above, I sincerely request that [C]ARB reconsider the requirement to track and report renewable diesel use. [Teichert]

**Agency Response:** CARB believes that the commenter is referring to section 2449(h)(10). CARB staff made changes in response to this comment. As part of the 15-Day Changes, CARB made several changes to clarify that the requirement is a recordkeeping requirement and that the documents are intended to be maintained to demonstrate compliance with the RD requirement in 2449.1(f), and to make a revision to no longer require fleets to maintain fuel purchase records for each vehicle. The intent of this provision is to ensure fleets are keeping appropriate records showing that their overall fleet is procuring the appropriate fuel to comply with 2449.1(f), but the language in the 45 Day Changes could be interpreted as requiring fleets to track and keep detailed records for the fuel usage of each vehicle. This interpretation would have been overly burdensome for the fleets and does not match CARB's intent as described in the purpose and rationale section of the ISOR.

**Comment 78:**

We absolutely do not want to have to devise a system which tracks fueling in each individual off-road vehicle to demonstrate compliance. CARB's structure of the renewable diesel use requirement as a vehicle requirement (versus a purchasing policy structure) greatly complicates implementation and adds significant recordkeeping and data system development. We believe this structure both greatly increases complexity and cost of compliance as well as complexity and cost of enforcement. We believe the solution is to instead implement a purchasing/contracting provision that takes advantage of the sector's use of contracted fuel purchasing, depot fueling, and fueling servicers.

We believe fleet-based bulk fuel procurement criteria in a contracting language and fleet fuel procurement model is both easier to implement and easier for the regulator to verify.

In order to institute a fleet fuel procurement policy instead of an individual vehicle fuel purchase policy, we request that the renewable diesel mandate in 2449.1(f) Renewable Diesel Requirements and 2449 (h)10 be amended as follows.

f) Renewable Diesel Requirements

1) Beginning January 1, 2024, all fleets subject to this regulation are required to place into their contracts or purchase orders for fuel to be used in equipment subject to this rule the following language, "This fuel is being purchased for use in Off-Road equipment subject to the State of California's In-Use Off Road Diesel Regulation. This contract will provide the fleet or service the equipment with Renewable Diesel (~~use~~ R99 or R100) unless such fuel is not available or suitable due to cold weather. Invoices and bills of lading shall specify the type of fuel delivered. If R99 or R100 fuels were not delivered, the reason for the failure to provide renewable diesel (availability or cold) shall be noted".~~, renewable diesel in all their vehicles subject to this regulation, including rental equipment, when operating them in California, subject to the exemptions provided in section 2449.1(f)(2) below.~~

(2) The following fleets are exempt from the renewable diesel procurement requirements in section 2449.1(f)(1):

A) Any fleet that is designated as a captive attainment area fleet, as described in section 2449(c)(6); and

B) Any fleet that is comprised entirely of vehicles with Tier 4 final engines, model year 2010 or newer on-road engines, or zero-emission vehicles.

3) Beginning January 1, 2025 all fleets subject to the renewable diesel procurement requirements will ~~If a portion of a fleet is unable to procure R99 or R100 renewable diesel through its normal refueling methods, where a fleet's preference for a specific distributor or a specific brand is not considered a necessary component of its normal refueling method, those vehicles for which R99 or R100 renewable diesel could not be procured are not required to comply with Section 2449.1(f)(1) if the fleet~~ maintain documentation, in accordance with the record keeping requirements described in section 2449(h),…

4) Fleets that solely rent, and do not themselves operate, vehicles subject to this regulation to other entities must include language in their rental contract that the recipient of the rented vehicle (renter) must comply with the renewable diesel requirements in section 2449.1(f). ~~Such fleets that include such language in their rental contracts will not be held liable if a rented vehicle under their ownership is not compliant with section 2449.1(f).~~ If CARB has a good faith reason to believe that a fleet that rented a vehicle was not compliant with the renewable diesel requirements in section 2449.1(f), then the rental company must disclose the relevant ~~previous~~ renter's company name and business contact information to CARB within 5 days of CARB's request.

In addition to the changes in regulatory obligation under 2449.1(f) one would also need to amend 2449(h)(10) to be consistent that we are not 'documenting fuel purchases for each vehicle.'

2449(h) 10 (Recordkeeping Section)

(10) Renewable Diesel Procurement ~~Usage~~ – Each fleet must maintain ~~document its fuel purchases for each vehicle subject to this regulation in their fleet, including rental vehicles, to demonstrate compliance with the renewable diesel performance requirements outlined in section 2449.1(f). Such documentation must include~~ documentation that demonstrates compliance with section 2449.1(f)(1), which could include receipts of fuel purchases and fueling contracts. Each fleet owner shall maintain the records required under this provision for three calendar years from the date the transaction is completed. Fleets must also maintain records in accordance with section 2449.1(f)(3). [CalCIMA]

**Agency Response:** CARB staff made changes based on this comment. See response to Comment 77 on the 15-Day Changes made to section 2449(h)(10) that address the concerns raised by the commenter. CARB appreciates the recommended alternate regulatory language provided by the commenter and although only a portion of the recommended changes were adopted, CARB believes that the 15-Day Changes fully address the concerns raised by the commenter that tracking RD use at the vehicle level would have been overly burdensome for fleets.

## 13. Renewable Diesel Captive Attainment Exemption

**Comment 79:**

We encourage CARB to change the definition of captive attainment area fleet from "in which all of the vehicles in the fleet or fleet portion operate exclusively within the following counties[…]" to "in which 50% [percent] or more of vehicles in the fleet or fleet portion operate within the following counties[…]". [AGC of California]

**Agency Response:** CARB believes that the commenter is referring to the RD exemption for fleets that operate in captive attainment areas. CARB staff made changes based on this comment. As part of the 15-Day Changes, CARB added language allowing any vehicle that operates in captive attainment regions to also be exempted from the RD requirements, just as vehicles in fleets specifically designated as captive attainment area fleets are. This change should address the commenter's concerns around fleets that are not considered captive attainment area fleets but have vehicles that operate in these areas.

The commenter could also have other reasons to recommend changing the definition of captive attainment area fleet; changes were not made as a result of those reasons. CARB also did not propose changes to the definition of captive attainment area fleet in the 45-Day Changes. A change to this definition as proposed by the commenter could have widespread emissions disbenefits since captive attainment fleets have extended compliance deadlines in the same manner as small fleets. Such a change would also complicate enforcement and necessitate increased reporting and recordkeeping by fleets beyond what is currently required. Furthermore, this change would run counter to multiple goals of the Proposed Amendments to achieve emission reductions beyond the Current Regulation, enhance enforceability, and streamline requirements.

**Comment 80:**

Current exemptions related to the requirement to use renewable diesel are limited to (1) fleets with full Tier 4F or EV, and (2) fleets designated as captive attainment fleet (see screen shot below). The major issue here that [C]ARB staff is relying on this Captive Attainment Area Fleet designation to provide a safety valve to NOT require renewable diesel in attainment areas. Staff inferred that this insulates the higher elevations and east side of the Sierra from the requirement to use renewable diesel. Note that a fleet is NOT a captive attainment fleet if even ONE vehicle is operated in non-attainment area.

The assumption by [C]ARB staff is that most fleets that operate in attainment areas will be located and operate within the attainment area in which they are based. This may well be the case for small private operators but for most operators who perform work for Caltrans or work for Counties doing road repair and maintenance, it is likely, if not probable, that these fleets DO have at least one piece of equipment registered in a non-attainment area.

If these operators are required to use renewable diesel AND the cold tolerance issue is not adequately resolved, then these fleets will face significant challenges and risk to operating their equipment and conducting the necessary work to roads, highways, infrastructure, and general commerce in areas susceptible to cold.

The remaining issue related to the use of the Captive Attainment Area Fleet definition as an exemption is that there are significant areas of the state where roads, highways, infrastructure, and commerce occur and where temperatures can be expected to fall below the operational threshold for renewable diesel. [Teichert]

**Agency Response:** CARB staff made changes based on this comment. See response to Comment 79 on the RD captive attainment area exemption. See response to Comment 72 regarding temperatures falling below the operational threshold for RD.

## 14. Zero-Emission and Alternative Compliance Pathway

**Comment 81:**

This technology-neutral approach is appropriate and appreciated. We are unsure if fleets, particularly large fleets, will be able to take advantage of the ability to develop ZETA decarbonization strategies as these fleets often cover multiple facilities. We believe the program could be improved by enabling its use for components of fleets operating at a single location based on the off-road equipment at that site or facility (rather than requiring its implementation for the entire fleet). [CalCIMA]

We also have suggested that in the ZETA plan you consider enabling components of fleets. We operate fixed site facilities, so if you're looking at how you decarbonize a type of operation, you may not be able to do it across your operations, but you may be able to look at a facility and see if you can put a proposal in and develop a decarbonization strategy. [CalCIMA2]

**Agency Response:** CARB staff made changes based on this comment. As part of the 15-Day Changes, CARB added section 2449.1(e)(4), which expands the Alternate Compliance Pathway through Zero-Emission Technology to vehicles operating at a single facility. CARB agrees that introducing this option for vehicles operating at a single facility could increase the utilization of this alternate compliance pathway and, therefore, could reduce emissions beyond those achieved from the Current Regulation and the Proposed Amendments by increasing the use of zero-emission technology. CARB also added reporting requirements specific to fleets using this provision for a subset of vehicles to ensure the fleet's compliance is tracked properly.

**Comment 82:**

While use of Tier 4 final equipment has many health benefits compared to older dirtier equipment, the proposed regulation misses the opportunity to incentive the accelerated transition to ZE and signal to manufacturers that there is strong market demand and need for this new technology in the near term. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. CARB recognizes the need to support the development of zero-emission vehicles in the off-road sector, which is described in detail in Chapter III of the ISOR. Presently, zero-emission vehicle technology in the off-road sector is at a less mature stage of development than in the on-road sector due to several factors, including demanding duty cycles, high power needs, specialized production, and remote or rugged operating environments. CARB disagrees that the Proposed Amendments miss the opportunity to incentivize zero-emission vehicles. Given that zero emission commercial offerings are presently limited for vehicles subject to the Off-Road Regulation, CARB incorporated into the Proposed Amendments two optional compliance pathways for fleets that adopt zero-emission technology: (1) Delay of Tier Phase outs for Addition of Zero Emission Vehicles in section 2449.1(d), and (2) Alternate Compliance Pathway through Zero-Emission Technology section 2449.1(e). These optional compliance pathways provide a regulatory incentive for fleets that choose to deploy zero-emission

vehicles and are consistent with Executive Order N-79-20, which states that California must develop and propose strategies to achieve 100 percent zero-emission from off-road vehicles and equipment operations in the State by 2035, where technologically feasible and cost-effective.

**Comment 83:**

While the ZE flexibility option is intended to provide flexibility to owners interested in transitioning to ZE, it if is not significantly broadened and streamlined it will likely be unavailable as an option for most fleets. In absence of adjustments, the amendment as proposed will likely lead to the proliferation of more new diesel engines (Tier 4 final) in lieu of ZE equipment as fleets scramble to meet the newly proposed compliance deadlines.

Extending the compliance deadlines and streamlining the Zero-Emission Compliance option will provide more opportunities for voluntary emission reductions; offer a more effective opportunity for fleets to recognize, prepare, and plan for the upcoming regulatory changes; give ZE off-road technology much needed time to be better established as a reliable option; and still result in significant benefits to air quality. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. The commenter does not provide specific suggestions on how the zero-emission compliance flexibilities could be broadened or streamlined. The commenter states that "significant benefits to air quality" can still be attained even with a delay in compliance deadlines, since this would provide fleets with additional time to plan for regulatory changes and would also provide zero-emission off-road technology with much needed time to be established as a reliable option. However, the commenter does not provide any data or reasoning that supports that emission reductions achieved through this path would be sufficient and does not provide details on what the timeframe would be for these reductions.

## 15. Low-Use

**Comment 84:**

AGCSD believes that the current low use limitation of 200 hours should be retained. There does not appear to be any justification to lower the number of hours or the 3-year rolling average. We believe that the DOORS data will reflect that this equipment is used much less than the 200-hour limit and many companies use the low-use designation to keep unused equipment in their fleets for asset management purposes unrelated to air quality. [AGCSD]

**Agency Response:** No changes were made in response to this comment. CARB did not make changes to the low-use hour limit as part of the Proposed Amendments. However, the Proposed Amendments do include other changes to the year-by-year and permanent low-use requirements in the Off-Road Regulation. The year-by-year low-use definition and compliance options will no longer be effective starting January 1, 2024. Instead, the Proposed Amendments will provide additional flexibility to permanent low-use vehicles by expanding the definition of permanent low-use to include vehicles averaging less than 600 hours of operation over any 3 consecutive years (3-year rolling average).

**Comment 85:**

2449(g)(2)(C)[:] Recommend the written log option be made explicitly available to those who choose not to take photos (for security purposes or other reasons) in addition to those without access to a camera. [DoD]

**Agency Response:** CARB staff made changes based on this comment. As part of the 15-Day Changes, CARB modified section 2449(g)(2)(C) to allow fleets that are unable to take photographic evidence of low-use hour meter readings due to military security reasons to instead keep written logs as an alternative recordkeeping method.

**Comment 86:**

CCEEB supports the provisions in Section 2449(g)(2)(C)(2) for permanent low use vehicles. This provision should also apply to vehicles that operate part time in California. [CCEEB]

**Agency Response:** No changes were made in response to this comment. Section 2449(g)(2)(C)(2) also applies to vehicles used outside of California that operate part time in California, provided they meet the definition in section 2449(c)(43)(A).

## 16. Preemption

**Comment 87:**

Airlines of America asserts that Airline Deregulation Act (ADA) preempts a state from enacting or enforcing "a law, regulation, or other provision having the force and effect of law related to a price, route, or service of [an] air carrier[.]" The commenter asserts that the term "related to" has been interpreted to mean "all state laws that have 'a connection with or reference to' airline prices, routes, or services." According to the commenter, "ADA preemption applies even if a state law is not expressly designed to affect airline prices, routes, and services, and even if the impact is only indirect" and that the preemption "extends to regulation of off-road airport support vehicles because such equipment is 'integral' to carriers' services."

The commenter asserts that "CARB does not have the authority to implement strategies related to the regulation of off-road equipment that are integral to air carrier operations, to the extent that such actions would impose economic burdens or operational restrictions impacting air carriers' prices, routes, or services." The commenter asserts that "CARB's proposal to regulate certain classes of construction equipment would impermissibly regulate vehicles used as GSE at airports" and that "such action is preempted not only by federal aviation laws, but also the Clean Air Act." [A4A]

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

**The ADA does not preempt the Proposed Amendments**

CARB disagrees with the comment that the Proposed Amendments are preempted by the ADA. In 1994, Congress adopted a preemption provision in the Federal Aviation Administration Authorization Act of 1994 (FAAAA) that specifically says "… a State, political subdivision of a State, or political authority of 2 or more States may not enact or enforce a law, regulation, or other provision having the force and effect of law related to a *price, route, or service* of any motor carrier (other than a carrier affiliated with a direct air carrier covered by section 41713(b)(4)) or any motor private carrier, broker, or freight forwarder with respect to the transportation of property." 49 U.S.C. § 14501, 49 U.S.C. § 41713. (emphasis added).

