State of California
AIR RESOURCES BOARD

Resolution 10-44

December 17, 2010

Agenda Item No.: 10-11-3

WHEREAS, the Air Resources Board (ARB or Board) adopted the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles (Truck and Bus regulation or regulation), title 13, California Code of Regulations (Cal. Code Regs.), section 2025, pursuant to its authority set forth in Resolution 08-43, which is incorporated herein;

WHEREAS, in-use on-road heavy-duty diesel vehicles operating in the state, as a class, remain the largest contributor of emissions from all mobile sources, contribute substantially to violations of the ambient air quality standards for both PM2.5 and ozone, to localized health risk associated with exposure to diesel PM, and to premature deaths associated with exposure to PM2.5;

WHEREAS, California and the nation have been in an economic recession that is deeper and longer lasting than anticipated when the Board approved the Truck and Bus regulation on December 12, 2008.

WHEREAS, the recession has had a significant impact on overall trucking activities and specifically companies that operate on-road heavy-duty vehicles in the normal course of business, with a concomitant reduction 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 heavy-duty on-road heavy-duty diesel vehicles and engines and determined that emissions from such vehicles are substantially lower than estimated in December 2008 when the Truck and Bus regulation was initially adopted;

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 in-use off-road diesel vehicles covered by the In-Use Off-Road Diesel-Fueled Fleets regulation (off-road regulation), title 13, Cal. Code Regs., sections 2449 through 2449.3 and that ARB staff has estimated that emissions from vehicles covered by the off-road regulation are also lower than initially estimated when that regulation was adopted in 2007;

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

WHEREAS, amendments to the Truck and Bus regulation are being proposed to provide additional flexibility and economic relief to truck and bus fleets affected by the regulation;

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 industry, school transportation providers including representatives of school districts, and the public, in general, in developing the proposed amendments, held meetings with individual affected stakeholders and industry stakeholder groups, conducted 20 public workshops statewide to discuss the proposed changes to the regulation and changes to the emissions inventories, with one workshop focused solely on school buses;

WHEREAS, with the information and comments received from stakeholders, ARB staff prepared a report, entitled "Staff Report: Initial Statement of Reasons for Proposed

Rulemaking – Proposed Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation (ISOR) released October 20, 2010; this report along with the report, "Staff Report: Initial Statement of Reasons for Proposed Rulemaking – Proposed Regulation for In-Use On-Road Diesel Vehicles," and an associated technical support document, entitled "Technical Support Document – Proposed Regulation for In-Use On-Road Diesel Vehicles," (both released October 24, 2008 and collectively referred to hereinafter as "Staff Report 2008"), 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, the ISOR identified and explained the need to amend the Truck and Bus regulation and the feasibility of the proposed amendments;

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 on-road heavy-duty diesel vehicles subject to the proposed regulation, technically feasible control options, potential environmental impacts, cost of compliance for all owners and/or operators of in-use on-road diesel vehicles, and cost impacts for ARB implementation of the proposed regulation;

WHEREAS Staff Report 2008 discussed ARB staff's evaluation of the potential risk of exposure to directly emitted diesel PM in the exhaust of heavy-duty trucks in a localized urban area using United States Environmental Protection Agency (U.S. EPA) approved and ARB-recommended air dispersion models, and these evaluations indicate that the overall average potential ambient cancer risk within the localized urban area in the year 2003 is about 375 in a million;

WHEREAS, Staff Report 2008 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 proposed regulation, and these evaluations indicate that exposure to these emissions can be associated with premature deaths and other non-cancer health impacts;

WHEREAS, the 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 NAAQS for PM, concluded that long-term exposure to PM2.5 is causally associated with premature mortality, and that premature deaths associated with exposure to 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 NAAQS standard would

result in 2,700 (2,100 to 3,300, 95 percent confidence interval) fewer premature deaths annually;

WHEREAS, the ISOR presents staff's proposal that the Board adopt the proposed amendments to the Truck and Bus regulation, as set forth in Appendix A to the ISOR;

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

WHEREAS, the significant elements of the proposed amendments to the Truck and Bus regulation are:

Heavy-Duty Diesel Trucks

A provision that would exempt lighter-heavy-duty diesel vehicles with a gross vehicle weight rating (GVWR) of 26,000 pounds or less from having to meet the PM best available control technology (BACT) requirements of the regulation, and would delay requirements for fleet owners to operate heavy-duty diesel vehicles that are equipped with 2010 model-year certified engines or with engines that are emissions equivalent with 2010 model-year certified engines (collectively referred to as 2010 model-year engines) until 2015 when fleet owners would be required to:

Between January 1, 2015 and January 1, 2020, replace or upgrade engines that are 20 years old or older with 2010 model-year engines; between January 1, 2020 to January 1, 2023, phase-out all 2009 and older model-year engines so that by 2023 all heavy-duty diesel vehicles would be equipped with 2010 model-year engines;

An amended BACT compliance schedule whereby the following actions would be required for heavier-heavy-duty diesel vehicles with a GVWR greater than 26,000 pounds:

Vehicles with 1997 model-year and older engines would be exempt from the PM BACT requirements, but those with engines that are 20 years or older must be upgraded or replaced with a 2010 model-year engine between January 1, 2015 and January 1, 2017; and

Vehicles with 1998 to 2006 model-year engines must be equipped with PM filters between January 1, 2012 and January 1, 2014, and starting January 1, 2020, all 2009 and older model-year engines would be phased out so that by January 1, 2023 all heavier heavy-duty diesel vehicles would be equipped with 2010 model-year engines.

