

## TITLE 13. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTION OF NEW EMISSION STANDARDS, FLEET REQUIREMENTS, AND TEST PROCEDURES FOR FORKLIFTS AND OTHER INDUSTRIAL EQUIPMENT

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to consider the adoption of new emission standards and test procedures for forklifts and other industrial equipment with 2007 and later model-year off-road large spark-ignition (LSI) engines, requirements for fleet users of such equipment, and verification procedures for retrofit control systems.

DATE: April 20, 2006

TIME: 9:00 a.m.

PLACE: Long Beach Convention & Entertainment Center  
300 E. Ocean Boulevard  
Long Beach, CA 90802

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m. on April 20, 2006, and may continue at 8:30 a.m. on April 21, 2006. This item may not be considered until April 21, 2006. Please consult the agenda for the meeting, which will be available at least 10 days before April 20, 2006, to determine the day on which this item will be considered.

If you have a disability-related accommodation need, please go to <http://www.arb.ca.gov/html/ada/ada.htm> for assistance or contact the ADA Coordinator at (916) 323-4916. If you are a person who needs assistance in a language other than English, please contact the Bilingual Coordinator at (916) 324-5049. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

#### **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW**

**Sections Affected:** Proposed amendments and adoptions to title 13, California Code of Regulations, and the documents incorporated by reference therein: Amend sections 2430, 2433, and 2434. Amend the title of incorporated "California Exhaust Emission Standards and Test Procedures for New 2001 and Later Off-Road Large Spark-Ignition Engines," adopted September 1, 1999; adopt incorporated "California Exhaust Emission Standards and Test Procedures for New 2007 through 2009 Model-Year Off-Road Large Spark-Ignition Engines," adopt incorporated "California Exhaust Emission Standards and Test Procedures for New 2007 and Later Model-Year Off-Road Large Spark-Ignition Engines," and adopt incorporated "California Exhaust and Emission Standards and Test Procedures for New 2010 and Later Model-Year Off-Road Large

Spark-Ignition Engines.” Adopt sections 2775, 2775.1, 2775.2, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, and 2789.

**Background:** Over 90 percent of Californians breathe unhealthful air at times. To improve air quality and human health, ARB establishes requirements to reduce emissions from new and in-use motor vehicles and engines, as well as other sources. To reduce emissions from off-road vehicles, ARB adopted regulations in late 1998 requiring that new forklift and other off-road large spark-ignition (LSI) engines comply with a standard of 3.0 grams per brake horsepower per hour (g/bhp-hr) HC+NOx starting in 2001. The regulation phased-in the standard such that by 2004, all new engines met this requirement. The United States Environmental Protection Agency (U.S. EPA) later adopted its own LSI regulation. The U.S. EPA regulation required all new LSI engines nationwide to meet the same 3.0 g/bhp-hr standard as of January 2004 and a 2.0 g/bhp-hr standard beginning in 2007.

As a result of these regulations, new LSI engines are now 75 percent cleaner than previously uncontrolled engines, and engines meeting the 2007 standard will be approximately 85 percent cleaner. Opportunities exist, however, to further reduce emissions from LSI equipment. The 2003 State Implementation Plan for the South Coast Air Basin included two measures to further reduce emissions from LSI engines. The first measure proposed that the California program harmonize with the U.S. EPA regulations by adopting the 2.0 g/bhp-hr emission standard for 2007 and beyond. The second measure proposed that existing uncontrolled LSI engine emissions be reduced by 80 percent, or to a 3.0 g/bhp-hr verification level. The latter measure also proposes that zero and near-zero emission standards be developed for new LSI engines. The proposed regulation described below meets the objectives of the two SIP measures.

In June 2005, ARB presented an initial proposal to reduce LSI emissions to the Board. At that time, questions arose about the economic impact of the proposal on forklift dealers and agricultural-related businesses that could not be fully answered. As a result, the Board deferred action to a later date and directed staff to investigate these issues further. Subsequently, ARB staff conducted a series of meetings and additional analysis to better understand the potential economic impacts on stakeholder groups. A revised proposal has been developed in light of this new information. It is similar in structure to the previous proposal, but contains two key revisions designed to significantly reduce the economic impacts on these stakeholders.

#### Proposed Provisions Applicable to Engine Manufacturers

The proposal has three components that affect manufacturers of LSI engines. The first component harmonizes the ARB standard with the more stringent U.S. EPA emission standards and test procedures that become effective in 2007. Under this requirement, manufacturers of 2007 and later model year engines must meet a 2.0 g/bhp-hr HC+NOx and 3.3 g/bhp-hr carbon monoxide (CO) emission standards.

