California Environmental Protection Agency

Air Resources Board

Final Statement of Reasons for Rulemaking

Including Summary of Comments and Agency Responses

PUBLIC HEARING TO CONSIDER THE ADOPTION OF PROPOSED AMENDMENTS TO THE REGULATION FOR IN-USE OFF-ROAD DIESEL-FUELED FLEETS AND THE OFF-ROAD LARGE SPARK-IGNITION FLEET REQUIREMENTS

Public Hearing Date: December 17, 2010
Agenda Item No.: 10-11-3

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I GENERAL

In this rulemaking, the Air Resources Board (ARB, Board) approved amendments to its regulations for In-Use Off-Road Diesel-Fueled Fleets (Off-Road regulation), California Code of Regulations (CCR), title 13, sections 2449 through 2449.3, and for Large Spark-Ignition Engine Fleet Requirements (LSI fleet regulation), CCR, title 13, sections 2775 through 2775.2.

On October 28, 2010, ARB issued a notice for a public hearing to consider the amendments to the Off-Road regulation and the LSI fleet regulation at the Board's December 17, 2010, hearing. A "Staff Report: Initial Statement of Reasons" (Staff Report), describing the rationale for the amendments, was also made available for public review and comment starting October 28, 2010. The text of the Off-Road regulation amendments, which includes amendments to sections 2449 through 2449.3 in title 13, Cal. Code Regs., was included as Appendix A, to the Staff Report. The text of the LSI fleet regulation amendments, which includes amendments to sections 2775 through 2775.2 in title 13, Cal. Code Regs., was included as Appendix B, to the Staff Report. The Notice and Staff Report are incorporated by reference herein. These documents were also posted on the ARB's Internet site for the rulemaking on October 28, 2010 at: http://www.arb.ca.gov/regact/2010/offroadlsi10/offroadlsi10.htm ("ARB's internet site").

At the December 17, 2010, hearing, the Board considered the amendments to the Off-Road and LSI fleet regulations as described in sections I.A. and I.B. below. Written and oral comments were received at the hearing, and the Board adopted Resolution 10-47, and delegated final authority to adopt the proposed amendments to the Off-Road regulation with modifications to the Executive Officer. The Board also adopted Resolution 10-48, delegating final authority to adopt the proposed amendments to the LSI fleet regulation, with modifications. In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to incorporate the modifications into the proposed regulatory text and to make such modifications available for a supplemental comment period of at least 15 days. The Executive Officer was then directed either to adopt the regulation with such additional modifications as may be appropriate in light of the comments received, or to present the regulation to the Board for further consideration if warranted in light of the comments.

This Final Statement of Reasons (FSOR) for this rulemaking summarizes written and oral comments the Board received during the formal rulemaking process regarding the amendments to the Off-Road and LSI fleet regulations, and ARB's responses to those comments.

A. Off-Road Regulation Amendments

The major amendments to the Off-Road regulation included:

- A four year delay of the initial compliance date for large fleets to January 1, 2014 (from March 1, 2010), for medium fleets to January 1, 2017 (from March 1, 2013), and for small fleets to January 1, 2019 (from March 1, 2015);
- A reduction and simplification in the annual requirements for fleets, and fleet average structure by:
  1) Combining the particulate matter (PM) and oxides of nitrogen (NOx) fleet average targets into one set of targets based on the fleet's NOx fleet average, and increasing the stringency of the final targets, and
  2) Combining the PM and NOx Best Available Control Technology (BACT) requirements so that the BACT requirements would require annual actions on no more than 4.8 to 10 percent of a fleet's horsepower (depending on year) in each year the fleet did not meet the fleet average target;
- Making exhaust retrofits no longer mandatory;
- Raising the low-use threshold from 100 to 200 hours per year;
- Allowing fleets to maintain credits for actual efforts already made to reduce emissions and to further incentivize early actions by fleets; and
- A new optional compliance path for fleets under 500 horsepower that allows these fleets to comply with the BACT requirements solely by phasing out their Tier 0 and Tier 1 vehicles over a prescribed schedule between 2019 and 2029.

In addition to the major amendments listed above, a number of minor amendments were approved to clarify the Off-Road regulation, simplify compliance, and provide consistency with the major amendments.

B. LSI Fleet Regulation Amendments

The amendments to LSI fleet regulation included:

- Extending the limited hours of use (LHU) exclusion for LSI equipment operated fewer than 200 hours per year;
- Broadening compliance extension flexibility;
- Adding and modifying several definitions to improve the clarity of the regulation; and
- Clarifying the record keeping requirements of the regulation.

C. Modifications Made to the Original Proposal and Additional Documents Made Publically Available

In response to comments of the proposed amendments to the Off-Road and LSI fleet regulations made available in the Notice of Public Hearing and Staff Report, issued on October 28, 2010, and direction from the Board to take public comments on several suggested modifications, staff prepared and made publicly available, a 15-Day "Notice of Public Availability of Modified Text and Availability of Additional Documents" ("15-Day Notice") on August 22, 2011.

The 15-Day Notice is incorporated by reference herein. The 15-Day Notice was mailed to all parties identified in section 44(a), title 1 Cal. Code Regs., and to other persons generally interested in the ARB's rulemaking concerning in-use off-road diesel or large spark-ignition vehicles. This document was also published on August 22, 2011, on ARB's Internet site. Email messages announcing and linking to these postings were transmitted to the more than 7,880 parties who had subscribed to ARB's "ordiesel" and "orspark" List Servers. The 15-Day Notice gave the name, telephone, and fax number of the ARB contact persons from whom interested parties could obtain the complete texts of the additional incorporated documents and the modifications to the original proposals, with all of the modifications clearly indicated. Five written comments were received during the 15-Day comment period. After review of the comments received, ARB determined that additional amendments in response to the comments received were unnecessary.

After considering the comments received during the supplemental 15-Day comment period, the Executive Officer issued Executive Order R-11-009, adopting the amendments to sections 2449 through 2449.3, and sections 2775 through 2775.2, in title 13, Cal. Code Regs., respectively, and the incorporated documents.

1. Additional Amendments to the Off-Road Regulation

Amendments proposed in the 15-Day Notice included:

- Expanding the applicability of the Off-Road regulation to include both engines of two-engine vehicles that:
  1) Are not already included in the Public Agencies and Utilities (PAU) regulation, and
  2) Do not contain Tier 0 auxiliary engines;
- Correcting an error made by staff when originally modifying the alternative fuel section, and changing the requirements for replacing diesel vehicles with gasoline-powered vehicles;
- Adding language that further describes the requirements that must be met by new fleet owners who are acquiring fleets (or fleet portions), and by existing fleet owners who are acquiring fleets (or fleet portions);
- Clarifying that if a fleet receives public funding to replace, repower, or retrofit a vehicle subject to the Off-Road regulation, credit towards the BACT and fleet average requirements will be awarded in accordance with the applicable funding guidelines;

- Adding a new section to the BACT requirements allowing fleets with vehicles in both the Off-Road regulation and Truck and Bus regulation to generate credits (called excess PM VDECS credits) when additional Level 3 PM VDECS are installed beyond the compliance requirements in either one of the two regulations in a given year; and
- Amending the “Captive attainment area fleet” definition to include Northern Sonoma County in the list of counties included in the captive attainment area fleet definition.

In addition to the modifications and amendments listed above, staff also restructured several sections of the Off-Road regulation, corrected clerical errors that have been identified since the December 17, 2010 hearing, made consistent the use of certain terms and acronyms, and to streamline the formatting throughout the regulation. All of these changes are intended to improve the clarity and to simplify the regulation by making the language more consistent and better organized.

2. Additional Amendments to the LSI Fleet Regulation

Amendments proposed in the 15-Day Notice included:

- Adding a subsection exempting in-field equipment from the requirements of the regulation;
- Adding and modifying several definitions to further clarify the LSI fleet regulation;
- Removing the LHU operating thresholds now proposed in the LHU definition;
- Specifying the default emission rate for an uncontrolled engine in grams hydrocarbon plus oxides of nitrogen per brake horsepower-hour; and
- Excluding “Boneyard” equipment and “Retired” equipment from fleet size determinations.

In addition to the amendments listed above, staff has also corrected any errors that have been found since the December 17, 2010 hearing, make consistent the use of certain terms, and to streamline the formatting throughout the LSI fleet regulation. All of these changes are intended to improve the clarity and to simplify the regulation by making the language more consistent and organized.

D. Documents Incorporated by Reference

There are no documents incorporated by reference in title 13, Cal. Code Regs., sections 2449 through 2449.3, or in title 13, Cal. Code Regs., sections 2775 through 2775.2.

E. Determination Regarding Mandates on Local Agencies and School Districts

The Executive Officer has determined that the regulatory action would not impose a mandate on any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code.

F. Consideration of Alternatives

The amendments to the Off-Road and LSI fleet regulations were the subject of discussions involving staff and the affected owners, operators, and sellers of in-use off-road diesel and large spark-ignition vehicles in California. A discussion of alternatives to the proposed amendments to both regulations is found in Chapter VIII of the Staff Report. For the reasons set forth in the Staff Report, staff's comments and responses at the hearing, and this FSOR, the Board has determined that none of the alternatives considered by the agency would be more effective in carrying out the purpose for which the amendments to both regulations were proposed or would be as effective and less burdensome to affected private persons than the action taken by the Board.

II SUMMARY OF COMMENTS AND AGENCY RESPONSES

A. Comments Submitted Up to and at the Board Hearing

The Board received 107 written and oral comments in the formal 45-day rulemaking comment period leading up to the December 2010 Board meeting, beginning with the notice publication October 28, 2010, and ending with the closing of the record on December 17, 2010. Comments not pertinent to amending the Off-Road or LSI fleet regulations have not been included as part of the rulemaking record and are not responded to in this document. Table 1 below lists commenters that submitted timely, pertinent comments, identifies the date of their comments, and provides a reference code, which is used to link the comments to the appropriate commenter throughout this document.

Following Table 1 is a summary of each objection or recommendation regarding the proposed action, together with an agency response providing an explanation of how the proposed action has been changed to accommodate the objection or recommendation or the reasons for making no change. The comments have been grouped by topic whenever possible.

Table 1: Comments From Up To and At the Board Hearing

Reference Code	Commenter	Affiliation	Date Received
ACCC	Quilter, John	Association of California Car Clubs	December 14, 2010
ALA	Holmes-Gen, Bonnie	American Lung Association	December 17, 2010
ARA1	Graboski, Michael	American Rental Association	December 14, 2010
ATA	Pohle, Tim	Air Transport Association of America	December 6, 2010
AYALA	Ayala, Ruben	Ayala, Ruben	December 13, 2010
BAAQMD1	Fournier, Anthony	Bay Area Air Quality Management District	December 13, 2010
BAAQMD2	Fournier, Anthony	Bay Area Air Quality Management District	December 15, 2010
BARBOSA	Barbosa, Eddie	Barbosa, Eddie	December 14, 2010
BARD	Bard, Jenny	Bard, Jenny	December 15, 2010
BCPG	Michaelson, Rod	Bay Cities Paving and Grading, Inc.	December 17, 2010
BENGSTON	Bengston, Wayne	Bengston, Wayne	December 7, 2010
BLANTHORNE	Blanthorne, Philip	Blanthorne, Philip	November 4,

Reference Code	Commenter	Affiliation	Date Received
			2010
BJ	Van Allen, Doug	BJ Services	December 17, 2010
BP	Torrez, Michael	BP	December 13, 2010
BREATHE	Katz, Andy	Breathe California	December 17, 2010
BROWNE	Browne, Kelly	Browne, Kelly	December 14, 2010
CALCIMA1	Rea, Charles	California Construction and Industrial Materials Association	December 13, 2010
CALCIMA2	Harper, Adam	California Construction and Industrial Materials Association	December 15, 2010
CALCIMA3	Harper, Adam	California Construction and Industrial Materials Association	December 17, 2010
CAPCOA	Zeldin, Mel	California Air Pollution Control Officers Association	December 3, 2010
CATHOLIC	Reifsnider, Betsy	Catholic Charities	December 17, 2010
CCA1	Jonasson, Elizabeth	Coalition for Clean Air	December 17, 2010
CCA2	Bautista, Nidia	Coalition for Clean Air	December 17, 2010
CEU	Eisenhammer, Eric	Coalition of Energy Users	December 14, 2010
CFA	Brink, Steven	California Forestry Association	December 21, 2010
CHAYO	Chayo, Leslie	Law Offices of Leslie E. Chayo	December 13, 2010
CHUNG	Chung, Helena	Chung, Helena	December 15, 2010
CIAQC1	Lewis, Michael	Construction Industry Air Quality Coalition	December 15, 2010
CIAQC2	Lewis, Michael	Construction Industry Air Quality Coalition	December 17, 2010
CLEAIRE1	Edgar, Brad	Cleaire Advanced Emission Controls	December 15, 2010
CLEAIRE2	Edgar, Brad	Cleaire Advanced Emission Controls	December 17, 2010

Reference Code	Commenter	Affiliation	Date Received
COOTS	Coots, Victoria	Coots, Victoria	November 30, 2010
COOK	Cook, Mike	A&A Ready Mixed Concrete Inc.	December 14, 2010
CRPE	Newell, Brent	Center on Race, Poverty, and the Environment	December 17, 2010
CTTA	Tucker, Glenn	California Tow Truck Association	December 13, 2010
CVWD	Williams, Gary	Coachella Valley Water District	November 8, 2010
DELTA	Brown, Skip	Delta Construction Company, Inc.	December 21, 2010
DIETRICH1	Dietrich, Robert	Dietrich, Robert	December9, 2010
DIETRICH2	Dietrich, Robert	Dietrich, Robert	December 14, 2010
DOT	Balasubramanian, Srikanth	Department of Transportation	December 22, 2010
DONALDSON1	Imes, Julian	Donaldson Filtration Solutions	December 15, 2010
DONALDSON2	Imes, Julian	Donaldson Filtration Solutions	December 17, 2010
EBBELING	Ebbeling, MD, William	Ebbeling, MD, William	December 15, 2010
ECS1	Brown, Kevin	Engine Control Systems	December 15, 2010
ECS2	Brown, Kevin	Engine Control Systems	December 17, 2010
EHC	Williams, Joy	Environmental Health Coalition	December 17, 2010
ENG	Eng, Mike	Eng, Mike	December 2, 2010
FINDLEY	Findley, Myrtle	Findley, Myrtle	December 9, 2010
FLEMING	Fleming, George	Fleming, George	December 9, 2010
FMMS	Garcia, Michelle	Fresno-Madera Medical Society	December 17, 2010
GILDERSLEEVE	Gildersleeve, Todd	Gildersleeve, Todd	December 14, 2010
GRANITE	Pfeifer, Nick	Granite Construction	December 17, 2010
GRAVES	Graves, Kay	American	December 9, 2010

Reference Code	Commenter	Affiliation	Date Received
GRIFFITH	Griffith, Jim	Griffith, Jim	December 9, 2010
HOLUB	Holub, Jacque	Holub, Jacque	December 8, 2010
HULZ	Hulz, Brian	Hulz, Brian	December 9, 2010
JOHNSON1	Lassen, Marty	Johnson Matthey Catalysts	December 17, 2010
JOHNSON2	Lassen, Marty	Johnson Matthey Catalysts	December 21, 2010
JONES	Jones, Christine	Jones, Christine	December 15, 2010
KELLOGG	Kellogg, Alan	Kellogg, Alan	December 9, 2010
KIRSCHKE	Kirschke, Robert	Kirschke, Robert	November 9, 2010
KUSTIN1	Kustin, Camille	Better World Group	December 15, 2010
KUSTIN2	Kustin, Camille	Better World Group	December 17, 2010
KUSTIN3	Kustin, Camille	Better World Group	December 21, 2010
LIQTECH	Debelak, Donald	Liqtech NA	December 14, 2010
LLNL	Wegrecki, Anthony	Lawrence Livermore National Laboratory	December 15, 2010
LOWENTHAL	Lowenthal, Bonnie	Lowenthal, Bonnie	December 2, 2010
MARTIN	Martin, Fred	Martin, Fred	December 14, 2010
MCAQMD	Brown, Carre	Mendocino County Air Quality Management District	December 21, 2010
MCGHEE	McGhee, Christina	McGhee, Christina	December 17, 2010
MCLOUGHLIN	McLoughlin, Neysa	McLoughlin, Neysa	December 15, 2010
MECA1	Brezny, Rasto	Manufacturers of Emission Controls Association	December 14, 2010
MECA2	Kubsh, Joe	Manufacturers or Emission Controls Association	December 17, 2010
MORTON	Morton, Mark	Morton, Mark	December 14, 2010

Reference Code	Commenter	Affiliation	Date Received
NABORS1	Thomas, James	Nabors Well Services Company	December 8, 2010
NABORS2	Thomas, James	Nabors Well Services Company	December 17, 2010
NAFA	Battersby, Richard	NAFA California Air Resources Board Advisory Council	December 15, 2010
NAVY	Friedman, Randal	Navy Region Southwest	December 17, 2010
NRDC	Bailey, Diane	Natural Resources Defense Council	December 17, 2010
NSCAPCD1	Lee, Barbara	Northern Sonoma County Air Pollution Control District	December 17, 2010
NSCAPCD2	Lee, Barbara	Northern Sonoma County Air Pollution Control District	December 21, 2010
OE	Jacobs, Jim	Operating Engineers	December 17, 2010
PINKSTON	Pinkston, Pam	Concerned Citizen	December 9, 2010
POLANCO	Polanco, Sen. Richard	Polanco, Sen. Richard	December 17, 2010
PUENTE	Biang, Ronald	Puente Ready Mix, Inc.	December 15, 2010
RANDALL	Randall, Christy	Randall, Christy	December 15, 2010
RAMP	Kitigawa, Brandon	Regional Asthma Management and Prevention Project	December 17, 2010
RCRC	Pitto, Mary	Regional Council of Rural Counties	December 14, 2010
RITCHIE	Ritchie, Cheryl	Ritchie, Cheryl	December 11, 2010
RODEN	Roden, Rex	Roden, Rex	December 14, 2010
RYPOS	Bransfield, Peter	Rypos	December 17, 2010
SBAFFI	Sbaffi, Dave	Sbaffi, Dave	December 14, 2010
SCAQMD1	Hogo, Henry	South Coast Air Quality Management District	November 23, 2010
SCAQMD2	Wallerstein, Barry	South Coast Air Quality Management District	December 14, 2010
SCAQMD3	Hogo, Henry	South Coast Air Quality Management District	December 17, 2010
SIERRA	Magavern, Bill	Sierra Club	December 17, 2010

Reference Code	Commenter	Affiliation	Date Received
SIERRAPINE	Fry, Katherine	SierraPine	November 18, 2010
SJVAPCD1	Sadredim, Seyed	San Joaquin Valley Air Pollution Control District	December 17, 2010
SJVAPCD2	Sadredim, Seyed	San Joaquin Valley Air Pollution Control District	December 21, 2010
SKINNER	Skinner, Warren	Skinner, Warren	December 11, 2010
SLWBP	Matteo, Salvador	SLWBP	December 17, 2010
SMITH	Smith, George	Smith, George	December 14, 2010
STRATTON	Stratton, Cindy	Stratton, Cindy	December 10, 2010
SYAR	Thomson, Steve	Syar Concrete	December 21, 2010
TOMLINSON	Tomlinson, Rick	Tomlinson, Rick	November 15, 2010
TRAVERS	Travers, Ken	Travers, Ken	December 9, 2010
UCS1	Anair, Don	Union of Concerned Scientists	December 17, 2010
UCS2	Anair, Don	Union of Concerned Scientists	December 21, 2010
USEPA	Adams, Elizabeth	United States Environmental Protection Agency	December 17, 2010
VONASEK	Vonasek, David	Vonasek, David	December 10, 2010
WM	White, Chuck	Waste Management	December 17, 2010
WRIGHT	Wright, Tracey	Wright, Tracey	December 15, 2010
YOUNG	Young, Justin	Young, Justin	December 14, 2010

1. Proposed Off-Road Amendments

a. Captive Attainment Fleet Provision

Comment: One issue that has not been addressed that RCRC has brought up since the development of the Off-Road Rule, is the extension of the Captive Attainment Area provision to counties that are classified as nonattainment strictly due to transport. These are the Mountain Counties Air Basin and include the counties of Western Nevada, Amador, Calaveras, Tuolumne, and Mariposa. Compliance with the requirements of the proposed regulations in those counties will not significantly reduce the emissions and will never bring those counties into attainment. However, emission reductions from the contributing upwind districts will lead to the downwind area attainment. Those counties should be afforded the same consideration as their similar rural counterparts. (RCRC)

Agency Response: As stated in the FSOR[1] for the original rulemaking, staff disagrees with extending the "Captive Attainment Area Fleet" definition to include areas that are classified as non-attainment as a result of transport. These areas have been designated by the United States Environmental Protection Agency (U.S. EPA) as violating the federal 8-hour ozone standard, and the air quality in some of these areas is degrading, potentially warranting a future redesignation as severe non-attainment for the federal ozone standard. Although as commenter RCRC states above, emission reductions from contributing upwind districts will eventually contribute to cleaner air downwind, local NOx emissions in these downwind counties add to the severity of the local ozone problem, and local emission reductions will also be beneficial. The regulation will provide important emission reductions towards that end. Therefore, staff believes that the regulation should apply in counties classified as nonattainment due to transport just as it does in other nonattainment counties.

Staff would also like to note that the rural counties listed in the RCRC comment above are all considered low-population counties within the Off-Road regulation. Municipal fleets that operate within these counties are considered small fleets, regardless of total horsepower. Since the captive attainment area fleet provisions also allow a fleet to be considered small, regardless of total horsepower, there would be no additional benefit for municipal fleets operating in low-population counties to also be considered captive attainment area fleets (since both provisions provide the same benefits). Although the low-population county provisions only apply to municipal fleets, staff believes that significant economic relief has already been provided to all fleets throughout the State (as stated in section II.A.5.a. of this FSOR), and therefore it is not necessary to change this provision to grant additional relief to rural fleets.

Comment: In March of 2010, the ARB designated the Northern Sonoma County Air Pollution Control District (NSCAPCD, or District) as attainment for all federal and state ambient air quality standards. With this recognition of our clean air, we are writing to

[1] The FSOR for the original rulemaking is available online at: http://www.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

respectfully request that ARB also extend the exemption from NOx control requirements in your regulations for in-use Off-Road diesel vehicles.

As one of only two air districts that attain all of the federal and state ambient standards, and with typical maximum 1-hr ozone levels of 0.06 parts per million (ppm), the NSCAPCD is certainly one of the cleanest air quality regions of the State. As such, it should be granted the same exemption as other clean air areas. NOx-exempt status would provide expanded compliance options for owners of Captive Attainment Area Fleets. While many of the fleets in the NSCAPCD would not qualify for this provision, the District anticipates that some fleets would. Based on our understanding of the fleets in the District, and the very low levels of ozone that we are recording, we believe NOx-exempt status would not have any impact on our ability to maintain our clean air designation. (NSCAPCD2)

Comment: My main purpose in appearing today is fairly specific. I would like to ask your consideration for adding the Northern Sonoma Air District area to the NOx exempt area list in Section 2449(c)(6) and 2449.1(a) of your rules. (NSCAPCD1)

Agency Response: ARB staff agrees that since Northern Sonoma County is now in attainment, it should be included in the captive attainment area fleets provisions. Staff included this change in the 15-Day Notice.

b. Alternative Fuel Provisions

Comment: Under the existing Off-Road diesel and large spark ignition (LSI) Rules, electric airport ground support equipment (GSE) purchased before January 1, 2007, can be counted toward compliance with both rules: all (i.e. 100%) of such equipment can be counted toward LSI Rule compliance and 20% can be counted toward Off-Road Rule compliance. As had been confirmed previously to us by ARB staff, these provisions were intended to recognize and provide appropriate credit for the early emission reductions voluntarily achieved by the airlines through their substantial GSE electrification efforts.

However, the proposed changes to the regulatory language apparently require GSE fleets first, to choose to include such pre-2007 electric units in either the LSI or Off-Road fleet, and then, limit them to counting only 20% of the units designated for the ORD fleet towards compliance. Specifically, Off-Road Rule credit for electric GSE purchased prior to 2007 would now be available only if "[t]he electric vehicle is not already included in the fleet average emission level requirements for large spark ignition engine fleets in title 13, Section 2775.1." This conflicts with Section 2449(d)(I)(B)(2)(a), under which airlines receive only 20% credit for the max HP of all electric GSE in the Off-Road Rule fleet purchased before 2007. This restriction would not apply to any of the other types of vehicles regulated under the Off-Road Rule.

Such a change, particularly applied only to GSE, would be arbitrary and capricious, and is entirely unsupported by the rulemaking record. Given that it would make no sense to arbitrarily limit Off-Road Rule compliance credit for electric GSE to 20%, we assume this change is the result of an inadvertent drafting error. To correct this error, proposed Section 2449(d)(1)(B)(1)(c) should be amended to read: "Except for units subject to Section 2449(d)(1)(B)(2)(a) below, the electric vehicle is not…"

If the proposed change was intentional, at the very least, electric GSE should be treated the same as other pre-2007 electric units that perform the work of diesel vehicles. Such pre-2007 non-GSE are afforded 100% credit toward Off-Road Rule compliance so long as they are not also included in an LSI fleet. (ATA)

Agency Response: This change was unintended, and was the result of a drafting error that occurred when staff rearranged the alternative fuel provisions in section 2449(d)(1). To correct this error, staff amended the language in the 15-Day Notice to read: "Except as provided in section 2449(d)(1)(B)(2)(a), the electric vehicle is not…" This provision is now the same as it was in the original regulation, which was the intention of staff.

Comment: Under proposed Section 2449(d)(1)(A)(1)(e), a fleet operator receives credit for a gasoline-powered vehicle that replaced a diesel vehicle only if the diesel vehicle was retired from the fleet within six months of the date the gasoline-powered unit is added. No such time restriction applies to other alternative-fueled replacement units. This time restriction would needlessly penalize fleets that have removed diesel units to comply with fleet averages, but do not have the immediate need or financial ability to purchase a gasoline-powered replacement unit within six months. By using the diesel Off-Road on-line reporting system (DOORS) inventory, comprehensive data regarding the fleet size and make-up is available. Accordingly, ARB and the fleet owner will be able to readily determine whether a new gasoline vehicle qualifies as a replacement of a retired diesel unit. No time restriction is necessary. Accordingly, Section (d)(1)(A)(1)(e) should be revised to read as follows: "If the vehicle is a gasoline-powered vehicle, the owner must identify the diesel vehicle that the gasoline-powered vehicle replaced through data entry in the DOORS program." (ATA)

Agency Response: Staff agrees with commenter ATA, and removed the requirement to show that the diesel vehicle was retired within six months of the purchase of a gasoline-powered vehicle. This language was amended in the 15-Day Notice to read: "If the vehicle is a gasoline-powered vehicle, the owner must identify the diesel vehicle that the gasoline-powered vehicle replaced and maintain records documenting the function of the diesel vehicle replaced and the gasoline-powered replacement vehicle, and the dates of sale and purchase for both vehicles." Staff did not require data entry in DOORS (as suggested by commenter ATA), because fleets are not required to use DOORS; fleets can also use hard copy forms (as provided by ARB) to report fleet changes. Therefore, staff did not amend the language to include reporting in DOORS, but instead indicated that records must be kept as part of this provision.

c. New Fleet Provision

Comment: Staff has spent a considerable time in the staff report clarifying the requirements for new fleets. NWSC believes this clarification will be valuable in the future. NWSC's recommendation is with the new fleet reporting provision. This provision requires a new fleet to report in DOORS within 30 days of bringing the vehicles into the state. Staff should require the new fleet to report in DOORS before using the vehicles in California. This would allow CARB the opportunity to review the company's fleet to ensure compliance with the regulation. (NABORS1)

Agency Response: Staff does not think it is feasible to require reporting before entering California. ARB only has the authority to regulate Off-Road fleets within California. To require reporting before entry into California would impose requirements on fleets that are currently in other states, which would be beyond the authority of ARB.

Although ARB cannot impose reporting before fleets enter the State, staff can still evaluate the compliance status of out-of-state fleets once they report (within 30 days of entering the State), and will have the ability to issue fines for out-of-state fleets that are out of compliance at that time.

d. Low-Use Provisions

Comment: In the case of a two-engine vehicle, BP believes that the low-use definition should be clarified so that each engine can be separately evaluated and categorized as low-use. BP believes that this definition based on the vehicle was not originally constructed with two-engine vehicles in mind.

For example, a crane at the Carson refinery with two engines has one that would qualify as low-use and the other that would not. The pony engine is used frequently and would not qualify for low-use. However, it was retrofit with a tier 2 (T2) engine in the 2005-2006 timeframe. On the other hand, the drive engine only operates about 36 hours per year and should not be subjected to retrofit or repower based on the utilization of the pony engine. The vehicle replacement cost is prohibitively high, and even the retrofit or repower costs would not be justified by the low emission reduction at this usage rate.

