State of California
AIR RESOURCES BOARD

Resolution 10-47

December 17, 2010

Agenda Item No.: 10-11-3

WHEREAS, the Air Resources Board (ARB or Board) adopted the Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road regulation), California Code of Regulations (Cal. Code Regs.), title 13, sections 2449 through 2449.3, and amendments thereto pursuant to the authority set forth in Resolutions 07-19, 08-43, 09-3, and 09-50, all of which are respectively incorporated by reference herein;

WHEREAS, in-use off-road diesel vehicles operating in the state, as a class, continue to be a significant source of air pollution emissions in California that contribute to continuing violations of the national ambient air quality standards (NAAQS) for both particulate matter (PM) less than 2.5 microns (PM2.5) and ozone, and to continuing localized health risk, including premature death, associated with exposure to PM2.5;

WHEREAS, California and the nation continue to be in the midst of a serious economic recession that was not anticipated when the Board initially approved the regulation on July 26, 2007;

WHEREAS, the recession has had a significant impact on companies that operate in-use off-road diesel vehicles in the normal course of business and has reduced overall off-road diesel vehicle and engine activity, with concomitant reductions in PM2.5 and oxides of nitrogen (NOx) emissions, in the state;

WHEREAS, ARB staff has undertaken a thorough review and update of its emissions inventory for in-use off-road diesel vehicles and engines and determined that emissions from off-road vehicles and engines are substantially lower than previously estimated in July 2007;

WHEREAS, ARB staff presented the results of the updated emissions inventory to the Board at the November 2010 Board hearing, and the Board took public comment on the staff presentation and findings;

WHEREAS, the recession has also impacted the activity of on-road heavy-duty vehicles covered by the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles, title 13, Cal. Code Regs., section 2025 (Truck and Bus regulation) and that ARB staff has estimated that emissions from vehicles covered by the Truck and Bus regulation are also lower than initially estimated when that regulation was adopted in 2008;

WHEREAS, the Board directed staff to develop concurrent amendments to the Off-Road regulation and the Truck and Bus regulation that would provide economic relief to both off-road and on-road diesel fleets while continuing to meet the Board's air quality goals and obligations;

WHEREAS, on April 23, 2009, the Air Resources Board adopted revisions to California's State Implementation Plan (SIP) reflecting implementation of the 2007 State Strategy (State Strategy);

WHEREAS, the State Strategy identifies NOx and PM2.5 emission reduction targets that were expected from each control measure identified in the State Strategy at the time the State Strategy was adopted;

WHEREAS, the commitment in the State Strategy is to achieve aggregate emission reductions from all control measures in the State Strategy; there is no commitment to achieve the emission reduction target for each individual control measure;

WHEREAS, if a particular control measure does not achieve its expected emission reduction target, the State Strategy specifies that the emission reductions can be achieved through additional reductions from other identified measures, or from alternative control measures or incentive programs, as long as the aggregate emission reductions are achieved;

WHEREAS, actual emissions from sources impacted by economic conditions will continue to change over time, and may increase as the economy recovers;

WHEREAS, it is ARB's responsibility to track progress towards achieving the State's aggregate emission reduction commitment in the State Strategy, and if there is a shortfall in emissions reductions as the economy recovers, the State remains responsible for achieving the aggregate emission reductions commitment identified in the State Strategy;

WHEREAS, between January 2010 and October 2010, ARB staff met and worked with affected private and public fleets that operate in-use off-road diesel vehicles and the public, in general, and held 20 public workshops statewide to discuss potential changes to the Off-Road regulation and updates to the emissions inventories;

WHEREAS, with the information and comments received at the aforementioned meetings, ARB staff prepared a report, entitled "Staff Report: Initial Statement of Reasons for Proposed Rulemaking: Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements," released October 28, 2010 (ISOR);

WHEREAS the ISOR along with the report, "Staff Report: Initial Statement of Reasons for Proposed Rulemaking – Proposed Regulation for In-Use Off-road Diesel Vehicles" (Staff Report 2007) and an associated technical support document, "Technical Support