The FAAAA preemption provision was based on that in the Airline Deregulation Act (ADA), so courts use ADA preemption language interpretations to help inform FAAAA preemption language interpretations. *Rowe v. New Hampshire Motor Transport Ass'n* 552 U.S. 364, 370 (2008) (Rowe). Congress enacted the ADA to deregulate airline transportation services and preempted the states from undoing that deregulation by enacting state regulations relating to airline rates, routes, or services. *Morales v. Trans World Airlines, Inc.,* 504 U.S. 374, 378 (1992) (Morales).

As explained below, courts have not interpreted the ADA as broadly preempting state regulations relating to prices, routes, or services of air carriers, and have in fact held that generally applicable regulations that impact prices, routes, or services in only a tenuous, remote, or peripheral manner are not preempted by the ADA.

In analyzing the preemption provision, the Supreme Court held in *Rowe* that the "FAAAA preempts state enforcement actions and laws having connection with or reference to carrier rates, routes, or services[;] … state requirements that tobacco shipper utilize delivery service providing verification of buyer's legal age; and … imposing upon carrier constructive knowledge that packages originating from specified types of senders contained tobacco." *Rowe,* 552 U.S. 364, at *371.*

The court said it would follow the reasoning of *Morales*, finding "federal law pre-empts States from enforcing their consumer-fraud statutes against deceptive airline-fare advertisements." *Id.,* at 371, *citing Morales, 112 S. Ct. at 391;* See *American Airlines, Inc. v. Wolens,* 513 U.S. 219, 226–228 (1995) (federal law pre-empts application of a State's general consumer-protection statute to an airline's frequent flyer program). State and local ordinances prohibiting jet aircraft from taking off between certain times from the airport was also preempted. *City of Burbank v. Lockheed Air Terminal Inc.* 411 U.S. 624 (1973). As in *Rowe*, the court was concerned with the possible balkanization of local regulations, making it difficult for interstate carriers to operate.

In *Morales*, the U.S. Supreme Court held that state guidelines governing the content and format of advertisements for airlines that explicitly referred to "airfares" and "rates" clearly related to "rates" and were therefore preempted by the ADA. *Id*. at 388-389. In so holding, the Court noted the ordinary meaning of "related to" was "to stand in some relation; to have bearing or concern; to pertain; refer; to bring into association with or connection with," *quoting* Black's Law Dictionary. *Id.* at 383. The Court then observed that the Employee Retirement Income Security Act of 1974 (ERISA) also contained a preemption provision that was worded identically to the ADA's preemption provision, and determined it was appropriate to adopt the same standard of preemption that it had determined applied under ERISA; namely, that preempted state enforcement actions or laws are "related to" the ADA if such actions or laws "hav[e] a connection with, or reference to" airline rates, routes, or services." *Ibid.*

The Court also noted that the challenged guidelines would significantly impact the airlines' ability to market their product and would consequently significantly impact their fares. *Id.* at 390. The court stated, however, that "[s]ome state actions may affect [airline fares] in too tenuous, remote, or peripheral a manner to have pre-emptive effect." *Id*. at 390 (internal quotations omitted).

Since *Morales*, the Supreme Court has refined its broad interpretation of "related to" in both ERISA and in the FAAAA. In 1995, the Supreme Court narrowly read the *Morales* ruling and held traditional state regulations that only indirectly affected ERISA plans were not "related to" such plans and therefore preempted. *New York State Conference of Blue Cross & Blue Shield Plans v. Travelers Ins. Co.,* 514 U.S. 645 (1995). The Court recognized in dicta however, that a state law that produced "acute" indirect economic effects might be preempted. *Id.* at 668.

In 1997, Justice Scalia, who authored the opinion in *Morales,* conceded that the "related to" standard had failed to provide the needed clarity regarding the scope of preempted state actions.

> [A]pplying the "relate to" provision according to its terms was a project doomed to failure, since, as many a curbstone philosopher has observed, everything is related to everything else … The statutory text provides an illusory test, unless the Court is willing to decree a degree of pre-emption that no sensible person could have intended—which it is not.
>
> I think it would greatly assist our function of clarifying the law if we simply acknowledged that our first take on this statute [ERISA] was wrong; that the "relate to" clause of the pre-emption provision is meant, not to set forth a test for pre-emption, but rather to identify the field in which ordinary field pre-emption applies.

*California Div. of Lab. Standards Enf't v. Dillingham Const., N.A., Inc.*, 519 U.S. 316, 335 (1997) (Scalia, J., *concurring*)

In *Dan's City Used Cars, Inc. v. Pelkey*, 569 U.S. 251 (2013) (Perkley), the Court stated:

> The breadth of the words "related to" does not mean the sky is the limit. We have refused to read the preemption clause of the Employee Retirement Income Security Act of 1974, 29 U.S.C. § 1144(a), which supersedes state laws "relate[d] to any employee benefit plan," with an "uncritical literalism," else "for all practical purposes pre-emption would never run its course." (citations omitted). And we have cautioned that § 14501(c)(1) does not preempt state laws affecting carrier prices, routes, and services "in only a 'tenuous, remote, or peripheral ... manner." *Rowe*, 552 U.S., at 371, 128 S.Ct. 989 (quoting *Morales*, 504 U.S., at 390.).

*Pelkey* at 260-261.

CARB disagrees with the comment that the U.S. Supreme Court affirmed the broad scope of preemption of the ADA in *Rowe.* In *Rowe*, the U.S. Supreme Court held that a Maine statute that required tobacco retailers to use a delivery service that would: confirm the recipient was the person to whom the package was addressed; confirm the recipient was the requisite legal age to purchase tobacco and would produce a government-issued photo identification with proof-of-age; and obtain the recipients signature, was preempted by the FAAAA. The Court reasoned that the statute directly imposed requirements on trucking and motor carrier services because it created a "direct connection" with motor carrier services and would significantly adversely impact the FAAAA's preemption objectives by requiring carriers to offer services the market did not offer (and which carriers would prefer not to offer) and by freezing into place services that the market might wish to discontinue in the future. *Rowe*, 552 U.S. 364, 372.

The *Rowe* court also held another provision of the Maine statute that required carriers to examine every package to determine if it contained tobacco was also preempted by the FAAAA as it "would freeze in place and immunize from competition a service-related system that carriers do not (or in the future might not) wish to provide." *Id*. at 373. The Court further noted that "[t]o allow Maine to insist that the carriers provide a special checking system would allow other States to do the same. And to interpret the federal law to permit these,

and similar, state requirements could easily lead to a patchwork of state service-determining laws, rules, and regulations. That state regulatory patchwork is inconsistent with Congress' major legislative effort to leave such decisions, where federally unregulated, to the competitive marketplace." *Id.*

It is important to note that the *Rowe* court *did not* interpret the FAAAA as broadly preempting state regulations of motor carriers and as embracing the *Morales* court's broad interpretation of preemption. The *Rowe* court instead more narrowly construed the preemptive scope of the FAAAA as preempting state laws directed to the carriage of goods that require motor carriers "to offer a system of services that the market does not now provide," or "freeze[s] into place services that carriers might prefer to discontinue in the future." *California Trucking Assoc. v. Bonta*, 996 F.3d 664, 656 (9th Cir. 2021) quoting Rowe at 372, 376.

The above-mentioned Supreme Court cases establish that state laws are generally subject to preemption under the FAAAA and by extension the ADA, if they specifically regulate the same activities as specified in the relevant federal scheme, or if their effects on the federal scheme are especially acute. Those cases also establish that state laws that only have a "tenuous, remote, or peripheral" effects on the federal scheme are not preempted.

Consistent with those principles, federal courts have held that generally applicable background state laws that "are several steps removed from prices, routes, or services, such as prevailing wage laws or safety regulations, are not preempted, even if employers must factor those provisions into their decisions about the prices that they set, the routes that they use, or the services that they provide." *Dilts v. Penske Logistics, LLC,* 769 F.3d 637, 646 (9th Cir. 2014). Federal courts have accordingly held that state laws that mandate prevailing wages, meal-and-break requirements for drivers, and that establish apply tests for determining whether drivers are independent operators or employees are not preempted by the FAAAA. *Californians For Safe & Competitive Dump Truck Transp. v. Mendonca*, (9th Cir. 1998) 152 F.3d 1184; *California Trucking Ass'n v. Bonta*, 996 F.3d 644 (9th Cir. 2021), *cert. denied* 142 S.Ct. 2903 (2022). According to the Ninth Circuit, "even if state laws increase or change a motor carrier's operating costs, 'broad law[s] applying to hundreds of different industries' with no other 'forbidden connection with prices[, routes,] and services' … are not preempted by the FAAAA."). *Dilts*, 769 F.3d 637 at 646-647.

**State Environmental Laws Are Not Preempted by the FAAAA or the ADA**

Courts have held that neither the FAAAA nor the ADA preempt state environmental regulations. In *Omya, Inc. v. Vermont*, (Omya) 33 Fed. Appx. 581 (2nd Cir. 2002), the court held that a state administrative agency's order restricting the number of daily round-trips tractor-trailer trucks could travel on a highway was not preempted by the FAAAA. That order was promulgated under the authority of Vermont's Land Use and Development Law. The court noted that the preemptive provision of the FAAAA was modeled on the preemptive provision of the ADA, and that the Supreme Court has determined the ADA's preemption provision is specifically intended to preempt state economic regulations that could impar the ADA's overarching deregulatory purpose. *Omya*, 33 Fed. Appx. at 584, citing *American Airlines* v. *Wolens*, 513 U.S. 219, 229 n.5 (1995). The court then reasoned that because the

challenged Vermont statute did not "speak directly to prices, routes, or services of motor carriers," but was instead intended "to protect Vermont's environmental resources," and that because the challenged restriction was imposed to achieve non-economic goals that bore "no relationship to the regulation of competition," it could not conclude the order was preempted by the FAAAA. Id. at 584

In *Goodspeed Airport LLC v. East Haddam Inland Wetlands & Watercourses Comm'n*, (Godspeed)) 634 F.3d 206, 210 (2nd Cir. 2011, the court held that the FAAAA did not preempt a state environmental law restricting the removal of trees without a permit. The court held that although Congress intended to fully "occupy the field of air safety and thereby preempt state regulation of that field," the state environmental laws at issue did not sufficiently interfere in that field. *Goodspeed Airport*, 634 F.2d at 210, 211. The regulations did not refer to aviation or airports, and did not prohibit the removal of trees, but only conditioned their removal on issuance of a permit, and therefore did not "enter the scope of the preempted field in either their purpose or their effect." Id. at 211. The court also rejected the contention that the laws were preempted by the ADA, on the grounds that the impact of the environmental laws on air carriers was at best, remote. Id. at 212.

In this case, the Proposed Amendments do not reference or dictate which routes[30] or services[31] air carriers must provide, nor do they reference or dictate the prices[32] air carriers can charge for those services. The Current Regulation with the Proposed Amendments is a generally applicable environmental regulation established by the Board pursuant to the California's police powers to protect the health and welfare of its citizens. It, like the laws and regulations at issue in Goodspeed and Omya, was established to achieve non-economic goals that are entirely distinct from any regulation of competition among air carriers – it reduces harmful air pollution emitted from fleets by establishing requirements that apply generally to owners and/or operators of specified equipment operated in California and imposes at most tenuous, remote, or peripheral economic pacts on air carriers. See also *Dilts*, 769 F.3d 637 at 646 (holding generally applicable background state laws that "are several steps removed from prices, routes, or services are not preempted, even if employers must factor those provisions into their decisions about the prices that they set, the routes that they use, or the services that they provide.").

Additionally, the FAAAA and the ADA do not preempt the Proposed Amendments expressly nor impliedly. In deciding whether a state law conflicts with, and is therefore preempted by a federal law, a court starts with the assumption that the state law is not preempted unless that was "the clear and manifest purpose of Congress." *Rice* v. *Santa Fe Elevator Corp*. 331 U.S.

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[30] The term "route" in the ATA refers to courses of travel. *Air Transport Ass'n of Am. v. City & Cnty. of San Francisco*, 266 F.3d 1064, 1071 (9th Cir. 2001) *citing Charas v. Trans World Airlines, Inc.*, 160 F.3d 1259, 1265 (9th Cir. 1998).

[31] The term "services" in the ADA includes "the frequency and scheduling of transportation, and … the selection of markets to or from which transportation is provided." *Air Transport Ass'n of Am. v. City & Cnty. of San Francisco*, 266 F.3d 1064, 1071 (9th Cir. 2001) *citing Charas*, 160 F.3d. at 1265-266.

[32] The term "price" in the ADA indicates "rates." *Air Transport Ass'n of Am., 266 F.3d at 1071 citing Charas* at 1265.

218, 230 (1947). A court will first determine whether the state law is expressly preempted. If it is not, the inquiry then turns to whether Congress implicitly intended to preempt the state law. *Chevron U.S.A., Inc. v. Hammond 726 F.2d 483, 486 (9th Cir. 1984).*

**Federal Preemption**

**A. No Implied Preemption of Proposed Amendments**

There is also no implied preemption. There are two categories of implied preemption – field preemption and conflict preemption. Field preemption is "where the scheme of federal regulation is 'so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it'." *Gade* v. *Nat'l Solid Waste Mgmt Assn.*, 505 U.S. 88, 98 (1992), quoting *Fidelity Federal Sav. And Loan Ass'n* v. *de la Cuesta*, 458 U.S. 141, 153, (1982), *Rice* v. *Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947). Conflict preemption, exits is when " 'compliance with both federal and state standards is a physical impossibility'," or where the "state law 'stands as an obstacle to accomplishment and execution of the full purposes and objectives of Congress'." 505 U.S. 88, 98 quoting *Florida Lime & Avocado Growers, Inc.* v. *Paul*, 373 U.S. 132, 142-143 (1963); 505 U.S. 88, 98, quoting *Hines* v. *Davidowitz*, 312 U.S. 52, 67 (1941), *Felder* v *Casey*, 487 U.S. 131, 138 (1988), *Perez* v. *Campbell*, 402 U.S. 637, 649 (1971).

As demonstrated above, the Proposed Amendments are not expressly preempted by the ADA and FAAAA because they do not directly regulate or reference prices, routes, or services of air carriers, but instead constitute a generally applicable environmental regulation designed to protect the health, welfare, and environment of Californians from the significant adverse effects of criteria and toxic air pollutants emitted from in-use off-road diesel-fueled fleets operating in California, and has at most, a tenuous, remote, and peripheral economic effect on air carriers.

That reasoning also establishes why the Proposed Amendments are not impliedly preempted by the ADA and FAAAA. First, as demonstrated above, numerous court decisions have established that the pre-emptive scope of the ADA only encompasses state regulations and related enforcement actions that are directly related to or that impose significant economic impacts on prices, routes, and services of air carriers that could undermine the congressional intent to undermine the deregulation of the airline transportation industry. "Field preemption requires not only a determination that Congress intended to occupy the field, but consideration of what the 'boundaries of the pre-empted field' are." *Cnty. of Butte v. Dep't of Water Res.*, 13 Cal. 5th 612, 630 (2022), as modified (Aug. 24, 2022) quoting English v. Gen. Electric Co., 496 U.S. 72, 82 (1990). "In these cases, our task is to identify the domain expressly pre-empted, (citation omitted) because 'an express definition of the pre-emptive reach of a statute ... supports a reasonable inference ... that Congress did not intend to pre-empt other matters,' (citation omitted)." *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 525, 541 (2001).