BP believes this low-use vehicle definition clarification would provide flexibility and ensure that regulatory investment is made cost-effectively by targeting the best emission reduction opportunities. BP also believes that this change is responsive to broader stakeholder concerns and the board direction on April 22nd regarding flexibility and adopting regulations that are most cost-effective – particularly under these difficult economic circumstances.

To that end BP has attached a rough cost analysis comparing the costs and emission reductions comparing the cost of replacing the two engine crane (low use drive tier 0 (T0) engine and normal use T2 lift engine) versus a similar cost of replacing a front end loader (single engine tier 1 (T1) normal use). The analysis, which is based on typical costs, average annual hours of the equipment and vendor quotes, shows that replacing the normal use T1 equipment reduces diesel PM emissions approximately ten times as much diesel PM then replacing the crane with a low use T0 engine. Additionally the cost per pound of diesel PM reduced for replacing the crane compared to the front end loader is a little over 13 times more expensive.

Comparison Crane Replacement vs. Front End Loader					
Crane	HP	Tier	Diesel PM EF, g/bhp-hr	Average Annual Usage, hrs	Average Annual Diesel PM Emissions, lbs
Drive Engine (Low Usage)	160	T0	0.54	36	7
Auxillary Engine (Normal Use)	225	T2	0.22	1170.8	128
New Crane	HP	Tier	Diesel PM EF, g/bhp-hr	Average Annual Usage, hrs	Average Annual Diesel Emissions
Drive Engine (Low Usage)	160	T3	0.15	36	2
Auxillary Engine (Normal Use)	225	T3	0.15	1170.8	87
				Diesel PM Emission Reduction, lbs	46
				Equipment Replacement Cost	$ 1,037,500.00
				Cost per lb Diesel PM Reduced	$ 22,749.22
Front End Loader	HP	Tier	Diesel PM EF, g/bhp-hr	Average Annual Usage, hrs	Average Annual Diesel Emissions
Drive Engine (Normal Use)	458	T1	0.40	1170.75	473
New Front End Loader	HP	Tier	Diesel PM EF, g/bhp-hr	Average Annual Usage, hrs	Average Annual Diesel Emissions
Drive Engine (Normal Use)	458	T4I	0.015	1170.75	18
				Diesel PM Emission Reduction, lbs	455
				Equipment Replacement Cost	$ 795,687.50
				Cost per lb Diesel PM Reduced	$ 1,748.31

(BP)

Agency Response: The first two-engine vehicles brought into the Off-Road regulation were two-engine cranes. As stated in the Technical Support Document: Proposed Regulation for In-Use On-Road Diesel Vehicles, crane owners petitioned ARB to allow both engines of these vehicles into the Off-Road regulation for several reasons, including:

1. The repowering or retrofitting of the secondary engine has considerable feasibility issues;
2. The repowering or retrofitting secondary engine creates safety and design concerns; and
3. Repowering or retrofitting secondary crane engines will first require crane manufacturers' approval and secondly require recertification by the occupational safety and health administration (OSHA) and Cal-OSHA;

Crane owners stated that because of the challenges outlined above, the auxiliary and/or drive engine of many two-engine vehicles cannot be replaced individually, and would require the replacement of the entire vehicle. For these reasons, ARB staff recognized that in the case of two-engine cranes, it was not effective to have the drive and auxiliary engines of the same vehicle in two separate regulations with two different compliance timelines. Additionally, for similar reasons, staff later amended the Off-Road regulation to include two-engine water-well drilling rigs, and in the 15-Day Notice, staff brought most remaining two-engine vehicles into the Off-Road regulation.

Staff believes that for most two-engine vehicles, the problems outlined above regarding the feasibility of repowering or retrofitting one engine of a two-engine vehicle remain issues. Therefore, when determining the low-use status of a two-engine vehicle, staff believes it is appropriate to designate a two-engine *vehicle* as low-use, instead of granting low-use status to an individual *engine* in a two-engine vehicle. This means that both engines of a two-engine vehicle need to operate less than 200 hours per year in order for the two-engine vehicle to be considered a low-use vehicle.

Staff acknowledges that in the example shown in the BP analysis, replacing the entire crane is less cost effective than replacing the front-end loader. However, in the example shown, the entire cost of a new crane is used when calculating the cost effectiveness of the replacement. As discussed in Chapter VII of the Staff Report, the costs attributable to the regulation are those that are above the baseline, or normal turnover costs, for the fleet. Therefore, staff believes it is not appropriate to attribute the entire cost of a replacement crane or loader to the regulation or to include that full cost in the cost-effectiveness calculations.

Staff acknowledges as well that many cranes are expensive, specialized vehicles. It was exactly for such specialized vehicles that the specialty vehicle provisions of the regulation were intended. In situations when replacement of a vehicle is the only realistic option for compliance (i.e., there is no repower or used vehicle available), the specialty vehicle provisions in section 2449.1(b)(2) and (3) of the Off-Road regulation allow the vehicle to be exempted from BACT requirements.

Comment: NAFA's Council recommends increasing all vehicle and equipment minimum usage exemption parameters (mileage and hours of operation). This will provide a small measure of relief to public and private fleets which have been incredibly impacted by the current economic situation. It is no secret that this state has been especially hard hit by the recession and that current diesel vehicle operation and usage is far below projections due to the economic environment. Additionally, there is a general lack of retrofit devices available for larger equipment such as construction and heavy gross vehicle weight forklifts; especially older equipment. Increasing minimum usage parameters would allow fleets to make better use of existing units for which no suitable retrofit device exists and therefore greatly aid fleets struggling just to remain in business with minimal impact to overall projected diesel emissions. (NAFA)

Agency Response: Staff agrees that raising the low-use threshold could provide some economic relief to fleets, therefore, staff proposed to raise the low-use threshold from 100 to 200 hours per year at the December 2010 Board hearing. The 200 hour per year low-use threshold was chosen to provide economic relief to owners of rarely used vehicles while still ensuring that emissions from more heavily used vehicles were controlled. When combined with staff's other proposed amendments, the change in low-use threshold to 200 hours per year provides significant relief to affected fleets while still ensuring that the regulation will substantially reduce emissions. However, raising the low-use threshold any higher than 200 hours per year could result in unacceptable loss in emission benefits, and therefore staff is not considering an additional increase in the low-use threshold.

Additionally, staff disagrees with commenter NAFA's statement that there is a general lack in availability of retrofit devices for larger vehicles; as of August 2011, there are nine devices that are verified for off-road use on engines over 300 hp that are model year 1996 and newer. However, staff recognizes that retrofits are not a viable solution for every off-road vehicle, and that is why the regulation has been changed to remove mandatory retrofitting and instead allows it as just one of the many compliance options available to fleets. Because of this flexibility and the economic relief already granted (as stated in the responses of section II.A.5.a. of this FSOR), staff does not believe it is necessary to raise the low-use threshold further.

e. Labeling Requirements

Comment: Section 2449(f)(2)(E), Affixing EIN Label to Left Side of Vehicle. Lawrence Livermore National Laboratory (LLNL) recommends that this proposed requirement be removed. Section 2449(f)(2)(B) already requires an EIN label be affixed to the right side of vehicles covered by the regulation. This proposed requirement would be redundant and add addition cost and time burden to fleet operators with little additional benefit. (LLNL)

Comment: Caltrans requests that the current labeling requirements of placing one label per piece of equipment remain unchanged. The proposed rule change to place on label on each side of the equipment would require significant additional resources without apparent related benefit. For example, Caltrans will have to place an additional label on over 1,000 units across the state. (DOT)

Comment: We wish to comment upon the proposal to require off-road equipment to have two (2) EIN's posted on each vehicle. Suffice it say, asking owners to now install EIN's on both sides of a vehicle is an extra cost that is unfounded and certainly does not improve our air quality! Even portable equipment registration program <u>only</u> requires one placard on the outside of the equipment (cost of $5 as part of the renewal, and CARB provides a placard!).

There are many rental fleets in the State of California that may have in excess of 500-1,000 machines. On average, each EIN label costs about $5.00, excluding shipping, and not including administrative costs. For a fleet of 1,000 machines, the cost to go back and "re-label" the left side of the existing vehicles within the two (2) year proposal will be at least <u>$5,000.00</u> for just the labels alone (more if you include shipping). In addition to the cost of the label, there are administrative costs involved in ordering the stickers, distributing the stickers to each of the rental company's locations throughout California, and providing manpower to affix the stickers either in the field or when the vehicle is returned to the rental yard. Even using the low estimate of ½ hour per vehicle (again not just the time to affix the sticker), this will cost the rental company at least an additional <u>$15,000.00!</u> Nobody wants to spend in excess of $20,000.00 to accomplish this task, especially in the present economic times wherein the rental company's resources are limited, and especially when there is <u>no</u> benefit to emissions reduction.

In addition to this unnecessary cost, requiring the label on both sides of the equipment needlessly increases the risk of enforcement when one label may be missing for one reason or another. This is amplified for a rental machine <u>that may get more abuse</u> from being sued by multiple operators. Although it may be difficult from an enforcement standpoint to only have the sticker on one side, it <u>cannot</u> take that much time for the enforcement officer to walk around the vehicle to find the sticker! If portable equipment can get by with only one sticker, then certainly off-road equipment should be able to do the same! (CHAYO)

Comment: CARB is proposing that Equipment identification numbers (EINs) must be affixed to both sides of equipment. This requirement would create an unnecessary industry-wide cost without a corresponding reduction in emissions. Estimates are that EIN decals or stickers cost approximately $5.00 a piece to purchase, excluding shipping and the administrative expenses to apply them to each piece of equipment. For a large fleet with equipment at many job site locations, such as a rental fleet with 1,000 machines, the cost for the decals alone would approach $5,000. The expense of distributing the stickers to each of the rental company's locations throughout California, and providing manpower to affix the stickers either in the field or when the vehicle is returned to the rental yard is estimated to be an additional $15,000. During these difficult economic times and very limited resources, no company wants to spend in excess of $20,000 to accomplish this task, especially if there is no emission reduction benefit. Using the CARB estimate of 132,000 machines registered in Diesel-Off Road On-Line Reporting System (DOORS), the cost to owners will in excess of $2.6 million. The cost of this requirement statewide is unfounded and should not be pursued. (CIAQC1)

Comment: The addition of another sticker to the equipment is a multi-million dollar cost to this industry. If it was important enough to have it done, it would have been nice if you asked us to do it when we put the first sticker on. This I think is just ripe for problems with people sticking the wrong number on the other side of the equipment so it has two different numbers. There's the cost of going out to do it. It's probably going to be an opportunity for violation notices. And I would suggest that to fix this you could require the addition of a second sticker at the time they add a new piece of equipment to fleet. (CIAQC2)

Comment: Staff is proposing to modify the labeling provision that would require a fleet to label both sides of its equipment rather than just the right-handed side with an EIN. Staff made an assumption that the cost of the additional labeling would be $10 per EIN label. NWSC would like to note that the initial labeling cost is one cost, but the re-labeling is another cost that the staff did not take into account. After the original labeling two years ago, a large number of EINs are fading due the heat and sun in the valley. (NABORS1)

Comment: One other thing I would like to see changed is on the Off-Road reg where they've asked for us to add a label there. In the reg, it says it's only ten bucks to put on the left side, but that's not considering the cost you have to go track the equipment down, clean it up, put the label on, pay somebody to go out there, and do all that, it's going to be more than $10. The label we put on in 2009 that were red with white lettering are already pink with white lettering because of the sun in San Joaquin Valley. In three to four years, they're going to be white on white. What we'd like to know is can't the regulator just walk around and look on the other side instead of having one on each side? What's next? We have to put one the front, back, and one on the roof, too? So that looked like excessive extra expense there for a company. (BJ)

Agency Response: Staff disagrees with the comments above stating that this amendment is unnecessary because it will not result in any benefits, improve air quality, or is redundant. This amendment is needed because although it may not provide additional emissions reductions, it will help maintain the existing emissions benefits of this regulation. Although ARB staff recognizes that labeling both sides of a vehicle with an Equipment Identification Number (EIN) will result in additional costs to fleets, staff believes this amendment is necessary to aid ARB in the enforcement of the Off-Road regulation; if the regulation is not adequately enforced, emissions benefits will be reduced by non-compliant fleets. Throughout the development of the regulation, many fleets commented that enforcement of the regulation is critical to ensure a level playing field for all fleets operating within the State. Staff agrees that enforcement is critical, and believes that the first step in ensuring compliance is to verify that all off-road vehicles across the state are reported and labeled. Properly identifying vehicle labels has been a problem for ARB enforcement officers, members of the public, and other fleets. On many occasions, ARB has received complaints of unlabeled vehicles from the public or from other fleets. However, upon further inspection by ARB enforcement officers (enforcement), many of these vehicles were labeled, but were oriented such that the vehicle’s labeled side was obscured from public view. In situations such as this, enforcement has spent time and resources investigating compliant fleets, while other non-compliant fleets continue to operate throughout the state. Therefore, if enforcement is able to more efficiently identify compliant vehicles, more time and resources can be allocated to locating non-compliant fleets.

Commenters BJ and CHAYO suggested that enforcement should just “walk around to the other side” of a vehicle if it appears to be unlabeled; however, at times this is not a feasible option. There are many instances, such as when a vehicle is parked alongside the freeway or is being trailered on the freeway, when enforcement cannot safely access the vehicle in order to inspect it. Also, if a vehicle is parked on a locked job site, it may take many hours for enforcement to obtain access to the vehicle. In both situations, having both sides of a vehicle labeled would allow enforcement to efficiently identify compliant vehicles.

Commenter CHAYO notes that ARB’s Portable Equipment Registration Program (PERP) only requires one placard (label), per engine. However, PERP requires only one placard because it is not enforced by random inspection, which is the case for the Off-Road regulation. Under PERP, a fleet is required to pay to have a local air district representative inspect its portable equipment and placards once every three years.

Additionally, although the placard itself is only $5.00, PERP also requires a $270 registration fee and $345 inspection fee for each engine registered through that program. Reporting through the Off-Road regulation has no registration fee, no inspection fee, and a fleet is not required to purchase an EIN label through ARB. Therefore, ARB staff believed it was more cost effective to require labeling on both sides of all off-road vehicles, which will allow for more efficient enforcement of the labeling requirements without requiring inspection fees.

Several of the commenters above stated that there are many more additional costs beyond the costs of the EIN labels, including administrative costs, shipping costs, and costs associated with locating and affixing the labels. Staff acknowledges that some fleets may have additional costs; however, not all fleets may incur these costs. A fleet is not required to affix the second EIN label on all of its vehicles at once, and may spread out the labeling costs until both labels are required on January 1, 2013. Given this extra time, if a fleet adds the second EIN label when equipment is returned to a rental yard, or brought in for maintenance, additional costs will be minimized.

Additionally, some commenters stated that staff did not take into account the costs of relabeling equipment when the EIN labels fade or are otherwise damaged. Although staff acknowledges that some fleets may need to replace damaged EIN labels, this may not be the case for all fleets. The Off-Road regulation specifies the size, color, and location of the EIN; however, it does not specify that the EIN label must be made out of a specific type of material. If a fleet requires a more durable EIN label, it may choose to have the EIN printed on a metal plate. Additionally, if a fleet wanted a lower cost labeling option, it could choose to paint the EINs onto the side of each vehicle. The Off-Road regulation specifically allows a fleet to choose the material of their EIN label in order to provide the maximum flexibility for the fleet, allowing for more cost effective and durable options. For this reason, ARB staff did not include additional costs for relabeling, and instead used an average label cost of $10 per label, because for some fleets, relabeling may not be necessary.

Overall, staff believes that the costs of the additional EIN labels and other possible costs associated with their installation are necessary to ensure the emissions benefits of the Off-Road regulation are achieved. The costs of the additional labels are minor in comparison with the overall cost savings provided by the other amendments, and therefore, most fleets are expected to experience significant cost savings.

Although commenter CIAQC2 suggests only adding the second EIN label when a new vehicle is purchased, all vehicles subject to this regulation need to have the additional EIN label installed in order to maximize the benefits of this amendment. If only some vehicles were labeled on both sides, enforcement would still have the same issues viewing labels and determining vehicle compliance. Additionally, commenter CIAQC2 was concerned that this amendment would result in additional citations. Although staff acknowledges that the mislabeling of a vehicle could result in a citation, staff does not believe that this amendment will result in an abundance of additional citations.

Commenter CIAQC2 notes that it would have been better if ARB had required labeling on both sides when the regulation was initially adopted. Staff agrees, but the need for labels on both sides of the vehicle did not become apparent until enforcement of the labeling requirements began.

Commenter BJ asks if staff is eventually going to propose labeling requirements on the front, back, or roof of off-road vehicles. At this point, staff does not anticipate requiring additional EIN labels beyond what is already proposed.

Comment: The staff report states the labeling modification would make it easier for enforcement. If labeling modification is adopted, NWSC's recommendation is for CARB to enforce the labeling and reporting requirement of the regulation. The staff report acknowledges non-compliance fleets with this statement, "there are still some fleets that have not reported to DOORS and are therefore not in compliance with the Off-Road regulation." CARB should locate all the non-compliant fleets. (NABORS1)

Agency Response: ARB enforcement officers are currently enforcing the reporting and labeling requirements of the regulation, and as stated in the Agency responses above, staff believes that requiring the additional label will aid enforcement in locating non-compliant fleets in the future.

f. Final Fleet Average Targets

Comment: The revised Off-Road Rule would impose final NOx fleet average emission requirements in 2022 or 2023 that are more stringent than the final fleet average requirements contemplated under the existing regulation. These requirements would require fleets to consist primarily or exclusively of Tier 4i and Tier 4 units by 2022 or 2023. As ARB has noted, the final fleet average NOx targets in the original Off-Road Rule were designed to "represent the economic limit of what industry could bear." There is no reason for ARB to seek to impose even more stringent final fleet average emission targets.

While it may be appropriate for ARB to adopt for 2023 the same stringent fleet average NOx requirements contemplated under the existing regulation for 2020, there is no support in the rulemaking record for adopting even more stringent final fleet average requirements for NOx. Instead, for the same reasons identified by ARB in adopting the existing Off-Road Rule, including economic limitations, the final 2023 fleet average emissions requirements for NOx should be no more stringent than the final targets contemplated under the existing regulation for 2020. By definition, this will retain the same stringent final NOx emission limits as originally contemplated by ARB. Certainly, the massive economic downturn has not increased the "economic limit of what industry can bear," and the final targets should not be made even more stringent than initially contemplated. The economic and other burdens associated with adopting even more stringent final fleet average requirements are substantial, and have not been adequately assessed by ARB. Nor have any significant incremental air quality benefits been identified to justify this change. (ATA)

Agency Response: Although the final fleet average targets were decreased slightly from the original regulation, the economic burden on fleets will be greatly reduced by the amendments overall, not increased. First, the delay in requirements will allow fleets to comply with the final targets with an older fleet than the previous regulation would have required. That is, a fleet meeting the final requirements in 2023 could comply with a fleet that is (depending largely on horsepower composition) approximately 11 years old; previously, fleet's complying with the 2020 requirement would have been required to have a fleet roughly 10 years old (again depending on composition). This is because delaying the requirements by four years allows time for more used Tier 3 and Tier 4 (interim and final) to enter the used vehicle market, which in turn, allows fleets to purchase cleaner equipment at lower costs than initially estimated (since the vehicles are used). Therefore, decreasing the final fleet average targets (i.e., requiring more clean vehicles) will not have a significant effect on the total costs for fleets, since this cleaner equipment will be more readily available as lower priced used vehicles. Other changes such as the annual requirements being slashed by more than half and the final requirements of the regulation no longer including the installation of highest level PM VDECS on every vehicle in a fleet will also markedly reduce costs for fleets. Therefore, even with this increased stringency in the later years, the overall costs for a fleet will be lower.

Additionally, staff disagrees with the commenter that there is not support or reason for staff to make this change to the Off-Road regulation. This regulation is still needed to meet both near and long-term federal and state air quality standards, and more emission reductions are needed in later years to meet these standards due to the decrease in compliance requirements in the early years of the regulation. Overall, the final requirements of the Off-Road regulation are less stringent in comparison to the original regulation, and therefore staff does not anticipate that fleets will experience an increase in difficulty meeting the final fleet average targets.

Comment: Staff is proposing to increase the stringency of the fleet average targets in the later years of the regulations which will require fleets to turn over to additional Tier 4i and/or Tier 4 vehicles. NWSC is concerned with this provision of the amendments and the requirement of turning over to additional Tier 4 vehicles. NWSC believes that mandate to move to Tier 4 vehicles would place a financial burden on fleet owners. NWSC's recommendation is for staff to remove the mandate of moving to Tier 4 vehicles and allow fleets to achieve the turnover through the fleet's normal turnover rate. (NABORS1)

Agency Response: Staff acknowledges that the amended fleet average targets are stricter, and therefore some fleets may incorporate more Tier 4 interim and final vehicles into their fleet to meet those final targets. However, staff would like to note that it is not required, nor is it a mandate, to incorporate these newer vehicles into a fleet for compliance. There are many ways for a fleet to comply with the regulation, including the installation of NOx and PM VDECS, repowering vehicles, retiring vehicles, and designating vehicles as low use. By using a combination of these compliance options, along with the addition of some Tier 4 vehicles, a fleet can meet the final fleet average target without being required to only turn over to Tier 4 vehicles. Additionally, as stated in the response to commenter ATA above, staff does not believe any additional turnover to Tier 4 vehicles will increase costs for fleets, since more lower cost used Tier 4s are expected to be available by the final compliance date.

Although commenter NABORS1 suggests allowing fleets to comply through their natural turnover rate, this option would not accelerate the addition of cleaner off-road vehicles into the statewide fleet. As stated in the Staff Report, this regulation is needed to protect public health and to achieve the emission reductions necessary to attain federal clean air standards.

g. Engine Rebuild Provision

Comment: The proposed amendments have a provision for rebuilt engines of a lower Tier to be rebuilt to a Tier 1 or more stringent emission standard. Staff should clarify this rebuilt engine provision. Can the company's manufacturing the replacement parts sell the parts to the end user? If the end users install the parts during the rebuilt process, how long do you ensure the engine has achieved the Tier 1 or higher standard? Will the rebuilt engine require a certification and labeling? Will the rebuild process require a third part to rebuild the engine to ensure certification? Does the adding vehicles provision apply to the rebuilt engines? As you can clearly see, additional clarification is needed in the rebuilt engine provision. (NABORS1)

Agency Response: In section 2449(h)(3), the regulation requires fleet owners to maintain records for rebuilt engines in accordance with Title 40, CFR, Part 89.130 and Part 1068.120 for as long as the engine remains in operation. Title 40 lists extensive requirements for the engine rebuilt process, including requirements for parts, labor, and certification. Additionally, once an engine is rebuilt to a more stringent emissions standard (in accordance with Title 40 above), the more stringent emission standard may be used in the fleet average calculations, and the engine is treated like any other engine subject to the Off-Road regulation. Therefore, when complying with the requirements of the regulation, a fleet would use the more stringent tier to which the engine was rebuilt for determining compliance, or evaluating other provisions such as the adding vehicle provisions of the regulation.

h. Modify the 2014 Compliance Exemption

Comment: CARB should allow first year compliance (January 1, 2014) for large fleets that achieved the March 1, 2010 fleet averages. The proposed changes would allow fleets that accumulated enough credits to exceed the eight percent BACT requirements by March 1, 2010 to receive the one-year extension, but not if the fleet averages were met. Perhaps this inconsistency is an oversight, or if not, simply does not make sense.

Fleets that achieved the regulation's goals should be treated equally. It appears CARB understood this point as the August 2010 draft version of the regulation allowed the extension for fleets that met both fleet averages or accumulated enough credits to meet the BACT requirements on March 1, 2010. The October 2010 Initial Statement of Reasons (ISOR) still reflects this approach even though the currently proposed rule language does not. (CIAQC1)

Agency Response: Earlier in the regulatory process, staff was considering a delay of the initial compliance dates for fleets in conjunction with more strict fleet average targets. Under this proposal, the initial fleet average targets were stricter than the original 2010 targets, therefore, staff proposed that the 2014 compliance exemption would apply to those fleets that either met the 2010 fleet average targets, or had enough BACT credit to meet the 2010 BACT requirements. However, when staff proposed to keep the initial 2014 targets the same as they had been in 2010, staff concluded it was no longer necessary to additionally provide the 2014 compliance extension to those fleets that had meet the 2010 fleet average target. If a fleet is the same composition (or newer) in 2014, as it was in 2010, it will be meeting the fleet average target for 2014, and the fleet will not be required to take any additional compliance actions. However, if a fleet that previously met the 2010 fleet average target adds older vehicles before 2014, staff does not believe that this fleet should receive the 2014 compliance extension since the fleet’s emissions would be higher than they were in 2010. Therefore, staff is not proposing to include fleets that met the 2010 fleet average targets as part of the 2014 compliance extension.

i. Reduced Fleet Horsepower Provision

Comment: Under the proposed revisions, fleets that reduce their size between March 1, 2010 and March 1, 2011, would appropriately be given full credit for the associated early emission reductions thus achieved. However, with respect to fleet-size reductions that were accomplished during March 1, 2006 to March 1, 2010, the proposed revisions would cut the emission credit in half. The Initial Statement of Reasons explains this proposed change by stating only that: "Staff still believes there is value in retaining the credit, but that it is appropriate to discount the amount of credit accumulated by fleets under this credit by 50 percent.” No meaningful explanation is provided for this conclusion, which is unsupported by the rulemaking record, and is illogical. If anything, because emission reductions accomplished through fleet-size reductions in earlier years accomplish *more* total emission reductions, they should be afforded *more* credit than later-year reductions.

This arbitrary restriction on credit for early fleet size reductions is also inconsistent with Assembly Bill 8 2X (AB 8 2X) (signed February 20,2009), in which the California State Legislature directed ARB to, among other things, modify the Off-Road Rule credit provisions: "to reflect vehicle retirements that reduce total fleet horsepower between March 1, 2006, and March 1, 2010…” Consistent with the intent of the legislature and with ARB's initial implementation of this directive in the Off-Road Rule, regulated entities took steps to reduce diesel fleet sizes and associated emissions in order to obtain credit toward compliance with the regulation. Arbitrarily cutting that credit in half would not only be inconsistent with the legislative intent, but would punish those fleets that acted responsibly to implement fleet size reductions in reliance on AB 8 2X and ARB's implementation of it.

Simply put, there is no reason to retroactively deny full credit for emissions eliminated through fleet-size reductions that occurred prior to March 1, 2010. Compliance strategy decisions and investments have already been made in reliance on this credit, despite limited budgets. Cutting the credit in half effectively cuts in half the value of capital invested. Clearly, this was not the legislature's intent when it directed ARB to amend the regulation. Because early fleet-size reductions continue to yield emission reductions in each successive year, if anything the credit afforded for earlier reductions should be higher, not lower. The proposal to retroactively eliminate 50% of the credit for fleet size reductions achieved before March 2010 is arbitrary and capricious, unsupported by the rulemaking record, and contrary to law. (ATA)

Comment: Section 2449.1(a)(2)(A)(2).a.iv, Credit for Early Retirement. Livermore National Laboratory (LLNL) recommends that the early retirement credit earned by fleets for reducing overall horsepower from March 1, 2006 to March 1, 2010 continue to be equal to its full value and continue to be available for meeting the BACT requirement in any compliance year (and furthermore, continue to never expire). Under the proposed amendments, the early retirement credit earned would be reduced to one half its original value, and for large fleets, the early retirement credit may not be used for meeting the BACT requirement for year ending January 1, 2014. The early retirement credit was part of a California budget agreement (Assembly Bill 8 2X) to provide economic relief to off-road diesel fleets severely impacted by the recession and who reduced their fleet size during that period. Fleets are relying on and have been planning their future compliance strategies (including year ending January 1, 2014) based on being able to use their earned early retirement credits in full. Implementing the proposed requirement would reduce the economic relief that Assembly Bill 2X set out to provide. (LLNL)

Comment: One potential weakness we note is in the retirement credits it reduced fleet horsepower. As we are reading those sections, one, it seems to categorize modifications that large fleets would have made in the compliance period between March 1st of 2009 and the 2010 compliance date and modify those backwards to the half credit versus recognizing those were potential surplus. And then also there seems to be a window between I believe its February of 2012 where if someone was just reducing their fleet horsepower, they wouldn't be reducing credits. And they would essentially end up in that window, hold on to the equipment until you're in compliance to retire it and get credit for turnover. There's almost the scenario that led to Assembly Bill 8 2X in some ways and we think there should be a way to recognize pure fleet horsepower reductions for credit. (CALCIMA3)

Agency Response: Staff disagrees, and believes that the adjustment to the reduced horsepower credit was neither arbitrary nor capricious, but a response to subsequent amendments to the regulation. The intent of the AB 8 2X amendments was to provide immediate economic relief to fleets that reduced their total horsepower because of the economic downturn. However, the amendments to the Off-Road regulation provide economic relief for all fleets, not just those that reduced their horsepower. Prior to the amendments, the BACT requirements of the regulation required a fleet to retrofit 20 percent of its total horsepower and to also turn over 8 to 10 percent of its total horsepower (for medium and large fleets). However, these BACT requirements have been consolidated and reduced through the amendments; a fleet is now only required to control 4.8 to 10 percent of its total fleet horsepower.

