

TITLE 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER THE INCORPORATION OF FEDERAL EXHAUST EMISSION STANDARDS FOR 2008 AND LATER MODEL-YEAR HEAVY-DUTY GASOLINE ENGINES AND THE ADOPTION OF MINOR AMENDMENTS TO THE LOW-EMISSION VEHICLE REGULATIONS

The Air Resources Board (Board or ARB) will conduct a public hearing at the time and place noted below to consider incorporation of federal exhaust emission standards for 2008 and later model-year heavy-duty gasoline engines and minor administrative amendments to the exhaust emission regulations for light-, medium-, and heavy-duty vehicles and engines. Proposed amendments to the Low-Emission Vehicle II (LEV II) regulations for light- and medium-duty vehicles include a requirement that fuel-fired heaters used in conventional vehicles meet the same standards as those used in zero-emission vehicles, modifications to the allowable maintenance schedule for test vehicles and some administrative amendments including modifications to the labeling specifications. The proposed amendments pertaining to heavy-duty diesel engines consist of a non-substantive reorganization and update to the certification requirements and test procedures.

DATE: November 14, 2002

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Auditorium, Second Floor
1001 "I" Street
Sacramento, CA 95814

This item will be considered at a two-day meeting of the ARB, which will commence at 9:00 a.m., November 14, 2002, and may continue at 8:30 a.m., November 15, 2002. This item may not be considered until November 15, 2002. Please consult the agenda for the meeting, which will be available at least 10 days before November 14, 2002, to determine the day on which this item will be considered.

This facility is accessible to persons with disabilities. If accommodation is needed, please contact ARB's Clerk of the Board at (916) 322-5594, or Telecommunications Device for the Deaf (TDD) (916) 324-9531 or (800) 700-8326 for TDD calls from outside the Sacramento area, by October 31, 2002, to ensure accommodation.

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

Sections Affected: Amendments to title 13, California Code of Regulations (CCR), section 1961, and the incorporated “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles” as last amended July 30, 2002; section 1965 and the incorporated “California Motor Vehicle Emission Control and Smog Index Label Specifications” as last amended November 22, 2000; section 1956.8 and the incorporated “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines” as last amended December 27, 2000; sections 1956.1 and 1956.8 and the incorporated “California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines” as last amended December 8, 2000; and section 1978 and the incorporated “California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles.” Adoption of the new “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines,” to be incorporated in section 1956.1 and 1956.8 and the new “California Smog Index Label Specifications for 2004 and Subsequent Model Passenger Cars and Light-Duty Trucks,” to be incorporated in section 1965.

Proposed Amendments Affecting Heavy-Duty Otto-Cycle Engines

Background: In the January 18, 2001 Federal Register (66 Fed. Reg. 5002), the U.S. Environmental Protection Agency (U.S. EPA) published new regulations designed to reduce emissions of non-methane hydrocarbons (NMHC), oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM) from heavy-duty Otto-cycle (gasoline) engines over 8,500 pounds gross vehicle weight (GVW). The new regulations, applicable in the 2008 model year, reduce NMHC plus NOx from a combined standard of 1.0 gram per brake horsepower-hour (g/bhp-hr) to separate standards of 0.14 g/bhp-hr for NMHC and 0.20 g/bhp-hr for NOx. They also lower the CO standard from 37.1 g/bhp-hr to 14.4 g/bhp-hr and establish a particulate matter (PM) standard of 0.01 g/bhp-hr. Recognizing that California would benefit from adopting the new federal emission standards for heavy-duty gasoline engines, staff is currently proposing to harmonize California’s heavy-duty gasoline engine exhaust emission standards with the federal standards.