Document – Proposed Regulation for In-Use Off-road Diesel Vehicles," and the report, "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles," adopted by the Board on September 28, 2000, constitute the reports required under Health and Safety Code section 39665;

WHEREAS, Staff Report 2007 further discussed the results of ARB staff's evaluations of the non-cancer health effects of exposure to primary and secondary PM emissions from the vehicles subject to the initially proposed Off-Road regulation, and these evaluations indicated that exposure to these emissions can be associated with premature deaths and other non-cancer health impacts;

WHEREAS, the United State Environmental Protection Agency (U.S. EPA) in a recently published review of the PM-related health science literature, which is the first part of an ongoing review of the national ambient air quality standards for PM, concluded that long-term exposure to PM2.5 is causally associated with premature mortality, and that premature deaths caused by PM2.5 occur at levels as low as 5.8 micrograms per cubic meter, which is considerably lower than the current national standard of 15 micrograms per cubic meter;

WHEREAS, the U.S. EPA risk assessment methodology is the basis for ARB's estimate that 9,200 (7,300 to 11,000, 95 percent confidence interval) premature deaths occur annually in California and that reducing emissions to meet the Federal standard would result in 2,700 fewer premature deaths annually;

WHEREAS, the ISOR identified and explained the need to amend the Off-Road regulation for the following reasons:

> The global recession has caused a loss in employment and revenue in the construction sector and other industries that are affected by the Off-Road regulation; this has resulted in a reduction in business activity and has strained the financial ability of industry to comply with the regulation;
>
> Based on the new data available, staff now believes that past and future emissions from off-road diesel vehicles are significantly lower than previously estimated; staff has determined that it is feasible to provide economic relief to fleets, while still achieving the emission reductions necessary to attain the NAAQS;
>
> When the Board approved the Off-Road regulation in July 2007, staff believed off-road exhaust retrofit devices would be a widely available and a cost-effective solution for compliance for nearly all fleets; as implementation of the Off-Road regulation began, it became clear that for some fleets and applications, the installation of retrofit devices presented a significant challenge and accelerated turnover to newer vehicles was a more appropriate compliance option; although exhaust retrofit devices remain a viable option for many fleets, staff believes it is necessary to restructure the Off-Road regulation to remove a mandatory retrofit

requirement and instead allow fleets to choose between turnover and retrofitting of their vehicles as a compliance strategy; and

Several areas of the Off-Road regulation need to be modified to make the regulation clearer, easier to implement, or correct inconsistencies discovered during the beginning stages of regulatory implementation.

WHEREAS, the ISOR discussed, to the extent data could reasonably be made available, the factors specified in Health and Safety Code sections 39665(b), 43013, and 43018, including, but not limited to estimates of emissions, exposure, potential cancer risk and non-cancer health effects associated with the operation of in-use off-road diesel vehicles subject to the proposed amendments, technically feasible control options for compliance, potential environmental impacts, cost of compliance for all owners and/or operators of in-use off-road diesel vehicles, and cost impacts for ARB implementation of the proposed amendments;

WHEREAS, for the reasons set forth above, staff has proposed the following amendments to sections 2449 through 2449.3, as set forth in Attachment A, to address the issues identified above:

Delay the first compliance date for all fleets by approximately four years (i.e. compliance for large fleets would be delayed from March 1, 2010 to January 1, 2014);

Place annual requirements on fleets over the following timeline:

Large fleets: 2014 to 2023;
Medium fleets: 2017 to 2023;
Small fleets: 2019 to 2028;

In each compliance year, fleets (of all sizes) would be required to meet a single fleet average target, as opposed to separate NOx and PM targets, or complete a single set of Best Available Control Technology (BACT) requirements;

Reduce annual BACT requirements from 8 to 10 percent turnover, and 20 percent retrofitting, to a single requirement to turn over or retrofit 8 to 10 percent of the fleet's horsepower (4.8 percent for large fleets in 2014);

Extend double credit period for fleets choosing to retrofit their vehicles;