For example, consider a fleet with a 60 percent reduced fleet horsepower credit. Prior to the amendments, the fleet would have had enough credit for 3 years of retrofit requirements, and 7 years of turnover requirements. Beginning in 2013, the fleet would have been required to begin applying filters to 20 percent of their horsepower per year.

However, after the amendments removed the PM requirements, this same fleet with 60 percent credit would now meet the BACT requirements with this credit for 7 years. That is, the fleet would receive a delay until 2014 (the four year delay given to all fleets), and then the reduced horsepower credit would prevent the need for any further compliance actions for an additional 7 years, until 2021.

Allowing the reduced horsepower credit to remain at its original level would provide a double benefit to fleets because the delay and reduction in regulatory requirements extend this credit further. Emission reductions from this regulation are still needed, and are critical to meeting state and federal air quality standards, especially in 2014; to allow this credit to remain in its full original amount would result in emissions disbenefits statewide. Also, staff would like to note that although this credit has been reduced by half, and cannot be used in 2014, it will still provide significant economic relief to fleets in combination with other amendments proposed by staff.

For example, if the reduced horsepower credit for the fleet above is reduced by half, the fleet will still not have any compliance requirements until 2018. This happens for several reasons, including 1) the four year delay for all fleets, and 2) the 2014 compliance exemption for fleets that met the March 1, 2010 requirements. The fleet’s first compliance requirements will be delayed until 2014 (because of the four year delay), and although the fleet cannot use the reduced horsepower credit in 2014, it will not have any requirements that year because it would have earned the 2014 compliance exemption. Then beginning in 2015, the fleet would start using its reduced horsepower credit, which will last 3 years, until 2018. As shown in this example, fleets will retain much of the benefit from the reduced horsepower credit, even in its reduced state, and therefore staff does not believe this amendment will cut in half the value of capital invested by fleets. Additionally, AB 8 2X did not specify the amount of credit to be given for reduced fleet horsepower. The AB 8 2X language only required that the credit provisions of the Off-Road regulation be modified “to reflect vehicle retirements that reduce total fleet horsepower between March 1, 2006, and March 1, 2010.” Since the reduced horsepower provision still provides some credit for vehicle retirements during this period, staff believes that the amended regulation is consistent with the requirements of AB 8 2X. Overall, the reduced horsepower credit in combination with many of the other relief provisions allows fleets to defer compliance actions and provides more relief than was granted by AB 8 2X, while still maintaining the benefits of the Off-Road regulation.

Comment: I would like to ask that a look be given at giving full retirement credit in the Off-Road rule from the original baseline date of March 1st, 2009. (GRANITE)

Comment: Caltrans requests compliance credit to the In-Use Off-Road Fleet program for the equipment replaced between March 1, 2010, and January 1, 2014 as opposed to the current proposed language allowing credit only for replacements between March 1, 2010 and March 1, 2011. (DOT)

Comment: Full, unexpiring retirement credit should be given to Off-Road fleets from the original March 1, 2009 baseline date forward. Granite structured a long-term compliance plan around retirement of equipment over time to meet fleet average targets in years in the future. Discounting retirement credit from 2009 and dis-allowing the accrual of full retirement credit from 3/1/2011 to 1/1/2013 rewards laggards while putting fleets that have taken proactive steps toward compliance at a further disadvantage. Changing the retirement credit structure as currently proposed will reward companies that have done nothing or acquired unregulated engines and are thus operating under a decreased cost structure. The currently proposed retirement credit structure also has the potential to create a near-term emissions dis-benefit by dis-incentivizing the disposal of tier 0 engines until after 1/1/2013. (SBAFFI)

Comment: We are concerned the actions in this amendment seem to create two problems. First, they do not recognize the actions taken by large fleets in 2009 as compliance actions with the 2007 rule. We believe horsepower credit for that compliance strategy should create a carryover credit that moves forward into the modified rule. We are aware this total credit was back calculated to 2006 but believe CARB can separate those numbers for large fleets.

Second, we are concerned that there is a time period between compliance dates when fleets who reduce their horsepower by retiring old equipment can gain no credit towards compliance with the rule. While the credit for reduced fleet horsepower grants credit for horsepower reductions occurring between March 1, 2010 and February 28, 2011, there is no way to generate credits between that 2011 date and the beginning of a fleets compliance period. As a result reductions in fleet horsepower that might occur as part of an advance compliance strategy between March 1, 2011 and the beginning of the compliance year for the appropriately sized fleet would generate no credits towards compliance. This is precisely part of the scenario which led to the adoption of Assembly Bill 8 2X (AB 8 2X) where fleets had retired equipment early to gain credit under the 2007 rule. It also creates an incentive to keep tier 0 equipment in fleets until the start of a fleet's compliance period. We believe CARB should adopt a fleet HP reduction credit that covers the period between 2011 and the initial compliance date of a fleet. (CALCIMA2)

Agency Response: Staff recognizes that fleets will not accumulate full BACT credit for all turnover actions taken between March 1, 2009 and the first compliance date for fleets; however, staff believes that adequate relief has been given to all fleet sizes, and that some BACT credit within the regulation must be limited in order to maintain the emissions benefits of the regulation. Under the amended regulation, fleets may accumulate BACT credit for retiring or replacing over 8 percent of their horsepower in Tier 0 or Tier 1 vehicles in a year, beginning February 28, 2011, though December 31, 2012. This allows fleets that have a high rate of turnover or retirements to receive BACT credit, but does not provide BACT credit for those fleets performing turnover on less than 8 percent of their horsepower after 2012. While ARB does recognize that fleets retiring older vehicles or purchasing new vehicles in the normal course of business will generally reduce the fleet emissions, providing BACT credit for all such actions would allow for a large scale accumulation of BACT credits for actions that fleets would take in the normal course of business. Providing such BACT credits for the normal course of business would erode the emissions benefits of the regulation, benefits necessary for the state to meet SIP obligations, and is not consistent with the intent of this credit.

Additionally, staff would like to note that fleets still have several ways to accumulate BACT credit before their initial compliance dates. These options include BACT credits accumulated for all reduced horsepower from March 1, 2010, to February 28, 2011, and repowers and retrofits installed at any time before the first compliance year.

j. Credit Transfer between the Off-Road and Truck and Bus Regulations

Comment: Emission reductions achieved by complying with the current Off-Road Rule that are no longer required under the proposed rule should be transferable to the On-road Rule. Granite installed over 50 diesel particulate filter retrofits on off-road equipment and made substantial changes to its off-road fleet in preparation for the initial compliance dates in the Off-Road rule. These steps will create excess emission reductions in Granite's off-road fleet while the company struggles to comply with the much more aggressive compliance schedule proposed for heavy trucks in the On-road Rule. Granite has provided Staff with multiple exchange concepts that we feel are viable, and some type of mechanism must be given to allow this exchange of emissions credit. At a minimum, the amendments should allow fleet owners to apply to the Board for a transfer of emission credit. (SBAFFI)

Comment: Many companies with off- and on-road fleets had taken early action to comply with the Off-Road rule and received credit for doing so. However, due to the changes proposed in the Off-Road rule, they will be unable to utilize those credits. At the same time, the lack of current revenue greatly reduces their financial ability to address the On-Road rule. In recognition of their efforts to assist with diesel emissions reduction and by placing filters on and modernizing their off-road fleets, they should be granted opportunity to transfer credits among the two rules.

Proposed Solution. Develop a retrofit credit transfer program based on a ratio of off-road to on-road credits. We are encouraged that ARB's notice for the rule indicates this is under consideration. (CALCIMA1)(COOK)(JONES)(PUENTE)(SMITH)(SYAR)

Comment: Several of CalCIMA's larger members that undertook substantial compliance expenditures to comply with the March 1, 2010 Off-Road rule remain interested and engaged with CARB staff on developing a bubble that enables them to trade the excess emissions reductions they have achieved under the Off-Road rule to their on-road compliance obligations. We would encourage the Board to direct staff to continue working on developing such a structure. (CALCIMA2)

Comment: Staff is allowing for credit transfer between a fleet and the Off-Road and On-Road regulation, and we think that's great. But what they talked about in the concept was retrofit credit. But they did not mention anything about fleet reduction credits or early engine replacement credits, and we believe that those two should also be included in that credit transfer. (NABORS2)

Comment: I would like to stress the importance of one of the 15-Day changes that was mentioned, and that's the bubble or credit exchange concept. For proactive fleets, this concept, especially to be able to move credit from the Off-Road rule to the On-Road rule, is very helpful. It allows us to "cash in" some of our actions that we took early. And it really does give us some breathing room on the On-Road rule for things that we did to comply with the Off-Road rule early. (GRANITE)

Agency Response: ARB staff agrees that the concept of a credit transfer program between the Off-Road and Truck and Bus regulations is a viable one, and included language for such a program in the 15-Day Notice. However, only credits earned through excess PM VDECS installations can be traded between the two regulations. Commenter NABORS2 requested that many forms of credit, and not just PM VDECS credit, should be allowed to transfer between these two regulations; however, staff does not believe it is appropriate to allow other types of credits to be transferred. In order to preserve the emissions benefits of both regulations, ARB staff must be able to verify that the credits being transferred are 1) in excess of the regulation's requirements and 2) provide approximately equivalent emissions reductions. In both the Off-Road and Truck and Bus regulations, the installation of a PM VDECS is roughly emissions equivalent, and it can also easily be confirmed if an additional PM VDECS is installed beyond the regulatory requirements of both programs. Once it is determined that a PM VDECS is excess, the fleet cannot count that device towards compliance with both regulations. This means that if an excess PM VDECS from the Off-Road regulation is transferred to the Truck and Bus regulation, the fleet cannot count the PM VDECS towards compliance with the Off-Road regulation (i.e., the fleet cannot earn BACT credit for the PM VDECS, and the device is not counted in the fleet average index). During the development of these regulatory amendments, staff evaluated the potential for allowing the transfer of credit from the Off-Road regulation for reduced horsepower or fleet turnover. However, because of the difficulties in quantifying whether or not different types of turnover would lead to an emission neutral credit transfer, staff decided to only allow credit transfers for excess PM VDECS installations to ensure these credit transfers remained emissions neutral.

Comment: Regarding this bubble concept that was introduced today, we like -- to the extent that we want to use these grant moneys to actually create a margin of safety, I think your resolution should make it clear that any early reductions, cross-source category that one wants to take credit for towards compliance could not come from any retrofits that are paid for by public funds. I believe that is probably the intent of your staff to maintain those reductions that are paid by grants to be surplus, but I think it would be good to clarify that so there are no false expectations and that you make that clear in the resolution. (SJVAPCD1)

Agency Response: Staff agrees that emission reductions paid for by public funds should not be transferred from one regulation to another and included language in the regulation limiting credit for emission reductions paid for by public funds to what is allowed by funding program guidelines. As stated in section 2449(e)(17) of the Off-Road regulation, the purchase of a replacement vehicle, repower, or a retrofit with public funds shall be counted toward the BACT or fleet average requirements in accordance with funding program guidelines applicable to the particular source of public funds used for the purchase; this may in some cases limit credit to single rather than double credit. Additionally, vehicles that are purchased with State incentive funding cannot be used for compliance with the Truck and Bus regulation until the contract period is over. According to the amended section 2025(j)(4), credit will not be given for partially state funded vehicle replacements or retrofits according to the funding program guidelines applicable to the particular source of public funds used for the purchase.

k. SOON Provisions

Comment: As ATA has explained in prior comments, the SOON program is substantively flawed and illegal, and none of its fundamental problems are addressed in the proposed revisions. In fact, the proposed revisions only exacerbate the problems with the SOON program.

The SOON program provides only a partial financial contribution toward the installation of additional control measures, above and beyond those required by the Off-Road Rule. The SOON program purports to allow local air districts to mandate the submission of detailed and onerous reports, the preparation and submission of burdensome applications for SOON funds (regardless of whether the fleet wishes to accept the funds and the related conditions), and that fleets selected by the district to receive funds must install emission controls and achieve additional NOx emission reductions beyond those required by the Off-Road Rule. These burdens continue to be imposed until the fleet meets the more stringent fleet average emission targets set forth in the SOON program.

Whether mandated directly or indirectly, by a district or by ARB, the numerical fleet average targets, additional emission controls, and related reporting and application obligations under the SOON program taken together impose "emission standards," and require authorization by U.S. EPA under Section 209(e) of the federal Clean Air Act. *See, e.g., Engine Mfrs. Ass 'n* v. S. *Coast Air Quality Mgmt. Dist.,* 541 U.S. 246, 253 (2004) (emission "standards" include fleet requirements that require installation of emission controls or impose numerical emission limits).

To our knowledge, ARB has neither sought nor received U.S. EPA authorization for the SOON program. Absent U.S. EPA authorization, the SOON program is preempted by the federal Clean Air Act and is unenforceable.

ARB should make clear that all aspects of the SOON program are voluntary, including the onerous application and reporting requirements, and the acceptance of SOON funds for additional emission controls beyond those required under the Off-Road Rule. Without that change, the SOON program remains illegal under federal and state law for all of the reasons explained in previous ATA comments." (ATA)

Agency Response: Staff disagrees that the SOON program is flawed or illegal. The purpose of the SOON program was to provide a way for the most polluted air districts to achieve additional emission reductions above and beyond those expected from the Off-Road regulation. The South Coast Air Quality Management District (SCAQMD) is currently the only district to opt-in to a mandatory SOON program, and to date has approximately $47 million of projects approved. Over 430 older engines in 43 fleets have been replaced, resulting in 1.9 TPD of NOx emission reductions, and 0.11 TPD of PM concurrent reductions. Additionally, staff would like to note that 25 out of the 43 participating fleets voluntarily entered into the SOON program (i.e., they did not meet the minimum requirements which would have required them to apply for funding). If the requirements of the SOON program were onerous or burdensome, staff would expect no fleets to voluntarily participate; however, since over half the participating fleets were not required to participate, staff believes this speaks to the value of this program, and to the desire for some fleets to participate in SOON. Therefore, because this program has been successful in both soliciting fleet participation and providing emissions reductions thus far, ARB staff believes that SOON is not flawed as suggested by commenter ATA, and that this program should be continued into the future.

ARB acknowledges that the SOON program is part of the Off-Road regulation, and did included the SOON program as part of its request for authorization to the U.S. EPA. California submitted its initial request for authorization on August 12, 2008, and filed a supplemental request on February 11, 2010. U.S. EPA conducted hearings on the requests on October 27, 2008, and April 14, 2010, and as of August 2011, the requests for authorization are presently pending. ARB staff recognize that SOON program cannot be enforced until authorization is granted by the U.S. EPA, and to date, no enforcement action regarding the SOON program has been taken by ARB. Additionally, ARB staff has been very clear regarding which provisions of the Off-Road regulation are currently enforceable, and the SOON program has never been on the list of provisions that are currently enforceable.

Comment: Under the proposed amendments, the 2011 fleet average NOx targets under the SOON would not be moved to correspond to the revised compliance deadlines for the Off-Road Rule, but would instead be moved *forward* by two months (from March to January 2011), and the final fleet average targets would be made *more* stringent for most HP categories. Indeed, as proposed, the 2011 fleet average emission targets under the SOON are more stringent than the 2014 Off-Road Rule targets. This makes little sense, particularly given the fact that the SOON will remain preempted and unenforceable until ARB submits a formal request for U.S. EPA authorization, and U.S. EPA holds a hearing and decides whether to grant that request.

The initial 2011 compliance deadline and associated application and reporting obligations should be deferred until 2014 to correspond with the initial Off-Road Rule compliance deadline, or at a minimum by one or two years. Moreover, the fleet average emission targets under the SOON should be made less stringent, for the same reasons the Off-Road Rule targets are being adjusted. (ATA)

Agency Response: As stated in the response to ATA above, staff acknowledges that the SOON program is not enforceable until authorization is granted by the U.S. EPA. However, staff disagrees that the SOON targets need to be deferred until 2014, or should be made less stringent than proposed. Many fleets have already begun voluntarily participating in the SOON program, which requires developing a compliance plan several years into the future in order to determine what vehicles would be eligible for funding. If the SOON targets are deferred, or made less stringent, the compliance plans developed by these SOON fleets would require modification. Modifying the compliance plan could change which vehicles are eligible for funding, and could therefore potentially jeopardize the funding for future projects anticipated by a fleet. Therefore, in order to prevent the disruption of project funds, staff did not propose to loosen the SOON targets further, or delay the SOON timeline.

Comment: Participation in the SOON program unnecessarily makes Off-Road Rule compliance even more difficult and expensive because emission control equipment purchased with SOON funds cannot be counted toward Off-Road Rule compliance during the contract period, which may last a number of years. Thus, if a fleet installs emission controls on a vehicle under the SOON program, for purposes of Off-Road Rule compliance that vehicle is treated as if it were uncontrolled. The fleet not only loses the ability to install controls on that vehicle to achieve Off-Road Rule compliance (forcing the fleet to address other vehicles that may be more difficult and expensive to control), it is saddled with additional non-existent emissions in calculating its fleet average emissions levels. Instead, the regulation should be revised so that vehicles purchased or controlled with SOON funds can simply be removed from the fleet for Off-Road Rule purposes until the end of the contract period. (ATA)

Comment: CIAQC has maintained all along that the SOON Program should be voluntary for all fleets, not just those under 20,000 horsepower. Compliance with the SOON program goes beyond the requirements of the Off-Road Regulation and places an extra burden on fleets that must participate in the program. The costs to a fleet to 'carry' or 'count' SOON funded equipment at an emission level that is greater than the actual replacement equipment emission levels, results in additional costs to a fleet because it must accelerate other compliance steps to satisfy the regulation's requirements. For this reason, the SOON program should be voluntary and funded equipment should be removed from the fleet for compliance purposes until the end of the contract period. (CIAQC1)

Agency Response: The SOON program is designed to achieve emission reductions above and beyond what is required by the Off-Road regulation, and therefore, all fleet modifications taken through SOON must be surplus. Additionally, the incentive monies used to fund the SOON program are most often Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer program) funds, or other public funds, which by statute, are not allowed to fund compliance. If a fleet were allowed to remove a vehicle modified through SOON from its fleet average calculations, potentially, this could result in an improvement in the fleet's average index which would assist a fleet in reaching compliance and result in a violation of the funding guidelines. ARB staff must ensure that vehicles funded through SOON remain surplus to the regulatory requirements during the SOON contract period, and therefore, the uncontrolled vehicle must remain in the fleet average calculations.

Additionally, as stated in the FSOR for the original Off-Road rulemaking, ARB staff believes that in order to guarantee emission reductions, local air districts must have the opportunity to decide if mandatory participation in the SOON program is needed. This is particularly important in the San Joaquin Valley and South Coast Districts, which face extremely challenging near-term SIP deadlines. In districts which opt to make the SOON program mandatory, fleet owners will still have the option to submit their SOON compliance plans as “High Priority”, which will allow districts to identify fleet owners that are volunteering to have their compliance projects completed as soon as possible.

Also, as stated in the responses above, the SCAQMD is the only air district that has opted to make this program mandatory, and out of the 43 participating fleets in this district, over half of them have entered into the program voluntarily. The large number of fleets voluntarily participating in this program indicates that, at least for many fleets, participation in SOON is not overly burdensome.

2. Other Requested Amendments

a. Exempt Engines Less than 50 Horsepower

Comment: Engines less than 50 horsepower should be exempt from the rule. Engines less than 50 horsepower represent a small percentage of the overall number of off-road pieces of equipment in inventory, and occupy an even smaller portion (approximately 4.3 percent) of the total overall California fleet horsepower. During a workshop on the proposed amendments, CARB staff indicated that it needed to provide special dispensation for fleets less than 500 horsepower because the staff time required to help very small fleets was essentially the same as for large fleets and was not an efficient use of CARB's limited resources. Similar logic can and should be applied to engines smaller than 50 horsepower. The effort required by fleets to document, report and come up with compliance options, including engine temperature data logging, is essentially the same regardless of whether an engine is 25 horsepower or 1,000 horsepower; and this logic extends to time it takes CARB to ensure compliance with these very small engines as well.

Consider the following DOORS data (2010).

Engine HP	Average Engine Age	% of All Engines	% of All HP
25-49	2000.5	15.5	4.3
50-99	1997.5	41.7	23.0
100-200	1999.0	24.1	24.8
201+	1997.9	18.7	47.9
All	1998.4	100.0	100.0

In total, similar to CARB's conclusion on fleets with less than 500 horsepower, the time and expense from regulating equipment less than 50 horsepower does not exist. Finally, smaller horsepower engines on average turn over more quickly than larger ones, further negating the need to include them in the regulation. (CIAQC1)

Comment: We'd like to suggest that the engines less than 50 horsepower be exempted from the rule. This would be consistent with the portable rule. These engines are less than five percent of the horsepower. They're just not worth the trouble, frankly. It takes as much energy and effort to track those thousand horsepower ones. And we think you get a bigger bang for the buck focusing on those and not the smaller ones. (CIAQC2)

Agency Response: Staff disagrees. Low-horsepower vehicles represent an important portion of the vehicle population and are non-trivial portion of NOx and PM emissions from off-road diesel vehicles. If the vehicles with engines less than 50 horsepower were omitted from the regulation, a loss in emission reductions and health benefits would occur. In addition, these engines do fall within the U.S. EPA's benchmark for value of avoided death (at $248/lb) because of cost effective retrofit options available, and the ability to buy used vehicles or repower as low cost compliance options.

Although staff developed a special compliance provision for fleets less than 500 horsepower, they are not exempt from the Off-Road regulation; even these smallest fleets must still take actions to reduce the emissions from their vehicles. Therefore, staff believes that it would not be consistent if engines between 25 and 50 horsepower were exempt from the Off-Road regulation. If the reductions from the smallest fleets are necessary to meet statewide air quality goals, the smallest engines must be cleaned up as well.

b. Clarify the Definition of Horsepower

Comment: CARB needs to establish a method to determine a standard for the maximum horsepower of each engine model type and year reported in the DOORS. The possibility that net engine horsepower, rather than maximum engine horsepower, is inadvertently reported is great enough that irregularities for similar engine model types and years already exist in the DOORS database. The difference between the net and maximum engine horsepower of even a single engine can vary enough to potentially affect the size category of a fleet, the calculated fleet average or BACT requirements a fleet must achieve. For fleets that report engine data in good faith, not only could a violation occur for this type of a reporting error, but it could cause a fleet to play 'catch-up' to higher compliance standards in a sudden, unplanned and expensive manner. This concern is not theoretical as a recent review of the DOORS data reveals that identically similar equipment and engines have been reported with different horsepower levels. (CIAQC1)

Agency Response: In general, staff recognizes that the issues of inconsistent reporting of horsepower raised by commenter CIAQC1 exist, and staff will continue to discuss these issues with affected fleets and industry and attempt to address them as much as possible in the future. This issue was previously examined by ARB staff, and no solution was proposed due to (1) inconsistent formatting for fleet reports to ARB of the engine model, (2) variations within a single engine model and model year (a single model designation may encompass engines tuned such that the horsepower varied), and (3) incomplete or inconsistent information available for engines, specifically those with a low market share. Until this issue is resolved, staff is committed to making available guidance documents for horsepower reporting.

Additionally, staff would like to note that the “Maximum Horsepower” definition in section 2449(c)(31) states:

> “If the engine’s net horsepower or net flywheel power certified to SAE Method J1349 or ISO Method 9249 is not readily available, another net horsepower or net flywheel power from the manufacturer’s sales and service literature or horsepower from the engine label may be used.”

This definition of horsepower allows a fleet to report any available horsepower listed on the engine label or the manufacturer’s sales and service literature if the net or net flywheel horsepower is not readily available. Therefore, staff does not believe that commenter CIAQC1's concern regarding fleet violations for inaccurate horsepower reporting is warranted. If a fleet makes a "good faith" effort to locate the horsepower of a vehicle, and it reports a horsepower listed off the engine label or manufacturer's literature, the fleet has fulfilled the requirements of the regulation and will not be issued a violation for reporting an inaccurate horsepower.

c. Provide Incentives to Compliant Fleets

Comment: NAFA's Council recommends that in order to provide equity if implementation is delayed, CARB should identify and provide preferential incentives to fleets that have already made efforts to comply with CARB regulations. Fleets that committed to early or as scheduled compliance made significant financial investments in vehicles and other capital assets. These fleets will be at a severe competitive disadvantage against other similar businesses with fleets that did not take any compliance actions. Some possible options include establishing a preferential priority for grant funding for these fleets, establishing tax credits or incentives for these fleets, or providing additional equipment "grandfathering" opportunities for those fleets that may take advantage of them. (NAFA)

Agency Response: Staff believes that the proposed amendments to the Off-Road regulation already contain many different incentives and rewards for fleets that have taken early actions to comply with the Off-Road regulation. Therefore, staff is not proposing to add any additional provisions to the regulation at this time.

There are many provisions in the Off-Road regulation that allow fleets to accumulate BACT credit for early actions, including:

- Double BACT credit for VDECS installations that occur up until one year before a fleet's first compliance date;
- BACT credit for fleets that reduced their total fleet horsepower from 2006 – 2010, and 2010 – 2011;
- BACT credit for fleets that repower or rebuild to a more stringent emission standard before their first compliance date;
- Partial BACT credit for fleets that turn over Tier 0 and Tier 1 vehicles up until one year before a fleets first compliance date;

In addition to the provisions above, section 2449.1(b)(7) allows a fleet to delay compliance if the fleet can demonstrate that it had enough BACT credit (as specified in section 2449.1(b)(7)) to comply with the original March 1, 2010, large fleet compliance requirements. If a fleet meets the requirements of this provision, it is exempt from the January 1, 2014, compliance requirements, and is not required to expend any BACT credits, or take any additional actions for that compliance date.

Staff recognizes that some fleets have taken significant actions to comply with the Off-Road regulation; however, staff does not believe that these fleets will be at a competitive disadvantage compared to those fleet that have taken no action. In the next few years the compliance requirements of the Off-Road regulation will become mandatory, and at this time, proactive fleets that have accumulated BACT credits for early actions will be able to defer their compliance requirements while fleets that have taken no early actions will be required to turn over and retrofit their off-road vehicles. Therefore, if early actions are taken by fleets now, those actions will benefit those fleets in the future by deferring compliance requirements and costs.

d. Allow Biodiesel for Compliance

Comment: NAFA's Council also recommends that CARB consider allowing use of up to B20 biodiesel blends as a means of compliance or partial compliance, especially with off-road equipment. There is a severe lack of available retrofits for much of the older and larger off-road equipment. Those retrofit devices that are available are unproven and costly. While there have been concerns expressed in the past regarding NOx emissions when using biodiesel, NOx emissions are for all practical purposes neutral with B20 biodiesel. DOE's National Renewable Energy Laboratory confirms the positive impact of B20 on emissions of HC, CO, and PM and states that "the data are insufficient for users to conclude anything about the average effect of B20 on NOx, other than that it is likely very close to zero" in their "Biodiesel Handling and Use Guide, Fourth Edition". Allowing B20 biodiesel use as a compliance measure is a low cost solution to immediately lower PM emissions and generally increase the usage of lower carbon content and renewable biodiesel in California. (NAFA)

Agency Response: To meet the requirements of the Off-Road regulation, a fleet may turn over vehicles or engines, or use any technology that has been verified by ARB as a VDECS. Biodiesel by itself is not currently verified as a retrofit technology, and there is some concern that biodiesel use may actually increase NOx emissions.

Currently, various percentage blends of biodiesel are undergoing review for emissions and multimedia concerns by a multimedia working group that includes ARB. More information on the working group and reports may be found on this page http://www.arb.ca.gov/fuels/multimedia/meetings/meetings.htm. If the results show that the use of biodiesel does meet the Level 2 verification level (50 percent reduction in diesel PM), which is the minimum level a verified device must meet to be used in the regulation, then biodiesel makers may apply for verification just like any other diesel control strategy. If biodiesel becomes verified, and is verified as at least a Level 2 control strategy, then emission reductions achieved with biodiesel would count just like any other verified control strategy. As stated by commenter NAFA above, DOE's data "are insufficient for users to conclude anything about the average effect of B20 on NOx." Therefore, until the effects of biodiesel blends on both PM and NOx are confirmed through ARB's verification program, biodiesel cannot be used towards compliance with the Off-Road regulation.