Description of the Proposal: Although the federal regulations treat all heavy-duty Otto-cycle engines as one category over 8,500 pounds GVW, California’s regulations divide these engines into two categories – engines used in incomplete medium-duty Otto-cycle vehicles 8,501 to 14,000 pounds GVW and engines used in heavy-duty vehicles greater than 14,000 pounds GVW. Engines used in incomplete medium-duty Otto-cycle vehicles must meet either ultra-low-emission vehicle (ULEV) or super-ultra-low-emission vehicle (SULEV) emission standards. The proposed federal standards would apply to engines used in both heavy-duty vehicles and in ULEV medium-duty vehicles for NMHC (0.14 g/bhp-hr), NOx (0.20 g/bhp-hr), and PM (0.01 g/bhp-hr). The

CO standard (14.4 g/bhp-hr), applicable to engines used in heavy-duty Otto-cycle vehicles, would also be aligned with the federal standard (the new federal CO standard is identical to the current CO standard applicable to engines used in incomplete ULEV medium-duty vehicles). Staff is also proposing new optional standards for medium-duty SULEV engines of 0.07 g/bhp-hr for NMHC, 0.10 g/bhp-hr for NO_x, and 0.005 g/bhp-hr for PM that are equal to one half of the proposed ULEV standards. The SULEV emission standards are not required, but are available to a manufacturer to provide more flexibility in implementation of its product line because the more stringent standards could generate extra credits.

Staff is also proposing to align the 2008 and subsequent model year formaldehyde standards applicable to heavy-duty Otto-cycle engines used in both incomplete medium-duty ULEVs and in heavy-duty vehicles with the 2004 and subsequent model year California urban bus engines standards (i.e., 0.010 g/bhp-hr). Staff is also proposing the optional formaldehyde standard of 0.005 g/bhp-hr for medium-duty SULEV engines.

Until the inception of the 2008 model year federal exhaust emission standards for heavy-duty vehicles over 8,500 pounds GVW, California maintained separate and more stringent emission standards, phase-in requirements and credit trading programs for medium-duty vehicles and engines. However, with the adoption in California of the federal 2008 model year engine exhaust emission standards, it is no longer necessary to maintain a separate credit trading program for medium-duty engines in this category. Thus, staff is proposing that manufacturers will be allowed to participate in the federal averaging, banking and trading programs for medium-duty engines between 8,501 and 14,000 pounds GVW and for heavy-duty engines over 14,000 pounds GVW. Medium-duty chassis-certified vehicles will still be certified to the California standards, which are more stringent and provide a mechanism for in-use compliance verification.

Proposed Amendments Affecting Light- and Medium-Duty Vehicles

Background: Following a hearing in November 1998, the ARB adopted the second generation LEV II program. These regulations are a continuation of the Low-Emission Vehicle (LEV I) regulations originally adopted in 1990 and phased in through the 2003 model year. The LEV II regulations expand the scope of the LEV I regulations by increasing the stringency of the emission standards for all light- and medium-duty vehicles beginning with the 2004 model year, and making the expanded category of light-duty trucks (including almost all sport utility vehicles) subject to the same standards as passenger cars. There are several tiers of increasingly stringent LEV II emission standards to which a manufacturer may certify: low-emission vehicle (LEV), ultra-low-emission vehicle (ULEV), super-ultra low-emission vehicle (SULEV), and zero-emission vehicle (ZEV). In conjunction with the tiers of emission standards, the LEV II regulations provide flexibility for phasing in vehicles meeting the standards. A manufacturer is allowed to choose the standards to which each vehicle model is certified provided its overall fleet meets a fleet average non-methane organic gas (NMOG) requirement that is progressively more stringent with each model year. The

LEV II fleet average requirements commence in the 2004 model year and apply through 2010 and beyond.

In 2000 and 2001, the ARB adopted a number of amendments to the LEV II regulations. These included requirements that vehicles sold in California be at least as clean as their federal counterparts, and a number of minor administrative revisions to facilitate the certification efforts for manufacturers and to update test procedures.

Staff is now proposing a number of additional amendments to the LEV II regulations. These are primarily administrative, designed to clarify current regulatory language to facilitate the certification process for manufacturers. Other minor changes being proposed include a requirement that fuel-fired heaters used in conventional vehicles meet the same standards and operational requirements as those used in ZEVs and a change to the allowable maintenance schedule for high-cost emission-related parts. These proposed amendments are discussed below.