Define vehicles used 200 hours or less annually (previously 100 hours or less) as low-use, which would largely exempt such vehicles from the Off-Road regulation's requirements;

Provide credit for reduced fleet horsepower from 2010 to 2011;

Provide a simplified compliance option for fleets having a total fleet horsepower under 500 horsepower, which would allow the fleets to phase-out the use of Tier 0 and Tier 1 vehicles between 2019 and 2029;

Increase turn-over requirements of the Off-Road regulation in 2022 and 2023 so that fleets are required to turn over to additional Tier 4i and/or Tier 4 vehicles; and

Make other minor amendments to clarify or streamline the Off-Road regulation.

WHEREAS, Attachment B hereto contains staff's suggested modifications to the initially proposed amendments set forth in Attachment A, based on staff's further evaluation on the need for additional amendments and on comments received since release of the ISOR;

WHEREAS, the Board has considered the impact of the Off-Road regulation on the economy of the State, and the potential adverse economic impacts on California business enterprises and individuals;

WHEREAS, the Board has considered the community impacts of the proposed regulation including environmental justice concerns;

WHEREAS, the California Environmental Quality Act (CEQA), section 21080.5 of the Public Resources Code and Board regulations at title 17, Cal. Code Regs., section 60006 require that no project that may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code;

WHEREAS, the Board further finds based on its independent judgment and analysis of the entire record before it that:

In-use off-road diesel vehicles and engines that operate in the State – whether based in California or not – continue to be significant contributors of diesel PM and NOx emissions, which California must reduce to attain the ozone and PM2.5 NAAQS and to reduce the health risks associated with such pollutants;

The proposed amendments are necessary to provide economic relief to affected fleets while assuring that California continues to meet its air quality obligations and health based goals;

Even with the amendments and economic relief proposed, the proposed amended regulation would significantly reduce diesel PM and NOx emissions and associated cancer, premature mortality, and other adverse health effects statewide, such that emission reductions from the proposed amended regulation are expected to prevent 470 premature deaths from 2014 to 2029;

In accordance with Health and Safety Code section 43013(a) and (b), the amended in-use emission standards and requirements are necessary, cost-effective, and technologically feasible for in-use on-road diesel fleets within the time provided for compliance;

The proposed amendments would provide substantial economic relief for affected fleets, while the benefits of the regulation to public health and the environment justify the costs of compliance and enforcement;

The proposed amended regulation would reduce the estimated costs in the first five years of the regulation by about 97 percent, from over $1 billion to approximately $33 million and the costs over the life of the regulation would be reduced by 72 percent, which represents a savings of over $1.5 billion;

The overall cost effectiveness associated with proposed amended regulation with the updated inventory would be $76 per pound of diesel PM reduced and $4.31 per pound of NOx reduced;

The reporting requirements of the proposed amended regulation which apply to businesses are necessary for the health, safety, and welfare of the people of the state.

WHEREAS, pursuant to the requirements of the CEQA and the Board's regulations under its certified regulatory program, the Board further finds that:

ARB staff has prepared an environmental analysis for the proposed amendments, which is contained in Chapter VI of the Initial Statement of Reasons (ISOR);

Staff's environmental analysis determined that the proposed amendments would substantially reduce both PM and NOx emissions, as compared to the environmental conditions that currently exist; this is because the future-effective standards in ARB's current Off-Road regulation have not yet become effective and have therefore not yet resulted in actual emission reductions;

However, staff's environmental analysis also determined that the emission benefits from the proposed amendments would, in the short term, be less than what would have occurred under the current regulation with no amendments; these foregone emission benefits are quantified in the ISOR;

While the proposed amendments would not result in any adverse environmental impacts compared to the environmental conditions that currently exist, the foregone emission reductions in future years could be viewed as a significant adverse environmental impact;

These potential adverse environmental impacts have been significantly lessened because of the recession and its impact on fleet activity, which has resulted in emissions being lower today than originally anticipated when the current regulation was adopted in 2007; emissions in future years will also be lower than originally anticipated, as demonstrated by the updated emissions inventory;

The ISOR describes the benefits of the proposed amendments, which are designed to address the serious economic recession and its impact on industry and residents of the State; and

The Executive Officer is the decision maker for the purposes of title 17, California Code of Regulations, section 60007, and no final decision will be made until comments on the environmental analysis are fully considered and addressed by the decision maker.