As stated in section II.A.1.d. of this FSOR, staff does not believe that there is a lack of available retrofits for large horsepower vehicles. In addition, staff disagrees that retrofits are "unproven and costly." Although staff recognizes that retrofits are not viable for every vehicle, this does not make the technology unproven; there are currently hundreds of retrofits installed on off-road vehicles statewide. For many fleets, retrofits offer a low-cost solution for compliance (as compared to turnover costs). However, staff would like to note that it is not mandatory for fleets to use VDECS to comply with the Off-Road regulation; other low-cost compliance options do exist, such as vehicle retirement or designating a vehicle as low-use.

e. Yard Goat Classification

Comment: Staff should clarify that yard goats can be operated in both the off- and on-road reg. (NABORS2)

Agency Response: As stated in the applicability of the Off-Road regulation, section 2449(b):

> "this regulation applies to any person, business, or government agency who owns or operates within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road."

Therefore, if a yard truck (also referred to as yard goats) meets the criteria above, and is not used for agricultural purposes or is not covered under the Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards, title 13 CCR, section 2479 (the Off-Road regulation specifically exempts diesel vehicles used exclusively for agricultural and cargo handling operations) it will be subject to the Off-Road regulation. Because of the numerous types of off-road vehicles subject to the regulation, staff believes that listing all of the affected vehicle types would be infeasible. Therefore, staff is not proposing to change the applicability of the Off-Road regulation to specifically note that off-road yard trucks are subject to the Off-Road regulation.

Additionally, the Truck and Bus regulation was recently modified at December 2010 Board Hearing, and in the 15-Day Notice released June 3, 2011, the applicability in section 2025(b) was modified to state:

> "Affected vehicles are those that operate on diesel-fuel, dual-fuel, or alternative diesel-fuel that are registered to be driven on public highways, were originally designed to be driven on public highways whether or not they are registered, <u>yard trucks with on-road engines or yard trucks with off-road engines used for agricultural operations</u>…"

With the addition of the yard truck language to the Truck and Bus regulation, staff believes that it is now clear that yard trucks are covered by either the Off-Road or Truck and Bus regulations, depending on the type and use of the vehicle. Additionally, a frequently asked questions (FAQ) document dedicated to discussing the applicability of yard trucks is available on the Off-Road regulation website at: www.arb.ca.gov/ordiesel

f. Large Fleet Definition

Comment: We still have differences with ARB staff on whether or not we should be considered as one large fleet statewide under the Off-Road rule. (NAVY)

Agency Response: Staff believes that the Navy should still be considered one fleet statewide. As stated in the FSOR for the original rulemaking, the approach in the Off-Road regulation is to define a fleet's size based on all the total horsepower it operates in the state. The federal government is being treated no differently than the State of California or a private company that has operations throughout the state, in that under the regulation its total horsepower is combined to determine fleet size.

3. More Economic Relief Needed

a. Changes in Regulation Harm Retrofit Industry

Comment: Compounding the real human toll of this proposal is the economic consequences of sending a message to the market that California has an uncertain regulatory environment. To date, billions of dollars have been spent in R&D and capital by investors to develop the technologies necessary to comply with California's diesel standards. Effectively repealing the *In-Use Off-Road Diesel* regulation without first taking the time to fully study and appreciate the health and economic consequences would not only devastate these investments, but it would also send a chilling message to other clean technology companies and investors that have created more than half a million jobs in California and that their capital and efforts are best suited for a state with a more certain regulatory climate. This would also force many existing clean technology companies to seriously consider withdrawing from the state. (ENG)(LOWENTHAL)

Comment: We are a manufacturer of silicon carbide diesel filters that supplies a number of manufacturers of verified Tier 3 systems in California.

This year we invested over $1 million in equipment to provide additional filters at the request of our customers to serve a rapidly increasing market. Over the last few weeks we have seen a dramatic drop in business and have had to reduce our staff. We have been told the drop is due to the ARB changing and delaying its diesel rules and not having any new rules, or funding in place.

The result to us is that we have invested in a market that is very uncertain now and we have no way of knowing when the market will turn around.

We have heavily invested in the diesel retrofit market, primarily based on rules set forth by ARB, rules that have been delayed before but now are in flux. Potential buyers apparently are waiting to see if they need to do anything at all and I expect they will continue to wait till rules are in place or till funding guidelines are clear. Until that happens we expect to be scrambling. I realize ARB has many stakeholders to satisfy but I can't help feel that our industry is the only one being left out on a limb to fend for itself. (LIQTECH)

Comment: The investments made in support of ARB's Diesel Risk Reduction Program by all verified device manufacturers in the emissions control industry will be greatly impacted by the proposed in-use rule changes. Despite the fact the verified device manufacturers have already made numerous investments and re-investments over the past ten years, our industry remains the only stakeholders before you today which still faces the full impact of the economy as well as the proposed pullback in the in-use fleet regulations. (ECS1)

Comment: In collaboration with the rest of the industry through MECA (Manufacturers of Emission Controls Association), a list of proposed relief measures has been provided to ARB staff for consideration[2]. Based upon initial discussions, we believe that a significant period of time could still pass until any relief is provided to the retrofit industry. Clean Diesel Technologies is asking the board again today to reiterate its support for the industry and direct senior ARB staff to urgently lead the pursuit of immediate relief measures which are comparable to the loss in market that have resulted from these in-use fleet rule changes. (ECS1)

Comment: We've for the last ten years strategically invested behind ARB's clean air objectives. And we had to make these investments, not just over time, but also had to make green investments in the products to maintain compliance. And despite the fact that we've made these numerous investments, we remain today one of the – I think the only stakeholder before you which still faces the full impact of the bad economic times, but additionally the pull back of these regulations. So in collaboration with the rest of the industry through our industry association MECA, we did provide a list of proposed relief measures2 to staff. But, I'm concerned that I believe a significant period of time can still transpire before we see any of those matters bring any significant relief. So today one of the things I would ask the Board is to reiterate its support for the industry and direct senior ARB staff to lead the pursuit of immediate relief measures for the retrofit device manufactures so that we have some stability in the next year as we ramp up towards complying with the demands in 2012 and 2014. Additionally, we have had reports from our distributors already that when the proposals came out for these rule changes that fleets immediately stopped making purchases. And that's further destabilizing the marketplace that we have to operate in. (ECS2)

Comment: Donaldson also requests near term reviews with ARB staff and short term ARB interim policy guidance on various approaches that would provide economic relief

[2] The MECA comment referenced was submitted by Mr. Rasto Brezny (comment #80) during the 45-day comment period, and is available at: http://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=on-offroad10. The relief measures proposed by MECA are responded to in sections II.A.4.d., e., and f.

to retrofit device manufacturers and insure that verified technologies are available when they are needed.   (DONALDSON1)

Comment: We do wish to offer a few comments on ARB's proposed amendments and the impacts on Donaldson. We do understand the need for industry economic relief, certainly. We also fully support the MECA recommended changes2. These seek to identify additional emission reduction opportunities and also to identify the need for economic relief consideration for retrofit manufacturers. We do wish to add comments specifically to the end that emphasize process improvement potentials on verification and end use compliance procedures. We request Board support of near-term reviews with ARB staff (those have started) and ARB interim policy guidance approaches that would: One, provide economic relief; and two, ensure that verified technologies are available and needed.   (DONALDSON2)

Comment: You guys had recommended the staff to look at economic relief for industry. I guess regulated industry was what people had in mind. But our industry has also felt the impact of the recession and such. And we would ask that the Board consider directing staff, who we've had conversations with already, to look at some measures for economic relief for our industry as well.   (JOHNSON1)

Comment: One of the industries that has not been included in this economic relief effort is my own, the VDECS manufacturers. We as an industry, and specifically for my company, JMI, have spent millions of dollars to develop, verify, and in several cases verify technology to amendments in the Board approved verification process, and then commercialize these technologies. The economic downturn has affected JMI’s overall business just like all the regulated industries here in CA and across the nation. We have started conversations with Staff on some ideas for economic relief but we would ask that the Board direct Staff to look at specific ways that the VDECS manufacturers can be provided with some economic relief.

Additionally, these changes will also have an impact on the number of green jobs created here in California. Our business is done through California distribution where literally thousands of jobs are created by my industry to market, sell, install and maintain VDECS systems. The elimination of the requirement for retrofit for off-road and the slashing of the affected vehicles for on-road by more than half will literally result in the elimination of the need for many thousands of these green jobs.   (JOHNSON2)

Comment: We think obviously with the changes in the demand for retrofit technology that have been -- that have occurred because of the changes that are before you, some relief is needed.   (MECA2)

Comment: I believe the proposed changes will impact not just our company but the long term health of the industry. It will lead to fewer green jobs in California. In our particular case, we've had no choice but to push off our implementation of a 40-person assembly shop in the San Joaquin Valley that was going to be specifically building off-road retrofit devices. That sends a strong message to me to invest in hard to come by private capital in other places and other things. The proposed changes I think set the stage for requests for additional relief from other industries, and I think this is a slippery slope that could ultimately defer or delay the recovery of the economy of California that many believe will be on the backs of clean tech jobs. (RYPOS)

Agency Response: The severe recession and the fact that off-road vehicle emissions are lower than previously understood are the primary reasons that ARB staff proposed the major amendments to the Off-Road regulation. It was necessary to help ease the burden of off-road fleets in California due to the significant loss of revenue that industry suffered. For additional information regarding the rationale for these amendments, please see the responses to comments in section II.A.4.a.

ARB staff acknowledges there will be an impact to the clean tech industry due to the regulation amendments. However, ARB staff still expects many fleets to choose retrofitting as a compliance option, and has included several changes to incentivize the early deployment of retrofits. Although retrofits are now a compliance option rather than a mandatory requirement, the amendments do extend the double credits fleets receive for early installations of VDECS to December 31, 2012. We expect that approximately 6,200 vehicles of the approximately 20,400 vehicles expected to be impacted by ARB's Off-Road regulation in 2020, may be retrofitted to comply with the amended regulation. Additionally, staff would like to note that fleets are still required to meet annual emission targets beginning January 1, 2014. If fleets are unable to meet these targets, the BACT requirements specify that they must turn over or retrofit 8 to 10 percent of the fleet's horsepower (4.8 percent in 2014). In many cases turning over vehicles may not be economically feasible for fleets, and they would still need to invest in technology, such as retrofits, to clean the emissions from their vehicles. Moreover, some air districts or local municipalities may have contract provisions that require fleets to continue to clean up their fleets through vehicle retrofits.

For retrofit manufacturers seeking funding opportunities, ARB occasionally offers funding for demonstration projects of VDECS. These opportunities can be used to promote verified retrofit technologies to off-road fleets. They can also promote innovation and advancement in new diesel retrofit devices. Staff also expects fleets to make use of funding incentives to purchase VDECS for their vehicles. For example, the Carl Moyer program provides 100% funding for retrofit projects. Even if fleets are not eligible for Carl Moyer, ARB's PLACE program (Providing Loan Assistance for California Equipment) offers loans, loan guarantees and other mechanisms to assist fleets. Included in PLACE is the ability for fleets to get loans or loan guarantees for VDECS.

Additionally, staff disagrees with commenters ENG and LOWENTHAL that ARB did not fully study and appreciate the health and economic consequences. As discussed in section II.A.7., the emissions of off-road vehicles subject to this regulation have decreased, and staff believes that the amendments to the Off-Road regulation have balanced economic relief for fleets with ARB's commitment to reduce emissions statewide.

For staff's responses to MECA's relief provisions, please see sectiona II.A.4.d., e., and f.

b. More Economic Relief Needed by Fleets

Comment: The poor economy has affected Public Utilities in much the same way it has the private sector. We have had to slash our budgets, reduce our workforce, and raise rates just to keep operating and provide the necessary service to our customers. We don't have extra money lying around to retrofit or replace our diesel trucks and equipment. Any money spent on our fleet to comply with the emission regulations has to be passed on to our customers who are already feeling the effects of the down economy themselves. Public Fleets need to have the same considerations that the private sector is receiving in the regulation amendments. We need some breathing room as well. We have had to spend hundreds of thousands of dollars to date to remain compliant with the regulations and we still have much more to go with the current compliance schedule. (CVWD)

Agency Response: The amendments to the Off-Road regulation apply the same to both publically owned and privately owned fleets. The amendments include a four year delay of the first compliance date for fleets, reduced annual emission targets, and reduced BACT requirements of 8 to 10 percent of a fleet's total horsepower if the targets are not met. Additionally, retrofits are now a compliance option to meet BACT and are no longer mandatory. There are, however, only a few minor provisions that apply differently to public and private fleets. Two-engine vehicles covered by section 2022 and 2022.1 of the PAU regulation were not brought into the Off-Road regulation and fleets that belong to state or federal agencies must identify as a large fleet regardless of the size of their fleet. A benefit to local municipal fleets is that if they are located in a low population county, they can utilize the small fleet requirements regardless of their total fleet size.

Comment: To date, the diesel regulations have resulted in a disproportionate impact on Mendocino County businesses and residents. Equipment in Mendocino County tends to be used less than equipment elsewhere in the state. As a result, equipment in Mendocino County has much lower usage than other areas of the state. This lower usage results in longer equipment lifespans due to economic factors. This lower usage equipment is more subject to ARB regulations which target the older equipment first (irrespective of usage). (MCAQMD)

Agency Response: Per section 2449(c)(6) of the Off-Road regulation, Mendocino County is designated as a captive attainment area county. All fleets that operate within and remain captive to Mendocino County are considered small fleets, irrespective of their total horsepower (with the exception of fleets belonging to a state or federal agency; these fleets must comply with the large fleet requirements). Additionally, Mendocino County is also a low-population county, which means that all local municipal fleets operating within this county are considered small fleets, irrespective of their total horsepower. There have been many special provisions designed for rural counties, which staff believes will lessen the impact of the Off-Road regulation on Mendocino County. Additionally, with the relief provided for all fleets, such as the delay and reduction in compliance requirements, staff does not believe the residents and businesses within Mendocino County will be disproportionately impacted by the Off-Road regulation.

Although staff acknowledges that the goal of the Off-Road regulation is to phase-out older vehicles from operating within the State, staff does not agree that this regulation targets vehicles irrespective of usage. The low-use provisions and the flexibility provided by the fleet average compliance option allow fleets to focus their compliance plans around more highly utilized vehicles. Additionally, staff believes that vehicles with lower than average usage will benefit from the recent Off-Road amendment increasing the low-use threshold from 100 to 200 hours per year. These provisions will allow fleets to focus compliance around more highly utilized vehicles, allowing low usage vehicles to potentially remain untouched for the life of the regulation.

4. Strengthen the Off-Road Regulation

a. General Comments

Comment: I'm here to say respectfully, please don't wait long. You need to fix the proposal so that old equipment needs to be retired faster, and all the loopholes closed. (SLWBP)

Comment: ARB must remain vigilant on any further attempts to stay or delay the overall goals of the agency's various in-use fleet rules or ARB's broader Diesel Risk Reduction Plan. These important emission reductions strategies not only protect the health of all the citizens of California but also provide an important source of economic growth and green jobs for the state. (MECA1)

Comment: While we understand that CARB's proposed revisions are designed to address the downturn in the economy and inventory changes, we believe CARB must still move forward as quickly as possible to protect communities and ensure a transition to cleaner vehicles and equipment. (BARD)

Comment: I'm here to present this letter[3] on behalf of the undersigned 23 environmental, public health, and community groups, these groups representing all parts of the state and hundreds of thousands of members support the diesel cleanup but have serious concerns – health concerns regarding the proposed amendments to the on- and off-road rules. (KUSTIN2)

Comment: With off-road diesel engines accounting for more than two-thirds of the 28,000 tons of PM released into California's air each year, the *In-Use, Off-Road Diesel* regulation was and remains and integral component of California's PM reduction strategy. Yet, the Board is now proposing to do away with most of the regulation's provisions, and effectively abandon near-term PM reductions across the board. The Board's proposal calls for reducing the number of required PM filter retrofits from 100,000 engines to zero, and lowers compliance to only 20% of a fleet, versus 80% under the original plan. The proposal for modifications to *On-Road Diesel* are also of concern, increasing the number of trucks exempted from PM filter retrofits from less than 10,000 to over 140,000. This potentially equates to more than 240,000 non-filtered engines being allowed to pollute our air with cancer-causing pollution. (ENG)(LOWENTHAL)

Comment: I'm requesting that CARB not adopt the proposed change pertaining to the in-use off-road vehicle PM regulation. Many of our 23 members represent Assembly and Senate districts where the issue of air pollution is disproportionately impacted. In 1998, California identified diesel exhaust particulate matter as a toxic air contaminant. Diesel is also a leading contributor of particular PM pollution. The proposed rule change will allow approximately 250 diesel equipment with a life span of 30 years to

[3] The letter referenced in the comment was submitted by Ms. Camille Kustin (comment #131) during the 45-day comment period, and is available at: http://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=on-offroad10. Responses to this letter are located in sections II.A.4. and 7.

pollute our air and will go unregulated until 2017 or longer. I'm particularly concerned about this because although I understand the economic recession has negatively impacted some of the industry, completely allowing this equipment to go unregulated for seven years is unreasonable amount of time. I also want to acknowledge the ARB Board for its foresight and environmental leadership for so many years and for adopting regulations that clean the air and create new jobs. However, the proposed change goes in the wrong direction. I strongly believe that we should advocate to protect people from the harmful diesel pollution. We should protect and create green jobs and advocate for a fair clean air policy that benefits the greater good and not just one industry at the expense of another. As Chairman of the Latino Legislative Caucus, I am requesting that you not move forward with the proposed rule change to the proposed regulation and that a legislative hearing be held on this issue. I join Assembly member Warren Furutani, Chairman of the Asian Pacific Islander Legislative Caucus, and other legislators opposing the proposed change. I wish to submit that and just acknowledge Warren Furutani did send his letter in. There is opposition also from Senator, Assembly member Mike Eng, along with others, for the record. (POLANCO)

Agency Response: We agree that this regulation is important to protecting the health of all Californians and ensuring that the State meets both its short-term and long-term air quality obligations. As stated in the Staff Report, ARB staff conducted a comprehensive review of the off-road emissions inventory, as directed by the Board, that showed off-road emissions were approximately 80 percent lower than what was previously estimated. Staff determined that it is feasible to utilize the lower than expected emissions to provide economic relief to fleets, while still achieving the emission reductions necessary to attain federal clean air standards.

While the substantially lower emissions and severe recession have created an opportunity to modify the regulation to provide economic relief to fleet owners, off-road diesel vehicles remain a significant source of pollution. ARB staff will continue to monitor the emissions, effectiveness of State regulations, industry practices, and federal requirements to ensure the regulation as amended maintains the emissions and public health benefits expected from the original regulation. For additional information regarding the health impacts of the regulation, please see the responses in section II.A.7.d. of this document.

b. Make Retrofits Mandatory

Comment: We ask specifically that you reconsider the 100 percent removal of mandatory retrofits. (RYPOS)

Agency Response: Staff disagrees with this comment. Wherever possible, the regulation establishes performance standards providing fleet owners the option to turn over or retrofit their equipment instead of requiring fleets to follow one specific path. This flexibility allows fleets to determine how compliance can best be incorporated with their existing business practices while also ensuring the necessary emission reductions are achieved. Additionally, new requirements being considered by the California

Occupational Safety and Health Standards Board (Cal/OSHSB) for safety and visibility would make retrofits for some vehicles infeasible.

However, for fleets having vehicles suitable for retrofits, the amended regulation provides significant incentives for those choosing to install retrofits prior to the first compliance year. For example, a large fleet that retrofits with the highest level VDECS before January 1, 2013, will receive double credit they can use towards the BACT requirements on or after January 1, 2014. These early installations will also provide the fleet with a reduction in their fleet average index, which can result in fewer actions needed to meet the fleet average target in each subsequent compliance year. Lastly, large and medium sized fleets have an opportunity to retrofit up to 15 percent of their fleet's horsepower with highest level PM VDECS prior to January 1, 2013, to receive permanent exemption from turnover requirements for those retrofitted vehicles.

c. Expand "Retrofit for Life" Provision

Comment: Extend the 'retrofit for life' provisions to allow more of the off-road fleet to be voluntary retrofitted early in exchange for being allowed to operate longer. The current rule proposal calls for 15% of the fleet to be eligible for 'retrofit for life', however, we suggest you increase this to 25%, while limiting the number of Tier 0 and Tier 1 engines that can be included. This suggestion is a voluntary option that fleets may exercise at their discretion. The result would be more emissions reductions in the near term and needed business for the retrofit industry. (CLEAIRE1)

Comment: For the Off-Road regulation, we suggest that you expand the retrofit for life option to allow a greater percentage of the off-road fleet to be voluntarily retrofitted early in exchange for being allowed to operate longer. If you focus the extent of life provisions on the cleaner Tier 2 and 3 engines, the long-term NOx impact will be minimal. Remember, this is a voluntary measure, not a requirement that offers the potential for cleaner air now while lowering long-term costs to the off-road fleet owners. There is a win-win opportunity here. (CLEAIRE2)

Agency Response: ARB staff carefully considered the limitation of this exemption to 15 percent of a fleet's horsepower. Although the details will vary from fleet to fleet, in general, if over 15 percent of a fleet is exempted from the turnover requirements, the fleet could potentially fail to meet the fleet average targets in the final years of the regulation, leading to emissions disbenefits. Although ARB continues to seek additional incentives for fleets to perform early actions, extending this exemption to more than 15 percent of a fleet would provide incentives now at the expense of emissions benefits in 2023.

Comment: Allow retrofitted equipment that is sold or otherwise transferred from one fleet to another to also have its 'retrofit for life' or other credit be transferrable as well. This policy will add value to the retrofitted equipment, and will further motivate early action by providing confidence that investments can be recovered. (CLEAIRE1)

Agency Response: Staff agrees. This exemption is vehicle-specific and is intended to remain with the vehicle through transfer of ownership. Staff will clarify this intent in outreach material for the Off-Road regulation.

d. Require Retrofits on High-Use Vehicles

Comment: We suggest requiring filters on high use off-road equipment. (MECA2)

Agency Response: Staff disagrees with this comment. As stated in response to the first comment in this section, the Off-Road regulation provides flexibility in meeting the requirements versus a prescriptive path, which allows businesses to determine how best to meet the requirements while still achieving the same emission reductions. Retrofits remain an option for all equipment meeting the Cal/OSHSB safety requirements, and early installations are incentivized, as mentioned in responses to the comments above.

Comment: In addition to support of MECA's overall comments or positions regarding ARB's proposed amendments, Donaldson also wishes to provide specific comments concerning certain aspects of ARB's staff proposal. ARB consideration of a few key modifications to the proposal that would achieve further emission reductions while providing additional opportunities for verified retrofit technologies.

For the Off-Road rule, key requested modifications include:

- Inclusion of a retrofit for life provision for up to 15% of the fleet horsepower until January 2013 and double credits for retrofits installed up to one year prior to the compliance date as a way to incentivize early PM reductions via retrofits.
- Add mandatory PM retrofits on high use equipment (>500 hours) that remains in the fleet and does not have a diesel particulate filter. (DONALDSON1)

Agency Response: Staff agrees with the commenter regarding extending the retrofit for life provision and double credits for retrofits. Staff has incorporated those recommendations into the Off-Road regulation (see responses to the other comments above in this section). However, please see the response to the previous comment as to why ARB staff does not believe retrofits should be mandatory on highly utilized equipment.

e. Delay Turnover for Retrofit Vehicles

Comment: Changes to the Off-Road rule have reduced retrofit technologies for this segment to a voluntary option toward compliance. In order to insure that PM reductions are achieved from older off-road equipment and to incentivize retrofits, MECA would support a delayed turnover of Tier 0/1vehicles or allowing the addition of Tier 0/1 equipment to a fleet if they are retrofit with a Level 3 device. (MECA1)(DONALDSON1)(DONALDSON2)

Agency Response: Under the amendments, fleets that install retrofits will receive both credit toward the BACT requirements and a reduction in the vehicles' emission index (the adjustment is referred to as the 'VDECS factor' in the regulation) that will aid the fleet in meeting the fleet average targets. These credits and the VDECS factor were included in the amendments specifically to maintain incentives for fleets to retrofit, even as the PM BACT requirements and PM fleet average were removed. As such, fleets that install retrofits will delay requirements to turn over vehicles (in addition to the permanent turnover exemption for up to 15 percent of a fleet's horsepower), whether they comply using the BACT or fleet average requirements.

However, staff does not agree that fleets should be encouraged to add older, dirtier vehicles, even with a retrofit, as opposed to installing a retrofit in a new, cleaner vehicle. Under the amendments, a fleet would receive the same credit for installing a retrofit on a vehicle as they would for replacing a vehicle. If a fleet is considering complying by retrofitting a Tier 2 or Tier 3 vehicle or purchasing a Tier 0 or Tier 1 vehicle with a retrofit, installing a retrofit on the newer vehicle would result in lower emissions and greater public benefit than purchasing and retrofitting older equipment.

f. Require Retrofits Beyond 2023

Comment: ARB offers a number of compliance extensions if devices or vehicles are not available from manufacturers in time to meet fleet emission target dates. Because the regulation offers two options toward compliance (retrofit or replace), we believe that extensions in obtaining Tier 3/4i equipment should be predicated on a lack of available VDECS that would upgrade Tier 1/2 equipment to equivalent Tier 3/4i emission levels.

In their proposed regulation, ARB staff has removed the end of life PM filter requirement from off-road vehicles. Several OEMs have already introduced Tier 3/4i equipment without diesel particulate filters. Furthermore, Tier 2 and 3 off-road vehicles can remain in a fleet for many decades resulting in long term PM emissions and therefore, we believe that ARB should retain an end of life diesel particulate filter requirement on high use equipment (>500 hr.) that remains in the fleet beyond 2023. These filters may be OEM equipped or retrofit and would insure that the cleanest vehicles do the majority of the work in the state. An hour meter requirement for off-road vehicles would simplify usage record keeping for fleet owners. (MECA1)(DONALDSON1)(DONALDSON2)

Comment: Eliminate loopholes to ensure all off-road equipment is cleaned up by 2023. (EBBELING)(KUSTIN1)(KUSTIN3)(RAMP)(EHC)

Comment: Require all equipment to employ a PM filter by the final compliance date of the regulation: The rule modifications as proposed lower the fleet average emissions targets over the life of the regulation and eliminate all PM reduction requirements. As a result, fleets meeting the final compliance NOx fleet average could continue operating

more than half of their equipment without particulate filters. All new off-road equipment will come equipped with particulate filters by model 2013 and retrofits are available for some types of equipment. The regulation should require that all equipment be filter equipped, either through retrofit or new equipment purchases, by the final compliance date for each fleet size. This will ensure that the best available control technology is being used to lower exposure to toxic diesel emissions.
(KUSTIN1)(KUSTIN3)(RAMP)(EHC)

Agency Response: Staff included (as part of the original regulation language) a compliance extension to address concerns that technology would not develop quickly enough to allow fleets to purchase equipment that would comply with the regulation. Under the amended regulation, although retrofits do provide a benefit to the fleet average, without Tier 4 Interim or Tier 4 engines, it is not possible for fleets to comply with the final fleet average targets even with the installation of retrofits on every vehicle in the fleet (depending on fleet composition). Hence, the compliance extension for manufacturer delays in making Tier 4 Interim or Tier 4 engines available is still needed.

However, if manufacturers do not produce Tier 4 Interim or Tier 4 engines within the timeframe needed for fleets to comply with the requirements and for the State to meet its SIP commitments, ARB would closely consider these suggestions to achieve additional emissions reductions in the absence of cleaner engines.

g. Clean Up Low-Use Vehicles

Comment: We acknowledge the need to adjust the rules, but we also acknowledge that reductions in diesel emissions, especially direct diesel PM emissions, which will reduce localized air toxics are needed. I would like to focus on one particular recommendation I believe will reduce local toxic risks from off-road equipment without increasing near-term cost of fleets. As proposed, the low-use exemption would allow any equipment operating less than 200 hours per year to be permanently exempt from any cleanup requirements. Two-hundred hours, according to the inventory attached to the rule, is equal to about 40 percent of normal annual operating hours of off-road equipment, meaning a piece of equipment operated for nearly half the year is considered low use under the proposal. This creates a significant loophole as it may cost much less to designate older high polluting pieces of equipment in use rather than cleaning it up. A piece of equipment manufactured as late as 1996 operating 200 hours per year emits more than 20 times the filter equipped model operating in a full year. Under the proposal, the equipment could be turn-over credit being designated low use but continue to operate indefinitely. The following recommendations would retain the intent of the low-use exemption, prevent the accumulation of high-polluting equipment in fleets, and reduce risks to communities with toxic PM emissions. The recommendation is to allow ten percent of fleets to be low use. This would prevent unlimited numbers of equipment. Current reporting indicates that up to seven percent of the equipment is designated as low use. This would increase the current levels; sunsetting the exemption for the older equipment, and communities deserve the protection from this. By 2023, this equipment will be at least 20 years old. There is no reason for this equipment to be operating. And finally, eliminate the turnover credits because of low-use piece of equipment is still actually polluting. There shouldn't be turnover credits for that equipment. (UCS1)(UCS2)

Comment: But if you change the Off-Road rule to protect jobs, please make sure that you maintain the health protections that you can be proud of having adopted in July of 2007. In particular, please do not increase the low-use exemption threshold to 200 hours per year. Since most equipment is used 400 hours per year, this increase could allow two pieces of old dirty equipment to be used instead of retrofitting or replacing one piece of equipment. In addition, please make sure that the exemption ends at some point -- the sooner, the better -- so that all equipment is eventually retrofitted or replaced to protect public health. (MCGHEE)

Comment: With the Off-Road regulation, we think it should sunset the low-use threshold and return it to 100 hours per year where it was before, require all equipment to employ a PM filter by the final compliance date. (SIERRA)

Comment: Limit the low-use provision to 10 percent of a fleets' equipment with a subsequent reduction to 5 percent by 2020. The proposal permanently exempts equipment operated 200 hours per year or less from all requirements. While 200 hours is only five full work weeks, off-road equipment is rarely fully utilized. Based on CARB's estimates of equipment activity, the average annual hours of use for across all categories of off-road equipment is 500 hours per year. The four largest categories of equipment, representing 40% of the horsepower in the state, operate an average of 480 hours per year.