The *Omya* and *Goodspeed* cases held that the FAAAA and the ADA, respectively, do not preempt generally applicable state environmental laws because those state laws were regulating aspects of motor carriers and air carriers, respectively, that extended beyond the boundaries of the fields that were assertedly preempted by the FAAAA and the ADA. The

Off-Road Regulation with the Proposed Amendments, like the laws and regulations at issue in *Goodspeed* and *Omya*, is a generally applicable non-economic regulation that does not reference or significantly impact the process, routes, or services of air carriers, and also imposes requirements and regulates activities beyond the issues at issue in the FAAAA and the ADA, and consequently is also not impliedly preempted by the ADA.

Furthermore, the commenter cannot establish that Congress has enacted a federal regulatory program that is "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it." *Rice* v. *Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947).

First, the commenter cannot dispute that Congress has established, in the federal Clean Air Act, a comprehensive regulatory scheme to regulate air pollution that relies on a collaborative relationship between the states and the federal government. Under that scheme the federal U.S. EPA establishes national ambient air quality standards (NAAQS), and the states and local governments must develop state implementation plans needed to implement, maintain, and enforce NAAQS in each air quality region of the state. See CAA §§ 109 and 110 (42 U.S.C. §§ 7409 and 7410). The Clean Air Act accordingly primarily relies on states and local governments to control air pollution. "[A]ir pollution prevention … and air pollution control at its source is the primary responsibility of States and local governments" CAA § 101(a*). Engine Mfr's Ass'n v. U.S. EPA*, (EMA) 88 F.3d 1075, 1078 (D.C. Cir. 1996).

In 1990 Congress granted U.S. EPA the authority to regulate new nonroad engines and vehicles when it enacted the 1990 Amendments to the federal Clean Air Act. Congress further preempted states and political subdivisions from adopting or enforcing standards or other emission-related requirements for any other nonroad engines or equipment but, as it had previously provided in regulating motor vehicles, authorized only California, in the first instance, to adopt and enforce standards and other emission-related requirements from new and in-use nonroad engines that are not expressly preempted by section 209(e)(1). California may enforce such requirements once U.S. EPA authorizes California to adopt and enforce such standards and requirements pursuant to section 209(e)(2). These considerations sufficiently rebut any contention that Congress impliedly preempted CARB's authority to adopt the Proposed Amendments.

**B. Conflict Preemption: No Actual Conflict**

No actual conflict exits between federal law and the Proposed Amendments. An actual conflict exists if "compliance with both federal and state standards is a physical impossibility," or if the state law "stands as an obstacle to accomplishment and execution of the full purposes and objectives of Congress." *Hines v. Davidowitz* 312 U.S. 52, 67 (1941); *Florida Lime & Avocado Growers, Inc. v. Paul* 373 U.S. 132, 142-143 (1963).

No actual conflict with either the ADA or the FAAAA exists because owners and operators of affected vehicles can easily comply with both the Proposed Amendments and the ADA and the FAAAA. As previously discussed, the Proposed Amendments do not impose requirements on prices, rates, or routes of air carriers or motor carriers, and consequently do not prevent owners or operators of regulated fleets from purchasing the requisite quantities of equipment and simultaneously meeting their transportation business objectives.

The commenter further cites to cases that it contends support its assertion that the ADA preempts the Proposed Amendments, but as explained below, those cases are inapposite and distinguishable from the Proposed Amendments. The commenter cites to *Federal Exp. Corp. v. California Pub. Utilities Com'n*, 936 F.2d 1075 (9th Cir. 1991) to support its contention that "California's generally applicable trucking regulation of air carrier's trucking operations was preempted because such trucking operations "are integral to…operation as an air carrier**"**, but that case is inapposite and distinguishable from the Proposed Amendments. The issue presented in the *Federal Exp. Corp* case was whether regulations promulgated by California's Public Utilities Corporation establishing tariffs of common carriers and terms and conditions of bills of lading, freight bills and other "accessorial documents" were preempted by the ADA. The court determined that the challenged regulations constituted economic regulations that directly impacted the air carrier's operations, and were therefore preempted by the ADA. However, the Off-Road Regulation and the Proposed Amendments is a non-economic regulation and consequently that case does not support the commenter's argument. Indeed, the *Federal Exp. Corp*. court recognized that the ADA does not preempt a state from regulating an air carrier's non-economic conduct, such as establishing general traffic laws. 936 F.2d at 1078.

*Marlow v. AMR Serv.*, 870 F. Supp. 295, 298-99 (D. Haw. 1994) presented the issue whether a state whistleblower claim filed by an employee responsible for maintaining jetbridges was preempted by the ADA. The court found that maintenance of jetbridges was integral to the provision of air carrier services, that the state whistleblower laws would somehow impair that needed maintenance, and consequently held the challenged state laws were preempted. The Proposed Amendments neither regulate jetbridges, involve whistleblower claims, or establish requirements that would impair the ability of air carriers to maintain equipment and accordingly present none of the considerations at issue in *Marlow*. See response to Comment 89 on why the Proposed Amendments are not preempted by the Clean Air Act.

## 17. Authority

**Comment 88:**

I oppose all regulation directed by CARB. Unelected bureaucrats should not be allowed to exercise such authority. This only belongs to the legislature. [Hendrickson]

**Agency Response:** No changes were made in response to this comment. CARB acknowledges the comment. CARB is implementing the Proposed Amendments under the direction of the California Legislature and statutes that provide CARB with authority to regulate.

**Comment 89:**

Airlines for America asserts that CARB has acknowledged in its Proposed 2022 State Strategy for the State Implementation Plan that its authority to regulate GSEs under the CAA is outside of its regulatory authority and limited by federal law. [A4A]

**Agency Response:** No changes were made in response to this comment. CARB disagrees with the misstatement that "CARB acknowledged that its authority to regulate GSEs under the CAA is outside of its regulatory authority and limited by federal law." The 2022 State Strategy for the State Implementation Plan states that "California is dependent on the U.S. EPA to regulate the emissions from farm and construction equipment under 175 horsepower because only U.S. EPA has the authority to set emission standards for this equipment under the Clean Air Act."[33] Specifically, the federal Clean Air Act preempts states, including California, from adopting requirements for new off-road engines less than 175 hp used in farm or construction equipment. (CAA 209(e), 42 U.S.C. § 7543). However, per Section 209(e)(2) of the federal Clean Air Act, California may adopt emission standards for in-use off-road engines. (*Id.*) CARB also stated in the 2022 State Strategy for the State Implementation Plan that "California is the only state with authority to adopt and enforce emission standards for new and in-use off-road engines that differ from the federal emission standards. That said, the Clean Air Act does preempt California from establishing more stringent standards for equipment under 175 horsepower in a select group of off-road equipment categories. These preempted off-road equipment categories are only required to meet the less stringent federal emission standards and not California's emission standards."[34] Nowhere does CARB state in the 2022 State SIP Strategy that GSE are preempted. The Off-Road Regulation and Proposed Amendments addresses in-use rather than new off-road engines; creates requirements to meet existing emission standards; and does not create emission standards for new vehicles.

Under the Supremacy Clause, federal law is the supreme law of the land; whenever a state law is contrary to a valid federal law, the federal law controls. U.S. Const. art. VI, cl. 2. The test to determine whether a state law is contrary to a federal law, and therefore preempted,

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[33] CARB. (2022). 2022 State SIP Strategy, p. 78, *https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf*.
[34] Id. at 109.

is based on the specific type of preemption. There is a strong presumption against preemption "with the assumption that the historic police powers of the States [are] not to be superseded by...Federal Act unless that [is] the clear and manifest purpose of Congress. . ." *Major v. R.J. Reynolds Tobacco Company* 14 Cal.App.5th 1179 (2017).

The Clean Air Act findings makes it clear that the statute places primary responsibility for enacting and implementing laws in state jurisdiction. *Ibid.* The Clean Air Act's Savings Clause states that "nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants, or (2) any requirement respecting control or abatement of air pollution . . ." There are limits on this savings clause, where sources are explicitly preempted, for example specific vehicles, or where implied.

The aircraft themselves are specifically addressed in the Clean Air Act, which specifically says "[n]o State or political subdivision thereof may adopt or attempt to enforce any standard respecting emissions of any air pollutant from any aircraft or engine thereof unless such standard is identical to a standard applicable to such aircraft under this part." (42 U.S.C. § 7573.) This means States may not adopt standards on aircraft or their engines.

Non-aircraft engines are different. In 1990, Congress granted U.S. EPA the authority to regulate new non-road engines and vehicles. Non-road engines are internal combustion engines that are not used in motor vehicles or vehicles used solely for competition, or that are subject to standards promulgated under Section 111 of the Clean Air Act (standards of performance for new stationary sources) or section 202 of the Clean Air Act (standards for on-road mobile sources). (CAA § 216(11); 42 U.S.C. § 7550(11).)

U.S. EPA's authority to regulate new non-road sources differs in several respects from its authority to regulate new motor vehicles and engines. Significantly, in section 209(e)(1) (42 U.S.C. § 7543(e)(1)), Congress conclusively preempted states and their political subdivisions from adopting or enforcing any standard or other requirement relating to the control of emissions from certain categories of non-road engines: (1) new engines less than 175 hp used in farm and construction equipment and vehicles, (2) new engines used in new locomotives, and (3) new locomotives.

Congress authorized California to adopt and enforce standards and other emission related requirements from new and in-use non-road engines not expressly preempted by section 209(e)(1). California may enforce these requirements after U.S. EPA's Administrator authorizes California pursuant to section 209(e)(2). The criteria for obtaining non-road authorization are nearly identical to the criteria for obtaining a waiver for on-road vehicles.

As with motor vehicles, states are not preempted from regulating the use and movement of used non-road engines and equipment, such as limiting hours of usage, or preempted from regulating fuel, such as setting a sulfur limit, for use in non-road engines and equipment.[35]

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[35] Control of Air Pollution: Emission Standards for New Non-road Compression-Ignition Engines at or Above 37 Kilowatts; Preemption of State Regulation for Non-road Engine and Vehicle Standards; Amendments to Rules, 62 Fed. Reg. 67733 (Dec. 30, 1997).

Based upon the plain language of the expressed preemption in the Clean Air Act, it appears Congress wanted to limit the preemption to just those few specified categories and intentionally did not preempt GSE. This is especially true given that Congress was very aware of the aviation industry at the time that it adopted section 209(e)(2) and chose only to expressly preempt states and local governments from regulating aircraft and aircraft engines. (See CAA § 233, 42 U.S.C. § 7573.) Thus, the Off-Road regulation is permitted by the federal Clean Air Act. See response to Comment 87 for why the Proposed Amendments are not preempted by the FAAAA and the ADA.

**Comment 90:**

According to the commenter, "the regulation of aircraft and aircraft operations is within the exclusive jurisdiction of the Federal Aviation Administration (FAA)[,]" and "[the] FAA has taken the position that Federal Aviation Act preemption applies to regulation of GSE." The commenter quotes a letter from Paul Dykeman, Deputy Director, Office of Environment and Energy, FAA, stating "[a] broad reading of state authority to regulate aircraft operations directly, or indirectly through ground service equipment limitations, would be inconsistent with federal preemption of airspace management and aircraft operations." The commenter concludes that "CARB is without authority to promulgate measures to the extent they would effectively control or otherwise affect the operation of aircraft." [A4A]

**Agency Response:** No changes were made in response to this comment. CARB disagrees that FAA preemption of regulation of aircraft and aircraft operations applies to regulation of GSE. The commenter cites the FAA's letter from Paul Dykeman to Donald Zinger at U.S. EPA in support of its argument that states lack authority to regulate aircraft operations both directly and indirectly through GSE limitations. The Dykeman letter is not dispositive that California's regulation of GSE equipment is preempted under federal law. The letter was written to clarify FAA's views concerning a rule the Texas Natural Resources Consecration Commission (TNRCC) adopted on emissions from airport ground service equipment. Dykeman notes that the letter does not address the issue of whether the regulation is preempted under Section 209 of the Clean Air Act and assumes, "arguendo, without conceding, that the State of Texas may regulate airport ground service equipment in some manner."

The TNRCC rule at issue required owners and operators of GSEs in the "Dallas Ft. Worth (D/FW) ozone nonattainment area at airports having 100 or more airport carrier operations per year, averaged over a three-year period to 'demonstrate a reduction of oxides of nitrogen (NOx) emissions' equal or greater than the amount specified in the regulation." Owners and Operators of GSEs were required to electrify 100 percent of their fleet by May 1, 2005, with some exceptions, or have a plan that provides for emission reduction measures.

Dykeman states that the FAA and Clean Air Act "preempt regulations that impinge upon aircraft operations and management of the navigable airspace." The letter quotes Section 233 of the Clean Air Act (42 U.S.C. § 7573), which preempts a State or a political subdivision from adopting and enforcing "any standard respecting emission of any air pollution from any aircraft or engine thereof unless such standard is identical to a standard applicable to such

aircraft under this part. Dykeman reasons that Sections 231[36] and 233 of the Clean Air Act preempt the field by establishing a national standard for aircraft engine pollutants and granting FAA authority to enforce those standards.

According to Dykeman, "there is clearly no room for states to establish or impose any aircraft emission standard not identical to those established by the EPA" and the standards under Section 233 "refer broadly not just to quantitative emission levels, but to emission reduction targets that necessarily have the direct or indirect effect of restricting aircraft operations." The letter states that the central issue is whether the regulation left owners and operators of GSEs the "discretion to choose among suggested procedure and the freedom to choose measures that do not necessarily regulate aircraft operations."

According to Dykeman, the FAA "lacks sufficient data to make an informed judgement that compliance with the Texas regulation is possible without affecting growth in aircraft operations." Dykeman was concerned that since aircraft depend on GSEs for "maintenance, fueling, housing, and in some case movement on the ground" a lack of availability of reliable GSEs could affect the safety of aircraft and flight preparations. The concern was that electrification would affect operations by reducing total GSE equipment.

The Proposed Amendments do not set emission standards for aircraft or aircraft engines. Unlike TNRCC's rule, the Proposed Amendments do not require electrification of GSEs. Electrification is voluntary, and operators of GSEs have the option to electrify GSEs if they choose. The emission reduction requirements of the Proposed Amendments do not restrict aircraft operations because neither GSE nor RD availability are an issue here. There are extensions and exceptions in the Proposed Amendments for instances where RD or cleaner equipment is unavailable. Shortages in cleaner equipment or fuel would not affect the safety of aircraft or flight preparations.

While Dykeman believed that regulating aircraft operations directly, or indirectly through GSE limitations was preempted, as discussed above, federal courts have held that generally applicable background state laws that "are several steps removed from prices, routes, or services are not preempted." The Current Regulation with the Proposed Amendments is a generally applicable state regulation designed to protect the health, welfare, and environment of Californians from the significant adverse effects of criteria and toxic air pollutants emitted from in-use off-road diesel-fueled fleets operating in California, and at most, a tenuous, remote, and peripheral economic effect on air carriers. See response to Comment 87 for why the Proposed Amendments are not preempted by the FAA.