An optional requirement would allow a fleet owner to delay replacement of either a lighter- or heavier-heavy-duty vehicle until January 1, 2020 by equipping the vehicle with a PM filter by January 1, 2014;

An optional phase-in for small fleets with three or fewer vehicles that would exempt the heavier-heavy-duty diesel vehicles in the fleet from the regulation's PM BACT requirements until January 1, 2014 and the 2010 model-year engine requirement until January 1, 2020, if the fleet met the following:

One heavier heavy-duty diesel vehicle in the fleet must meet PM BACT requirements by January 1, 2014; if fleet has two heavier-heavy-duty diesel vehicles, the second vehicle must be equipped with PM BACT by January 1, 2015; and if the fleet has three heavier heavy-duty diesel vehicles, all three vehicles must be equipped with PM BACT by January 1, 2016; and

Beginning January 1, 2020, all heavy-duty vehicles in small fleets must be equipped with 2010 model-year engines according to the proposed amended BACT compliance schedule.

An optional phase-in for large fleets with four or more vehicles would allow heavier-heavy-duty vehicles not to incur all of the compliance costs in one year by allowing fleets to meet the PM BACT requirements on the heavier-heavy-duty diesel vehicles in the fleet at the rate of 30 percent per year from January 1, 2012 to January 1, 2014, after which the remaining 10 percent of the heaver heavy-duty diesel vehicles along with the lighter-heavy-duty diesel vehicles in the fleet must meet the requirements of the BACT schedule starting January 1, 2016; and

A provision that would replace the existing retired vehicle credit with an alternative that would offer economic relief to fleets that have reduced their fleet size since October 1, 2006, by allowing fleets that use the phase-in option for large fleets to reduce their requirements for a compliance year by the same percentage that the fleet has downsized from the 2006 baseline date;

Heavy-Duty School Buses

The proposed amendments would:

Exempt all school buses, except those manufactured prior to the 1977 model year, with a GVWR of 26,000 pounds or less from the regulatory requirements;

Provide a one-year delay in the implementation of the PM BACT requirements for school buses with a GVWR more than 26,000 pounds;

Provide a revised phase-in compliance schedule that would require a school bus fleet to bring 33 percent of the school buses in the fleet into compliance with PM BACT by January 1, 2012, 66 percent by January 1, 2013, and 100 percent by January 1, 2014; and

Provide credit option provisions similar to other vehicle categories.

Additional Credit Provisions for Heavy-Duty Trucks and School Buses

Amendments to the existing credit for early PM retrofits that would allow a fleet that has installed a PM filter early to be able to treat another vehicle as compliant until January 1, 2017;

Amendments to the existing credit so that fleets that purchase hybrid vehicles, alternative fuel vehicles and heavy-duty pilot ignition engines any time prior to January 1, 2017, would be able to treat another vehicle as compliant until January 1, 2017; and

Not allow credits for vehicles purchased to comply with any other California in-use regulation, or partially state funded vehicles, replacements, or retrofits according to the funding program guidelines.

Drayage Trucks

The proposed amendments to the drayage truck requirements in the Truck and Bus regulation would:

Move forward the initial date that drayage trucks, which are presently subject to the Regulation to Control Emissions from In-Use On-Road Diesel-Fueled Heavy-Duty Drayage Trucks, title 13, Cal. Code Regs., section 2027, become subject to the provisions of the Truck and Bus regulation from January 1, 2021 to January 1, 2017, and

Allow a fleet owner to include all of its drayage trucks in the fleet for the purpose of complying with the proposed phase-in compliance option for large fleets in the Truck and Bus regulation.

Agricultural Fleets

The proposed amendments would:

Extend the initial reporting deadline for heavy-duty diesel agricultural vehicles to March 31, 2011, and extend the initial compliance date to January 1, 2012 for heavy-duty diesel vehicles in the agricultural fleet that do not qualify for the agricultural vehicle provisions;

Clarify definitions and extend the specialty vehicle designation now limited in the existing regulation to feed trucks or mixer-feed trucks to all livestock feed trucks; and

Add an optional phase-in schedule for log trucks that would exempt such trucks from the PM BACT requirements, but would require that fleet owners phase-in the requirement that log trucks be equipped with 2010 model-year engines at the rate of 10 percent of the log truck fleet per year from January 1, 2014 to January 1, 2023.