Fleets could avoid upgrading to new equipment by employing two low-use pieces of equipment which could operate indefinitely without being subject to clean-up requirements. The full impact of the low-use threshold loop-hole is unknown. But, given that the low-use threshold is set at nearly half of the average hours of use for all equipment, the emissions impact of this loophole could be extremely high and could erode many of the benefits of the rule.

For example, a piece of equipment operating under the low-use threshold of 200 hours per year would be allowed to emit to more than 20 times the amount of particulate pollution of a Tier 4 piece of equipment, indefinitely. To prevent the abuse of the low-use exemption and to ensure that emission reductions expected from the rule actually occur, a 10 percent limit on low-use equipment should be set. This would continue to provide fleets flexibility while preventing circumvention of clean-up requirements. The limit should decrease to 5 percent in 2020 to help ensure that the oldest, dirtiest equipment is taken out of service. (KUSTIN1)(KUSTIN3)(RAMP)(EHC)

Agency Response: Low-use vehicles are, by definition, the least cost-effective vehicles or engine to control for emissions benefits. As staff considered alternatives for providing relief to fleets subject to the Off-Road regulation, expanding the low-use definition was selected because exempting additional vehicles with few hours of use improves the cost-effectiveness of the control measures, maintains more emissions benefits than other relief measures that would remove or lower requirements for all vehicles (with greater hours of use), and focuses the actions that fleets take to comply with the regulation on vehicles that are used the most.

Limiting low-use exemptions to a percentage of a fleet's total horsepower could require control actions on vehicles used as little as one-tenth (in extreme cases) of the State average – meaning fleets would have to control 10 such vehicles to get the same benefit as applying control strategies to one vehicle with average hours of use. This would violate several of the core principles staff used in developing the alternatives, including improving the cost-effectiveness of the regulation and targeting the requirements where they will achieve the greatest public benefit.

Staff agrees that fleets could exploit this provision to maintain large inventories of low-use vehicles, and that would begin to erode the benefits of the regulation. However, this would be a significant change from current industry practices, and currently, there is no reason to expect that business practices will change solely to exploit this provision such that the effect will reduce emissions benefits. However, if fleet reporting to ARB demonstrates that fleets are choosing, on a wide scale, to keep vehicles as low-use instead of retiring them, staff would consider strategies to address the potential loss in emissions benefits.

For more information regarding the health impacts and emissions benefits of these amendments, please see the responses in sections II.A.7.a. and d. of this document.

5. General Opposition

a. Stop the Regulations

Comment: I am against any new regulations on the diesel transportation industry. In this time of economic crisis, any new regulations are just not warranted. Please do not pass any new laws. (KELLOGG)

Comment: YOU ARE KILLING CALIFORNIA! Unless killing off what little economy left in California is your intention; Stop your diesel proposal. (GRAVES)

Comment: Dump the diesel regs! They do nothing except destroy business!! (DIETRICH2)

Comment: I am against any further pollution regulation at this time. As long as businesses are leaving in droves and unemployment is so high, we need to stop increasing costs on businesses. (BENGSTON)

Comment: What you guys want to do is change the standards, making our current fleet non-compliant. This forces us to spend money on our existing fleet to comply, or buy new equipment to replace a unit that is a productive part of our business. I do not have to explain that these are tough economic times, and these standards will force people out of business. Any good business owner will upgrade their fleet, over time, when it is necessary. We would voluntarily upgrade our fleet to current standards as we gradually phase out the older units. All of the units we purchased in the past met the guidelines and standards set during the time of purchase. (AYALA)

Comment: Please dump the strict regulations, they will kill my small business!!!!!!!!!! (FINDLEY)

Comment: Please keep the new regulations to the off road diesel vehicles in place, or soon to be in place. I am a small business man with 30 employees, down from 100 just a few years ago, any additional regulation at this time could send me over the top and out of business. (MARTIN)

Comment: DUMP THE JOB KILLING DIESEL REGULATIONS NOW!!!!! I SAY AGAIN, VOTE NO ON THE DIESEL REGS,!!!! (FLEMING)

Comment: These are unnecessary and job killers!!! VOTE NO!!!!!!! (DIETRICH1)

Comment: No more regulations!! Let's enforce the laws and regs we already have on the books. Unless you want this state to fail, don't regulate jobs away!! (WRIGHT)

Comment: Try to keep the businesses that are in California in California. The large, big, national corporations that run construction companies that would love to do our roads and our bridges don't need to be in California. They don't mind seeing California businesses go out because they can just come in when they need to. (BCPG)

Comment: During the last energy crisis you put many independent truckers out of business--now you want to destroy: jobs, the trucking industry, the farm industry, highway construction firms.

Back off we cannot do this until our economy is back to normal. (SKINNER)

Comment: Please do not impose the new diesel regulations!! Our state economy needs help, not another increase in the cost of doing business and, therefore, living here. And honestly, if it keeps getting more and more expensive to live in the state, we will have to leave. We have a lot of family - I'm a fifth-generation Californian - so the last the thing I want to do is move, but when the money runs out, something has to give. (RANDALL)

Comment: Your overbearing proposed regulations on diesel engines will drive consumer costs up and up and drive viable businesses from the state little by little. It is time to back off and allow existing federal air quality rules to achieve their goals. (ACCC)

Comment: I believe the legislators in California have gone mad. The majority of people out here are barely making it and you would enforce insane regulations that are only going to burden the poor and middle class! The people are going to be outraged when the effects of this measure take hold and prices rise even further. You are forcing the working people and businesses out of this state. What will you do then? I have lived here my entire life but we are in the process of trying to get out of this insane state. (BROWNE)

Comment: How can we be made to install smog equipment the manufacture was not required to install??? Just like our cars we should be required to maintain them to the standard for the year they were produced. Smog test are ok. I have talked to 3 major companies that will be leaving California if this laws pass. We will be putting more companies out of business and people out of work!!!!!!!!!!! (CTTA)

Comment: Abolish the CARB. Everything they have done is wrong. And it appears everything they will do in the future will be wrong. Before they destroy countless jobs, and price us out of existence. Abolish the CARB before it is too late. (GRIFFITH)

Comment: CARB should temper zealous and punitive actions against industry and business. It's of course more complex than this but CARB is apparently driven by more than unreasonable clean air goals. (MORTON)

Agency Response: Staff disagrees, and believes that ARB and the regulations are necessary for the reasons stated below.

Since the adoption of the Off-Road and LSI fleet regulations, a number of events have occurred which have presented an opportunity for ARB to reevaluate these regulations.

First, a global recession has substantially reduced the activity (and emissions) of many off-road fleets. At the same time, the recession has substantially reduced the near-term ability of fleets to invest in the clean vehicles and equipment needed to comply with the regulations. These first two factors are especially true for California's construction industry.

However, despite a significant reduction in emissions, the Off-Road and LSI fleet regulations are still critically important to ensuring that California meets both its short-term and long- term air quality obligations and health based goals. This includes achieving sufficient PM emissions reductions to meet federal air quality standards for fine particulate (PM2.5) by 2014, and to make continued progress to maximize reductions of ozone forming emissions by 2023. In addition, reducing emissions is necessary to reduce premature deaths associated with exposure to fine PM (PM2.5) and near-source exposure to diesel PM. Therefore, staff believes that the amendments to the Off-Road and LSI fleet regulations represent the maximum economic relief that could be given to fleets while still meeting ARB's air quality obligations, and to protect public health.

Although many of the commenters wanted ARB to stop "new" or "further" regulations, staff believes that these commenters were confused regarding the intent of this rulemaking process. The Off-Road and LSI fleet regulations have already been adopted, and the purpose of this rulemaking was to reduce the requirements of these regulations and to provide economic relief to affected fleets, not to propose new regulations.

Additionally, many commenters above stated that these regulations were killing jobs and the California economy, and some suggested that these regulations should be postponed until this economic downturn has passed. However, staff believes that the amendments to both regulations will provide this desired economic relief, and that the four year delay in implementing the Off-Road regulation will effectively postpone compliance requirements allowing the economy time to improve. As stated in the Staff Report, the estimated costs of the Off-Road regulation over the next 5 years would be reduced by 97 percent, from $1 billion to $33 million. Total costs over the life of the Off-Road regulation would be reduced by over 72 percent, and peak year costs would be reduced by 73 percent. This would represent a cost savings of $1.5 billion and $396 million, respectively. The amendments to the LSI fleet regulation are expected to provide $8.4 to $59.5 million in savings to affected fleets by increasing flexibility options. Staff believes that reducing the costs of both regulations in the near- and long-term will allow fleets to preserve jobs, and will prevent further businesses from leaving the State.

Staff does not believe that out-of-state companies will benefit from this regulation, as stated by commenter BCPG. Out-of-state fleets will have to comply with all the requirements of the Off-Road regulation, if they choose operate within the State.

b. The Science is Inaccurate

Comment: Starting with cherry picking data to support loss of life due to PM2.5, it seems that upon being questioned about the data to support the mortality rate, the data changes. The answer depends on whether the subject is diesel PM2.5 or background PM2.5. CARB conveniently combines the data when it supports their desired end game. CARB has ignored studies that show PM2.5 has no effects on premature deaths.

So my suggestions:

1. Hire a 3rd party scientific consultant with verifiable credentials to review all existing PM2.5 data (within CA and other states) and make conclusions/recommendations. This person should be vetted through the public arena to ensure true objectiveness and competency.
2. Hire an economist similarly qualified as the 3rd party scientist above to give a true picture of the economic impact of PM2.5 regulations on the local/state economy should it be implemented.
3. CARB should openly and honestly answer questions regarding this legislation that is presented in local newspapers.

Currently the public's confidence in CARB's ability to objectively make decisions on its behalf regarding health issues is falling. (TOMLINSON)

Comment: Your studies appear to be flawed. (KELLOGG)

Comment: I am writing in regards to the (now widely known) fraudulent study on diesel emissions. How can a government agency act so irresponsibly? You can't enact regulations that will potentially destroy the entire economy of California, based on junk science. The only chance you have to regain credibility with the public, is to admit your mistakes, and retract these ridiculous studies. (BARBOSA)

Comment: I do not understand how a government for the people could impose job killing regulations on their own public based on phony statistics by a phony scientist. This agency is part of what has made California a laughing stock to the rest of the States. (HOLUB)

Comment: The original report upon which you base your proposed regulations was later exposed to be written by a total fraud who received his PhD by mail order. Isn't that enough reason to completely throw out his recommendations? These draconian regulations are killing the farmers and truckers---the backbone of our economy. Where will you go for the eggs once you've killed the Golden Goose? This is insanity! DO NOT GIVE IN TO THE ENVIRONMENTAL EXTREMISTS---CALIFORNIA'S ECONOMY ISN'T EVEN ON THEIR LIST OF CONCERNS! YOU MUST STAND AGAINST THEM ON BEHALF OF THE PEOPLE OF THE STATE OF CALIFORNIA, I IMPLORE YOU!!!!!!!!!!!!! (PINKSTON)

Comment: It is absolutely unbelievable that you folks are making regulations based on not only phony science but also on phony people with phony degrees.

I can't even venture a guess of how many people you have hurt financially and emotionally. Many of my friends have begun to move their businesses and families out of California looking for a more friendly business climate.

When will all this phony science end; when will you folks realize what damage you are doing to the once greatest state in the union? I just hope that for California's sake you people stop trying to justify your existence will phony science and phony regs. Please listen to people who care about California, care about jobs, and care about business. (RODEN)

Comment: Hien Thanh Tran was the lead scientist on the study of "Premature Mortalities from the exposure of PM2.5", which is the basis for the PM2.5 regulations. He claimed to have a PhD from UC Davis, when in fact, he had a mail-order, fraudulent PhD from a fake university that lists a UPS store as its address. We demand that CARB suspend the implementation and rule-making processes of all PM2.5 regulations until a new study can be completed, peer-reviewed, and is made available for public comment.

Furthermore, there is discussion within the scientific community regarding whether or not diesel is the largest emitter of PM2.5. Frederick W. Lipfert, in the Symposium on PM2.5 and Mortality presented on the 26th of February 2010 that no single source emits PM2.5, but rather PM2.5 particles come from many sources, which cannot be identified directly. In the same presentation, Lipfert also held the conclusion that national studies cannot be applied to California where pollutants and populations differ from states in the nation.

CARB does not have accurate data regarding how much PM2.5 is emitted in California. CARB does not have any conclusive study linking health risks to exposure of PM2.5. CARB does not have any conclusive study that suggests diesel emissions are responsible for the majority of PM2.5 pollution.

CARB has misused public money during the course of its writing and implementation of diesel PM2.5 regulations through fraudulent actions of its employees and possibly some board members. CARB has misused tax-payer money by creating regulations before it has obtained accurate data. Especially in the current state of the California budget, CARB must utilize public funds in a more responsible manner. Furthermore, CARB must recognize that California businesses are in a time of extreme hardship because of the recession. Though the members and employees of CARB have not received any pay-cuts, the private industries in California have. California cannot afford to lose jobs and businesses because of unnecessary regulations. We demand that CARB suspend all rule-making processes and implementation of PM2.5 regulations until all the data has been collected and the studies have been completed, peer-reviewed and commented upon by the stakeholders. (YOUNG)

Comment: Based on the improperly done study by Dr. Tran, I believe it is truly in your best interest to back off the restrictions until a new study can be conducted and affirmed by a separate (non CARB) affiliated source.

Your policies are going to cost CA dearly and I would hope that you take a closer look at what your trying to do. Why I fundamentally agree with the green concept, I truly believe that slowing the implementation to rate that is more in line with the rest of the United States we benefit all Californians.

If you push ahead with all the plans you have, you could see the whole fail because CARB acted too quickly. You don't want to cut off your nose to spite your face do you? (HULZ)

Comment: What ever happened to that pesky "Tran" report that you were supposed to redo to justify these regulations?

Should you grant relief? Only if you want to keep your jobs. Not only to the construction and trucking industries but ALL INDUSTRIES you are currently regulating out of business. (DELTA)

Comment: The diesel regulations are aimed at truckers and operators of heavy machinery but their costs will hit all of us with more expensive prices on everything brought to us in a truck – that is to say, nearly everything. Housing prices furthermore will be affected as construction will become more costly.

All of this from a regulation based on fraud: "Dr." Hien Tran, the researcher with the phony PhD, was not fired and CARB did not abandon his study until now as the study has been exposed for overestimating pollution by a whopping 300%.

After negative publicity attached to killing jobs and raising the price of consumer goods based on a bogus study, CARB is considering taking a step in the right direction and not moving forward with this particular regulation right now. Radical environmentalists are planning to show up in force to demand CARB implement the draconian diesel regulation regardless of their lack of scientific credibility and staggering costs. (TRAVERS)

Comment: While we all want clean air, destroying our already unsound economy based upon faulty data is ludicrous.

Basing decisions upon the ranting's of "Dr." Hien Tran who mail ordered his PhD and overestimated pollution by 300% is so absurd that even the far-left San Francisco Chronicle disagrees.

Please stop this madness and give California a chance to once again be the economic land of golden opportunity it once was before it's too late. (VONASEK)

Comment: CARB's regulations which have so devastated the trucking industry were based on a discredited report by a "Dr." Hien Tran, a CARB researcher who mail ordered his PhD from a phony university. However, even when it was discovered that Hien Tran had falsified his qualifications, CARB refused to fire him and stood by his study – a study that now even CARB itself admits overestimated pollution by more than 300%. If you are waiting for CARB to apply its new proposed rule to itself, don't hold your breath.

THE GLOBAL WARMING AND AIR QUALITY CRUSADERS ARE A FRAUD, AND ARE KILLING OUR ECONOMY IN CALIFORNIA AND NATIONALLY. DISBAND CARB, AND RESTORE OUR ECONOMIC STABILITY. (COOTS)

Comment: Aside from the very serious impact diesel regulations will have on our jobs and economy, they are based on a study by a researcher who both falsified his credentials and overestimated pollution by up to 300%. This is not a sound basis for policies which harm the livelihoods of California citizens.

Beyond the questionability of the study upon which the regulations were based, please also consider the role of economics on public health. Nations with the highest poverty rates also have the highest infant mortality rates and lowest life expectancies. A conversation on public health is not complete without considering how harmful economic impacts also detract from citizens ability to pay for quality medical care.

With even the San Francisco Chronicle reporting on the pollution overestimates, now is an ideal time for the Board to revise its diesel policy to take into account the needs of affected citizens, taxpayers and business owners. (CEU)

Comment: These draconian regulations are based on false information that overestimated diesel pollution by 300%. Stop the over regulation of commerce in this State so we can go about the business of bringing a vital economy back to California. (GILDERSLEEVE)

Comment: Please go public about your inflating the original carbon amount in the model by three hundred and forty eight percent. This is a scandal and needs to be vetted! (KIRSCHKE)

Comment: Please do not cave in to the environmental extremists and vote NO on proposed amendments regarding diesel fuel. Harm has been grossly exaggerated, and businesses with the jobs they create are more important. (STRATTON)

Comment: Please do not enact further restrictions on the diesel fuel. The enforcement of these new proposals will affect the weak job sector, and we cannot afford any more taxes.

It has been discussed that there is faulty data used in making the proposals. Please review all references before you make a decision. Please decline both amendments. (RITCHIE)

Agency Response: Staff does not agree that ARB selected only those studies that support loss of life due to PM2.5 exposure. Staff carefully reviewed all peer-reviewed studies that have been performed in the United States on the relationship between long-term PM2.5 exposure and mortality, as has the U.S. EPA in its recent review of the National Ambient Air Quality Standard for particulate matter. U.S. EPA's 2009 science assessment states "Collectively, the evidence is sufficient to conclude that the relationship between long-term PM2.5 exposures and mortality is causal." U.S. EPA and ARB have critically evaluated the methods used in each study so that we can place the most weight on the studies that have used the strongest methodologies. The ARB effect estimate is derived from the same study the U.S. EPA used for their quantitative health risk assessment for particulate matter (Krewski et al., 2009). It is the largest and most rigorously and publically evaluated study in existence. The effect estimate for the relationship between long-term PM2.5 exposure and mortality from this study is being used by multiple agencies worldwide.

ARB's conclusions about the relationship between long-term exposure to PM2.5 and mortality are aligned with the findings of the U.S. EPA, the World Health Organization, Health Canada, and the British government. Those findings have been publicly peer reviewed by multiple independent bodies worldwide. In addition, the methods used in ARB's economic analyses are comparable to those used by U.S. EPA and other regulatory agencies world-wide, and have also been extensively reviewed by multiple independent review groups. Consequently, there is no need for the additional reviews suggested by the commenter.

Staff agrees that ambient PM2.5 arises from many different sources, including diesel exhaust, and there are no established methods for routinely measuring the concentration of PM2.5 in ambient air from any specific source. Diesel PM is primarily less than 2.5 microns in diameter, and consequently falls into the PM2.5 size category. As discussed above, exposure to PM in this size fraction is strongly associated with premature death. Also, the results of animal exposure studies suggest that diesel PM is at least as toxic as other species within this size range. Taken together these results provide support for the use of the U.S. EPA's methodology to estimate premature death related to diesel PM exposure.

Regarding Mr. Tran, because he falsified his credentials, he was disciplined and removed from all regulatory support work. Also, the Board directed staff to withdraw the original PM health report and prepare a new report, without input from Mr. Tran, which was completed in August, 2010. The report can be found at: http://www.arb.ca.gov/research/health/pm-mort/pm-report_2010.pdf.

The new PM health report updates ARB methods for quantifying premature death associated with long-term public exposure to PM2.5 air pollution. The method relies on a peer-reviewed risk assessment document developed by U.S. EPA as part of its current review of the NAAQS for PM2.5. The national studies reviewed by the U.S. EPA for the NAAQS assessment apply to California. In fact, as part of the federal standards review process, U.S. EPA estimated the premature deaths associated with PM2.5 in two California cities – Los Angeles and Fresno. The new report expands on that work by estimating mortality impacts of PM2.5 air pollution statewide.

ARB adopted the Off-Road regulation, in part, to meet California's legal obligations under federal law to achieve attainment with the NAAQS for PM2.5 by 2014. The emission reductions in the regulation are critical to attaining federally mandated air quality standards. Primary diesel PM emissions are a significant contributor to overall PM2.5. In 2008, 20,600 tons of diesel PM were emitted in California. The present amendments to the Off-Road regulation have been adopted to accommodate the economic hardship of affected businesses while still meeting the legal requirements and protecting the public health of all Californians.

It is unclear from commenter CEU what questions that have appeared in the local newspaper the commenter would have us answer.

Additionally, staff believes that several of the commenters above who requested the Board to vote "no" on the amendments were confused regarding the purpose of this rulemaking. See section II.A.5.a. above for staff's response.

Staff also disagrees that the Off-Road regulation will affect jobs or the California economy. See section II.A.5.a. above for staff's response.

6. Off-Road Inventory

Comment: CAPCOA members rely on the emission reductions from ARB's mobile source program as part of the State Implementation Plan (SIP) for attainment of the National Ambient Air Quality Standards (NAAQS), and several air districts are facing near-term attainment deadlines. Since mobile source emission inventories are vital to air quality improvement planning efforts throughout California, CAPCOA would like to see a firm commitment of resources by ARB to improve the mobile source emission inventories on both a regional and statewide basis. It is also critically important that ARB clearly identify shortfalls in the SIP, and alternative emission reduction strategies to cover any shortfalls. Further, ARB should take responsibility for addressing any concerns raised by U.S. EPA regarding the impact of these rulemaking efforts on the SIP and associated attainment demonstrations. We also request that affected districts be included in discussions with EPA regarding impacts on their SIPs. (CAPCOA)

Agency Response: ARB continues to commit significant resources to the improvement of mobile source emission inventories at the county, air district, air basin, and statewide levels. Also, ARB will address any concerns raised by U.S. EPA regarding the impacts of these amendments and include affected districts in discussions with U.S. EPA regarding the impacts of these amendments.

Comment: We urge your Board to consider the following in adopting the proposed relaxations to the existing regulations: Partner with the South Coast AQMD and the San Joaquin Valley APCD to do additional work to improve the statewide and regional emissions inventory estimates for the affected source categories (which includes collection of additional in-use information such as load factor and activity data). (SCAQMD1)(SCAQMD2)(SJVAPCD2)

Agency Response: ARB continues to commit significant resources to the improvement of mobile source emission inventories. Staff welcomes any additional data as well as partnering with the districts for data collections efforts.

Comment: CARB has implemented a voluntary survey to establish an inventory of diesel emissions. CARB knows that this survey is inaccurate and has used a 28% estimate of under-reporting. The data obtained by voluntary surveys is not accurate, and it is impossible to estimate accurately what the "real" numbers are. CARB is using an arbitrary percentage (28%) to estimate what the actual data should be. This is not a scientific use of statistics; one cannot determine any voluntary survey to be an accurate sample of the population. It is unethical to use this data to implement any kind of regulation. We demand that CARB suspend the implementation, and rule-making processes of all PM2.5 regulations until an accurate emissions inventory number can be obtained from the Franchise Tax Board, which maintains data for every diesel sale in California. (YOUNG)

Agency Response: ARB staff is unsure what survey commenter YOUNG is referring to above. However, the under-reporting that was discussed in the Technical Support Document for the inventory referred to underreporting to DOORS. In order to estimate underreporting, staff conducted a survey of 1,000 potential fleet owners in March 2010. This sample was developed from a list of 21,800 buyers who had financed construction equipment between 2005 and 2009. After calling all 1000 fleets, about 73 owned equipment subject to reporting requirements but had not yet reported to DOORS. This amounted to about a 10% underreporting rate for the statewide population of equipment.

Comment: The American Rental Association (ARA) commends ARB staff for recognizing that there were inconsistencies in the off-road inventory related to a large discrepancy between diesel fuel consumption as estimated from the Off- Road Model and from data reported by US Energy Information Administration (EIA). We believe that the effort that was carried out because of this recognition represents an opportunity to improve the inventory in the future. In the revised estimate, staff reported new data for equipment "Activity" and "%Load". Activity, the number of hours per year a vehicle is driven, should be directly related to the economy. On the other hand, %Load should be more nearly independent of economic activity as it is a measure of the duty cycle required to complete a job. If the number, but not distribution of job types, is dependent on economic activity, then %Load should not change from year to year.

Activity was estimated from substantial data reported under AB 8 2X. We analyzed a portion of the AB 8 2X data and found that activity in 2009 was about 2/3 that in 2007; this mirrors the economy. The ARB-revised %Load was estimated by reducing the load factor by a fixed percentage across all equipment types based upon very few pieces of data. Staff claimed that the better agreement between reported and calculated fuel use demonstrated that their new model parameters were more correct. We would argue that if they chose a nearly arbitrary universal adjustment factor for load, they could have selected one that caused the model to reproduce the EIA fuel assigned to off-road equipment. We believe that the new Off-Road Model is not robust because of the way Staff modified %Load.

ARB staff should institute procedures to collect data on annual fleet fuel consumption. These data should be used to gain agreement between the quantity of fuel used and the quantity of fuel estimated from the Off-Road emission model. Off-road fuel use could be better known by improving the EIA FOKS survey and BOE data collection and reporting. Staff should work with those Agencies. Activity, %Load and most importantly, cumulative fuel consumption could be better quantified by working with willing fleet operators to gather these data. New electronic engines are equipped with computerized data loggers that readily provide this information if the appropriate interface equipment is available. We also provided ARB Staff with publically available fleet data where fuel use was reported.

- Closure of the fuel balance should be done on an annual basis because fuel consumption is a direct measure of economic activity.

- Since improvements in fleet fuel efficiency that results from changes in operating practices and the addition of new technology impact fuel consumption over time, such an effort would be proactive as far as inventory is concerned.
- Closing this balance would also be valuable in the State's effort to quantify greenhouse gas emissions.
- Finally, anchoring fleet fuel use to fuel sales would provide confidence to stakeholders regarding the veracity of the Inventory estimate. (ARA1)

Agency Response: While the total fuel reported by the State Board of Equalization and the Energy Information Administration (EIA) can be helpful for a fuel balance for all off-road categories it should be used as a guide when comparing fuel at a category level. Category level fuel sales from EIA are based on surveys of distributors and are EIA's best accounting of how the fuel is consumed amongst the various off-road categories. For this reason EIA fuel sales were used to bound the fuel consumption estimated from in-use off-road equipment population, activity and load.

The load factors used for the original inventory were based on Power Systems Research. In 2010 staff collected the best known available data on load factors for off-road equipment covered by this regulation. While the data does not cover every equipment category it does cover some of the most commonly used such as tractors, forklifts, dozers and excavators. The data for all categories showed that the original load factors were 25-50% too high. Similar data was collected for other equipment not covered by this regulation. These studies showed that again, PSR load factors were overestimated. For this reason staff chose to apply the data collected for a subset of off-road equipment to all the categories covered by the regulation.

ARB staff continues to commit significant resources to the improvement of mobile source emission inventories. Current research is aimed at better understanding engine load and emissions for off-road equipment.

7. Emissions Impacts

a. SIP Margin and Impacts

Comment: As a state, it is vitally important that we act prudently when making adjustments to our clean air standards because the health an economic vitality of California depends on it. In the San Joaquin Valley, for example, emission inventory margins to meet our current Clean Air Act commitments are currently at zero. In the South Coast Air Basin, the margin is minimal. If we fail to meet these commitments as mandated by the Clean Air Act, we would not only jeopardize federal funding, but also endanger the health and well-being of millions of our residents. (ENG)(LOWENTHAL)

Comment: We are concerned that the proposed relaxations leave little or no margin for error in relation to the reductions needed to reach attainment of the PM2.5 standards before the federally mandated deadline in 2015.