[36] Section 231 grants U.S. EPA regulatory authority over aviation emissions. *See* 42 U.S.C. § 7571.

## 18. Necessity

**Comment 91:**

Staff says the proposed forced retirement of equipment is needed to meet federal regulatory requirements for ozone in 19 areas of the state and PM 2.5 in the San Joaquin Valley and South Coast AQMD. (ISOR, p 37, 38). This is just nor accurate! The only areas that require the additional reductions to meet federal regulatory standards are the San Joaquin Valley and South Coast AQMD for ozone. Show us letters from the Air Pollution Control Officers from those other 17 areas stating that their current air quality plans are deficient, and they need the additional reductions to meet federal Clean Air Act requirements. Staff says the additional requirements are critical to all Californians, especially those working and living near where these vehicles operate. (ISOR, p 41). The current regulation requires massive reductions in PM and NOX throughout the state. The additional requirements are ONLY "critical" to meeting the federal ozone standard in the San Joaquin Valley and SCAQMD. Staff says limiting the new forced retirement of equipment to the San Joaquin Valley and SCAQMD will allow fleets with locations inside and outside those areas to move their "dirtier" equipment to outside those areas hurting the residents in those areas. (ISOR, p 41).

Staff is suggesting that equipment moved outside the San Joaquin Valley and SCAQMD would somehow escape lower emission requirements. That is just misleading. That equipment is still subject to the existing regulation which requires massive reductions in PM and NOx. Moreover, the current regulation already allows companies that have multiple equipment locations to meet lower requirements depending on where the equipment is located (Captive Attainment Areas). If the location of "dirtier" equipment was truly a CARB staff concern, they would also be concerned with eh movement of the "dirtier" equipment from fleets subject to the current rule to the unregulated fleets in the same area. Text can be easily added to the proposed regulation clarifying that the new requirements apply only to these "Extreme" areas. [CIAQC]

Narrow the scope of this rule to two air districts that need the extra reductions. The remainder of the state is achieving compliance with State and federal standards and CARB has done nothing to regulate the ag and forestry fleets in those areas that use exactly the same machines. It's unfair to burden only contractors were it not necessary to achieve air quality standards. This will also allow the statewide fleets to put their new equipment in those two districts to get early reductions you are seeking. [CIAQC2]

Many air basins throughout California can meet federal attainment standards without additional emission reductions from off-road diesel vehicles subject to this rule. The amendments to the Off-Road Diesel Regulation place the burden of compliance on fleets statewide. Placing a compliance cost burden on fleets and operations outside air basins which really need them is unnecessary and an undue hardship. The proposed amendments may also not be the most effective emission reduction strategies for the regions which need further emission reductions. It would be appropriate to focus on regulations for those air districts that cannot meet the federal attainment standards which in California is South Coast and San Joaquin. The remainder of the state will meet the standards and has no need for these onerous provisions. San Joaquin cannot meet the standards with just construction

regulations alone. This equipment is widely used in the agricultural sector as well. To exempt them is counterproductive to the intent of the new regulation. CARB should also recognize the measures within the Off-road Diesel Regulation as necessary across all economic sectors which use off-road diesel equipment, especially the bans on the purchase of vehicles with lower Tier engines. This should be done in advance of the adoption of any amendments to the Off-road Diesel Regulation. Making these measures universal statewide would recognize the inequity of regulatory burden between economic sectors within the state and correct them. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The purpose of the Proposed Amendments is to achieve emission reductions beyond those that can be achieved through implementation of the Current Regulation alone. The regulation does allow for some relaxed requirements for fleets where all vehicles are within captive attainment areas; however, CARB disagrees that the Proposed Amendments are not necessary when not all air districts in the state are classified as "extreme" nonattainment areas for NOx and PM2.5. Nineteen areas in California are designated as in nonattainment, and of those, ten areas are classified as Moderate and above for the 70 ppb ozone standard. These areas include California's large urban regions, as well as rural downwind areas, and more than half (21 million out of nearly 40 million) of Californians live in areas that exceed the 70 ppb ozone standard. According to the 2022 State Strategy for the State Implementation Plan, "[m]any low-income and disadvantaged communities within the nonattainment areas, and across the State, continue to experience disproportionately high levels of air pollution and the resulting detrimental impacts to their health."[37] Challenges also remain in meeting the PM2.5 ambient air quality standard, as the South Coast Air Basin and San Joaquin Valley are not the only areas in nonattainment with recent federal PM2.5 standards. About 71 percent of Californians breathe unhealthy air.

In addition, U.S. EPA is currently proposing to lower the annual PM2.5 National Ambient Air Quality Standard from the current 12 $\mu g/m^3$ to a level ranging from 8-11 $\mu g/m^3$. U.S. EPA is collecting public comments, and the new standard may not be finalized until late 2023/early 2024. Depending on the standard set by U.S. EPA, a vast majority of the state could be in nonattainment if the new standard is set to a level at the bottom end of the range currently proposed.

The emissions reductions that result from the implementation of the Proposed Amendments are expected to produce substantial benefits in the form of reduced hospitalizations and immature mortalities across the state. This is because off-road vehicles are mobile and can be used in multiple areas, both inside and outside of the two air basins mentioned by the commenter. Off-road vehicles that are subject to the Off-Road Regulation are not limited to operating in just one region or at one location in California. See response to Comment 11 regarding the vehicles targeted by this regulation. See response to Comment 26 regarding the population of these vehicles that would remain in California in the absence of the Proposed Amendments. Without a regulation that applies statewide, fleets with more

[37] CARB. (2022). 2022 State Strategy for State Implementation Plan, p. 2, *https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf*.

resources and operations throughout the state would have an unfair advantage to move vehicles around to meet compliance requirements. This type of activity could result in vehicles with engines that meet Tier 4 Final standards moving to the South Coast Air Basin and San Joaquin Valley, while older, more polluting equipment move to the nonregulated areas of California, leading to adverse emissions impacts in those areas.

California also needs to reduce diesel PM emissions. Diesel PM has been identified as a TAC by CARB, and it poses a significant public health risk, especially at the local level. Action is needed to reduce diesel PM at a statewide level to reduce the health risk throughout California, especially in communities that experience disproportionate burdens from exposure to TACs. There are immediate and direct risks for workers with direct exposure to these toxic emissions. These impacts are not regional but are localized and occur in the immediate vicinity of the equipment's operations regardless of attainment status. As discussed in Chapter VIII of the ISOR, groups occupationally exposed to diesel-powered vehicles, such as those working in construction, have increased exposure to diesel PM and NOx, putting them at greater risk for developing health problems. In California alone, it is estimated that 150,000 people are occupationally exposed to off-road heavy-duty diesel vehicles. This includes, but is not limited to, those working as construction equipment operators, construction laborers, highway maintenance workers, and surface miners.[38] Occupational air pollutant exposure, especially exposure to diesel exhaust, is an urgent issue; the health implications to workers are long-lived and can even lead to death. Keeping workplace air pollutant exposure as low as possible is vital to protecting workers' health. The expected benefits include improved working conditions, fewer lost workdays, and long-term health benefits for workers.

CARB estimated the reduction in adverse health outcomes associated with reduced emissions of PM2.5 and NOx due to the Proposed Amendments. Section 2.4 of the SRIA provides additional details on the methodology for calculating the health benefits discussed in this section. These health outcomes include cardiopulmonary mortality, hospital admissions for cardiovascular and respiratory illnesses, and emergency room visits for asthma. Based on the analysis, staff estimates that the total reduction in the number of cases statewide due to the implementation of the Proposed Amendments from 2024 to 2038 would be as follows:

- 570 fewer premature deaths (446 to 698, 95 percent confidence interval);
- 82 fewer hospital admissions for cardiovascular illnesses (0 to 161, 95 percent confidence interval);
- 98 fewer hospital admissions for respiratory illnesses (23 to 173, 95 percent confidence interval); and
- 277 fewer emergency room visits for asthma (175 to 378, 95 percent confidence interval).

[38] U.S. Bureau of Labor Statistics. (2021) May 2021 State Occupational Employment and Wage Estimates. Retrieved June 17, 2022, from *California - May 2021 OEWS State Occupational Employment and Wage Estimates (bls.gov).*

Regarding agricultural equipment, the commenters are correct that generally, vehicles used in agricultural and forestry operations are exempt from the Off-Road Regulation. CARB did not make a change to this applicability in the Proposed Amendments. Agricultural operations utilize a variety of vehicles and equipment across various source categories – many of which are currently regulated by CARB. CARB disagrees that the vehicles subject to the Off-Road Regulation are widely used in the agricultural sector. The 2021 Agricultural Equipment Emission Inventory[39] includes a classification for construction equipment used in agriculture, and this category makes up less than 3 percent of the total agricultural equipment population that is greater than 25 hp. About half of this equipment are already Tier 3 or cleaner.

Unlike other industries, emissions from off-road agricultural equipment are heavily concentrated in just one area of the State – the San Joaquin Valley, where agricultural equipment emissions account for 53 percent of the statewide NOx and 52 percent of the statewide PM emissions from agricultural equipment.[40] These emissions, in turn, account for 21 percent of the region's NOx and 18 percent of the region's PM emissions from mobile sources. [41] The Bay Area Air Quality Management District has the next highest concentration of agricultural equipment emissions at 5.1 percent of the statewide NOx and 5.4 percent of the statewide PM emissions from agricultural equipment.[42] These emissions account for only 1.8 percent of the region's NOx and 1.5 percent of the region's PM emissions from mobile sources.[43] Because of this, a regional approach to achieving emission reductions from equipment used in agricultural operations is most effective. There is no need to regulate the agricultural industry statewide since there is little risk associated with farmers moving their equipment to another part of the state.

CARB and its air district partners are also successfully pursuing emission reductions from agricultural equipment through various incentive programs. More information on the programs and the emission reductions achieved through these programs in the San Joaquin Valley, where most agricultural equipment operates, can be found in CARB's 2021 Annual Demonstration Report San Joaquin Valley Agricultural Equipment Incentive Measure. [44] In the San Joaquin Valley, these programs are achieving more emission reductions from agricultural equipment in 2024 than the Proposed Amendments are achieving from the mobile, off-road diesel sector.

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[39] CARB. (2021). 2021 Agricultural Equipment Emission Inventory. August 2021. Retrieved March 24, 2023, from *https://ww2.arb.ca.gov/sites/default/files/2021-08/AG2021_Technical_Documentation_0.pdf*

[40] Ibid.

[41] CARB. (2019). CEPAM2019v1.03 Emission Projection Data. Retrieved March 28, 2023, from https://ww2.arb.ca.gov/applications/emissions-air-district

[42] Ibid.

[43] Ibid.

[44] CARB. (2022). 2021 Annual Demonstration Report San Joaquin Valley Agricultural Equipment Incentive Measure, Covering Projects Completed Through 3 /31/2022, May 15, 2022. Retrieved April 24, 2023, from *https://ww2.arb.ca.gov/sites/default/files/2022-05/CARB%202021%20Annual%20Demonstration%20Report%20-%20SJV%20Ag%20Incentive%20Measure.pdf*.

## 19. Financial Support

Note that the comments below are outside of the scope of this rulemaking. However, because CARB received several comments on this topic, CARB has grouped these comments together to assist the reader in their review and provided responses for completeness and clarity purposes.

**Comment 92:**

The Associated General Contractors of California urges CARB…to provide financial support to assist businesses during this transition. [AGC of California]

**Agency Response:** No changes were made in response to this comment. Financial support is outside the scope of this rulemaking. CARB does not have the discretion to provide financial support directly to businesses outside of those programs authorized by the State Legislature. However, financial incentive opportunities may be available for off road diesel fleets through the existing and authorized CORE, Carl Moyer, and Community Air Protection programs.

**Comment 93:**

CARB can mitigate delays and other obstacles to approval of off-road ZE projects in various ways by… continuing to expand availability of ZE infrastructure grants for off-road projects. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. Funding is outside the scope of this rulemaking. CARB does not have the discretion to expand zero-emission infrastructure grants beyond the programs and budget authorized by the State Legislature.

**Comment 94:**

We also urge CARB to provide accurate information relative to incentives, specifically the lack of any, if guideline changes aren't implemented quickly to avoid misleading equipment owners into thinking they will be eligible for financial assistance. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. Funding is outside the scope of this rulemaking. CARB does provide accurate information relative to incentives. On October 15, 2021, CARB conducted a public workgroup to discuss the development of the cost analysis, the availability of incentive programs, and how the programs might overlay with the Proposed Amendments for the off-road construction industry. The CARB presentation at this workgroup provided information regarding the availability and impact of the Proposed Amendments on the Carl Moyer Program and other funding programs based on the proposal at that time.

CARB recognizes the complementary role incentives play in coordination with regulatory programs to reduce emissions. Incentive opportunities are available for off-road diesel fleets in CORE, the Carl Moyer Program, and the Community Air Protection programs. The Carl Moyer Program is implemented in coordination with California's air pollution control and air quality management districts. CARB intends to work with local air districts to provide guidance on Carl Moyer Program eligible projects in the near term, as well as coordinate and prioritize efforts to evaluate where the Carl Moyer Program may be updated to reflect

opportunities available with the amended off-road diesel regulation. CARB will work with air districts and stakeholders to prioritize and ensure updates occur in a timely manner. Information on CARB incentives is available at *https://ww2.arb.ca.gov/our-work/topics/incentives*.

**Comment 95:**

Large fleets are not currently eligible for funding except through the Carl Moyer/SOON program at the South Coast AQMD. AGC of California encourages CARB to open the Carl Moyer Funding up to large fleets in all California Air Districts. We believe that should be a part of all clean air plans going forward as the cost of repowering and/or replacement of equipment is an enormous burden on any company. [AGC of California]

Large fleets are not currently eligible for funding, except through the Carl Moyer SOON Program at South Coast AQMD. We encourage CARB to open the Carl Moyer funding up to large fleets in all California air districts, and to continue doing so moving forward. [AGC of California2]

**Agency Response:** No changes were made in response to this comment. Funding is outside the scope of this rulemaking. However, CARB recognizes that the regulatory amendments intended to realize near-term emission reductions impact the opportunities for large and medium fleets to receive incentives through the Carl Moyer Program. Emission reductions funded by the Carl Moyer Program must be early or extra to regulatory requirements to meet the underlying statutory provisions and be State Implementation Plan-creditable.

The Surplus Off-Road Opt-In for NOx (SOON) Program is established in CCR, title 13, section 2449.2. Section 2449.2 applies to any air quality management district or air pollution control district whose governing board elects to opt into the provisions of this section. To date, only the South Coast Air Quality Management District has elected to opt into the program.