The second component would require that new 2010 and subsequent model year engines meet a 0.6 g/bhp-hr HC + NOx with a corresponding CO emission standard of

15.4 g/bhp-hr. By allowing CO emissions to increase, lower ozone-forming emissions can be achieved.

The third component establishes optional low-emission standards below the 2007 and 2010 mandatory standards. Under this component, engines could be certified to optional low-emission engine standards of 0.1, 0.2, 0.4, 0.6, 1.0 and 1.5 g/bhp-hr HC+NO<sub>x</sub> through the 2009 model year, and 0.1, 0.2 and 0.4 g/bhp-hr HC+NO<sub>x</sub> in 2010 and beyond. Demand for these low-emission engines is created by the other part of the staff's proposal that requires fleet operators to reduce emissions.

The proposal would also incorporate by reference the current certification and test procedures adopted by the U.S. EPA for the 2007-2009 model years. Starting in 2010, the proposal includes modifications to such areas as production line testing and in-use compliance, which are consistent with other ARB off-road regulations.

### Proposed Provisions Applicable to Fleet Operators

To address emissions from high-polluting, uncontrolled in-use engines and to encourage the use of zero-emission and lower-emission equipment, the ARB staff is proposing fleet-average emission requirements for large and mid-size fleets of equipment powered by LSI engines, including forklifts, industrial tow tractors, sweepers/scrubbers, and airport ground support equipment. Fleet size is determined by aggregating each operator's equipment in California. Large LSI fleets are defined as those with more than 25 pieces of equipment while mid-size fleets are defined as those with 4 to 25 pieces of equipment.

Large fleets would have to meet more stringent fleet averages than mid-size fleets because they have greater flexibility when incorporating combinations of emission-reduction strategies to achieve a prescribed level. Additionally, the fleet average would be more stringent for the forklift portion of the fleet than for the non-forklift portion of the fleet.

The fleet average would be determined using the certification levels of 2001 and newer LSI engines and the retrofit verification levels of engines with retrofit kits. These values are clearly indicated on the engine label. To make the proposal less complex and less intrusive for operators while maintaining cost effective emission benefits, the fleet average would not incorporate load factor, horsepower, or hours of use.

Small fleets, those with one to three pieces of equipment, would be exempt from the fleet average requirement. Exempting small fleets greatly reduces the number of businesses impacted and significantly reduces the impact on equipment dealers, but also results in reduced emission benefits.

The proposal provides operators of LSI fleets with the flexibility to incorporate any combination of retrofits, low-emission purchases, and zero-emission electric purchases to meet the fleet-average emission level. The following table summarizes the proposed fleet-average emission levels for forklift and non-forklift LSI fleets.

### In-use Fleet Average Emission Requirement (g/bhp-hr)

LSI Fleet Type	Number of units	Jan. 2009	Jan. 2011	Jan. 2013
Large forklift component	26 +	2.4	1.7	1.1
Mid-size forklift component	4-25	2.6	2.0	1.4
Mid-size or Large Non-forklift	N/A	3.0	2.7	2.5
Small fleet	1-3	Exempt		

#### Airline Ground Service Equipment in the South Coast Air Basin

In addition to meeting the fleet-average emission limits, airlines operating ground support equipment (GSE) at airports in the South Coast Air Basin are required to include a specified percentage of zero-emission GSE in their fleets, consistent with a previous memorandum of understanding with the ARB.

#### Alternative Compliance Option for Agricultural-Related Fleets

ARB staff is proposing an alternative compliance option for agricultural-related fleets that reflects the longer retention period characteristic of agricultural operations. Under this option, agricultural fleet operators would be required to control (to a 3.0 g/bhp-hr level) their uncontrolled forklifts for which there are commercially available retrofit control systems have been verified. The proposed compliance timeframes provide an opportunity for these fleets to receive Carl Moyer Program incentives for up to 80 percent of the equipment affected.

#### Verification Procedure

ARB staff is also proposing a verification procedure for retrofit control systems that may be used to meet the proposed fleet average emission requirements. Such procedures will ensure that the retrofit systems deliver real and quantifiable emission reductions.

### **COMPARABLE FEDERAL REGULATIONS**

In 1998 California adopted emission standards for new LSI engines. Following California's lead, in 2002 U.S. EPA did the same (Volume 67, Federal Register, page 68242, November 8, 2002; title 40, Code of Federal Regulations, part 1048). As the preamble to the federal regulations notes, the federal regulations extend California's standards for new LSI engines to the rest of the United States in 2004 through 2006 and adopt more stringent standards for new LSI engines beginning in 2007.