Proposed new emissions and testing requirements. The new emissions and testing requirements being proposed are:

1. **Fuel-fired heater requirements.** The LEV II program currently requires that fuel-fired heaters used in ZEVs be certified to the ULEV passenger car standard and are not permitted to operate above 40°F ambient temperature. These requirements were adopted to ensure that equipping vehicles with fuel-fired heaters would not cause an increase in emissions during times when ozone levels are high. While there are no currently certified conventional vehicles equipped with auxiliary fuel-fired heaters, one manufacturer has approached staff and has indicated its intent to equip its diesel trucks with fuel-fired heaters. This is because very efficient diesel engines may generate very little excess heat that can be used to warm the passenger compartment. If a manufacturer installs an auxiliary fuel-fired heater, the heater would not be subject to any emission requirements under current regulations. Staff is, therefore, proposing that fuel-fired heaters used in light- and medium-duty vehicles be required to meet the same requirements as heaters used in ZEVs. This is a preventive measure to minimize the ozone impact due to use of auxiliary fuel-fired heaters.

2. **Change in maintenance schedule for test vehicles.** To ensure that vehicle emission control systems are durable, ARB regulations establish permitted emission-related scheduled maintenance intervals that a manufacturer must follow when demonstrating durability during certification testing. This information is also provided to a vehicle owner as part of the vehicle maintenance instructions. Currently, manufacturers are allowed to replace (and advise vehicle owners to replace at the owner's expense) a number of emission control components (e.g., the catalytic converter) at 100,000 miles. This first maintenance interval corresponded to the 100,000-mile "full useful life" standards for passenger cars and light-duty trucks under the LEV I program. Under the LEV II program, however, these vehicles must now meet 120,000-mile "full useful life" standards. Staff is accordingly proposing that the first

allowable scheduled maintenance interval be aligned with the 120,000-mile “full useful life” requirements of the LEV II program.

Proposed administrative amendments. The proposed administrative amendments include:

1. **Proposed revisions to the California Label Specifications.** Staff is proposing two amendments to the ARB’s tune-up label specifications. First, staff is proposing that the requirement for a machine-readable vehicle emission control information (VECI) bar code label be removed and second that the other tune-up label specifications be amended to essentially harmonize with U.S. EPA requirements. The VECI label was originally intended to be used by inspection and maintenance stations to electronically register test results; however the California Smog Check stations do not currently scan the VECI label making this requirement obsolete. Therefore, at the request of manufacturers, staff is proposing that this requirement be removed. The other proposed amendments are administrative in nature because several recent rulemakings have already aligned a large portion of the California label specifications with federal requirements. This proposed change would move the label requirements from a separate label specification document to the various Test Procedures documents, which will refer to and incorporate the appropriate federal label requirement.
2. **Clarification of regulatory language.** Staff is proposing a number of wording changes to the LEV II regulations to clarify the intent of the regulations. These would not change the substance of the regulations.
3. **On-Board Diagnostics references.** Under the proposed amendments, Test Procedures references to the on-board diagnostics II (OBD II) requirements would be revised to reflect recent OBD II regulatory changes.

Other Proposed Amendments

1. **ORVR requirements.** In its recent decision waiving preemption for the California on-board refueling vapor recovery (ORVR) regulatory requirements, U.S. EPA identified two elements that needed to be revised. The proposed amendments would accordingly provide that (a) only gasoline meeting the federal specifications may be used in ORVR certification testing, and (b) vehicles fueled with natural gas or liquefied petroleum gas are subject to ORVR requirements identical to those in the federal program.
2. **Heavy-Duty Diesel Test Procedures.** Staff is not proposing any substantive modifications to the “California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles;” however, staff has updated and reorganized this document to reflect the current requirements in a new format. The new document is entitled, “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines.”

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

The ARB staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the potential environmental and economic impacts of the proposal, and supporting technical documentation. The staff report is entitled: "Initial Statement of Reasons for Rulemaking, Proposal to Consider the Incorporation of Federal Exhaust Emission Standards for Heavy-Duty Gasoline Engines and the Adoption of Minor Amendments to the Low-Emission Vehicle Regulations."

Copies of the ISOR and full text of the proposed regulatory language, in underline and strike-out format to allow for comparison with the existing regulations, may be obtained from the ARB's Public Information Office, Environmental Services Center, 1001 "I" Street, First Floor, Sacramento, California 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing (November 14, 2002).