**Comment 96:**

We urge CARB to consider changes to State-adopted incentive program guidelines, especially Carl Moyer Program (CMP), to support the accelerated transition to the cleanest available technology and give short-term support for newly regulated owners who adopt Tier 4 Final ahead of new compliance deadlines….Emission reductions gained by the implementation of the rule would be more impactful if combined with greater incentive opportunities that consider surplus emission reductions through the voluntary early replacement of Tier 0, Tier 1, Tier 2, and Tier 3 equipment with Tier 4 Final and ZE equipment. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. This comment is outside the scope of this rulemaking. CARB intends to update the Carl Moyer Program to reflect opportunities available with the amended off-road diesel regulation. This includes support for the cleanest Tier 4 diesel technology available and zero-emission technologies. In November 2022, the Board approved an increase to the Carl Moyer Program cost-effectiveness limits, including the optional off-road zero-emission cost-effectiveness limit. This is a first step in this process of updating the Carl Moyer Program Guidelines to further

support the transition to cleaner-than-required technology, including zero-emission technology.

**Comment 97:**

I ask that the Board direct staff to coordinate focused funding for demonstration projects to adapt the technology to specific off-road equipment and test and certify it, and then move directly to larger demonstrations and then pilot projects. I also ask that the Board direct staff to coordinate with the CEC, so that incentive funding is available before the work is done for both vehicle conversion and charging and solar fueling to provide the electricity necessary to power the vehicles wherever they are. [SVCCC]

**Agency Response:** No changes were made in response to this comment. Funding is outside the scope of this rulemaking. CARB does not have the discretion to expand demonstration and pilot project funding beyond the programs and budget authorized by the State Legislature. The Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives[45] includes off-road equipment demonstrations and pilot projects as an eligible category in the allocation for Advanced Technology Demonstration and Pilot Projects.

**Comment 98:**

An alternative might be to use incentive dollars to purchase early retirement of older construction equipment as is done currently with older agricultural equipment. CARB could monetize credits voluntarily surrendered to CARB or monetize voluntary retirements of Tier 0, 1, and 2 with no accompanying turnover credit. Or pay fleets $XXX per retired horsepower which they don't need to comply with the regulation. [AGCSD]

**Agency Response:** No changes were made in response to this comment. Funding is outside the scope of this rulemaking. CARB's incentive funding is subject to statutory limitations and is appropriated annually in the State budget. CARB does not have the discretion to create new programs outside of its authority.

**Comment 99:**

CARB can mitigate delays and other obstacles to approval of off-road ZE projects in various ways by:

- Implementing a certification process for ZE off-road equipment. This would eliminate the need for ZE equipment to undergo CMP case-by-case (CBC) determinations by CARB, which involve lengthy review of ZE equipment's technological feasibility. CARB already has a list of off-road ZE equipment acceptable for the Clean Off-Road Equipment (CORE) Voucher Incentive Project.

[45] CARB. (2022). The Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives. Approved November 17, 2022. Available at *https://ww2.arb.ca.gov/sites/default/files/2022-10/proposed_fy2022_23_funding_plan_final.pdf.*

- In absence of the above, streamlining or eliminating the CBC process required by the CMP guidelines to allow for swift approval of ZE. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. This comment is outside the scope of this rulemaking. CARB recognizes the need to develop processes to ensure that Carl Moyer Program funded off-road zero-emission equipment will achieve paid-for emission reductions. This also includes considering strategies related to the process that support funding the transition to off-road zero-emission technologies and including coordinating with other CARB incentive programs such as CORE.

CARB is considering strategies to streamline criteria for off-road zero-emission equipment while ensuring that Carl Moyer Program funded projects meet the required statutory provisions and are State Implementation Plan-creditable. CARB is eager to engage with stakeholders and air districts to develop criteria that would minimize the need for case-by-case (CBC) determinations yet also ensure that Carl Moyer Program goals are achieved.

**Comment 100:**

If the Off-Road Regulation is implemented as proposed, most equipment owners interested in upgrading to ZE will be ineligible for grant funding unless complementary changes are implemented in incentive program guidelines, such as the CMP guidelines…. CARB can mitigate delays and other obstacles to approval of off-road ZE projects in various ways by: Modifying CMP guidelines to allow for shorter project-useful lives in anticipation of the short compliance timeline. [BAAQMD]

**Agency Response:** No changes were made in response to this comment. This comment is outside the scope of this rulemaking. CARB is evaluating guideline criteria, such as project life, while also ensuring that projects occur ahead of compliance deadlines, are surplus to applicable regulations, and meet Carl Moyer Program goals.

## 20. Miscellaneous Comments

**Comment 101:**

The CARB needs to take clear action to direct that provisions be included in the rule to make regular technology and infrastructure assessments, on specific timelines, before further provisions of the rule may take effect. Without such re-openers and off-ramps in the regulation you will leave industry with no options but to seek legislative relief for the staggering employment losses that will result from this proposal. [CIAQC]

**Agency Response:** No changes were made in response to this comment. CARB believes the assessment of technology completed for this rulemaking is thorough and accurate, and a further review is unwarranted. The feasibility of the Proposed Amendments is described in detail in Chapter V of the ISOR. The Proposed Amendments require the phase-out of the oldest and highest-emission vehicles in a fleet and the addition of the cleanest combustion technology, primarily Tier 4 Final. Tier 4 Final technology is readily available and has been manufactured since 2014. See response to Comment 60 regarding the technical feasibility of RD.

No infrastructure assessment is necessary for this rulemaking because the Proposed Amendments do not mandate technology that will require infrastructure that is not already being utilized by fleets.

See response to Comment 11 regarding CARB's analysis on the impacts to businesses and CARB's assessment on the potential for adverse economic impact on California business enterprises, including impact on job creation and elimination.

**Comment 102:**

The current useful life definition does not reflect that reality. It is focused on engine life and does not reflect the durability of off-road equipment. The shorter useful life definition also masks the real cost of compliance by removing from CARB's cost calculation any equipment that is beyond the arbitrary useful life definition. This paints an unrealistic picture of the industry's ability to afford the compliance requirements and generates different compliance responses than anticipated by CARB. CARB's useful life definition is an inaccurate representation of the true useful life of this equipment. It also artificially reduces the "real" cost of the regulation by artificially eliminating equipment value from the calculation. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The Proposed Amendments do not define useful life nor was useful life used as part of the cost analysis performed for the Proposed Amendments. Useful life, for purposes of engine certification, typically refers to the period of time in which the emissions control equipment on the engine is reasonably expected to be functional, and for which manufacturers' certification and warranty requirements apply. CARB recognizes that off-road equipment is quite often used beyond the engine certification useful life period, as seen in CARB's analysis of the compliance reporting data from the DOORS reporting system, which shows a significant number of much older Tier 0, Tier 1, and Tier 2 engines still in use. The significant number of

much older engines still in use is one of the drivers for the need of the Proposed Amendments, as the oldest engines are significantly more polluting than the cleanest, Tier 4 Final, engines.

CARB's analysis to determine the direct capital costs to fleets for the replacement of vehicles subject to the Off-Road Regulation can be found in Section 3.1 of the SRIA. See response to Comment 12 for a description of CARB's analysis. CARB did not omit any equipment from the cost calculations, but, in fact, omitted residual resale value of the phased-out vehicles that would otherwise have been available to the owner. CARB decided to omit these possible recouped costs from the analysis due to the amount of uncertainty arising from the numerous factors that would impact the amount that could be recouped, including the effect of the tier phase-out, transportation costs, and condition of the vehicle, among other factors, that may deteriorate the value of the vehicle in the future.

**Comment 103:**

Additionally, there remain significant questions about the wisdom of mandating that GSE be reliant on electronic or low emissions fuel supplies given GSE's essential role in enabling emergency response. [A4A]

**Agency Response:** CARB made no changes in response to this comment. The Proposed Amendments do not mandate electronic equipment or fuel supplies. The Proposed Amendments do mandate the procurement and use of RD beginning January 1, 2024. However, the Proposed Amendments include an exemption if RD is unavailable. See response to Comment 60 on the availability of RD.

**Comment 104:**

A4A supports exempting fleet owners when there are no commercially available zero-emission options….Even where a product may be commercially available, it is not operationally feasible if it raises concerns regarding the functioning of the National Airspace System or emergency response. Therefore, CARB must also define the criteria it will use to determine whether it is operationally feasible to deploy GSE required under the Proposed Amendments…. Further, it is critical for CARB to define the criteria that it will use to determine whether a vehicle is commercially unavailable and provide a public comment period for the proposed criteria. [A4A]

**Agency Response:** CARB made no changes in response to this comment. The Proposed Amendments do not mandate equipment that are not commercially available and do not mandate zero-emission equipment. The Proposed Amendments require that fleets phase out the operation of Tier 0, Tier 1, and Tier 2 vehicles and, if they add a vehicle to the fleet, that the vehicle meets the expanded adding vehicle requirements. The expanded adding vehicle requirements require that, when adding a vehicle, large and medium fleets add Tier 4 Final or cleaner engines beginning on January 1, 2024. Similarly, small fleets may only add Tier 3 or cleaner engines on or after January 1, 2024, and Tier 4 Final or cleaner engines on or after January 1, 2028. CARB's analysis on the availability of Tier 4 Final equipment can be found in Chapter V of the ISOR. See response to Comment 37 regarding compliance flexibilities for manufacturer delays or lack of availability of Tier 4 equipment.

**Comment 105:**

2449(f)(2)[:] Emission Control Label. In the event that an emission control label is no longer legible, recommend extending the time period that fleets have to contact the manufacturer to 30 days. If the manufacturer is unable to affix the label, recommend extending the time period fleets have to request a replacement label to 60 days. Also, recommend that CARB work with manufacturers to set up a one-stop shop with contact information for each manufacturer to make this process easier and more streamlined for fleets. [DoD]

**Agency Response:** No changes were made in response to this comment. The 10-day timeframe to contact the manufacturer and 30-day timeframe for the manufacturer to affix the label is sufficient time without being overly burdensome to a fleet. These timeframes are necessary because they allow CARB to make compliance determinations in a timely manner. An engine operating without a visible and legible label, as required by CCR, title 13, section 2424, impedes CARB's ability to determine compliance of that engine with the Off-Road Regulation. It is unclear what hurdles the commenter would have meeting the timeframes prescribed in the Proposed Amendments.

CARB appreciates the suggestion to provide contact information for manufacturers to assist fleets in compliance and will consider providing this tool during implementation.

**Comment 106:**

2449(c)(18)(A) and (B)[:] Recommend deleting "for a project" from the definition in subsections (A) and (B) such that facilities operations at military installations would be included in the event of a power outage, internal power disruption, or other emergency as defined (i.e. the definition would not be limited to activities for projects but could apply to activities for facilities as well). [DoD]

**Agency Response:** Changes were made in response to this comment. As part of the 15-Day Changes, CARB modified section 2449(c)(19)(A) and 2449(c)(19)(B), removing the phrase "for a project" in the definition of activities that are considered emergency operations. The phrase "for a project" was redundant, and the removal did not change the intent of Proposed Amendments.

**Comment 107:**

We proposed to the staff that they consider extending the regulation with future lower fleet average targets to leverage the existing regulatory framework that the industry has been familiar with for more than 15 years now. And staff has kind of dismissed this suggestion with basically a be careful what you wish for response, and hasn't even considered a discussion, or entertained a discussion, about what those lower fleet average targets might be in the future. [AE]

**Agency Response:** No changes were made in response to this comment. CARB has considered the continued declining fleet average approach similar to the existing regulatory framework, as noted by the commenter. However, in CARB Staff's analysis, which can be found in Chapter XII of the ISOR, there are some potential drawbacks to this fleet average target approach, including potential impacts that may negate some of the perceived

advantages of this alternative. The Proposed Amendments seek to greatly accelerate and augment the emissions reductions expected from the Current Regulation. To achieve similar reductions in a similar timeframe as in the Proposed Amendments, very stringent fleet average targets would need to be set, so that most of the flexibility expected from the averaging approach may be lost. In addition, the ability to carry over BACT credits accrued from previous years sunsets in the Current Regulation the same year as when the final set of fleet average targets take effect, which further reduces the flexibility from the averaging approach.

Another point of consideration is that one of the primary objectives of the Proposed Amendments, in addition to increasing and accelerating emissions reductions, is to streamline and simplify the requirements of the regulation and increase enforceability of its provisions. Enforcement of the fleet average approach is certainly feasible and will continue for the remaining fleet average targets in the Current Regulation. However, it is inherently more time and labor intensive for both enforcement personnel and the fleet being audited, as the entire fleet's vehicles across all of its locations need to be accounted for. This results in a lower number of fleets that can be examined as part of enforcement activities. The Proposed Amendments' vehicle-based requirements would allow for far more efficient enforcement of the regulation, and thus better ensure a level playing field among regulated entities. Furthermore, stakeholders are generally also in support of achieving the goal of streamlining requirements, and staff have received feedback from a number of stakeholders in support of the proposed structure of the amendments.

**Comment 108:**

Caterpillar submits the following comments regarding the proposed amendments to 13 CCR §2449 (c)(74) "Zero-emission vehicle"

We recommend that "zero-emissions" be defined in a way which includes technologies that provide net zero tailpipe emissions. For example, a hydrogen combustion system with catalysts to reduce tailpipe NOx emissions to ambient NOx levels should qualify as "zero-emissions".[CAT]

**Agency Response:** No changes were made in response to this comment. Hydrogen, when used in a combustion system, is a spark-ignited fuel and emits NOx and, therefore, CARB does not consider it a zero-emission fuel. A hydrogen combustion system with catalysts will deteriorate over time. CARB's definition for zero-emission vehicle in the Proposed Amendments is a "vehicle that produces zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas under any and all possible operational modes and conditions." CARB believes it is important that any vehicle that is using the compliance flexibilities for zero-emission vehicles included in the Proposed Amendments have zero tailpipe emissions for the duration of that vehicle's operation in the fleet.

**Comment 109:**

Instead, far more emission reductions would be achieved by removing Tier 0, 1 and 2 engines from other unregulated industry sectors as aggressively as they are being removed from

construction. Banning those Tiers in construction but still allowing them in other sectors is self-defeating. [AGCSD]

**Agency Response:** No changes were made in response to this comment. The commenter has provided no analysis to support the comment. CARB is charged with protecting the public from the harmful effects of air pollution and is aggressively implementing emission reduction programs across all sectors of the economy in California, while also identifying where further emission reductions will be necessary in the future. For example, the 2020 Mobile Source Strategy took a multi-pollutant planning approach to determine, for the various mobile sectors, potential pathways forward that are necessary to help achieve California's numerous air quality and climate goals over the next 30 years. Though the Mobile Source Strategy itself is conceptual, it serves as an important foundation for measure development, including the Proposed Amendments.

Additionally, the 2022 SIP identified the regulatory and programmatic approaches necessary to deploy cleaner technologies and fuels and ensure sufficient adoption to meet air quality standards by deadlines established in the Clean Air Act, including eight measures in the off-road category alone. It is unclear which unregulated industry sectors the commenter is concerned about. However, since agricultural operations are generally exempted from the requirements of the Off-Road Regulation, construction stakeholders have previously provided comments that they have concerns the old construction vehicles are being sold for use in agricultural operations. However, the 2021 Agricultural Equipment Emission Inventory[46] includes a classification for construction equipment used in agriculture, and this category makes up less than 3 percent of the total agricultural equipment population that is greater than 25 hp. About half of this equipment are already Tier 3 or cleaner.