In the staff's proposal, California would harmonize with the federal standards for new LSI engines in 2007 through 2009 and would adopt more stringent California standards

for 2010 and later. Staff's proposal also incorporates and revises federal test procedures for the respective model-years.

To further reduce emissions from LSI engines, the proposal requires California LSI equipment operators to meet fleet-average standards. The federal regulations do not impose requirements on fleet operators or on in-use engines.

### **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

The Board staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the Proposed Regulatory Action, which includes a summary of the economic and environmental impacts of the proposal. The report entitled: Staff Report: New Emissions Standards, Fleet Requirements, and Test Procedures for Forklifts and Other Industrial Equipment.

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on the ARB's web site listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing on April 20, 2006.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB's web site listed below.

Inquiries concerning the substance of the proposed regulation may be directed to Mr. Mark Williams by phone at (916) 327-5610 or by email at [mwilliam@arb.ca.gov](mailto:mwilliam@arb.ca.gov), or to Mr. Tom Evashenk by phone at (916) 445-8811 or by email at [tevashen@arb.ca.gov](mailto:tevashen@arb.ca.gov).

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Alexa Malik, Regulations Coordinator, (916) 322-4011. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice and the ISOR are available on the ARB Internet site for this rulemaking: <http://www.arb.ca.gov/regact/lore2006/lore2006.htm>. All subsequent regulatory documents, including the FSOR, will be available from the same Internet site when completed.

## **COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED**

The determination of the Board's Executive Officer concerning the costs or savings necessarily incurred by the public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action will not create costs or savings to any State agency or in federal funding to the state, costs or mandate to 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, or other nondiscretionary savings to State or local agencies.

In general, local and State agencies will need to comply with the regulatory standards by purchasing new low emission equipment or by retrofitting existing equipment. However, the staff analysis concludes that over the life of the equipment, a reduction in operating costs through improved fuel use and reduced maintenance can offset a significant portion of the increased initial cost.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. ARB is not aware of any cost impacts on representative private persons. Businesses will incur cost impacts as described in the ISOR for this rulemaking.

The regulations may impact small businesses; however because of the exemption for small fleets (defined in the regulations as operators of one to three pieces of equipment) the Executive Officer believes that the number of small businesses affected, if any, will be minimal.

The Executive Officer has also determined that adoption of the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action will not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. An assessment of the economic impacts of the proposed regulatory action can be found in the ISOR.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the reporting requirements of the regulation which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been

identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

### **BENEFITS OF THE PROPOSAL**

The staff analysis of the proposal indicates that the statewide emissions benefit associated with the new engine standards and operator fleet average emission requirements exceed 5.7 tons per day of HC+NOx in 2010 and 6.2 tons per day of HC+NOx in 2020. The emission benefits are just below the lower HC+NOx range of 6.2 to 13.1 tons per day in 2010 in the Board's state implementation plan commitment for ozone. The cost-effectiveness of the proposal compares favorably with that of other mobile source regulations promulgated by the ARB.

### **SUBMITTAL OF COMMENTS**

The public may present comments relating to this matter orally or in writing at the hearing, and in writing or by e-mail before the hearing. To be considered by the Board, written submissions not physically submitted at the hearing must be received **no later than 12:00 noon, April 19, 2006** and addressed to the following:

Postal mail is to be sent to:

Clerk of the Board  
Air Resources Board  
1001 I Street, 23<sup>rd</sup> Floor  
Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php> **no later than 12:00 noon, April 19, 2006.**

Facsimile transmissions are to be transmitted to the Clerk of the Board at (916) 322-3928 and received at the ARB **no later than 12:00 noon, April 19, 2006.**

The Board requests but does not require that 30 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each document. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

### **STATUTORY AUTHORITY AND REFERENCES**

This regulatory action is proposed under that authority granted in Health and Safety Code, sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 43000, 43011, 43013, 43017, 43018, 43101, 43102, 43104, 43600, and 43700. This action is proposed to implement, interpret and make specific Health and Safety Code sections 43000, 43009.5, 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43106, 43107,

43150, 43151, 43152, 43153, 43154, 43204, 43205, 43205.5, 43210, 43210.5, 43211, and 43212.

### **HEARING PROCEDURES**

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Board may adopt the regulatory language as originally proposed or with nonsubstantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action; in such event the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon  
Executive Officer

Date: February 21, 2006

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs see our Web –site at [www.arb.ca.gov](http://www.arb.ca.gov).*