Our concern arises from the fact that failure to meet the standards in a timely fashion will subject the South Coast and the San Joaquin Valley regions to devastating sanction under the federal Clean Air Act. Failure to get the necessary reductions from the mobile sources under state's jurisdiction will unfairly shift the burden to stationary sources that have been heavily regulated already. Given the current high level of control on stationary sources and that fact that over 80% of the emissions come from mobile sources, any shortfalls cannot be rectified with more regulations on stationary source. (SCAQMD2)(SJVAPCD2)

Comment: We urge your consideration of the amendments recommended here in order to achieve the following: Create a State Implementation Plan margin for 2014 and beyond, especially for the San Joaquin Valley. (EBBELING)

Comment: We therefore urge your consideration of the amendments recommended here in order to achieve the following: Create at least a 20 percent SIP margin for 2014 and beyond due to uncertainty in economic projections, inventory uncertainties, and the absence of updated air quality modeling. We recognize that the diesel emissions inventory for trucks, buses and off-road equipment has recently been adjusted downward due to reduced activity as well as methodological updates. However, the reduced diesel inventory does not diminish the need for reductions in communities overburdened by diesel pollution, nor can our lungs distinguish that emissions as officially accounted for are less. (KUSTIN1)(KUSTIN3)(RAMP)(EHC)

Comment: Our coalition has actively engaged in the emission inventory update process. We appreciate the responsiveness of staff to new emissions data and the extensive efforts to make the necessary inventory adjustments in a short timeframe. We are concerned however, that the revised emissions inventory is being used in lieu of committed emissions reductions. Therefore, use of the full "margin" created by the newly reduced inventory to allow for slower compliance timeframes in the proposed amendments directly conflicts with the 2007 State Strategy's aggregate tonnage State Implementation Plan commitments for 2014. Reliance on unenforceable inventory changes as “emissions reductions” does not comport with the Clean Air Act, which requires that the reductions necessary to demonstrate that attainment be *enforceable*. Even if ARB could use unenforceable changes in the inventory to satisfy its SIP commitment, in the event that economic growth is greater than ARB projections, or any other unforeseen vehicle or equipment usage patterns occur, failure to meet the 2014 aggregate tonnage targets would be all but inevitable. Further, current SIP commitments are based on air quality modeling done prior to significant changes in the off-road inventory. New air quality modeling needs to be performed to determine the actual impact of inventory changes, but changes are likely to show that additional reductions will be needed. For example, the 2008 Inventory in the South Coast estimates that off-road equipment accounts for more than twenty percent of total air basin NOx emissions. (KUSTIN1)(KUSTIN3)

Comment: Diesel pollution is costly. So I'd ask that you please pass a strong diesel rule with a greater SIP margin. (CATHOLIC)

Comment: And we are especially concerned with the zero margin that the San Joaquin Valley will face. So we just ask that you continue to look at that and maybe revisit it or talk about it a little bit more and figure out if there is some way to ensure that there will be some safeguards for us. (FMMS)

Comment: In sum, we respectfully ask some changes be made to these amendments to give us at least a 20 percent SIP margin. (CCA1)

Comment: We would really appreciate having a 20 percent margin, particularly considering the South Coast emissions inventory analysis showed the potential for 20 to 30 percent of the emissions being off. So we don't want to get to a place where we're at 2014 and actually short. (CCA1)(CCA2)

Comment: That SIP requirements and public health goals to -- some of the reasons for uncertainty, some of the specific reasons for uncertainty are, number one, the credit provisions for early PM retrofits. I think that those are good provisions that can help encourage early compliance and early health reductions. But there's some uncertainly in how they're going to progress. The trend in the economy indicating that truck miles could outpace expectations in the economy, that's an uncertainty. And the methodology changes to off-road equipment. While this adjustment to the inventory is reasonable, this does not mean there's a linear relationship with SIP requirements. This is because the 2007 SIP commitment were projected assuming 15 percent more tons of emissions than were actually occurring. So there is a lot of uncertainty in the modeling, and I do hope that ARB will follow through and make sure when the SIP occurs in April 2011 that there will be an adequate margin or contingency measures. I encourage the Board to have a 20 percent margin to make sure that there will not be falling short of the SIP commitments and there will be a compliance with the Clean Air Act. (BREATHE)

Comment: Don't adopt these amendments. The San Joaquin Valley and the South Coast need these reductions, these extra reductions that you're going to backslide on to meet the one-hour standard. You still have to meet the one-hour standard. We've been talking about the PM2.5 standard and the eight-hour ozone standard. You still need to meet the one-hour standard. (CRPE)

Agency Response: As a result of SIP implementation efforts at the local and State level, air quality is improving in both the South Coast and San Joaquin Valley regions. These measurable improvements demonstrate that ARB is on track to meet our control strategy commitments.

The South Coast has seen dramatic improvement in PM2.5 air quality, with a 37 percent decrease in the basin-wide annual average design value over the last eight years. This decrease has occurred even with the inclusion of a new high site monitor in Mira Loma (Riverside County) in 2006. Based on data in 2009, sites outside the Riverside area already meet or are close to meeting the annual standard. Preliminary South Coast data for 2010 indicate that concentrations are continuing to decline, with only the Mira Loma site exceeding the annual standard.

PM2.5 air quality in the San Joaquin Valley has also improved, although the progress has not been as uniform across the region. The most significant air quality improvement occurred in the northern and central part of the Valley where monitoring sites meet or are close to meeting the annual standard. Air quality in the southern San Joaquin Valley, which includes the Bakersfield area, has also improved, with annual design values decreasing 10 to 20 percent.

Air quality design values reflect a three-year average which is used for comparison to federal standards. However, evaluating multiple measures of air quality can provide a broader picture of overall air quality progress. For example, individual year annual PM2.5 values for 2009 and 2010 throughout the Valley show significant improvement. In 2010, only two of the twelve sites in the Valley (Corcoran and Bakersfield) recorded annual concentrations that exceed the federal air quality standard. Peak 24-hour PM2.5 concentrations have also declined significantly, dropping over 30 percent since 2001. The Air Quality Index (AQI) is another measure that is used to evaluate daily air quality conditions. Between 2001 and 2010, the number of days considered unhealthy under the AQI has been cut in half.

As the economy recovers, ARB will continue to track emission trends to ensure the 2014 emission targets are met. If future emissions were to exceed the SIP target, the State's commitment could be made up with additional controls, incentive programs, or other programs to bring emissions down to the necessary levels. In designing the regulatory amendments, staff was very careful to provide regulatory relief while ensuring that ARB’s overall SIP commitment was met. To assess progress towards meeting emission reduction obligations in the SIP, staff evaluated whether the lower emissions from the revised inventories for both trucks and off-road vehicles, combined with the effects of the recession, provided greater emission reductions than were expected. Any excess emission reductions achieved are referred to as an emission margin. The margin defined how much relief could be provided under the regulations while still meeting the legal emission reduction requirements of the SIP.

ARB analysis clearly demonstrated that emissions from trucks, buses, and construction equipment were much lower by the end of 2010 than previously anticipated in the SIP. California-specific and national economic forecasts unanimously projected lower activity in 2014 than previously estimated. ARB reflected these forecasts in our emissions forecast for 2014, and found that under the originally adopted regulation emissions would be lower in 2014 than originally projected. The regulatory amendments ensured that the revised regulation will generate sufficient emissions reductions to meet federal SIP commitments while providing the regulatory relief necessary to ensure that fleets could comply with the regulation.

The most significant change in emissions from trucks, buses, and off-road equipment was the impact of the recession. An emissions accounting that incorporates the impacts of the recession, future emission changes, and the benefits of the new SIP measures is the appropriate approach to assess the adequacy of the PM2.5 SIPs now close to final implementation. This accounting was performed as part of the PM2.5 SIP revision submitted to U.S. EPA in May 2011 for the South Coast and San Joaquin Valley air basins and demonstrates that ARB is on track to meet our control strategy commitments. ARB resolution 10-44 directs the Executive Officer to monitor the state's progress toward meeting its emissions reduction commitment and to provide an update to the Board in 2012. ARB will identify any potential emission reduction shortfall and take action, if necessary.

There has been no significant change to the fundamental science and air quality modeling used to set the 2014 emission targets in the South Coast and San Joaquin Valley. The new emissions inventory data primarily impact current emissions and estimates of future emissions as the economy recovers and do not substantially change the total regional emissions in the base years. The recession does not impact the SIP base year modeling since both regions used base years prior to the recession. Small changes in the base year emissions due to methodology improvements would not substantially change the fundamental relationship between emissions and air quality in the base year modeling. Therefore, the air quality modeling and the 2014 emission targets are still sound.

Comment: We urge your Board to consider the following in adopting the proposed relaxations to the existing regulations: Reaffirm CARB's commitment that mitigating any shortfall in emission reductions will be the responsibility of CARB from sources under the state's jurisdiction. (SCAQMD2)(SJVAPCD1)(SJVAPCD2)

Agency Response: ARB resolution 10-44 directs the Executive Officer to monitor the state's progress toward meeting its emissions reduction commitment and to provide an update to the Board in 2012. ARB will identify any potential emission reduction shortfall and take action, if necessary.

b. Monitor Emissions

Comment: We urge your Board to consider the following in adopting the proposed relaxations to the existing regulations: Accept a commitment by CARB to regularly monitor and report on the actual emissions and related trends for the affected source categories, and take timely regulatory action to remedy shortfalls, if any. (SCAQMD2)(SJVAPCD2)

Comment: We believe it's extremely important to continue to monitor emission levels that are consistent with production we are looking at today to make sure we are reaching the emissions levels that we're expecting and achieving all benefits we're expecting today and to also monitor the pace of the economy. (ALA)

Comment: We encourage the tracking of future emissions to ensure that the emission rates in today's proposal continue as expected since these reductions are an important component in the attainment of the PM2.5 and ozone standard in the San Joaquin Valley and South Coast. (USEPA)

Comment: We want regular and ongoing monitoring and tracking. In your resolution, there is a statement about coming back to your Board in 2012. We asked for a specific time line. We don't have to have a specific month or date in there, but 2012 is really something that we feel nervous about. December of 2012, for instance, in our view, will be very late to come to your Board. And if there are changes needed, it will take time to implement any regulations and time for the businesses to make those changes. So if it's okay with you, respectfully, we ask you to commit to a date to get a report to your Board and leave some time to hopefully do something where we can get reductions in 2014 (SJVAPCD1)

Comment: We ask for re-assurance that if there are any deficits or shortfalls with the proposed amendments relative to the SIP that they be made up. And we urge you to put some dates into the resolution relative to time line. Because that time frame from 2012, 2014 is very short. (SCAQMD3)

Agency Response: In response to the commenters' expressed concerns, ARB Resolution 10-44 directs the Executive Officer to monitor the state's progress toward meeting its emission reduction commitment and to provide an update to the Board at its July 2012 meeting that includes an updated emissions trend including:

- the impact of economic conditions on the on-road and off-road source categories;
- the identification of any potential emission reduction shortfall in the expected emission reductions from these source categories; and

- propose actions to remedy any identified shortfalls; these could include but are not limited to regulatory or other actions, such as more rapid and effective use of incentive grants to generate earlier reductions. [4]

c. Localized Risk

Comment: We are particularly concerned about how these amendments to both diesel rules will affect our home in the short and long term, as these sources represent a considerable amount of PM and NOx emissions. Even though we are, of course, sensitive to the economic situation and the current times that we are living in, of course, the localized impacts will continue. These especially affect low-income communities of color a lot, which are located in the San Joaquin Valley. These people will have little or no access to health care. And they will not be getting relief in their health or their health care bill. So in sum, we respectfully ask some changes be made to these amendments to minimize the localized impacts. (CCA1)

Comment: ARB should reduce localized impacts, especially for the San Joaquin Valley, and retain the mid- and long-term benefits of the On- and Off-Road rules. (EBBELING)(KUSTIN1)(KUSTIN3)(RAMP)(EHC)

Comment: The American Lung Association is, of course, particularly concerned about the most vulnerable and disadvantaged communities and urge you to pay special attention to pollution reduction in impacted areas and to consider measures to strengthen requirements in areas near warehouses, truck distribution centers, rail yards, ports, heavy traffic corridors. (ALA)

Agency Response: We acknowledge that a large proportion of low-income, minority communities live in close proximity to busy roadways, and that these communities may be at particular risk of exposure to diesel emissions from vehicles moving goods through these areas (for example, in communities adjacent to busy ports). The Board acted to mitigate the health impacts in environmental justice communities by maintaining the Phase 2 requirements of the Drayage Truck regulation and adopting amendments to address emissions from dray-off and Class 7 drayage trucks that operate in and around ports and intermodal rail yard facilities. The Board also acted to mitigate health impacts along roadways for the amended Truck and Bus regulation by adjusting the model year compliance schedule for heavier trucks. Since the Board hearing, the engine model year schedule of the Truck and Bus regulation has been modified to require heavier trucks with 1996 and 1997 model year engines to be retrofit by January 1, 2012. The modifications, which were made available for comment with the May 19, 2011 Notice of Availability of Modified Text, will provide additional PM emissions reductions between 2012 and 2017. In general, PM emissions along roadways will decline significantly because 90 percent of heavier trucks will have PM filters by 2014 and nearly all will have PM filters by 2017. In addition, by 2023, all trucks will have 2010 model year emissions equivalent engines. As such, residents of these

[4] Resolution 10-44 can be found on ARB's website at http://www.arb.ca.gov/regact/2010/truckbus10/res1044.pdf.

areas will reap considerable health benefits from the emission reductions that will be accrued due to the amended regulation.

d. Impacts on Health Benefits

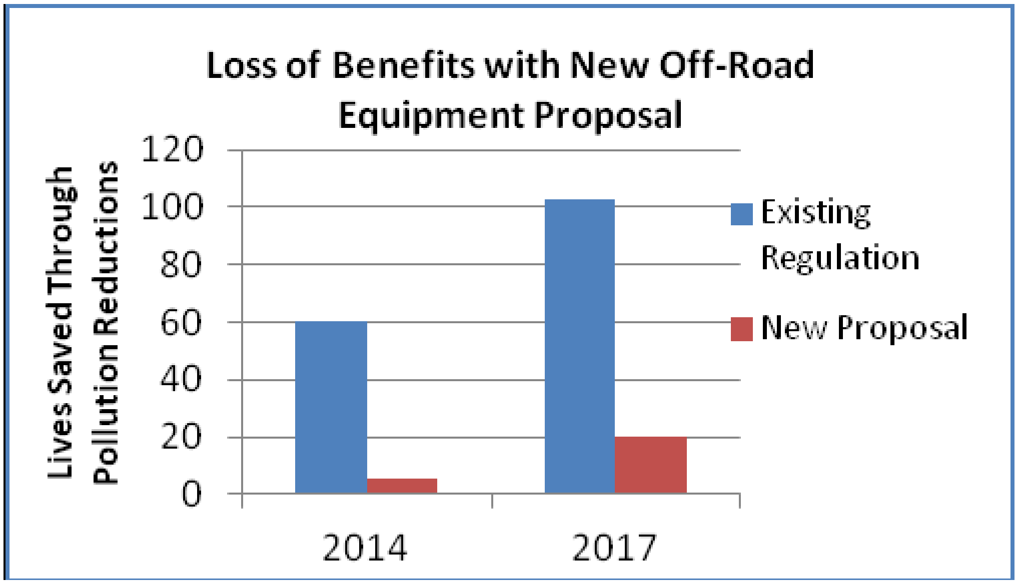
Comment: I am concerned that the proposed modifications do not maintain the short and long-term health benefits of the original rule. They also go too far and can impact the public's health adversely. The health of businesses should not become a priority when the public's health can suffer. (CHUNG)

Comment: The rule changes as proposed go beyond what is necessary in the short term, and reduce near-term health benefits in the 2014-2017 timeframe. (KUSTIN1)(KUSTIN3)

Comment: On off-road, we see a 90 percent loss of health benefits in 2014. And still, in 2017, we have a gap in health benefits. We're very concerned about these near-term losses in health protections. And in Fresno, the disparity persists as well. (NRDC)

Comment: While the ARB analysis indicates that overall emission reductions from the rules with proposed changes combined with the economic downturn are similar to the original rules, the health impacts are most certainly not. We are especially concerned that toxic hotspots of diesel pollution throughout the state will receive little relief in the short term. Compared to the existing regulations, for example, emissions of diesel soot under the new proposal would be fifty percent higher in 2014.

In fact, after accounting for the adjustments to the emissions inventory due to the recession and other factors, the loss of near term health benefits from new proposals translate to roughly 380 fewer lives saved in 2014. That means that compared to the existing regulation, the new proposals would result in a loss of health benefits in 2014 of more than 50% for trucks and 90% from off-road equipment. The loss of health benefits is also significant in 2017.



The uncertainties about future economic growth, the inability to enforce changes in the emission inventory, and the significant negative impacts to the most impacted communities argues for a more cautious approach that leaves no room for eroding the Board's commitment in the 2007 State Strategy. The rule amendments should focus on providing short-term economic relief over the next couple of years. Short term relief should not rollback requirements up to ten years or longer at the expense of public health benefits. (KUSTIN1)(KUSTIN3)

Agency Response: ARB's charge, under state law, in adopting regulations to improve air quality is to consider the need for regulations, their technological feasibility, and cost-effectiveness. The changes to Off-Road and Truck and Bus regulations were made to achieve a better balance between the need for the full range of compliance requirements first adopted in 2007/2008 for in-use on-road and off-road vehicles and cost-effectiveness of those requirements, given the changes in economic conditions. The changes made to these regulations take advantage of the emission reductions produced by the economic downturn, some of which reduce localized impacts in residential areas that abut major roadways and areas prime for near-term development. These changes are intended to bring about significant health protection for the affected public while preserving jobs in two business sectors that have been hard hit by the recession.

Even with the major amendments and economic relief provided under the amendments, the Off-Road regulation, coupled with normal turnover to newer, cleaner vehicles, will bring off-road vehicle emissions of diesel PM emissions down dramatically. By 2020 emissions from in-use off-road equipment will be reduced 40% from 2010 levels, and by 2030 they will be reduced by 75% from 2010 levels. These are significant reductions that will dramatically reduce localized health risk.

In designing regulatory relief staff had to consider how best to protect public health, and meet SIP commitments in light of the major economic recession that had reduced activity levels in the construction sector by 50%, and new information that affected staff's assessment of the relative cost-effectiveness to control off-road equipment, trucks, and buses. Generally speaking the transportation sector was not impacted as intensely as the construction sector by the recession, leaving more emissions to control from trucks than from off-road equipment. Additionally, trucks generate long-term localized exposures along roadways that are particularly acute and sustained along freeways and near distribution centers. In contrast construction equipment generates shorter-term exposures during the limited time construction occurs at any single site. For these reasons, the proposed amendments provide greater relief to off-road equipment operators than to truck operators.

The proposed amendments maximize public health protection while balancing cost-effectiveness and helping to ensure firms have the ability to comply with both the Off-Road and Truck and Bus regulations. Also, the amendments to the Off-Road and Truck and Bus regulations provide a substantial health benefit of 3,900 premature deaths avoided from 2010 to 2025, will allow the State to reach its SIP goals, and will ensure maximum feasible localized risk reduction (see responses to section II.A.7.a. above).

8. Other Comments

a. Workover Rig Costs

Comment: NWSC is concerned with the cost in the Table F1-2: Vehicle $/hp Cost by Vehicle Type as they relate to the Workover Rig (Mobile) and Drilling Rig (Mobile) found in the staff report. These updated costs were used by staff in the cost methodology to estimate the total costs of the proposed amendments. NWSC is in the business of providing mobile workover rigs and mobile drilling rigs. In 2006, NWSC purchased several workover rigs that cost $1.4 million each with a 450 hp engine which would have a cost of $3,111 per hp. In addition, NWSC purchased a few other workover rigs that cost $1 million each with a 450 hp engine which would have a cost of $2,222 her hp. The mobile drilling rigs will have a vehicle cost of $3,777 per hr. The workover rig cost on Table F1-2 is understated by 114%. Approximately ten years after the purchase of the workover rigs, the company had to replace the engines at an investment of $100,000 each to extend the useful life of the rigs. Approximately twenty years after the purchase of the workover rigs, the company performed a major refurbishing at an investment of $700,000 for each of the rigs. The engine replacement and the refurbishment investment will report at the same intervals. The original purchase of the workover rigs is understated and the additional investments were not captured on Table F 1-2.

From the above discussion, it is apparent staff does not understand the cost of workover rigs and drilling rigs. NWSC is concerned with the cost methodology found in staff report. (NABORS1)

Comment: Staff's cost for work over rigs in Table F1-2 is understated by half of the actual cost of those units. Staff did not include the cost of a Cad 4 inspection, a major refurbishment which is required every 20 years to extend the useful life of a rig, and that cost is 700,000. (NABORS2)

Agency Response: Staff disagrees that the costs of workover rigs presented in the Staff Report were inaccurate, and also disagrees that the costs of these vehicles were not understood.

As stated in the Staff Report, the new and used vehicle costs for drill and workover rigs were determined from for-sale prices of vehicles compiled from several websites, including Machinerytrader.com and Tradequip.com. Prices were plotted by vehicle age and curve fit on a dollar per horsepower ($/hp) basis to represent the average price for each vehicle type. While staff recognizes that some vehicles will have prices higher or lower than the average $/hp reported, these average cost curves were used to best represent prices for typical drill and workover rigs throughout the State.

When estimating the costs of the Off-Road regulation, the regular maintenance and repair costs of off-road vehicles (including rigs) are not included in the calculations. This is because the regulation costs presented in the Staff Report are the costs a fleet would incur because of the regulation, and are the costs above and beyond normal turnover and maintenance costs for a fleet. Costs from regularly maintaining a vehicle, refurbishing an engine, or paying for a required inspection would occur regardless of whether or not the Off-Road regulation was in place. Therefore, these costs are considered normal operating costs, and for this reason they were not attributable to the regulation, and were not included in staff's statewide regulatory cost estimates.

b. On-line Compliance Tool

Comment: The one major area that we have concerns about is the availability of a reliable robust on-line compliance tool that really is going to help us understand our compliance of our large off-road fleet going forward as well as any potential opportunities to get funding from air districts through Carl Moyer and other kinds of programs. So we sespectfully request there be an effort to develop a robust on-line reporting tool by April at the latest so we can make sure that your fully understanding the exact details of our compliance and opportunities for additional funding. (WM)

Agency Response: Staff agrees that an on-line compliance tool would be useful to fleets. However, staff did not believe it was feasible to have such a tool completed by April of 2011. In order to have a robust compliance planning tool, the Off-Road regulation must be at a point where no further modifications are occurring; as of April 2011, staff was still modifying the Off-Road regulation, and the 15-Day Notice had not yet been released. Currently, since further amendments to the Off-Road regulation are not anticipated in the near future, staff is committed to working on two separate on-line compliance planning tools (one in DOORS, and an updated version of the Fleet Average Calculator spreadsheet), and is committed to having these tools available for fleets well in advance of the first compliance date of the Off-Road regulation.

c. Establish a Fleet Recognition Program

Comment: In 2004, several fleets worked on the development of the Off-Road regulation and recognized early on some the requirements being developed. These fleets developed strategies to be in compliance with the original regulation in 2010 and some fleets achieved compliance. NWSC is suggesting that CARB develop a recognition program for these fleets. The recognition was discussed several times during the workshops, but no final decision was made. NWSC made the following suggestions: establish a CARB Green Off-Road Fleet, which would, among other things, name companies that achieved compliance with the original requirements of the Off-Road Regulation by March 2010 and post the companies' names on the CARB website. The companies could share this certificate with their customers to demonstrate their commitment to improving the air quality in California.

NWSC's recommendation is for the Board to request the staff to develop the recognition program. Since the initial compliance date was March 31, 2010 and now we are at the end of 2010 NWSC recommends having the recognition program completed in 30 days. (NABORS1)

Comment: CARB should develop a recognition program for fleets that have achieved early compliance. We discussed this several times in the workshops and CARB agreed with it. Staff agreed with it. What we recommend is that the Board direct staff to make this happen within the next 30 days, recognizing these fleets through posting their names on the website and indicating that they did comply. We do have detailed comments in our letter about this. (NABORS2)

Agency Response: Staff agrees that it is valuable to positively recognize fleets that took proactive efforts to reduce their emissions before required by the Off-Road regulation. Although staff was unable to implement such a program within 30 days of the December 2010 Board hearing, ARB is committed to developing this recognition program, and will continue to discuss this idea with proactive fleets in the future.

d. Grants

Comment: CAPCOA is very concerned that the effects of this rulemaking be assessed in regards to the various grant programs for heavy-duty diesel engines. This is essential since CARB will be taking this rulemaking action prior to coming out with both revised program language and guidance for several of the incentive programs (e.g., Carl Moyer, Prop. 1B, VIP). Coordination and consistency between the different grant programs and the diesel emission reduction rules are essential for effective and efficient use of the funds, and for the expedited protection of public health. The CAPCOA Grants Committee is prepared to assist ARB staff in completing a review of the packages and identifying areas where appropriate changes may be warranted. We urge ARB to implement the needed changes at the same time the diesel rulemaking occurs in order to ensure that no gaps or conflicts are created. (CAPCOA)

Comment: We urge your Board to consider the following in adopting the proposed relaxations to the existing regulations: Take actions to facilitate more rapid and effective use of incentive grants in generating earlier reductions from the affected source categories to minimize potential shortfalls programs San Joaquin's FAST (Fleet Accelerated Surplus Turnover) program for on-road diesel trucks funded by the state. (SCAQMD2)(SJVAPCD2)

Comment: We can all agree that it will be important to do everything possible to use incentive funds to get early reductions in health impacted communities so we can all work together on that as we move forward. (ALA)

Agency Response: ARB staff agrees that incentive funds play an important role in generating emissions reductions earlier than required by regulation, and ARB staff is committed to maintaining consistency between the different grant programs and diesel regulations. Additionally, modifications to the Carl Moyer program guidelines were approved at the April 2010 Board hearing, and will expand the funding opportunities available for many fleets affected by the Off-Road regulation; these new guidelines are currently being phased in throughout the State. In the future, staff will continue to work to identify areas where funding could be used to reduce emissions from the off-road sector, and is committed to working with other agencies, such as CAPCOA and local air districts, to identify these opportunities.

e. Alternative Fuel Certification

Comment: NAFA's Council also recommends that CARB consider waiving certification requirements for manufacturers willing to build alternative fuel off-road and construction equipment. There are fleets willing to consider alternative fuel off-road equipment options; however the equipment is not currently available. Part of the problem is that the low volume of sales cannot justify the expense of undergoing CARB certification. In order to jumpstart innovation and expansion in the area of alternative fuel off-road and construction equipment, NAFA recommends CARB survey the manufacturers of this equipment for sale in California to determine if waiving CARB certification of this equipment would stimulate development in this area. (NAFA)

Agency Response: Staff disagrees. Off-road diesel engine manufacturers, including those of alternative fuel vehicles, do not pay certification fees to certify their engines for sale in California. While they do need to pay for the expense of testing the emissions of their engines, most manufacturers already have established test programs or contracts with test facilities. Additionally, as long as there are no significant changes to the engine design, the test data from the initial emission tests can be carried over every year indefinitely. Also, staff would like to note that electric motors do not need to undergo emissions testing.

Certification of alternative fuel vehicles is necessary to determine the certified emission levels, just as it is for conventional fuels. Without certification, there would be no reliable way of determining the engine's emissions. For more information about off-road diesel vehicle certification, go to the link below:
http://www.arb.ca.gov/msprog/offroad/ofcie/ofciectp/ofciectp.htm

f. OSHA

Comment: We certainly don't want a rule designed to prevent premature deaths and clean up our air to cause more. When the time comes, we'll take that up with OSHA. (OE)

Agency Response: ARB staff is working with the Division of Occupational Safety and Health (Cal/OSHA) to develop rules and a test procedure that would determine if an installed retrofit device poses a visibility impairment that could lead to unsafe working conditions and accidents. Currently, a rule is pending with California Occupational Safety and Health Standards Board (OSHSB) which accomplishes the purpose of determining if retrofits will pose a risk to workers around vehicles while still continuing to allow retrofit devices to be installed when they do not pose visibility impairment. If this rule is adopted by OSHSB, then ARB staff believes it will achieve a balance of maintaining worker safety while allowing fleets to install retrofits to clean up their vehicle emissions where feasible.

Until OSHSB adopts a final rule for retrofit visibility the interim retrofit visibility policy agreed upon by ARB and Cal/OSHA will continue to be in effect. This interim policy is available on ARB's website at:
http://www.arb.ca.gov/msprog/ordiesel/vdecssafety.htm

g. ARB Process and Authority

Comment: We are also concerned by the process which established this newly revised proposal. As we understand it, the Board was in the midst of public workshops presenting proposals for both the *Off-Road* and *On-Road regulations* when the Administration announced new agreement with the Association of General Contractors which was dramatically different from the proposals presented at the workshops.