**Comment 110:**

Delay is not an option and moving more quickly would certainly be welcome given the cumulative burdens posed by toxic air generated by this sector in communities across California. [ALA]

**Agency Response:** No changes were made in response to this comment. See response to Comment 36 regarding the challenges with moving more quickly than the Proposed Amendments and CARB's analysis and rejection of a more stringent alternative.

**Comment 111:**

Staff says the additional requirements are needed to protect disadvantaged communities because they are impacted more by emissions from off-road equipment than other areas. (ISOR, p 38). This is just speculation. Staff has provided zero evidence that such communities are impacted more by off-road equipment than other areas. [CIAQC]

**Agency Response:** No changes were made in response to this comment. CARB stated that the Proposed Amendments would achieve the PM reductions necessary to achieve PM2.5

[46] CARB. (2021). 2021 Agricultural Equipment Emission Inventory. August 2021. Retrieved March 24, 2023, from *https://ww2.arb.ca.gov/sites/default/files/2021-08/AG2021_Technical_Documentation_0.pdf.*

federal attainment, as well as to reduce the public health risk from diesel PM emissions to California communities. Under AB 617, seventeen communities across California have been identified by CARB's Board as disadvantaged communities for extra consideration when developing new regulations and policies, including the allocation of funding. Disadvantaged communities continue to experience environmental and health inequities from air pollution due to a higher burden of air pollution than other areas due to the cumulative impact of multiple sources of pollution, including ports, railyards, warehouses, freeways, and stationary facilities such as oil refineries, metal recyclers, and chrome platers. Residents in these communities are often more vulnerable to environmental impacts as the result of health disparities, socio-economic inequities, and poor land use decisions.

Each of these 17 communities needs to develop and implement a Community Emission Reduction Plan and/or a Community Air Monitoring Plan, and each has a steering committee of community members, which has identified the top concerns in their communities. Of the 17 steering committees, 10 have indicated that in-use off-road diesel vehicles and/or activities and facilities that utilize in-use off-road diesel vehicles are a top concern in their communities and would directly benefit from the Proposed Amendments. For more information, please refer to Chapter X. Environmental Justice in the ISOR. The Proposed Amendments are expected to reduce diesel off-road emissions and exposure statewide and will, therefore, be of particular benefit to the disadvantaged communities identified under AB 617 that are experiencing disproportionate health burdens, especially in those communities that have identified off-road vehicles as a top concern.

Furthermore, there is ample evidence of the disproportionate impacts that these communities face. Findings from several studies have demonstrated disparities in exposure to air pollution, and drawn the connection between disadvantaged communities and disproportionate negative health impacts.[47,48,49] Additional California specific studies demonstrate this correlation in the California population.[50,51] In fact, the Office of Environmental Health Hazard Assessment (OEHHA), on behalf of the California Environmental Protection Agency, developed and now maintains and updates the

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[47] Jbaily, A., et al. (2022). Air pollution exposure disparities across US populations and income groups. Nature. Retrieved March 28, 2023, from *Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis - PubMed (nih.gov)*.

[48] Mikati, I. et al. (2018). Disparities in distribution of particulate matter emissions sources by race and poverty status. A Publication of the American Public Health Associations. Retrieved March 28, 2023, from *Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status | AJPH | Vol. 108 Issue 4 (aphapublications.org)*.

[49] Finkelstein, M. M. et. al. (2023). Relation between income, air pollution, and mortality: A cohort study. Canadian Medical Association Journal. Retrieved March 28, 2023, from *Relation between income, air pollution and mortality: a cohort study | CMAJ.*

[50] Reichmuth, David. (2019). Inequitable exposure to air pollution from vehicles in California. Union of Concerned Scientists. Retrieved March 28, 2023, from *Inequitable Exposure to Air Pollution from Vehicles in California (2019) | Union of Concerned Scientists (ucsusa.org)*.

[51] Morello-Frosch, R. et. al. (2002). Environmental Justice and Regional Inequality in Southern California: Implications for Future Research. National Library of Medicine. Retrieved March 28, 2023, from *Environmental justice and regional inequality in southern California: implications for future research – PubMed (nih.gov).*

CalEnviroScreen tool which applies a framework for assessing cumulative impacts. This tool is a science-based method for identifying impacted communities by taking into consideration pollution exposure and its effects, as well as health and socioeconomic status, at the census-tract level. CalEnviroScreen provides evidence that many communities continue to bear a disproportionate burden of pollution not only from multiple nearby sources, but also from pollution in multiple media (e.g., air or water).[52] Some of these communities experience the additional burden of socioeconomic stressors and health conditions that render them more vulnerable to the impacts of pollution. OEHHA's analysis of the relationship between CalEnviroScreen 4.0 results and race/ethnicity demonstrates clear differences in pollution burdens and vulnerabilities with respect to the racial makeup of the communities,[53] and findings show Latinos and African Americans disproportionately reside in highly impacted communities while other groups tend to reside in less impacted communities.

**Comment 112:**

Staff says the regulations are required statewide to ensure a level playing field for all fleets. (ISOR, p 41). There are thousands of fleets in California subject to the current rule in California. If this a concern from our fleets, there should a flood of comments on the proposed amendments to this effect. Show them to us. If this were a CARB staff concern on the other hand 'to level the playing field for all fleets', for us would mean including the large number of fleets in the farming and forestry sectors that are currently exempt from the rule and have no analogous rule of their own. Suggesting these amendments are leveling the playing for all fleets is inaccur4ate when in fact it does just the opposite. [CIAQC]

**Agency Response:** No changes were made in response to this comment. CARB believes that it is important that fleets complying with the Off-Road Regulation are not at a competitive disadvantaged to fleets that can move their equipment around the state to meet disparate requirements or who are choosing not to comply. Without a regulation that applies statewide, fleets with more resources and operations throughout the state would have an unfair advantage to move vehicles around to meet compliance requirements. This type of activity could result in vehicles with engines that meet Tier 4 Final standards moving to the South Coast Air Basin and San Joaquin Valley, while older, more polluting equipment move to the nonregulated areas of California, leading to adverse emissions impacts in those areas. CARB disagrees that the importance of a level playing field to the regulated community can only be measured by the number of fleets that have provided comments. CARB does not agree with the commenter that extending the regulation to additional industries, such as farming and forestry, would level the playing field for the industries subject to the Off-Road Regulation and Proposed Amendments. Businesses operating in farming and forestry are not competing against construction, mining, and other directly-impacted industries for the same work.

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[52] Office of Environmental Health Hazard Assessment, CalEPA. (2021a). CalEnviroScreen 4.0 Report. Retrieved March 28, 2023, from *CalEnviroScreen 4.0 Report.*

[53] Office of Environmental Health Hazard Assessment, CalEPA. (2021). Analysis of Race/Ethnicity and CalEnviroScreen 4.0 Scores. Retrieved March 28, 2023, from *Analysis of Race/Ethnicity and CalEnviroScreen 4.0 Scores.*

## 21. Comments Beyond the Scope of this Rulemaking

CARB made no changes based on the comments received below. These comments are outside the scope of the 45-Day Notice, not submitted during the comment period, irrelevant, or not specifically directed at CARB's proposed action or directed to the procedures followed by CARB in proposing or adopting the action, therefore, CARB is not required to respond. CARB looks forward to engaging with stakeholders on potential future measures.

**Comment 113:**

Firm for natural gas tractors. [Guerrero]

**Agency Response:** CARB made no changes in response to this comment. This comment is outside the scope of the Proposed Amendments.

**Comment 114:**

CARB should engage with A4A to support A4A's voluntary emissions reduction initiatives….We urge CARB to focus on supporting programs and initiatives that will provide funding to improve airport infrastructure (e.g., FAA's Voluntary Airport Low Emissions ("VALE") program and EPA's Diesel Emissions Reduction Act ("DERA") funding opportunities) [A4A]

**Agency Response:** CARB made no changes in response to this comment. This comment is outside the scope of the Proposed Amendments. CARB is committed to engaging with and supporting all entities working towards emission reduction strategies.

**Comment 115:**

We ask this Board to express clear support to advance cleaner off-road equipment and direct staff to come back to adopt zero-emission requirements for this equipment expeditiously. [Earthjustice]

**Agency Response:** CARB made no changes in response to this comment. This comment is outside the scope of the Proposed Amendments. However, CARB committed in the 2022 SIP to investigate, by 2027, a rule designed to achieve criteria pollutant and GHG emissions reductions by accelerating the development and production of zero-emission off-road equipment and powertrains, the Off-Road Zero-Emission Targeted Manufacturer Rule. CARB would propose to develop a regulatory measure that would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume to ensure these globally emerging zero-emissions products and related innovations come to California.

**Comment 116:**

We also recommend that the Board direct staff to diligently pursue a Tier 5 standard for new off-road equipment, which currently stands as a commitment in the 2022 State Strategy. This will be critical to meeting the direction of Governor Newsom Executive Order N-79-20, which

directs [C]ARB, in consultation with other agencies, to achieve 100% [percent] zero-emission off-road vehicles and equipment operations by 2036. [Earthjustice]

**Agency Response:** CARB made no changes in response to this comment. Although this comment is outside the scope of the Proposed Amendments, staff is working diligently on a Tier 5 proposal. For more information on that effort, please see the CARB website at *https://ww2.arb.ca.gov/our-work/programs/tier5*.

**Comment 117:**

There are currently no meaningful ZEV and decarbonized solutions for this off-road equipment. [CalCIMA]

**Agency Response:** CARB made no changes in response to this comment. The Proposed Amendments do not include a zero-emission mandate; therefore, this comment is outside the scope of the Proposed Amendments.

**Comment 118:**

There is a lack of available zero-emission heavy duty vehicles or an inability to repower certain vehicles….Many of the electric off-road vehicles have significant up-front costs that would put businesses of contractors in jeopardy….Lastly, there is no power available on remote construction sites. Infrastructure would be required for each construction project to install charging stations in order to be able to charge electric off-road vehicles. This endeavor may take several years to complete, and it would be very costly. [AGC of California]

**Agency Response:** CARB made no changes in response to this comment. The Proposed Amendments do not include a zero-emission or electric vehicle mandate.

CARB believes the comment is referring to the optional provisions for adoption of zero-emission technology: (1) Delay of Tier Phase outs for Addition of Zero Emission Vehicles in section 2449.1(d), and (2) Alternate Compliance Pathway through Zero-Emission Technology section 2449.1(e). No fleet is required to use either of these compliance options. These compliance options are available to further deploy zero-emissions technology in the off-road sector and provide additional compliance flexibility to the fleets that adopt this technology. The need to support deployment of zero emission technology is described in detail in Chapter III of the ISOR.

CARB analyzed two regulatory alternatives that would have mandated zero-emission technology. These alternatives are described in Chapter XII of the ISOR. CARB rejected these alternatives for many of the reasons described by the commenter.

**Comment 119:**

Environmental California is part of the Charge Ahead California Initiative. And we strongly support the funding plan overall….However, we urge you to develop this application process in a public and transparent process. It must also be designed in a way that addresses community needs and is compatible with current Clean Cars 4 All programs….CARB's proposal would provide a reasonable transition period to phase in fleets size limits that replaces dirty, high-polluting equipment with cleaner models including zero--emission

equipment and will yield significant public benefits for our most vulnerable communities. [Environment California]

**Agency Response:** CARB made no changes in response to this comment. This comment is outside the scope of the Proposed Amendments. This comment is not directed at the Proposed Amendments but was instead related to another item on the November 17, 2022, board meeting agenda.

## Comments Received During the 15-Day Comment Period

## 22. Renewable Diesel

**Comment 120:**

Renewable Diesel:…We support the recent changes to the proposed rule modifications. [Alliance]

**Agency Response:** CARB appreciates the supportive comment and thanks the commenter. No changes were made in response to this comment.

**Comment 121:**

Specifically, we support CARB staff clarifying that recordkeeping is not vehicle-specific, but order-specific: this change was incredibly important towards making this regulation manageable and implementable. We also appreciate the Board levelling the playing field for construction fleets which may be asked to do work in captive attainment areas. The removal of the confusing 2028 language was very beneficial for clarity. Lastly, the work on the renewable diesel temperature issue is greatly appreciated and has moved us far forward. [AGC of California], [CalCIMA]

**Agency Response**: CARB appreciates the supportive comment and thanks the commenters. No changes were made in response to this comment.

**Comment 122:**

First, our dealerships, as well as many other rental companies, regularly rent to agricultural customers. Because they do not have a requirement for using renewable diesel, the tanks on the machines when returned to us will have standard diesel. We cannot just drain the tank and refill with renewable for the next rental. That would make the diesel unusable and a potential for being a hazardous waste, and certainly not practical or cost-effective for a rental company. The best we can do is top off the tank with renewable diesel and send it back out. This same concern would apply to rentals we make to out of state renters, to fleets that are 100% T4F, or to fleets in NOx attainment areas that are not mandated to use renewable diesel. Further, we rent to third party rental companies (re-rents) that may also rent to any of the above renters. We certainly do not want to be in an enforcement situation due to the return of a machine with standard diesel that we need to send back out on rent. As required in the amendments, we will add a note to our rental agreement stating end users need to comply with section 2449.1(f) (as applicable) as our means of protection from enforcement.

Second, if we are mandated to send out rentals with renewable diesel and they end up in areas where the weather will be an issue, the machine may not operate properly. Again, even if we knew in advance, it is impractical to assume we could change out the fuel prior to delivery. We only have one tank on each of our rental sites and it would be required to have renewable fuel under the provisions of this proposed regulation. To complicate this, often times customers will pick up the machines from will-calls, or rent from a 3rd party rental

company re-renting our machine. In this case we have no idea whether or not the machine will end up in a location that has cold weather.

Given both concerns stated above, we suggest excluding rental companies from the requirement for use of renewable diesel. If not a total exclusion, perhaps you could consider exempting rental fleets that have 90% Tier 4 Final machines or more in their fleet.

Remove the requirement for rental fleets to use renewable diesel in their machines given the potential complications of a machine ending up in a cold location and malfunctioning, and given the fact several of the end users (e.g. agricultural and NOx attainment fleets) will already be returning the machines with standard diesel anyway. As indicated above, the exemption could be based upon a rental fleet having at least 90% [percent] of their fleet as Tier 4 Final. [California CAT]

The renewable fuel mandate needs modification. For rental fleets it will be problematic to comply when the owner of the equipment is not in control of the usage or even the whereabouts of the equipment. Draining the tanks is impractical when the equipment is returned with non-renewable fuel. That can occur when equipment is dispatched to areas where fuel is not available or will not perform properly due to temperature conditions. [CIAQC]

**Agency Response**: No changes were made in response to this comment. The requirement for rental fleets is to include in their contracts that the recipient of the rented vehicle (or renter) must comply with the RD requirements in section 2449.1(f) which includes the exemptions. If a rental fleet includes such language, they will not be held liable if a rented vehicle under their ownership is not compliant. Fleets, vehicles, or operations that are exempt from 2449.1(f) would not need to use RD since this provision of the regulation is not applicable to them. There is no requirement that the rental company drain fuel for any reason. The commenter has not provided any reason as to why they are unable to comply with the Proposed Amendments, or why the requirement for rental fleets is overly burdensome. As discussed in the response to Comment 70, RD conforms to the Standard Specification for Diesel Fuel (ASTM D975-21) and meets CARB's requirements for ULSD, so RD can be used interchangeably or combined in any proportion with conventional CARB ULSD in off-road engines, including rental vehicles. The storage life characteristics of RD are not significantly different from conventional CARB ULSD and, because RD is chemically similar to conventional CARB ULSD, RD does not require infrastructure changes for storage, piping, or pumping, nor are there any diesel engine modifications required in order to use it as a fuel, including rental vehicles.