WHEREAS, the Board further finds that no alternatives considered or that have otherwise been identified and brought to the attention of the ARB would be more effective carrying out the purpose for which the amendments to the regulation is proposed, or would be as effective and less burdensome to the affected private businesses and public agencies than the proposed amended regulation;

WHEREAS, California is not preempted under section 209(e)(1) of the federal Clean Air Act (CAA) from adopting emission standards and other requirements related to the control of emissions from in-use off-road diesel engines covered by the regulation;

WHEREAS, section 209(e)(2) of the CAA requires that California request authorization from U.S. EPA prior to enforcing emission standards or other requirements relating to the control of emissions from new and in-use nonroad engines (of which off-road diesel engines are a subpart) not otherwise preempted by section 209(e)(1); and

WHEREAS, on August 12, 2008, and February 11, 2010, ARB submitted to the U.S. EPA requests for authorization pursuant to CAA section 209(e)(2) for the regulation that are currently pending before the U.S. EPA.

NOW, THEREFORE, BE IT RESOLVED that the Board directs the Executive Officer to take the following actions:

Make the modified regulatory language as set forth in Attachment B and as directed below, with such other conforming modifications as may be appropriate, available for public comment for a period of 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as may be appropriate in light of the

comments received, and shall present the regulation to the Board for further consideration if he determines that this is warranted;

Evaluate all comments received during the public comment periods, including comments raising significant environmental issues, and prepare and approve written responses as required by Government Code section 11346.9, Public Resource Code section 21080.5(d)(2)(D), and title 17, California Code of Regulations section 60007;

Determine whether there are feasible alternatives or mitigation measures that could be implemented to reduce or eliminate any potential adverse environmental impacts, while at the same addressing the serious economic recession and its impact on industry and residents of the State;

Make findings as required by Public Resources Code section 21081 if the proposed amendments would result in one or more significant adverse environmental effects;

Take final action to adopt the proposed amendments set forth in Attachment A, with the modifications set forth in Attachment B and as directed below, as well as any additional conforming modifications that may be appropriate, and any modifications that are necessary to ensure that all feasible mitigation measures or feasible alternatives that would substantially reduce any significant adverse environmental impacts have been incorporated into the final action, or return the proposed amendments and findings to the Board for further consideration before taking final action, if he determines that this is warranted.

BE IT FURTHER RESOLVED that prior to making any determination of final adoption of the amendments considered by the Board, the Executive Officer should modify the proposed amendments and take public comment on the following:

Incorporating into the Off-Road regulation and Truck and Bus regulation a compliance option that would allow on-road and off-road vehicles that have been retrofitted consistent with the requirements of the two regulations to count towards the compliance requirements of either regulation for a specified period of time, so long as the actions taken under this option do not result in the loss of emission benefits in any given year, subject to the following conditions:

If the vehicle that is retrofitted is subject to the Off-Road regulation and is not needed to demonstrate compliance with the BACT or fleet average requirements, the retrofitted vehicle may be used to comply with the Truck and Bus Regulation until such time that it is needed for compliance with the Off-Road regulation.

Similarly, if the vehicle is retrofitted and is not needed to demonstrate compliance with the Truck and Bus regulation, the retrofitted vehicle may

be used to comply with the Off-Road regulation until such time that it is needed for compliance with the Truck and Bus Road regulation.