Other Amendments

Proposed deletion of the following provisions: BACT percentage limit option, fleet averaging option, exemption for cab-over-engine truck tractors, NOx mileage exempt vehicles, and requirements for motorcoaches.

WHEREAS, in accordance with the authority set forth above, staff evaluated various control options such as making no change to the existing regulation, retaining the existing regulatory structure, and establishing requirements based on economic indicators and determined that these alternatives would do one or more of the following:

not provide sufficient economic relief to fleets; make the regulation more complex; unfairly provide advantages to certain business sectors; and create planning uncertainty;

WHEREAS, the Board has considered the impact of the 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) and Board regulations require that no project which 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 § 11340), part 1, division 3, title 2 of the Government Code;

WHEREAS, in consideration of the information in the public record, including the ISOR, updated on-road vehicle emissions inventory, written comments, and testimony provided at the November and December 2010 hearings, the Board finds that:

In-use on-road diesel vehicles 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;

Despite future emissions being lower than originally anticipated, substantial reductions are still needed by 2014 to meet the PM2.5 attainment deadline and by 2023 to meet the 8-hour ozone attainment deadline;

The proposed amended regulation would continue to reduce PM emissions from trucks and buses and meet the goals of the Diesel Risk Reduction Plan by achieving the maximum feasible PM reductions by 2020, and help achieve the state implementation plan (SIP) reduction goals in 2020 for attainment in regions downwind of the South Coast and the San Joaquin Valley air basins;

In accordance with Health and Safety Code section 39667, and based upon the Board's determinations under Health and Safety Code section 39662, the amendments have been designed to achieve the maximum possible reduction in public exposure to toxic air contaminants by 2020;

Even with the major 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 3,500 premature deaths from 2010 to 2025;

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

The economic impacts of the proposed regulation would reduce the costs of compliance for affected fleets and have been analyzed as required by California law, the conclusions and supporting documentation for this analysis are set forth in the ISOR and the benefits of the regulation to public health and the environment justify the costs of compliance, and enforcement;

The proposed amended regulation exempts 150,000 lighter trucks from having to meet the PM filter requirements reducing the estimated costs of the regulation over both the next five years and the life of the regulation by about 60 percent, and the average costs for businesses outside the transportation sector would be reduced by 70 percent, with nearly all of the costs being eliminated entirely for thousands of small businesses;

The overall cost effectiveness associated with the proposed amended regulation with the updated inventory would be improved to $44 per pound of diesel PM reduced and $1.70 per pound of NOx reduced; and

The proposed amended regulation would reduce the costs to school districts by about 12 percent, or over $8 million, over the life of the regulation.

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 California Environmental Quality Act (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 because the in-use emission requirements in the Truck and Bus regulation have not yet become effective and have therefore not yet resulted in actual emission reductions;

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 Truck and Bus 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 2008; 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;

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.

NOW, THEREFORE, BE IT RESOLVED that the Board is 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, Cal. Code Regs., 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 § 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 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.

Not exempting school buses with a GVWR of 26,000 pounds or less, other than those manufactured prior to the 1977 model year, from the regulation's PM BACT requirements;

Adding Northern Sonoma County to the list of "NOx Exempt Areas";

Adding lettuce carrier vehicles to the definition of "Specialty Agricultural Vehicle"; and

Broadening the number of vehicles that qualify for delayed phase-in as low-mileage construction trucks and vehicles.

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 equipment 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 finds that because section 209(a) of the federal CAA does not preempt California from adopting emission standards for non-new on-road motor vehicles, California is not required to request a waiver from the U.S. EPA pursuant to CAA section 209(b).

BE IT FURTHER RESOLVED that the Board finds that the amendments that affect in-use off-road engines are not preempted under section 209(e)(1) in that they do not apply to new off-road engines under 175 hp used in farm and construction vehicles or to new locomotives and locomotive engines.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments apply to in-use off-road engines will not cause California's off-road engine emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, do not undermine any previous protectiveness finding made by the Board, and are not inconsistent with CAA section 209; accordingly, the Board directs the Executive Officer to request that U.S. EPA confirm that the approved amendments fall within the scope of authorization requests presently pending before that agency.

I hereby certify that the above is a true and correct copy of Resolution 10-44, as adopted by the Air Resources Board.

Mary Alice Morency, Clerk of the Board

Resolution 10-44

December 17, 2010

Identification of Attachments to the Board Resolution

Attachment A: Proposed amendments to Cal. Code Regs., title 13, section 2025, "Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles (Truck and Bus regulation)" as set forth in Appendix A to the Initial Statement of Reasons, released October 21, 2010.

Attachment B: Staff's Suggested Modifications to the Proposed Amendments to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.