CARB does not expect rental fleets to drain fuel tanks. As written, the Proposed Regulation does not make rental fleets liable for the fuel that the entity that rents the vehicle uses and puts in the vehicles, if the rental fleet complies with section 2449.1(f)(4). This means that CARB will not take enforcement action against the rental fleet if their vehicles do not have RD in their tanks, or have a blend of RD and USLD, if the rental fleet is complying with section 2449.1(f)(4).

With regards to third-party rentals, each entity is responsible for their own compliance with the Proposed Amendments. The initial rental company would need to comply with the rental

contract requirement with the entity to which they rented the vehicle to. Any subsequent rental of the vehicle would be a separate agreement with its own requirement to comply with.

With regards to operations in cold temperatures, if the fleet or vehicle is exempt from the requirements of 2449.1(f) by using any of the exemptions then that fleet or vehicle is not required to use RD. The operator of the vehicle should know which fuel they are allowed to use and take the appropriate actions to ensure the safe and continued operation of the rental vehicle.

With regards to the request that "the exemption could be based upon a rental fleet having at least 90 percent of their fleet as Tier 4 Final'', the commenter has not provided evidence that this would resolve any of the issues identified by the fleet other than exempting additional fleets from the RD requirements. Rental fleets with less than 90 percent Tier 4 Final equipment would presumably still have all the same issues that the commenter identified. However, exempting additional fleets that operate non-Tier 4 Final equipment from the RD requirements is in direct conflict with the goal to achieve NOx and PM emission reductions from this equipment. Furthermore, as discussed in response to Comment 61, this would require extensive tracking of fuel at the vehicle. This is a significant undertaking and CARB received feedback from stakeholders that this would not be manageable and would be costly to implement.

**Comment 123:**

The additional reporting requirements in section 2449(g)(5)(A) for fleets utilizing the renewable diesel exemption in section 2449.1(f)(2)(C) and related provisions in Section 2449.1(f) are unnecessary and burdensome to our members and the diverse community of regulated entities who have limited control over fuel suppliers. We do not believe that staff's actions were directed by Board Resolution 22-19 following the November 17, 2022 hearing. Demonstrating that a contractual obligation has been established will satisfy this goal of the regulation.

Detailed reporting requirements for end users subject to the In-Use Off-Road rule will not advance the merits of the regulation as refinery capacity and supporting infrastructure are built out. CARB's estimated 10 percent reduction in NOx and a 30 percent reduction in PM emitted from engines that are Tier 4 Interim and older is unlikely to be impacted by utilizing a recordkeeping control, and we are uncertain how CARB could measure the positive impact of this requirement on the regulation's goals,…As an alternative to each fleet compiling and reporting detailed meteorological data during extreme cold-weather conditions, we believe that publishing a map of areas where the renewable diesel exemption applies during winter months would be more effective. [CCEEB]

**Agency Response**: No changes were made in response to this comment. This exemption was newly added in the 15-day changes, and accompanying reporting requirements are necessary to ensure the effectiveness of the proposed renewable diesel requirements and that the exemption in section 2449.1(f)(2)(C) is being used appropriately. Section 2449(g)(5)(A) requires reporting to CARB on the location of the fleet or operations, the 10th percentile minimum ambient air low temperature in January for that location, and

volumes of fuel used during the exemption time period. This reporting is necessary to ensure the effectiveness of the renewable diesel requirements, without this additional information CARB will not be able to assess the impact of this exemption. It is also needed to ensure that CARB receives appropriate data regarding the actions of the fleets utilizing this exemption so CARB can verify compliance with the regulation.

CARB does not believe gathering and reporting this information to CARB is overly burdensome. CARB does not believe that "demonstrating that a contractual obligation has been established" will provide CARB with enough information to determine the impact of the exemption on the expected emission reductions of the Proposed Amendments. The commenter asserts that "map of areas where the renewable diesel exemption applies during winter months would be more effective." CARB disagrees with this statement. A map would not necessarily provide a fleet with the level of resolution needed to assess compliance for their specific fleet. Fleets are in the best position to know where their operations are located and the weather conditions of those locations. Furthermore, the Proposed Amendments provide the flexibility needed to accommodate weather and climate changes that may occur in the future.

At the November 17, 2022, Board hearing, CARB staff identified for the Board that CARB would propose a 15-day change to address operational issues of RD at cold temperatures. Board Resolution 22-19 states "[i]f the Executive Officer determines that additional conforming modifications are appropriate, the modified regulatory language shall be made available for public comment, with any additional supporting documents and information." CARB is in compliance with this requirement. The exemption and reporting requirements were included in the 15-Day Notice made publicly available on April 10, 2023, as a newly added exemption.

**Comment 124:**

Our resorts work in an environment where the proposed regulations cannot apply because (1) ski area weather and maintenance are volatile and unpredictable,… and (3) the regulations as drafted fail to consider the coldest areas of California where the use of renewable diesel is not possible.

The fuel is acquired and stored by September.[4] Fuel is often stored at the top of mountains, exposing it to the coldest and harshest conditions and making it impossible to store renewable diesel or switch inventory based on a forecasted temperature swing at different elevations. Furthermore, most ski resorts do not have existing infrastructure, additional fuel storage tanks (or space for them), or the necessary piping required for R99 or R100 fuel. Installing extra (and different) fuel tanks takes a substantial amount of capital, planning, additional employees (mechanics), and local permitting…. Even assuming an ability to store it, while renewable diesel might be fine one day, it might gel and freeze overnight, causing significant damage and potentially delaying life-saving operations on a mountain…. Our operators…cannot be expected to adhere to strict fuel-type requirements under such circumstances because it is simply not possible.

There is no timetable that will allow us to use renewable diesel at one time and not at another…. Therefore, Ski California and its member resorts request the following addition to

section 2449(b)(2)(H) ("The following are not subject to this regulation:"): (15) Vehicles and equipment used for ski area maintenance. [Ski California]

**Agency Response**: No changes were made in response to this comment. CARB has provided in the 15-day changes both an exemption for limited timeframe use of low temperature fuel, and an additional exemption for periods outside of the limited timeframe when conditions are expected to be below 20 degrees. These exemptions are sufficiently broad and flexible that they can be used to cover any timeframes that low temperature conditions are expected to occur at these sites. Additionally, if ski industry fleets have specific operability properties for RD that extend beyond CARB's low-temperature exemptions, and fuel providers are unable to provide a fuel that meets the intended use and expected ambient temperature needs of those fleets, then there is no RD that is available to the fleet. In this scenario, section 2449.1(f)(3) would apply. If stakeholders require fuel with properties not mandated under ASTM D975 or other California regulations, they should include those properties within their fuel procurement contracts. CARB is committed to working with ski industry stakeholders during implementation to confirm they understand the RD requirements and the applicable exemptions to ensure operations are not impacted.

**Comment 125:**

While staff did address this in their 15-day changes, we assert that limiting the months from October to February that an operator can procure low temperature-specific diesel is not sufficient for the Sierra and Mountain regions. Additionally, some of the record-keeping associated with the renewable diesel exemptions is concerning and collects data not relevant to compliance.

CARB staff generated §2449(g)(5)(A-B) and §2449.1(f)(C-D). While we value the time and energy spent by staff to develop this language, we assert that limiting the months from Mid-October to February that an operator can procure and use low temperature-specific diesel is not sufficient for the Sierra and Mountain regions. We agree with CARB staff's use of the 10th percentile and 20 degrees Fahrenheit as a trigger for harm potential from using renewable diesel. We also agree with CARB staff that ASTM D975 is an important document.

However, we disagree that ASTM D975 "Sets" safe cloud points for fuel by region. ASTM D975 makes it clear that it does not and "could not" specify low temperature properties for fuel and stresses the importance of low temperature operability properties being agreed upon by the fuel supplier and purchaser. This is helpful as by properly categorizing the climate of our activities we will be able to ensure fuel needed and make their determinations of liability and fuel delivery availability with a proper understanding of the fuels use. In effect should their renewable diesel not be sufficient to a fleets equipment and activities renewable diesel may be unavailable to us and the unavailability exemption will be triggered. This should help assist in the management of this issue and the self-selection out of the regional marketplace of fuels that are unreliable in managing temperature to those regions' climate norms. [The commenter cites text from ASTM D975, Table 1- Footnote L Page 5.]

The properties of renewable diesel currently available to us and the temperature maps in ASTM D975 being interpreted as hard compliance levels concern us greatly. As clearly, they are and were not ever intended to be such. Additionally, the maps use regions that blend

mountain and valley counties. As a result, they obscure how cold our mountains can get and for how long…. However, we assert that the historical 10th percentile online data from the National Weather Service reveals a more current and accurate picture of these mountain regions and their temperature variabilities than the historic data in ASTM D972 as represented in the maps within the ASTM. [The commenter provided supplemental data regarding temperatures and locations where there is a "prevalence of cold temperature past February".]… We found the ASTM to be imprecise to the challenge of off-road equipment and a new technology of renewable diesel. Which currently has not demonstrated the capacity to deliver fuels at volumes capable of managing temperatures below 20 degrees. Unfortunately, cloud point data is remarkably not available currently from fuel providers.

We assert that the Sierra Mountain region, not already exempted by virtue of being within a captive attainment area be exempted from the renewable diesel mandate for operations above 3000 feet in elevation.

Please add the following language:

§2449(c) New Definition:

"High Sierra and Mountain region" means the portions of Amador, Butte, Calaveras, El Dorado, Fresno, Glenn, Kern, Los Angeles. Madera, Mariposa, Merced, Mono, Placer, San Bernadino, Shasta, Tulare, Tuolumne, Yuba, and Nevada counties above 3000 feet in elevation.

Add §2449.1 (f)(2)(D) - New Exemption:

(D) Any fleet, fleet portion, or vehicle that is located or operated in a Sierra and Mountain region as defined is exempt from the renewable diesel requirements in section

2449.1(f)(1) solely for the months of October, November, December, January, February, March, April and May. These fleets or vehicles may use a low temperature-specific diesel fuel while that fleet or vehicle is located or operating in that region. Fleets utilizing this exemption may procure low temperature-specific diesel fuel from September 15 through the end of May and may continue to use excess low temperature-specific diesel procured during this time. Fleets may not continue to procure low temperature-specific diesel fuel after the end of May through September 14. All fleets utilizing this exemption must report to CARB in accordance with section 2449(g)(5)(A); and

Amend §2449(g)(5)(A) - Reporting Section:

(A) Fleets that use the exemption described in section 2449.1(f)(2)(C) must report to CARB the ~~location~~ region of the fleet or fleet operations, the 10th percentile minimum ambient air low temperature in January for that region ~~location~~. In addition, fleets that use the exemption in 2449.1(f)2(C) and D shall report ~~and~~ the volumes of renewable diesel and volumes of low temperature-specific diesel procured and used during ~~October, November, December, January, and February~~ their relevant exemption period based upon exemption used, including composition, if known, by the next annual reporting date of March 1, ~~by April 30 after each period the exemption is used~~. To determine the 10th percentile minimum ambient air low temperature, fleets may use public or private weather station data and may

use historical low temperature data from the 10 years prior to the fleet requesting the use of this provision and the 10th percentile is the value below which 10 percent of the data, when sorted, fall. The fleet must submit this report to CARB by mail to CARB at the address listed immediately below, or electronically submitted to the DOORS@arb.ca.gov e-mail address: [AGC of California], [CalCIMA]

**Agency Response**: No changes were made in response to this comment. CARB has provided in the 15-day changes both an exemption for limited timeframe use of low temperature fuel, and an additional exemption for periods outside of the limited timeframe when conditions are expected to be below 20 degrees. These exemptions are sufficiently broad and flexible so that they can be used to cover any timeframes that low temperature conditions are expected to occur at these sites. Additional exemptions and definition are not necessary. Furthermore, CARB agrees with the commenters' insertion of ASTM D975, Table 1- Footnote L Page 5 and the definition of RD in this regulation includes compliance with ASTM D975. If stakeholders require fuel with properties not mandated under ASTM D975 or other California regulations, they should include those properties within their fuel procurement contracts.

CARB believes the suggested amended regulatory text to section 2449(g)(5)(A) is unnecessary because the new exemption proposed by the commenters are not warranted. Additionally, it is unclear how the change of "location" to "region" meaningfully changes the exemption. A fleet knows the location of where their fleet operations occur and if the fleets operations encompass a larger region that would be the location of their operations. CARB disagrees that this reporting should occur at the next annual reporting date of March 1. The March 1 reporting deadline is reflecting a fleets compliance status for the prior January 1 compliance requirements. CARB would receive only partial information from a fleet on this reporting date, and the remaining information (January through February), would not be reported for another year. This would limit CARB's ability to effectively enforce the use of this exemption. The proposed reporting timeframe provides adequate time for a fleet to gather the necessary documents. A fleet has the option of reporting the information prior to April 30 if they choose.

**Comment 126:**

Fleets likely will need to use this emergency exemption in some years, and we therefore would like to suggest the following changes.

Amend §2449.1 (D)2 – Amend Exemption:

§2449.1(f)(2)(D): Any fleet, fleet portion, or vehicle that is located or operated in a ~~location~~ region where the temperature drops below 20º F or a commercial or government provided local weather forecast predicts temperatures to drop below 20º F may use and procure low temperature-specific diesel fuel for the period of days in which the low temperature condition(s) occur~~s~~ or was predicted to occur. The temperature forecast must occur within 14 days from the first day in which the low temperature condition(s) occurs or were predicted to occur. After the low temperature condition(s) end, the fleet may use the remaining excess low temperature-specific diesel in the fleets fuel supply system or vehicle depending on how the fleet manages fuel purchases and until ~~vehicle until~~ the next refueling of the fleet's fuel

supply system or vehicle as appropriate. All fleets utilizing this exemption must report to CARB in accordance with section 2449(g)(5)(B).

It is not viable to expect fleets to load equipment on trucks to drive to service stations to only fuel a vehicle then return to jobs.

Regarding the recordkeeping for the exemption in 2449.1(f)(2)(D) we believe that should be clarified and made consistent with the rule.