Adding Northern Sonoma County to the list of areas covered by the definition of "captive attainment area fleet";

BE IT FURTHER RESOLVED that the Board reaffirms the State's responsibility for meeting its aggregate emission reduction commitment in the 2007 SIP for the San Joaquin Valley and the South Coast Air Basin, which includes responsibility for any emission reduction shortfalls that may impact that commitment as a result of the adoption of the amendments to the On-Road Truck and Bus Regulation and the In-Use Off-Road Diesel-Fueled Fleets Regulation.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to monitor the State's progress towards meeting its emission reduction commitment and provide an update to the Board in July 2012 that includes the following:

Updated emissions trends including the impact of economic conditions on the on-road and off-road source categories;

Identification of any potential emission reduction shortfall in the expected emission reductions from these source categories;

If any potential shortfall is identified, proposed actions to remedy the shortfall, which may include but are not limited to regulatory or other actions, including more rapid and effective use of incentive grants to generate earlier reductions.

BE IT FURTHER RESOLVED that the Board hereby directs the Executive Officer to work collaboratively with the San Joaquin Valley Air Pollution Control District and the South Coast Air Quality Management District to continue to gather and analyze local and regional on-road and off-road mobile source inventory data, including population, age, turn-over rates, deterioration, and other fleet characteristics; truck and off-road vehicle operation characteristics such as hours of operation, vehicle miles traveled, engine load, emission rates, and places of operation; and independent corroborative data such as fuel use with which to cross-check emissions estimates.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to return to the Board as soon as practicable with a separate rulemaking that will amend other ARB regulations affecting two-engine vehicles, as necessary, to be consistent with the amendments proposed herein.

BE IT FURTHER RESOLVED that the Board hereby determines, in accordance with CAA section 209(e)(2), that the proposed amendments as they affect nonroad vehicles or nonroad engines as defined in CAA section 216(10) and (11), do not undermine the Board's previous determination that the regulation's emission standards, other emission related requirements, and associated enforcement procedures are, in the aggregate, at

least as protective of public health and welfare as applicable federal standards, are necessary as part of ARB's off-road emissions program to meet compelling and extraordinary conditions existing in the state, and are consistent with CAA section 209.

BE IT FURTHER RESOLVED that the Board, pursuant to CAA section 209(e)(2) and the determinations set forth in the preceding paragraph, directs the Executive Officer to request that if U.S. EPA has granted California authorization to adopt and enforce the regulation in response to its previously submitted requests that the Administrator confirm that the proposed amendments fall within the scope of the granted authorization and that if U.S. EPA has not taken action on California's previously submitted requests by the date that the Executive Officer submits the latest amendments for review that the Administrator grant California a full authorization for the regulation as amended herein.

FILED
OCT 28 2011
Resources Agency of California

I hereby certify that the above is a true and correct copy of Resolution 10-47, as adopted by the Air Resources Board.

Mary Alice Morency, Clerk of the Board

State of California
Environment Protection Agency
AIR RESOURCES BOARD

Notice of Decision

Project Title:	Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and Off-Road Large Spark Ignition Engine Fleet Requirements
Project Location:	Statewide
Public Meeting Dates:	December 17, 2010; Agenda Item 10-11-3
Project Description:	The project is amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and Off-Road Large Spark Ignition Engine Fleet Requirements originally approved in December 2008. The amendments are comprised of several minor changes and clarifications, including extending the limited hours of use provisions and broadening compliance extension flexibility.
Approved By:	Air Resources Board Executive Order No. R-11-016 Dated: October 28, 2011

This notice is to advise that ARB, as the lead agency, has approved the above described project on October 28, 2011and has determined that the project will not have a significant adverse impact on the environment (see attached Executive Order No. R-11-016).

There were no comments received identifying any significant environmental issues pertaining to this item. No findings, mitigation or statement of overriding considerations were adopted.

A copy of the Staff Report: Initial Statement of Reasons and the Final Statement of Reasons are available at the ARB rulemaking webpage at:
http://www.arb.ca.gov/regact/2010/offroadlsi10/offroadlsi10.htm

These rulemaking documents may also be examined at:

California Air Resources Board
Attn: Board Administration and Regulatory Coordination Unit
1001 I Street
Sacramento, CA 95814

Certified: Jeannie Blakeslee

Date: 10/28/11

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OCT 28 2011
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Attachment:

- Executive Order No. R-11-016