We respectfully request that you table the proposed amendments to the *In-Use, Off-Road Diesel* regulation, and grant additional time so that all stakeholders, including the Legislature, have an opportunity to fully assess the health and economic consequences of the proposal. (ENG)(LOWENTHAL)

Agency Response: While the effort to propose these current regulatory amendments was initiated by a petition filed on January 11, 2010 by the Associated General Contractors of America (AGC), staff's goal was to ensure that the public and stakeholders had appropriate opportunities to participate in the development of the amendments and that the ARB adequately assessed the health and economic impacts of the proposal, as required by the Administrative Procedures Act, Government Code § 11346.8 (APA). The Executive Officer held a public hearing to take testimony and other relevant information on the need for amendments to the off-road diesel vehicle regulation in March 2010, followed by multiple public workshops and individual stakeholder meetings to discuss the proposed amendments. The proposal culminated in the release of the draft regulatory amendments and all supporting documentation for an official 45-day public comment period prior to the public Board meeting to consider adoption of the proposed amendments. Although staff's discussions with AGC were important to developing amendments that would provide flexibility for fleet owners while achieving emission reductions that are protective of public health, the ARB followed the APA in considering all relevant matter presented before adopting amendments to the regulation. Staff will continue to monitor the emissions, effectiveness of State regulations, industry practices, and federal requirements to ensure the regulation maintains the emissions and public health benefits expected from the original regulation.

Comment: We urge the Board to adopt the proposed changes to the fleet regulations and to commit to obtaining approval of the final regulatory package through the Office of

Administrative Law as quickly as possible to allow time for end-users to take full advantage of the double credits and other incentives offered by the regulation. (MECA1)

Agency Response: Staff agrees with this comment; staff has followed the Board's direction in finalizing the regulatory package, which we expect to be submitted, along with this Final Statement of Reasons, to the Office of Administrative Law by October 28, 2011.

Comment: We continue to believe that ARB lacks the legal authority to regulate airport ground support equipment (GSE) in the manner contemplated by the Off-Road Rule. (ATA)

Agency Response: Staff disagrees with this comment. Please see ARB's FSOR for initial 2007 rulemaking and the response to comments submitted by ATA. The FSOR is located at http://www.arb.ca.gov/regact/2007/ordiesl07/fsor.pdf. In summary, in the federal Clean Air Act (CAA), Congress expressly granted to California authority to regulate new and in-use off-road engines not otherwise expressly preempted under CAA § 209(e)(1). Specifically, in § 209(e)(2)(A), California was provided with authority to adopt emission standards and other requirements related to the control of emissions for all new and non-new off-road engines other than new non-road engines under 175 horsepower used primarily in farm and construction vehicles and equipment and new locomotives and locomotive engines. Based upon the plain language of the expressed preemption, one must assume that Congress wanted to limit the preemption to just those few specified categories and intentionally did not preempt ground support equipment.

Comment: With regards to those in-use fleet rules that require waivers from the U.S. EPA, CDTI, would also ask for transparency in the waiver process so that retrofit providers can better judge when further investments should be made. Some rules (i.e. Off-Road LSI rule) have been passed for more than 4 years and yet they still have not received a waiver from the U.S. EPA which allows ARB to enforce the rules. As a result, companies with verified devices are experiencing low sales levels years after the rule was adopted by the board. (ECS1)

Comment: Despite passage of these rules and they're final, some of them are not enforceable until we have that waiver from EPA. And there is, I would say, no transparency in that process. Rules such as the LSI rule which were approved four years ago still don't have an U.S. EPA waiver. We don't know where it lies in the system, and we're unable to make appropriate investments. (ECS2)

Agency Response: ARB staff recognizes the difficulties posed by the uncertainty in timing for the U.S. EPA waiver consideration process. ARB submitted its initial Off-Road rule authorization request to U.S. EPA on August 12, 2008, which was posted on ARB's website on August 26, 2008.

See http://www.arb.ca.gov/msprog/ordiesel/whatsnew.htm. Once the ARB files the authorization and waiver request with the U.S. EPA, it is not unusual for the request to pend for several years before the U.S. EPA announces it will begin consideration of the request. While the ARB does not have control over the U.S. EPA's waiver process, the U.S. EPA provided two opportunities for public hearings and comments in regards to its consideration for granting the waiver and authorization for enforcement of the Off-Road regulation on October 27, 2008, and April 14, 2010. Before each hearing, a notice of opportunity for public hearing and comment was announced in the Federal Register, which can be accessed on the U.S. EPA's website at http://www.epa.gov/otaq/url-fr.htm.

Comment: Are commercial airlines included within the off-road fleet as many airlines dump excess fuel prior to landing and that fuel exist within the atmosphere? If California Air Resource Board is going to enforce compliance, it should be across all industries and affect all people equally as there should be no exceptions to the rules. The airline industry must be forced to comply with similar standards as other companies using gas powered equipment. (BLANTHORNE)

Agency Response: While ARB has the authority to adopt regulations for off-road engines used in ground support equipment, the Board does not have the authority to regulate aircraft. The federal Clean Air Act (CAA) § 233 expressly preempts states and local governments from regulating aircraft and aircraft engines.

h. The Off-Road Regulation is Still Too Complex

Comment: Even with the proposed changes, the Off-Road Rule itself remains complex and difficult to implement, issues that are further exacerbated when coupled with the other ARB rules affecting GSE. (ATA)

Agency Response: When ARB staff drafted the amendments to the Off-Road regulation, staff sought to balance the need to pursue emission reductions, provide relief to industry, and simplify the regulation as best as possible without compromising the regulation's flexibility or the benefits that fleets would receive for taking early action to comply with the regulation. The amendments simplify the regulation by utilizing a single emission index rather than two indices for NOx and PM. To provide relief for industry, the emission targets were increased and the BACT rates were reduced to between 8 and 10 percent per year. VDECS are now a compliance option and are not mandatory. However, some provisions, such as assigning credits for early actions, may continue to remain complex. This is because fleets requested staff to provide maximum flexibility within the regulation and with this flexibility comes numerous provisions to provide the most compliance options and credits possible.

Additionally, staff would like to note that other regulations affecting GSE, such as the LSI fleet and the Truck and Bus regulations, have also been amended due to the recent economic downturn, and therefore should have less of an impact on GSE.

9. LSI Comments

Comment: I would like to propose the following change to the proposed LSI regulations. Make the definition of "Agricultural operations" consistent with that of the definition in the Off-Road Diesel Vehicles regulations by adding the following language to the definition:

"For forest operations, agricultural crop preparation services include milling, peeling, producing particleboard and medium density fiberboard, and producing woody landscape materials." (SIERRAPINE)

Comment: The large spark ignition rule proposes excellent modifications including making Agricultural Operations definition consistent with the On-Road and Off-Road Rules, however, the proposal then goes on to split in-field versus first point of processing activities within the Agricultural Operations definition. The proposal then calls for only in-field Agricultural Operations to be exempt from the requirements of this Rule instead of all Agricultural Operations. We believe the Large Spark Ignition Rule should be consistent with the Off-Road Rule in that all Agricultural Operations should be exempt from the Large Spark Ignition Rule. (CFA)

Agency Response: Staff concurs with the commenters' desire to harmonize the LSI fleet regulation's "agricultural operations" definition with that of the Off-Road regulation. However, we disagree with the comment that all agricultural operations should be exempt from the LSI fleet regulation.

In developing the original LSI fleet regulation, ARB staff established two sets of operator requirements. The first are fleet average emission level (FAEL) standards. Operators of forklifts, tow tractors, sweeper/scrubbers, and pieces of airport ground support equipment used in non-agricultural operations are required to retrofit or replace equipment to come into compliance with the FAEL standards. The second are retrofit requirements for forklifts used in post-harvest crop activities. ARB defined the term "agricultural crop preparation services" (ACPS) to address forklifts used in post-harvest crop activities fleets. ACPS fleets are only required to address LSI forklift equipment and only through low-cost retrofit. The retrofit requirements for ACPS fleets also exempt in-field forklifts from both the fleet average and retrofit requirements.

The agricultural industry participated in the development of the ACPS definitions and the retrofit requirements. The forest operations industry did not participate in the LSI fleet regulation rulemaking, and therefore was not specifically called out (identified by name or United States Census Bureau North American Industry Classification System (NAICS)) in the agricultural crop preparation services definition. Thus, the original LSI fleet regulation is interpreted as requiring LSI equipment used in forest operations to comply with the FAEL standard requirements of the regulation.

A year later, in its development of the Off-Road regulation, ARB devised an "agricultural operations" definition that was a superset of the LSI ACPS definition. The Off-Road regulation additionally added a forestry operations definition and exempted both agricultural and forestry operations from the requirements of the regulation. This exemption reflects the fact that the ARB expects to address emissions from agricultural and forestry operations off-road diesel equipment through a separate rulemaking at a later date.

ARB has intended from the beginning of development of the first LSI fleet regulation that ACPS forklift fleets be addressed by the regulation. ARB did not, and does not, propose to exempt ACPS forklifts from the retrofit requirements of the LSI fleet regulation because the retrofit requirements were: 1) intentional and predate the “agricultural operations” exclusion in the Off-Road regulation, 2) developed in conjunction with affected stakeholders, and 3) fully vetted. Additionally, ARB has no plan to craft a separate regulation for LSI equipment used in agricultural and forest operations. Instead, staff has added “agricultural operations” and “forestry operations” definitions and has modified the existing ACPS definition to extend its less burdensome retrofit provisions to forestry operations with activities analogous to ACPS activities using the language recommended by Sierra Pine but broadening it to include related activities covered by NAICS 321113 (sawmills) and 321219 (reconstituted wood product manufacturing). Staff has also clarified that all in-field equipment, both agricultural operations and forestry operations, is exempt from the provisions of the regulation as this is consistent with the original understanding with agricultural stakeholders.

These modifications significantly reduce the economic burden on forest operations fleets while still requiring that forest operations forklifts used greater than 50 percent of the time in ACPS activities meet the same retrofit requirements as agricultural operations forklifts used greater than 50 percent of the time in ACPS activities are required to meet.

Comment: Rental fleets are clearly exempted from compliance with the LSI Rule through the “Operator” definition. Compliance is the responsibility of large fleet operators (more than 3 forklifts). The current definition of “Operator” seems to require that the entire fleet of forklifts owned by a rental company will come under the compliance requirements even if one forklift is not solely used for rental; that is, it is a dedicated service forklift. We do not believe that this was the intent of the board. (ARA1)

Agency Response: Staff agrees with commenter ARA1 that the original operator definition was unclear as to what would occur if a rental equipment dealer used one of his or her rental pieces of equipment for personal use. Staff has incorporated proposed ARA1 language that was released in the 15-Day Notice to draw a clear distinction between operations (rental) and service equipment so that operations equipment is exempt from the FAEL standards requirements of the LSI fleet regulation. Specifically, staff has added “operations equipment” and “service equipment” definitions and modified the existing “operator” definition to draw a distinction between the two fleets. Operations equipment is not subject to the operator definition unless the rental equipment company uses the equipment for greater than 50 hours in a calendar year.

Even if used greater than 50 hours, the operations equipment is not automatically subject to the FAEL standards calculations. To be so, the fleet must be a medium or large fleet and the piece of equipment must not be able to qualify for exclusion under the limited hours of use provisions also contained in the modified text. Service equipment is subject to the requirements. The three definitions address ARA1's concerns about having whole fleets come under the "operator" definition.

Comment: Staff's proposed modifications to the "operator" definition solve the potential problem associated with having the whole fleets come under the "operator" definition when a single LPG dedicated fork is used, it still presents a record keeping and compliance problem related to a very small part of the rental business.

We believe it is a burden on rental companies to have to separately comply with the LSI rule when so few pieces of equipment are affected. Finally, we think it is an inefficient use of enforcement's time to check compliance for at most 241 pieces of *non-exempt* equipment held by the rental businesses especially considering that rental companies control a universe of several thousand pieces of equipment used for rental purposes. (ARA1)

Agency Response: Commenter ARA1 states that the ARB modifications create a record keeping burden on rental equipment companies. Clearly, there is some level of effort associated with maintaining records on operations equipment so that enforcement staff can verify the 50-hour usage threshold. However, most LSI rental equipment already has hour meters installed as this is primarily how companies bill for rental use and track for maintenance purposes. Also, the LSI fleet regulation does not require engine identification numbers (EINs) or reporting as is required with the Off-Road regulation. Additionally, the record keeping provisions of the LSI fleet regulation already apply to all other medium and large LSI fleet operators in California. As rental companies are typically more sophisticated than other LSI equipment operators when it comes to equipment maintenance and record keeping, ARB does not consider the record keeping requirements accompanying these changes to be overly burdensome.

ARA1 further states that this is an inefficient use of ARB enforcement resources based on the small number of pieces of equipment affected. However, LSI enforcement will be performed in conjunction with diesel enforcement for many of these operators. Additionally, ARA1 states that there are 241 dedicated service units and this only represents about 10 percent of their equipment. In a sense, it is saying that the numbers don't warrant the enforcement effort. Yet in an uncontrolled state, these 241 units can, on an hourly basis, emit the same or more hydrocarbons and oxides of nitrogen as almost 5,000 new units. Thus, their numbers are not inconsequential.

Comment: In order to avoid the "Operator" definition, some rental yards use existing diesel powered forklifts or skid steers to perform the required tasks since there are no limitations on their use in the yard. We have been told that at least 35 diesel forklifts and skid steers are being used instead of LSI forklifts for yard work. A business also reported that if the rule stays as is, they will begin to move to diesel forklifts. This goes against the goal of the Diesel Risk Reduction Plan which has as its goal the reduction, and not the increase of diesel emissions. (ARA1)

Agency Response: Commenter ARA1 indicates that some rental companies are currently using diesel equipment as a result of concerns about the LSI fleet regulation operator definition and suggests that diesel use could increase and that this is counter to the goals of the ARB's Diesel Risk Reduction Plan. Staff believes that the modifications to the operator definition will serve to allay rental equipment company concerns and preclude an increase in diesel equipment use, especially since rental companies are aware of the requirements of the Off-Road regulation and know that they would have to address these pieces of equipment to be in compliance with that rule.

Comment: Rental businesses that have large fleets (more than 3) of LSI forklifts in their service fleet should be able to elect to include these units in their Off-Road Fleet Average in 2449.1 Performance Requirements. "Operator includes a person whose usual and customary business is the rental or leasing of LSI engine equipment for any LSI engine equipment *used more than 50 hours per year for purposes other than* not solely possessed or used for rental or leasing except if that LSI equipment is included in the Fleet Average Index in section 2449(d) of the Off-road Diesel Vehicle Rule."

This revision would allow businesses with large service fleets to choose whether they wanted to average their service fleets under the Off-Road Rule or comply with the "operator" requirements under the LSI Rule. LSI Rental fleets would still be covered by the LSI Rule.

We ask ARB staff to modify 2449(d) to explicitly allow rental companies to average their service fleet LSI forklifts into their off-road mobile fleets.

2449(d)(1)(E): Rental fleets that choose to include LSI service equipment in their off-road fleet must include such equipment in their NOX fleet target and index.

It appears that a significant fraction of the service forklifts is certified. Furthermore, some businesses appear to be turning over their fleets, which will result in a continued modernization of both rental and service fleets. Since the emission factors are similar for diesel and LSI units, the affected number of units is small, and PM is reduced in the near term, the impact of allowing averaging on emissions inventory should be minimal. (ARA1)

Agency Response: Staff strongly disagrees with commenter ARA1's conclusion that the solution to the perceived record keeping and enforcement concerns is to allow rental equipment companies to include their dedicated service equipment in the Off-Road regulation's fleet average targets and indices. There are several issues with this proposal. First, this would not decrease the record keeping burden on rental companies because the equipment would now be subject to the Off-Road regulation's EIN and reporting requirements. Second, this solution portends hits to the emission benefits of both the LSI fleet regulation and the Off-Road regulation. The emission benefits attributed to the LSI fleet regulation would be reduced because it would not receive benefits deriving from any upgrades to this fleet. The emission benefits attributed to the Off-Road regulation would also be reduced because adding LSI equipment would reduce the fleet average index resulting in fewer actions having to be taken for equipment in the off-road diesel fleet. If ARB were to allow rental fleet LSI equipment into the fleet average index, it would set a precedent and ARB would expect non-rental fleets to request to do the same thing. These large numbers would force the ARB to make the fleet average targets more stringent so as not to lose emission benefits.

Comment: Several of our members who are smaller businesses that do not have dedicated fleets asked if the 50- hour relief could be administered on average. They might have to keep the necessary records to show that they met this criteria. (ARA1)

Agency Response: Staff disagrees with commenter ARA1's suggestion that the 50-hour operations equipment threshold established in the operator definition be based upon an average over a rental equipment company's entire fleet. In their example fleet of 10 rentable units, the rental equipment company would be able to accrue 500 hours on a single unit and not have it be subject to the operator definition. This is counter to the intent of the LSI fleet regulation, which is that equipment predominantly used as operations equipment be excluded from the requirement to be included in the operator's fleet. ARA1 states that most rental equipment company stores have dedicated service equipment. Those stores that do not have dedicated equipment take operations equipment from their operations equipment fleet as necessary. As stated before, and as stated by the operator in the example, there is a maintenance program for this equipment. This program requires careful tracking of hours of use. As such, staff believes it is not overly burdensome to require that stores accrue no more than 50 hours of service use on a given piece of equipment if the store wishes to keep it from being considered part of the operator's fleet.

Comment: We do not support the version of the LSI Rule proposed in the last round of workshops.

We have worked with staff to make the LSI Rule workable for rental companies. All of our members use forklift equipment to service their yards. Depending on the business model, these may be dedicated units or off rent units. We believe that the number of affected forklifts held by ARA members is approximately 240; the average use may be less than 200 hours of forklift time per yard per year. Because of the potential enforcement issues with the LSI rule, some of our members are carrying out yard service with diesel equipment. We think that this is not consistent with the Diesel Risk Reduction Plan objectives. We ask the ARB to table the LSI proposal so staff can work with rental companies to achieve a better approach. (ARA1)

Agency Response: As discussed in the prior responses to ARA1 comments, ARB staff believes that the definitions crafted subsequent to the December 2010 Board hearing meet many of the concerns expressed by the ARA1 in its December 17, 2010 letter.[5] The new definitions allow rental companies to avoid FAEL standards requirements for all but its members' service equipment and those pieces of operations equipment that are used greater than 50 hours per year for the rental companies' own use. Rental companies will be required to maintain records of operating hours for their operations and service equipment, but staff does not believe that this requirement will be overly burdensome; most equipment already has hour meters or a surrogate and rental companies usually bill for use and schedule maintenance based on these hours. Staff also believes that 240 units is not inconsequential and that rental equipment companies should be held to the same standards for those pieces of equipment that meet the operator definition as are the businesses that rent or purchase equipment from these dealers. Staff believes that operators will use LSI equipment where feasible, and will not resort to diesel equipment because in the long run, diesel equipment has higher operating and compliance costs.

[5] The December 17, 2010 letter referenced was submitted concurrently with two other letters by Mr. Michael Grabowski (comment #98) during the 45-day comment period, and is available at: http://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=on-offroad10

B. Comments Submitting During the First Notice of Modified Text

Table 2 below lists commenters that submitted timely, pertinent comments in response to the 15-Day Notice, identifies the date of their comments, and provides a reference code, which is used to link the comments to the appropriate commenter throughout this document.

Following Table 2 is a summary of each objection or recommendation regarding the proposed action, together with an agency response providing an explanation of how the proposed action has been changed to accommodate the objection or recommendation or the reasons for making no change. The comments have been grouped by topic whenever possible.

Table 2: Comments From the 15-Day Notice Comment Period

Reference Code	Commenter	Affiliation	Date Received
ARA2	McClelland, John	American Rental Association	September 6, 2011
CIAQC3	Lewis, Michael	Construction Industry Air Quality Coalition	September 6, 2011
SCCA	Davis, William E.	Southern California Contractors Association	September 6, 2011
SR	Daly, Allen	Sierra Research	September 5, 2011
UCH	Samartzis, Jimmy	United Continental Holdings, Inc.	September 6, 2011

1. VDECS That Impairs Safe Operation of Vehicle

Comment: Starting with the provisions that begin "VDECS That Impairs Safe Operation of Vehicle," you should strike all of the convoluted requirements for Executive Officer hearings, etc., and simply substitute "all VDECS installations shall comply with the regulations of the California Occupational Health and Safety Agency."

This may be too simple for a regulatory agency, but, it reflects the Cal/OSHA requirements and you can't possibly want to make a responsible fleet owner jump through two sets of hoops on this topic. (SCCA)

Comment: The proposed amendments to the Off-Road regulation no longer require the installation of PM VDECS and establish that the use of PM or NOx VDECS or both is voluntary. Section 2449(e)(8) addresses VDECS that Impairs Safe Operation of Vehicles. This section creates a process for a fleet owner to request to the Executive Officer to make a finding that a VDECS shall not be considered the highest level available if it cannot be safely installed or operated in a particular vehicle application or its use would not comply with federal or state requirements for safety or health, local air district permit conditions or is technologically infeasible.

Regulatory flexibility is important to CIAQC, however the process for submitting such a request is convoluted, time consuming and places too much burden on the fleet owner. To avoid unnecessary confusion and expense, this section must clearly state that all VDECS installations shall comply with the regulations of the California Occupational Safety and Health Agency. If they do not, then the VDECS installation is unsafe and the fleet owner does not need to take further steps to demonstrate this to CARB. (CIAQC3)

Agency Response: Staff acknowledges that VDECS are voluntary for all fleets but disagrees that the language discussing VDECS that impair the safe operation of a vehicle is convoluted or unnecessary. Section 2449(e)(8) of the Off-Road regulation already states that a VDECS shall not be considered the highest level VDECS if “its use would make compliance with federal or state requirements for safety or health…” technologically infeasible. Therefore, if an agency such as Cal/OSHA releases “official findings” or requirements regarding the installation of VDECS, a fleet may request that the EO find that the VDECS shall not be considered the highest level VDECS available based on those findings or requirements. A fleet would have no further requirements beyond filing a request with the EO. Staff would also like to note that ARB will continue to work with Cal/OSHA in the development of VDECS safety requirements in the future, and will not require any retrofits that would violate Cal/OSHA requirements.

Additionally, staff does not believe it is appropriate to eliminate the language in 2449(e)(8), and replace it with "all VDECS installations shall comply with the regulations of the California Occupational Health and Safety Agency," as suggested by the commenters above. There are several other federal and state agencies, such as the Federal Aviation Administration (FAA) and the Mine Safety and Health Administration (MSHA), which have separate regulations for the safe operation of the vehicles covered by these organizations. Therefore, staff believes that this language should remain unchanged, so that the safety and health requirements of all federal and state agencies (both existing and future organizations) may be considered when evaluating the safety of a VDECS installation.

Staff would also like to note that the Off-Road regulation covers a wide variety of vehicles and applications, and although a VDECS installation may be deemed “safe” on a particular vehicle type by a state or federal agency, the conditions in which the vehicle is used may not have been taken into account. The language in section 2449(e)(8) allows a fleet to apply to the EO in cases where the safety of a VDECS is in question, and also provide an appeals procedure if the fleet is not satisfied with the EO’s findings.

Additionally, even though VDECS are now optional, the determination of highest level VDECS will still be important in some cases for small fleets. If a VDECS is deemed “safe,” by a state or federal agency, a small fleet must either eventually install the VDECS, or turn over the vehicle for compliance. However, if the small fleet disagrees with the safety determination and believes that the VDECS is unsafe, it may request that the EO find that the VDECS is not the highest level VDECS available for the vehicle. If the EO grants the request and there is no highest level VDECS for the vehicle, then the vehicle would be exempt from the BACT requirements, and would not be required to be turned over. If the language in section 2449(e)(8) were removed, a small fleet would have no process available for appealing the safety determination of a VDECS. As a result, the fleet would have no choice but to install the VDECS, or turn over the vehicle, which could result in higher compliance costs than anticipated. Therefore, in order to allow compliance flexibility within the Off-Road regulation, and to prevent unsafe VDECS installations, staff is not proposing any additional changes to section 2449(e)(8).

2. Credit Transfer between the Off-Road and Truck and Bus Regulations

Comment: CIAQC appreciates that CARB listened to its recommendation to incorporate the ability for fleets to use generated Off-Road credits to comply with the Truck and Bus regulation. The process for generating the excess compliance credits under the Off-Road Regulation however includes a methodology that is inconsistent with the rounding of horsepower (hp) approach utilized throughout the regulation.

The proposed rounding provision (based on a denominator of 300 hp) is truncated to a whole number. This approach results in rounding hp credit only downward to an integer value, whereas the rounding of hp for other provisions is based on a standard mathematical approach. That is, if a value is less than 0.5 it is rounded down, and if 0.5 or higher it is rounded up. The practical effect of this approach is that a 299 hp off-road engine that would otherwise be available as a credit for the Truck and Bus regulation if conditions are met would not provide any credit at all (299 hp/300 hp = .997 which is truncated to 0, resulting in no credit). Not only does this approach penalize the use of off-road PM VDECS to meet on-road obligations, it is counterproductive if the objective is to maximize early PM reductions. Further, a more generous “exchange rate” than 300 hp is necessary, especially if fleets are forfeiting double retrofit credit to move the credit over to the Truck and Bus regulation.

For this reason CIAQC recommends that this provision not require values to be truncated but rather rounded up or down as elsewhere in the regulation and that CARB reexamine the 300 hp denominator value. (CIAQC3)

Agency Response: Staff disagrees that the horsepower credit used for excess compliance credits should be rounded, instead of truncated. The transfer of credits between the Off-Road and Truck and Bus regulations must be emissions neutral, meaning that the emissions reduced through an excess VDECS installation on an off-road vehicle must be approximately equal to the emissions reductions that would have occurred from retrofitting a truck subject to the Truck and Bus regulation. For example, if a retrofit on an off-road vehicle is early or is excess to the Off-Road compliance requirements, a fleet could use these excess emission reductions to defer compliance for an equivalent size truck with equivalent emissions. Additionally, when developing this provision, staff determined that the average horsepower of a truck (subject to the Truck and Bus regulation) was approximately 300 hp, and therefore decided to use this horsepower as the “exchange rate” between the Off-Road and Truck and Bus regulations (i.e., a 300 hp off-road vehicle is approximately equal to one on-road truck). Because the neutrality of this credit exchange program depends on retrofitting an equivalent vehicle, staff does not believe that this credit exchange would always turn out neutral if traditional mathematical rounding were used. For example, using the methodology of commenter CIAQC3 above, if a 150 hp off-road vehicle installed an excess PM VDECS, the credit would be calculated as: (150/300hp) = 0.5, which when rounded up to 1.0, would equal one PM VDECS credit to be used towards the Truck and Bus regulation. The emissions reductions achieved from retrofitting a 150 hp off-road vehicle is much less than retrofitting an average size truck, and therefore, under this scenario, emissions disbenefits would occur. Since this scenario would not result in an emissions neutral credit exchange, staff believes that traditional rounding should not be used, and that a more generous “exchange rate” between the programs would lead to further emissions disbenefits.

Additionally, staff would like to note that although the off-road horsepower retrofit is truncated for the purposes of this provision, no credit is lost by the fleet; any excess horsepower not used to generate PM VDECS credits under the Truck and Bus regulation may be used towards compliance with the Off-Road regulation. For example, if a fleet retrofits a 350 hp off-road vehicle, the fleet would generate one excess PM VDECS credit to use towards the Truck and Bus regulation, but would also have a remaining 50 hp to use towards the BACT requirements of the Off-Road regulation (350 hp – 300 hp = 50 hp).