Amend §2449g(5)(B):

(B) Fleets that use the exemption described in section 2449.1(f)(2)(D) must report to CARB, by the next annual reporting date of March 1 after the end of such use, the location ~~region~~ of the fleet or fleet operations, the volumes of renewable diesel and volumes of low temperature-specific diesel, and records of the ~~high and~~ low temperatures predicted or occurring which enabled ~~for each day~~ the low temperature-specific diesel to be ordered or procured. Records of temperature forecasts must include either a printout or screenshot that includes the date and data source. If the screenshot does not include the date and data source, the screenshot must include metadata. The fleet must submit this report to CARB by mail to CARB at the address listed immediately below or electronically submitted to the DOORS@arb.ca.gov email address:

The condition that is being regulated and managed is the purchasing of the fuel at low temperature and whether that occurred in accordance with the exemption. The records collected are collected to demonstrate compliance with that criteria and these adjustments are necessary to accomplish that purpose. [AGC of California], [CalCIMA]

**Agency Response**: No changes were made in response to this comment. CARB believes the suggested changes are unnecessary. It is unclear how the change of "location" to "region" meaningfully changes the exemption. A fleet knows the location of where their fleet operations occur and if the fleets operations encompass a larger region that would be the location of their operations. CARB considers the phrase in the Proposed Amendments "low-temperature condition(s)" to encapsulate both the conditions identified prior in the sentence of locations where the temperature drops below 20º F and where a forecast predicts temperatures to drop below 20º F. The requested changes by the commenter to add in reference to the fuel supply system and how a fleet "manages fuel purchases" would introduce a potential loophole that could incentivize a fleet to purchase more low temperature-specific diesel than necessary to continue operations period of days in which the low temperature condition(s) occurs. CARB believes the proposed regulatory language is sufficiently flexible to allow a fleet to continue to use the fuel they procured and provides enough structure to ensure the emission reductions anticipated by the RD requirements of the Proposed Amendments are achieved.

With regards to the commenters proposed changes to section 2449(g)(5)(B), the commenter removed CARB's proposed text that the reporting occur within two weeks of the end of the fleet's use of the proposed exemption in 2449.1(f)(2)(D) and replaced the text with "by the next annual reporting date of March 1." The deletion of CARB's proposed text was not reflected by the commenters. CARB disagrees that this reporting should occur at the next

annual reporting date of March 1. The March 1 reporting deadline is reflecting a fleets compliance status for the prior January 1 compliance requirements. Because use of this exemption can occur throughout the year, in many cases CARB would not receive information on the use of this exemption until several months or even a year after its use. This will limit CARB's ability to effectively enforce the use of this exemption. The proposed reporting timeframe provides adequate time for a fleet to gather the necessary documents.

**Comment 127:**

"Captive attainment" exemption per the definition (section 2449(c)(6)), the county designations for renewable diesel exemptions create serious application challenges for these proposed regulations. If the general purpose behind the county designations was to identify colder areas of the state, many such areas have been left out and there are additional challenges with using counties at all…. In addition to preventing Ski California member resorts from meeting the definition of captive attainment, the recordkeeping requirements would be nearly impossible. The ability to track fuel type by piece of equipment, day, and temperature will be extremely burdensome when the average ski resort is running 20-50 pieces of equipment on a two-shift (16-hr) basis during winter operations, in constantly changing conditions, and at elevations that can vary as much as 3,000 feet within a single resort. [Ski California]

**Agency Response**: No changes were made in response to this comment. CARB did propose a change that broadened the applicability of the captive attainment RD exemption in section 2449.1(f)(2)(A) in the 15-Day Notice; however, it is unclear if the commenter is commenting on those changes or the captive attainment exemption in general. CARB agrees with the commenters general statement that the captive attainment exemption alone will manage the potential issues that could arise with RD usage in cold temperatures and have proposed the additional exemptions in section 2449.1(f)(2)(C) and 2449.1(f)(2)(D). Addressing potential cold temperature issues with RD was not CARB's purpose with including this exemption. As stated in Chapter VI of the ISOR, exempting captive attainment area fleets is necessary to provide additional flexibility to fleets that operate in regions that do not face the same air quality challenges as the non-attainment areas of California, such that not as many emission reductions are needed in those regions. This exemption does not require a fleet to track fuel type by piece of equipment, day, and temperature.

**Comment 128:**

In comparison to petroleum-based fuels, renewable fuels are much harder to source into the remote towns where ski resorts are located due to distance and road conditions in the winter (closures, chain controls, etc.). This winter serves as a perfect example. It was a challenge to get fuel of any kind during several closures throughout the state, particularly in March (a month excluded from exemption in section 2449.1(f)(2)(C)).[3] [Ski California]

**Agency Response**: No changes were made in response to this comment. The Proposed Amendments already include flexibility for fleets in section 2449.1(f)(3) when RD is unavailable that addresses the commenter's concern.

**Comment 129:**

Our resorts work in an environment where the proposed regulations cannot apply because…(2) storing and shifting between different fuel types is unreasonable and impractical,…

Finally, original equipment manufacturers (OEMs) like Pisten Bully and Caterpillar strongly discourage mixing or switching fuels back and forth in vehicles and equipment. Doing so causes issues with the emissions equipment and the fuel systems (pumps, filters, etc.) in the vehicles and equipment due to differences between the fuels in cold weather operating conditions. [Ski California]

**Agency Response**: No changes were made in response to this comment. Renewable diesel does not result in "switching fuels" because it is diesel and comports with the specifications within ASTM D975.

**Comment 130:**

To avoid any ambiguity, however, we request the Final Statement of Reasons clarify that CARB will consider R99 or R100 renewable diesel as available to procure only if it meets the applicable R99 or R100 specifications that are referenced within the definition in section 2449 (c)(49)…. However, as part of our investigation into fuel gelling that we recently experienced, testing suggests that some fuels labelled as R99 may not meet the applicable technical specifications that are referenced in the definition in section 2449 (c)(49)…. It may pose operational challenges for SMUD if our fuel storage tanks are filled with a product that clouds at higher temperatures than expected and cannot be used to refuel vehicles in subsequent months…. However, we assume that any R99 or R100 renewable diesel that does not meet the technical specifications for the applicable fuel grade would not be considered available to procure, even if the product is offered for sale, for purposes of qualifying for the exemption in section 2449.1 (f)(3). To avoid any ambiguity regarding the meaning of "unable to procure", SMUD requests CARB clarify in the Final Statement of Reasons that an R99 or R100 renewable diesel product will be considered available to procure only if it meets the applicable technical specifications for R99 or R100 at the time of use. [SMUD]

**Agency Response**: No changes were made as a result of this comment. The definition of RD in this regulation matches the definition under California Department of Food and Agriculture (CDFA) regulations (ASTM D975), which is the agency that governs fuel quality in California. Fuels that do not meet CDFA regulations are not legal for sale in California, so if a fuel purports to be RD but does not meet ASTM D975, it would not be a legal fuel for sale. If stakeholders require fuel with properties not mandated under ASTM D975 or other California regulations, they should include those properties within their fuel procurement contracts.

## 23. General Comments

**Comment 131:**

Unfortunately, the proposed regulation and other rulemaking proceedings currently underway continue to create uncertainty as to how our members are expected to comply with one mandate this year but then be asked to transition and comply with a totally different goal or objective which requires the need to purchase or try to purchase new vehicles regardless of costs and performance. [Alliance]

**Agency Response**: No changes were made in response to this comment. It is unclear as to whether this comment is directed at changes identified in the 15-Day Notice and is therefore likely outside the scope of the 15-day changes. CARB did not propose a change to any compliance date in the 15-Day Notice; however, CARB did include dates for reporting in section 2449(g)(5) for fleets that are using the newly added exemptions in section 2449.1(f)((2) as well as extend the annual reporting in section 2449(g)(2). The reporting is necessary for the use of the exemptions as well as for CARB to determine compliance with the Proposed Amendments and should not impact the commenter's members ability to comply with the Current Regulation or the Proposed Amendments. The commenter did not identify how any of the proposed changes in the 15-Day Notice "create uncertainty" to their members.

**Comment 132:**

Currently, the proposed rule, as written, would result in imposing significant cost pressures on both the private and public sector in a period when California is experiencing an economic slowdown. As a result, this proposed regulation will have significant negative impacts on well-paying construction jobs that serve as a vital pathway to low-income individuals moving into the middle class. [Alliance]

**Agency response**: No changes were made in response to this comment. It is unclear as to whether this comment is directed at changes identified in the 15-Day Notice and is therefore likely outside the scope of the 15-day changes. The commenter did not identify how any of the proposed changes in the 15-Day Notice would impose significant cost pressures or impact employment. See response to Comment 11 with regards to CARB's analysis on the impacts to businesses, including employment, of the Proposed Amendments.

## 24. Comments Beyond the Scope of the 15-Day Notice

**Comment 133:**

Opposed to phasing out of diesel equipment. Restorations and Antique collectors who still maintain and use this equipment for business and Ag. need to be able to keep this equipment in their fleet as well as the equipment having a resale value is foremost…. Phase-out legislation not equipment. [Davis]

We request that, in addition to the compliance flexibility included in Section 2449(e)(9), CARB delay the phase-out implementation dates for Tier 0, Tier 1 and Tier 2 engines by one year. CCEEB members have been relying on the fleet averaging methodology in order to comply with the requirements of the current regulation. Capital planning for vehicles subject to the proposed regulation often occurs 2-3 years out from receipt of equipment, as delivery of equipment typically takes approximately 1 year. These timelines have increased following the supply chain crisis precipitated by the COVID-19 pandemic disruptions. In our January 2022 comments, we requested that all implementation dates be pushed out by a year to accommodate both the supply chain challenges and the fact that the current regulation extends to 2023. In our November 7, 2022 we requested that at a minimum, fleets should have a process to apply for case-by-case extensions, with proper documentation and demonstration of supply chain delays. We believe that a one-year delay will reduce the administrative burden for both CARB staff and regulated fleets. [CCEEB]

**Agency Response**: No changes were made in response to this comment. CARB did not propose changes to the tier phase-out in the 15-Day Notice. As such, this comment is beyond the scope of the 15-day modifications and no response is required.

**Comment 134:**

Impractical Vehicle Transition: The recently proposed modifications continue to ban adding certain vehicles beginning on January 1, 2024, with a Tier 3 engine to large, medium, and small fleets. The proposed modifications continue to enact a similar ban on adding Tier 4 interims for large and medium fleets beginning January 2024, and January 1, 2028, for small fleets. Real world issues such as supply chain issues, etc. must be taken into account. Therefore, we ask that such a ban must be deleted. [Alliance]

Tier 3 Ban by 1/1/2024 [January 1, 2024] Needs to Be Extended; Tier 4 Interim Ban Removed. Given the late release of the 15-days regulation and the timing that is expected to occur with an OAL approval and an EPA waiver, we suggest the Tier 3 ban be extended out to at least 1/1/2025 [January 1, 2025]. Additionally, as stated in our November 7, 2022 letter to the Governing Board, Tier 4 Interim machines must not be banned from purchase at all.

Extend the deadline for the Tier 3 ban to 1/1/2025 [January 1, 2025] given the expected timing of an OAL approval and EPA waiver will be far too close to 1/1/2024 [January 1, 2024]. Additionally, as stated above, Tier 4 Interim machines must not be banned at all. [California CAT]

The Tier 4 Interim ban should be eliminated. The current regulation calls for fleets to meet a fleet average equivalent to Tier 4 interim NOx standards. Banning the purchase of Tier 4 interim equipment eliminates the best opportunity for fleets to comply.

The Tier 3 2024 ban needs to be extended. By the time the OAL has approved the rule and EPA has granted a waiver, the 2024 date will have passed. It should be moved to 1/1/2025 [January 1, 2025]. [CIAQC]

**Agency Response**: No changes were made in response to this comment. CARB did not propose changes to the expansion of the adding vehicle requirements for Tier 3 and Tier 4i vehicles in the 15-Day Notice. As such, this comment is beyond the scope of the 15-day modifications and no response is required. Notwithstanding that response, CARB disagrees with the comment. See response to Comment 43 and Comment 46.

**Comment 135:**

Lack of resources to self-police: The recent proposed modifications continue to call for prime contractors to self-police other entities for compliance purposes. For a project involving the use of vehicles subject to this regulation, the prime contractor or public works awarding body, as applicable, must obtain copies of the valid Certificates of Reported Compliance, for the fleet selected for the contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet. We believe demonstration of a valid Certificate is preferable versus any type of self-policing requirement placed on the prime contractor. [Alliance]

**Agency Response**: No changes were made in response to this comment. CARB did not propose changes to the contracting requirements in the 15-Day Notice. As such, this comment is beyond the scope of the 15-day modifications and no response is required. However, it is unclear to CARB what the exact concern of the commenter is. The contracting provisions, as proposed in the 45-Day Changes, align with the commenter's statement that demonstration of a valid Certificate of Reported is preferable. As noted by the commenter, the proposed requirement for contracting entities is to obtain a valid Certificate of Reported compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

**Comment 136:**

As mentioned in our November 7, 2022 letter to the Board, we are concerned that by the time the regulation is approved by the Office of Administrative Law (OAL) and a waiver is issued by EPA that the 1/1/2024 [January 1, 2024] mandate for use of renewable R99 or R100 diesel will not provide fleets enough time to get lined up with a supplier. Further, such a short timeline will mean everybody will be approaching vendors of this fuel with well less than a year to meet compliance. This will be virtually impossible. Not only will this drive up the cost of the fuel when the nearly 13,000 off-road fleets subject to DOORS with nearly 200,000 off-road machines will be seeking to purchase this fuel all at once, but many of these fleets have current diesel contracts that extend out more than a year making such a change costly, if not infeasible….Further, with this mandate being a little over a year away, we are quite doubtful such demand can be met. We believe CARB should allow more time for the

adjustment by moving the mandate to at least 1/1/2026 [January 1, 2026] and in the time between now and then fleets should be able to acquire incentives for earlier use of this fuel.

Extend the deadline to at least 1/1/2026 [January 1, 2026] for use of renewable fuel given the expected timing of an OAL approval and EPA waiver will be far too close to 1/1/2024 [January 1, 2024] and will not allow fleets to adequately respond to the mandate. [California CAT]

As stated in our January 2022 comments on the concept language, and reiterated on November 7, 2022, our primary concern remains the proposed requirement that all off-road fleets must use only renewable diesel (RD), starting on January 1, 2024. [CCEEB]

The renewable fuel mandate for 1/1/2024 needs to be extended. Adding 200,000 vehicles to the marketplace will strain the current supply chain and likely drive-up prices. In addition, many fleets have existing fuel contracts that may run for a year or longer. Securing a reliable supply for fleets that operate from multiple locations will be difficult at best. [CIAQC]

**Agency Response**: No changes were made in response to this comment. CARB did not propose changes to the beginning implementation date of the RD requirements. As such, this comment is beyond the scope of the 15-day modifications and no response is required. Notwithstanding that response, CARB disagrees with the comment. The requirements to use renewable fuel constitute in-use operational controls for mobile sources and accordingly do not require an authorization.[54]

**Comment 137:**

You people should be doing everything in your power to end the mandated biannual Automotive smog program as that program is no longer needed with todays Automobiles technology and the Electric cars. [Davis]

**Agency: Response**: No changes were made in response to this comment. This comment is not directed at the Proposed Amendments. Accordingly, this comment is outside the scope of this rulemaking and CARB is not required to respond.

[54] In-use operational controls of nonroad engines that are not preempted by section 209(e) of the CAA. CAA section 209(d); 62 Fed. Reg. 67733, 67736 (Dec. 30, 1997).

# V. Peer Review

Health and Safety Code section 57004 sets forth requirements for peer review of identified portions of rulemakings proposed by entities within the California Environmental Protection Agency, including CARB. Specifically, the scientific basis or scientific portion of a proposed rule may be subject to this peer review process. Peer review is not needed for the Proposed Amendments because CARB only used scientific methodologies that are generally accepted and used; no new methodologies were used.