Comment: The section outlining the generation and application of excess compliance credits under the Off-Road regulation is confusing and appears to preclude small fleets from utilizing the credit provision for the Truck and Bus regulation. Specifically, section 2449.1(b)(11)(A)(1) includes:

> *"Beginning January 1, 2013, for large fleets, and on January 1, 2016, for medium fleets, if a fleet earns BACT credit in a calendar year that exceeds the BACT requirements for that year, the excess BACT credit earned (i.e., the amount of BACT credit earned above the BACT requirements for that year, in hp) from the installation of Level 3 PM VDECS may be applied towards compliance with the Truck and Bus regulation per section 2025 as follows…"*

Text could be read to mean large fleets cannot generate excess credits until 1/1/2013 and medium fleets until 1/1/2016. Because small fleets were omitted this could be interpreted to mean that small off-road fleets cannot generate excess PM VDECS credits. This is not CIAQC's understanding of the intent for this credit provision. The following text change would clarify this:

> *"Off-road fleets that install PM VDECS early can earn credit towards Truck and Bus PM BACT compliance obligations. A fleet can earn credit by installing a PM VDECS at least two years before the first compliance date for that size fleet. Beginning January 1, 2013, for large fleets, and on January 1, 2016, for medium fleets, the fleet can earn PM BACT credit for PM VDECS’ installed that exceed the BACT requirements for the next compliance date. For example if a medium fleet installs a PM VDECS by January 1, 2015 it would get credit for PM VDECS until January 1, 2016. Starting January 1, 2016 that fleet would get credit only for PM VDECS’ installed that exceed that fleets January 1, 2017 BACT obligations."*

The proposed amendment could also cause the loss of credit when a retrofitted machine is sold by a fleet and the fleet would not get credit for the time that a machine had previously operated with the retrofit in place. The excess compliance credit provision should make clear that a fleet could be eligible to move credit to the Truck and

Bus regulation for the number of years that a retrofitted machine operated in the off-road fleet. For example, if a loader was retrofitted in 2009 and sold in 2012, a fleet should be able to exchange that retrofit credit for three years in the Truck and Bus regulation since the emissions benefit of the retrofit was realized for 3 years. The regulation should be clarified to allow for use of such credit. (CIAQC3)

Agency Response: Staff disagrees that the Off-Road language as written does not allow small fleets to participate in the credit exchange program between the Off-Road and Truck and Bus regulations. Section 2449.1(b)(11) is structured to address two types of circumstances: section 2449.1(b)(11)(A)1. applies to large and medium fleets that accrue PM VDECS credits by exceeding their compliance requirements during the first years of mandated compliance; section 2449.1(b)(11)(A)2. applies to large, medium, <u>and</u> small fleets that accrue PM VDECS credits by taking early action before the first year of mandatory compliance. Since the program established under section 2449.1(b)(11) that allows for the exchange of PM VDECS credits between the Off-Road and Truck and Bus regulations expires on January 1, 2017, the accrual of credits under section 2449.1(b)(11)(A)1. only applies to large and medium fleets, for which mandatory compliance year commences on January 1, 2013 and January 1, 2016 respectively. The first year of mandatory compliance for small fleets does not commence until January 1, 2018; accordingly small fleets are not covered by section 2449.1(b)(11)(A)1. However, small fleets like large and medium fleets will be able to generate excess PM VDECS credit through the early installation of PM VDECS. Section 2449.1(b)(11)(A)2. of the Off-Road regulation describes how fleets can earn excess PM VDECS (which can be used towards compliance with the Truck and Bus regulation) before they have compliance requirements. For the above reasons, staff does not believe that it is necessary to incorporate the language suggested by CIAQC3 above.

Additionally, staff does not believe it is appropriate to allow the transfer of excess PM VDECS for vehicles that are no longer operational in the fleet; these are emission reductions that occurred in the past, and cannot be verified by ARB staff. CIAQC3 suggests that “for example, if a loader was retrofitted in 2009 and sold in 2012, a fleet should be able to exchange that retrofit credit for three years in the Truck and Bus regulation since the emissions benefit of the retrofit was realized for 3 years.” Staff disagrees with this proposal because, as discussed above, the credit transfer between the Off-Road and Truck and Bus regulations must remain emissions neutral, and to remain emissions neutral, the emissions reductions must be verifiable. If the loader in the example above were still operating in the fleet, the fleet would be able to generate excess PM VDECS for that vehicle, and use that credit towards the Truck and Bus regulation until it expires in January 1, 2017, or, until the retrofit is needed to comply with the Off-Road regulation. This is because the retrofit is currently reducing emissions, therefore, those reductions can be verified and used towards compliance with the Truck and Bus regulation. If a vehicle is retrofit, then sold, there is no way to verify that the retrofit existed, or was working properly (i.e., reducing emissions) while it was installed on the vehicle.

3. Fleet Portions Definition

Comment: The proposed "Fleet portions" definition is inconsistent with other provisions in the Rule and should be revised accordingly. First, the proposed definition of "Fleet portions" in section 2449(c)(20) appears to require that a fleet portion be managed by different "responsible officials." This requirement contradicts section 2449(g)(2)(A), which states: "If the responsible official or designee is the same for several fleets or fleet portions, the responsible official or designee has the option of submitting a single affirmation for these fleets, as long as the single affirmation appropriately identifies each fleet covered by the affirmation." In order to address this inconsistency, we recommend that the Board either: (a) revise section 2449(c)(20) to omit the word "responsible." (e.g., "…are managed by different ~~responsible~~ officials…") or (b) confirm in writing that fleet portions may be managed by the same responsible official or designee consistent with section 2449(g)(2)(A). (UCH)

Agency Response: First, staff would like to note that the language quoted above was already present in section 2449(d) of the Off-Road regulation; staff merely moved the language to the fleet portion definition in section 2449(c)(20) (i.e., this is not new language). Second, staff does not believe that the above language is contradictory. Staff initially included this language in the Off-Road regulation to clarify that a fleet portion could not be designated as such arbitrarily; a fleet portion could only be designated if the fleet can demonstrate that the daily operation and dispatching of a portion of the vehicles in the full fleet were under the direction of a different responsible official than the fleet as a whole. This is not to say that there can be no overlap in the "responsible officials" that direct and manage a parent company or agency and its sub-organizational parts. Indeed, the definition of "responsible official," section 2449(c)(44), recognizes that a corporation, business partnership, or governmental agency may have multiple responsible officials that perform different management and executive functions and that these functions may crossover to different parts of the full organization. Section 2449(c)(20) makes clear that it is only in the area of operation and dispatching of vehicles of a fleet portion that the fleet must demonstrate that there is no crossover.

To add more flexibility to the Responsible Official Affirmation of Reporting requirements in section 2449(g)(2), staff added language (as stated by commenter UCH above) to allow a single responsible official to sign the affirmation for several fleet portions. For example, if the president of Corporation 1 (who is a responsible official) owns several smaller companies the president of Corporation 1 has the ability to sign the affirmation for several of its subsidiaries or divisions; alternatively, the Corporation 1 could have the responsible official of each subsidiary or division sign the affirmation instead. Since there can be several level of responsible officials, staff believes this language is necessary and should remain in the Off-Road regulation. Additionally, staff commits to developing further guidance documents explaining these requirements to provide further clarification.

Comment: The proposed definition of "Fleet portions" in section 2449(c)(20) states that the fleet portions must meet the adding vehicle requirements in section 2449(d)(6).

However, the definition omits reference to the fleet ownership transfer requirements in section 2449(d)(5). Section 2449(d)(5) authorizes existing fleets to acquire other fleets or fleet portions "which are complying and reporting separately per section 2449(c)(20), without condition if the existing fleet and the acquired fleets were in compliance with the individual fleet requirements."

The failure to reference section 2449(d)(5) in the definition of "Fleet portions" could be interpreted as eliminating, in certain circumstances, the "without condition" acquisition exemption for compliant fleets in section 2449(d)(5). To correct this ambiguity, we recommend that the Board revise the definition of "Fleet portions" to reference explicitly the requirements in section 2449(d)(5). (UCH)

Agency Response: The intent of the language referenced above is to indicate that fleet portions must report and comply with the regulation's requirements as individual entities, which includes meeting the adding vehicle requirements in section 2449(d)(6). Additionally, this language is intended to prohibit fleet portions owned by the same parent company from transferring vehicles between the fleet portions and between the fleet portions and the parent company without restriction; fleet portions must meet the adding vehicle requirements when adding vehicles, as would any other individual fleet irrespective of the transferring fleet. Section 2449(d)(5) describes the requirements of a fleet or fleet portion that is transferring ownership, and is a separate provision from the adding vehicle requirements in section 2449(d)(6). Staff does not believe that omitting a reference in section 2449(c)(20) to section 2449(d)(5), or any other subsection within 2449(d), precludes a fleet portion from using the non-referenced provision. Therefore, staff does not believe that a regulation language change is required in this case, but is committed to releasing guidance documents to further explain the fleet portion provisions.

4. New Fleet Provision

Comment: The Rule's limitation regarding the acquisition of Existing BACT Credits arbitrarily excludes credits accumulated through reductions in overall fleet hp. In section 2449(d)(5)(C), staff has proposed language to address what happens to existing BACT credits of fleets or fleet portions that are transferred to new ownership. The proposed language provides that if a fleet owner combines an acquired fleet (or fleet portion) for compliance and reporting purposes with the rest of his or her vehicles, the fleet owner will only keep the BACT credits accumulated from retrofits and repowers, and all other BACT credits from the acquired fleet will expire immediately.

In other words, under section 2449(d)(5)(C), if a fleet owner combines an acquired fleet, the acquired fleet's BACT credits accumulated through reductions in overall fleet hp expire immediately. This limitation on existing BACT credits undermines the Board's prior decision to provide relief to fleets that have been adversely impacted by the economic recession. As ARB is aware, the recession has caused significant declines in emissions from ground support equipment. Fleets should not be penalized through the loss of credits due solely to a transfer of fleet ownership.

At the very least, section 2449(d)(5)(C) should be modified to allow newly combined fleets to maintain all existing BACT credits, if the existing fleet and the acquired fleet were both in compliance with the Rule at the time of acquisition. Such a modification would prevent noncompliant fleets from obtaining existing BACT credits through acquisition. But, it would reward compliant fleets by providing them with the flexibility to combine operations without the risk of losing existing BACT credits. (UCH)

Agency Response: Staff disagrees that this language undermines the Board's prior decision to provide relief to fleets that have been adversely impacted by the economic recessions. The intent of the reduced horsepower credit is to provide relief to those fleets that were reducing their total fleet horsepower (i.e., downsizing) due to the recession. This provision was not designed to allow a fleet to obtain compliance benefits (to help bring the acquiring fleet into compliance) by taking advantage of credits received by another fleet that was forced to downsize during hard economic times. However, if the acquiring fleet maintains the acquired fleet as a separate fleet portion, the reduced fleet horsepower credits accrued by the acquired fleet portion can be maintained so long as the fleet portion complies and reports independently of the acquiring fleet. In such a case, the acquiring fleet would not be receiving any direct compliance benefit from the acquisition. It is up to the new fleet owner to determine whether or not it is to their benefit to combine the fleets (and some of the BACT credit), or to keep the acquired fleet separated from the rest of the fleet in order to maintain all existing BACT credits.

5. Two-Engine Vehicle Provision

Comment: Last October, prior to the December 17, 2011 public hearing on this rule, the West Coast Chapter of the International Association of Foundation Drilling ("ADSC," formerly known as the Association of Drilled Shaft Contractors) formally requested relief from staff regarding two-engine foundation drill rigs, which would otherwise have been regulated under two separate fleet rules. The basis for our request was summarized in a letter dated October 18, 2010, which is attached and submitted as part of this comment letter.[6] For the reasons specified therein, ADSC requested that two-engine foundation drilling rigs be regulated identically to two-engine water well drilling rigs, which were granted relief effective several months earlier. Subsequent to ADSC's letter, staff acknowledged our request and committed to address the issue prior to the public hearing. Staff fulfilled that commitment by releasing "Attachment 'B'" as 15-day changes at the hearing. The "Attachment 'B'" changes not only removed the unusual distinction between water well and foundation drilling rigs, but expanded the requested relief to most other two-engine vehicles. Because suitable relief was proposed by staff, no written or oral testimony was made by ADSC to the Board on this issue at the hearing. As you are aware, the Board adopted the regulatory proposal and "Attachment 'B'" changes.

The current 15-day changes withdraw a significant portion of the relief that was granted over eight months ago in December. The proposed changes reinstate the unusual distinction between water well and foundation drilling rigs (which are oftentimes the very same vehicles), and allow continued use of uncertified deck engines on the former, while banning them on the latter. By withdrawing a portion of the proposed relief through the 15-day change process, ADSC was ultimately denied the opportunity to address the Board directly on this issue at a public hearing. It is possible that the Board would have agreed with a request by ADSC and directed staff to remove the unfounded regulatory distinction concerning drilling rigs. Staff provides the following brief basis for withdrawing a portion of the relief granted on December 17.

> *"Removing these engines from the Portable ATCM and allowing them to re-enter the state, or to return to full usage, would result in an increase in emissions from Tier 0 engines, and would result in emissions disbenefits throughout the State. Additionally, many fleets have already complied with the Tier 0 auxiliary engine ban, and would be at a competitive disadvantage if fleets with non-compliant Tier 0 engines were allowed to legally operate their two-engine vehicles with Tier 0 auxiliary engines within the State."*

While we understand this rationale, we would note that among ADSC members, the so-called "Tier 0 ban" did not result in the retirement or sale of any drill rigs. As you are aware, the Portable ATCM and PERP regulations were modified to allow continued use of a limited number of Tier 0 engines through December 31, 2010—several weeks after

[6] The October 18, 2010 letter referenced was submitted concurrently with this comment by Mr. Allan Daly (comment #1) during the 15-day comment period (15-3), and is available at: http://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=on-offroad10.

the Board granted the “Attachment ‘B’” relief. Second, the Tier 0 ban contained in the Portable ATCM requires a federal waiver of preemption pursuant to Section 209(e)(2) of the Clean Air Act. Unless and until the waiver is granted by U.S.EPA, the Portable ATCM, including its Tier 0 ban, is not enforceable by CARB.

In light of the above, ADSC respectfully requests that the original relief[7] proposed in our October 18, 2010 letter be reinstated. (SR)

Comment: ADSC is requesting that all two-engine drilling rigs (regardless of drilling purpose) be treated identically within the regulatory framework of CARB’s “in-use” rules.[8] (SR)

Agency Response: The Off-Road regulation, as modified by the 15-day changes, would allow both engines of foundation drilling rigs to be brought under the Off-Road regulation, so long as the auxiliary engine of the drilling rig is not equipped with a Tier 0 engine. The amendments to the Off-Road Regulation are consistent with the Portable Equipment Airborne Toxic Control (ATCM), which prohibits their operation in most applications by January 1, 2010. It would be contrary to the emission reduction purposes of the ATCM to allow such engines to now operate under the Off-Road regulation. In contrast to water-well drilling rigs and two-engine cranes that have previously been brought under the coverage of the Off-Road regulation, ARB was not able to fully address the Tier 0 engine issues as they apply to foundation drilling rigs before the ATCM ban went into effect. Moreover, at the time that ARB decided to accept both engines of two-engine cranes and two-engine water-well drilling rigs into the Off-Road regulation, large fleets were scheduled to commence compliance under the Off-Road regulation on March 1, 2010. Staff believed that any potential adverse emission consequences from allowing Tier 0 engine operation could be significantly mitigated through compliance under the Off-Road regulation. Now, with the present amendments to the Off-Road regulation, compliance implementation has been pushed back at least four years. As set forth in the 15-Day Notice, to allow Tier 0 auxiliary engines in foundation drilling rigs and effectively all other two-engine vehicles[9] (other than already covered two-engine cranes and water-well drilling rigs) to now operate unregulated would result in a significant loss of emission benefits that were expected to be achieved by the ATCM’s ban on Tier 0 engines.

Moreover, while commenter SR disputes this contention as it applies to foundation drilling rigs, it is ARB staff’s understanding that many two-engine vehicles with Tier 0 engines have already been placed out of service in response to the ATCM’s ban. To extend the life of the rest of the Tier 0 auxiliary engines (in two-engine vehicles) by covering such vehicles in the Off-Road regulation could lead to a competitive

[7] The original relief provisions recommended by ADSC are shown in the comments below, and are also labeled (SR).
[8] Relief proposed by ADSC.
[9] Staff believes that many arguments used to support including two-engine cranes and water-well drilling rigs (including infeasibility of retrofits and repowers) apply to most two-engine vehicles throughout the state. For this reason, ARB staff determined that it was appropriate to bring all two-engine vehicles into the Off-Road regulation, and not just foundation drilling rigs, as originally petitioned by commenter SR.

disadvantage for those fleets that have made the financial commitment to upgrade their auxiliary engines. Additionally, it would potentially award those fleets that have not complied with the Tier 0 ban by allowing those engines to run for many more years before having to come into compliance.

Additionally, commenter SR stated that significant relief has been withdrawn since staff initially took this proposal to the Board on December 17, 2010, and also stated that ADSC was not allowed opportunity to comment in front of the Board, because at the time they agreed with staff's proposal to move all two-engine vehicles into the Off-Road regulation. Staff would like to clarify that although this proposal was made at the hearing, it was included as a 15-day amendment, which means that it was subject to change and further review based on the discretion of ARB staff and the Board. Since the hearing, ARB further analyzed the issues discussed above, and came to the conclusion that this amendment could not feasibly be made as initially proposed. Also, ADSC was given the opportunity to comment in support of this amendment at the hearing (even though they chose not too), and was also given a 15-day comment period (in which this comment was submitted) to express their feelings towards staff's revised proposal. Therefore, staff believes that ADSC has been given ample opportunity and time to comment on this amendment.

ARB's request for authorization from U.S. EPA is presently pending, and ARB staff believes that the decision should be forthcoming shortly. While commenter SR may be right that ARB cannot enforce the ATCM's Tier 0 ban until U.S. EPA acts on the authorization, it is not clear that once the authorization is granted ARB would be prevented from taking enforcement action against stakeholders who ignored the Tier 0 engine ban while the authorization was pending. Regardless of the timing of the authorization or ARB's ability to enforce, ARB staff acted reasonably in concluding, as explained above, that broadly including Tier 0 auxiliary engines in the Off-Road regulation was likely to have a significant effect on emission reductions that were forecasted to be achieved across ARB programs.[10]

[10] With the delays, compliance will not be required for large fleets until January 1, 2014, for medium fleets until January 1, 2017, and small fleets until January 1, 2019.

6. LSI Comments

Comment: The ARB Staff Proposal does not provide any quantifiable emissions benefits from Rental Companies. We have seen no analysis of the impact of this proposal on rental fleets or the emissions inventory. (ARA2)

Agency Response: The LSI fleet regulation determined statewide emission benefits based on the statewide population of LSI equipment and the average horsepower, hours of use, and emission rates for this equipment as it went from an uncontrolled to a controlled state as a result of the fleet average requirements. Since the emission benefits are based upon a statewide equipment profile, staff expects that individual facility benefits will vary, both from industry to industry, and within a given industry. To the extent that some businesses within an industry are small, they will be eligible for limited hours of use equipment exemptions. The LSI fleet regulation factors these equipment exemptions into the statewide benefits calculation.

Comment: We recommend that the Board instruct Staff to analyze the emissions impact of servicing rental yards to determine whether any benefits actually exist and if there are no benefits, to exempt all rental yard service units. ARA would be willing to help Staff by working with them to survey rental businesses operating in California. (ARA2)

Agency Response: Commenter ARA2 previously stated, as background, that that there are 241 dedicated yard service forklifts in California, that each of these forklifts is typically used an hour per day, and that the forklifts are "not generally subject to the more rigorous preventative maintenance program reserved for rental units." The default emission rate for these older uncontrolled forklifts is 12.0 g/bhp-hr, 20 times the rate of a forklift certified to the 2010 emission standard. Thus, these forklifts emit more than 4,800 new forklifts on a per hour basis. There is a quantifiable emissions benefit to replacing any uncontrolled forklift with a controlled one. The question is whether or not it is a cost effective benefit. ARB has determined that it may not be cost effective for limited hours of use (less than 200 hours per year) equipment. However, these forklifts are used approximately 50 percent more than the limited hours of use threshold. Thus, the ARB believes that the emissions benefits are not only real, but also cost effective.

Comment: Rental Companies will find the provisions difficult to deal with and will adjust their operations to avoid having to comply with this rule. (ARA2)

Agency Response: The commenter ARA1 expressed concerns about the record keeping requirements of the LSI fleet regulation and the possibility that their operators would use diesel instead of LSI equipment in their comments to the Board (45-day comments). ARB has addressed both of these comments in section II.A.9.

Comment: ARB staff has generally been flexible with regard to special situations to simplify compliance while maintaining emission benefits. If Staff can verify our estimate of fleet size and hours of use, we believe that this would constitute such a special situation that could be handled without forcing a change in current operating practices by small, single-location equipment rental companies. (ARA2)

Agency Response: The LSI fleet regulation requires operators of medium and large fleets to meet the FAEL standards contained in the regulation. Thus, any small business meeting the medium or large fleet definition is subject to the FAEL standards. These small businesses procure their equipment from rental equipment companies. In other words, rental equipment companies are benefitting from the requirements of the LSI fleet regulation. It would be inappropriate if the rental equipment companies that are benefitting from sales, rental and lease of clean equipment to all of the other small businesses in California with medium and large LSI equipment fleets were themselves excluded from the requirement and did not also have to invest in clean equipment.

Comment: We have already provided a number of proposals that would make the LSI Rule more compatible with rental business practices. Our ideas have not been incorporated and we find this proposal lacking and potentially counterproductive with respect to emissions control. (ARA2)

Agency Response: Contrary to ARA2's comment, the ARB has incorporated ARA ideas. In an October 20, 2010 letter to the Board, the ARA proposed three options for addressing ambiguity in the existing "operator" definition. Option 2 suggests that the ARB "allows for two fleets, one each for rental and operations." This is the genesis of the ARB's service equipment and operations equipment definitions and the modifications to the operator definition. The sticking point is that the ARB recommended a de minimis usage of operations equipment by the rental equipment company. The ARA wanted yard use of this equipment to be unlimited. As the ARB's mandate is to get technologically feasible and cost effective emissions reductions from this equipment, excluding it completely from the requirements of the regulation is not possible.

ARA2 states that the ARB proposal is potentially counterproductive with respect to emissions control and they identify several ways in which an operator may circumvent the requirements of the regulation, thus precluding emission benefits. These include replacement with diesel equipment, retention of additional pieces of older LSI equipment in their service fleet, and placing newer equipment in their service fleet instead of their operations equipment fleet. As mentioned previously, the diesel comment was addressed in section II.A.9. The other two comments are addressed below.

Comment: It is not clear from the definitions whether Operations equipment or the total fleet which includes rental equipment is used to establish the Fleet Size. We believe the Fleet Size Definition should be based upon “Operations Equipment” only. (ARA2)

Agency Response: The “Operator” definition states that a person whose usual and customary business is the rental, leasing, or sale of equipment will be deemed an operator of all service equipment and any operations equipment they use more than 50 hours per year. The person is not an operator of operations equipment they use no more than 50 hours per year.

Comment: The term “regardless of hours of operation” in the operator definition is confusing. Assuming that a fleet size is based upon the Operations equipment, that size (large, medium or small) is based upon all equipment in the service fleet regardless of the hours of operation. But, only equipment that is not LHU (low hour use) must be included in the fleet average. We are concerned that this phrase implies some other treatment. (ARA2)

Agency Response: The LSI fleet regulation requires that operators first determine fleet size. Based on modifications to the operator definition, all service equipment, without regard to its usage, would be included in the fleet size determination. So would operations equipment used by the operator for his company’s use more than 50 hours per year. Once fleet size is determined, the operator performs calculations to see if he is in compliance with the applicable FAEL standard. The operator may exclude any limited hours of use equipment from the calculation regardless of whether it is service equipment or operations equipment used greater than the 50 hour per year threshold.

Comment: Because of the burden of being classified as an Operator, equipment rental companies will do whatever is necessary to avoid the Operator definition. The service fleet is a necessary but small part of their operations that generates no revenue. The hours per year of usage are much greater for LSI rental equipment than LSI service equipment. This proposed definition could encourage newer equipment to be used for service and older equipment to be used for rent with an associated negative emissions impact. Rental companies are free to rent older equipment to exempt fleets with no limitation. (ARA2)

Agency Response: There are two prospective groups of customers for a rental company’s older equipment – those fleets that are subject to the FAEL standards and those that are not. Fleets subject to the FAEL standards would carefully consider the impact of new rentals on their FAEL calculations and likely will not rent an older uncontrolled piece of equipment. Instead, they will look to rent the equipment from a company that offers clean emission-controlled equipment. This routinely occurs already. Fleets not subject to the FAEL standards (likely because they are small) may choose to rent an older piece of equipment if the cost is less than that to rent a clean emission-controlled piece of equipment. However, the commenter has suggested that service equipment is not rented out because it does not receive as much preventative maintenance as operations equipment and would be more prone to equipment failure while on rent. In other words, a rental company would not rent out older service equipment because it would incur (1) the potential additional costs of transporting replacement equipment to the customer, and (2) the potential wrath of the customer because of the downtime that accrues. Thus, the ARB does not expect rental equipment companies to use this compliance approach.

Comment: In order to avoid the Operator definition, some rental yards currently use existing diesel powered forklifts or skid steers to perform the required service fleet tasks since there are no limitations on their use in the yard. We have been told that at least 35 diesel forklifts and skid steers are being used instead of LSI forklifts for yard work in various rental companies throughout California. These units are covered by ARB's off-road diesel regulation. Other equipment rental businesses also report that given the proposed Operator definition, they will begin to move to diesel forklifts. This is contrary to the goals of California's Diesel Risk Reduction Plan which has as its goal the reduction, and not the increase of diesel emissions. However, the move away from LSI forklifts and increased utilization of diesel-powered equipment to provide rental yard services will result if the proposed Operator definition is adopted by the Board. (ARA2)

Agency Response: The commenter submitted a substantially similar comment during the 45-day public comment period (listed as ARA1). The ARB responded to that comment in section II.A.9.

Comment: Hours accumulated on rent are known. However, as a part of the rental operation, units must also undergo testing, maintenance and other operations related to the rental of the unit. We have no information on the quantity of hours associated with these functions. We believe these hours are a part of the rental function and should not be applied against the 50 hour allowance. We also believe that the 50 hour allowance which could be used to perform incidental service functions is impractical because of the scheduling and bookkeeping required so as to not violate the allowance for any individual unit. (ARA2)

Agency Response: The operator definition states that a rental company becomes an operator if they have either dedicated service equipment or operations equipment used more than 50 hours per year. The two groups of equipment are treated the same for fleet size determinations and FAEL standards calculations. Thus, it is fair to consider the service equipment definition in determining what functions are considered toward the 50-hour accumulation. The service definition states that it is for yard operations necessary to support the equipment rental, leasing, or sales business. If the forklift will be used in association with maintenance on another forklift, that use would be included in the 50 hours of use. The ARB never intended that testing and maintenance functions apply toward the 50-hour threshold. The ARB will make fact sheets available to the regulated community clarifying that rental operators need only include operations associated with yard service toward the 50-hour accumulation and not testing and maintenance.

The ARA2's comment regarding scheduling and book keeping is substantially similar to a comment submitted by ARA1 during the 45-day public comment period. The ARB responded to that comment in section II.A.9.

Comment: Several of our members who are smaller equipment rental businesses that do not have dedicated service fleets asked if the 50-hour relief could be administered on average. They might have to keep the necessary records to show that they met this criterion. One of our single yard businesses has ten LSI forklifts. The business should need the equivalent of one dedicated forklift to service the business. The owner wrote: "Usually the older units are held back and the newer units are rented first but when we get short, all units are rentable. It is so much more efficient to keep everything on the same maintenance program and the fleet uniform. Differentiating between what is, or what is not rentable could be problematic. The urge to put a dedicated yard lift out on rent to meet a customer's needs would be great. If I understand what you wrote below, I should have 50 hours grace times the 10 units I own (or 500 hrs/year) which should make my compliance a non-issue. Is my interpretation correct?" With his business model, trying to manage a strict 50-hour annual use schedule is problematic. He indicated that his average daily use is about 0.5 hours or about 154 hours per year (307 days per year operation). (ARA2)

Agency Response: Commenter ARA2 submitted a substantially similar comment during the 45-day public comment period as ARA1. The ARB responded to that comment in section II.A.9.

Comment: In order to meet the requirement for service fleets, some businesses might simply retain additional older units in their service fleet when they turn over their rental fleets to insure they don't exceed 199 hours per unit. This approach satisfies the rule but provides no emissions benefits. (ARA2)

Agency Response: The commenter suggests that some rental company operators may retain additional older units in their service equipment fleet to ensure that each piece of equipment individually remains below the limited hours of use threshold. While this is a possibility, the ARB expects most operators will not do this because if they have dedicated service equipment, they are typically larger businesses and have greater throughput in their operations equipment fleet. As older emission-controlled equipment comes off of rental or lease, it will be available to help clean up the service equipment fleet. From a compliance standpoint, this course of action is much safer as there is no risk of having a piece of equipment exceed the limited hours of use threshold in the event that there is an increase in business and associated use of the additional equipment.

Comment: We continue to believe it is a burden on rental companies to have to comply with the LSI rule when so few pieces of equipment are affected. Finally, we think it is an inefficient use of enforcement's time to check compliance for at most 241 pieces of non-exempt equipment held by the rental businesses especially considering that rental companies control a universe of several thousand pieces of equipment. (ARA2)

Agency Response: Commenter ARA2 submitted substantially similar comments regarding emissions, record keeping, and compliance during the 45-day public comment period (listed as ARA1). The ARB responded to those comments in section II.A.9.