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

Inquiries concerning the substance of the proposed regulations may be directed to the designated agency contact persons: Paul Hughes, Manager, LEV Implementation Section, Mobile Source Control Division at (626) 575-6977, or staff member Sarah Carter at (626) 575-6845.

Further, the agency representative and designated back-up contact persons to whom non-substantive inquiries concerning the proposed administrative action may be directed are Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Alexa Malik, Assistant, Board Administration & Regulatory Coordination Unit (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.

If you are a person with a disability and desire to obtain this document in an alternative format, please contact the Air Resources Board ADA Coordinator at (916) 323-4916, or TDD (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area.

This notice, the ISOR, and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB Internet site for this rulemaking at <http://www.arb.ca.gov/regact/levhdg02/levhdg02.htm>.

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred in reasonable compliance with the proposed regulations are presented below.

The Executive Officer has determined that the proposed regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(6), 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 local agencies.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. The Executive Officer has made an initial determination that 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 initially determined that the proposed amendments should have minimal impacts on the creation or elimination of jobs within the State of California, minimal impacts on the creation of new businesses and the elimination of existing businesses within the State of California, and minimal impacts on the expansion of businesses currently doing business within the State of California.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts of private persons and businesses. As discussed below, the Executive Officer has determined that the proposed regulatory action will not have a significant cost impact on directly affected persons or businesses. A detailed assessment of the economic impacts of the proposed amendments can be found in the ISOR.

With regard to the heavy-duty gasoline engine standards for the 2008 and subsequent model years, U.S. EPA estimated that the new federal standards will result in a less than \$200 cost increase for these engines both in the near term and in the long term. Since a manufacturer will already have to incur these costs for engines sold in the rest of the country, and there would be significant costs incurred in certifying federal and California engines to different standards, adoption of the same standards for California should not result in increased costs for manufacturers. Furthermore, certification data for heavy-duty gasoline engines show that formaldehyde emissions from these engines are already below the 0.010 g/bhp-hr standard being proposed. Therefore, compliance with the new standard should be minimal for manufacturers. Moreover, a manufacturer would be allowed to demonstrate compliance with the formaldehyde and particulate matter standards by providing a statement in its application for certification that its Otto-cycle engines will comply with the applicable standards in lieu of testing the engines

(this requirement is consistent with the light- and medium-duty certification requirement).

With regard to the LEV II amendments, the requirements are minor. The new requirements being proposed for fuel-fired heaters used on conventional vehicles are identical to those requirements currently applicable to fuel-fired heaters used in ZEVs, so it is expected that such heaters will have been designed to meet the ULEV standard. The cost of extending the first allowable maintenance schedule interval for LEV II vehicles will not likely be significant, since the new requirements will only extend the first allowable maintenance time from 100,000 miles to 120,000 miles.

The Executive Officer has also determined, pursuant to Government Code section 11346.5(a)(3)(B), that the proposed regulatory action will affect small business.

In accordance with Government Code section 11346.5(a)(11), the Executive Officer has found that the reporting requirements in the regulations and incorporated documents that apply to businesses are necessary for the health, safety, and welfare of the people of the State.

Before taking final action on the proposed regulatory action, the Board must determine that no alternative considered by the agency or that has otherwise been identified and brought to the attention of the Agency 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.

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, November 13, 2002**, and addressed to the following:

Postal Mail is to be sent to:

Clerk of the Board
Air Resources Board
1001 "I" Street, 23rd Floor
Sacramento, California 95814

Electronic mail is to be sent to: levhdg02@listserv.arb.gov and received at the ARB by no later than **12:00 noon, November 13, 2002**.

Facsimile submissions 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, November 13, 2002**.

The Board requests, but does not require, 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 comment. The ARB encourages members of the public to bring any suggestions for modification of the proposed regulatory action to the attention of staff in advance of the hearing.

STATUTORY AUTHORITY

This regulatory action is proposed under that authority granted in sections 39600, 39601, 43013, 43018, 43100, 43101, 43102, 43104, 43105, 43806 of the Health and Safety Code, and section 28114 of the Vehicle Code. This action is proposed to implement, interpret and make specific sections 39002, 39003, 39667, 43000, 43000.5, 43009, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, 43204, 43205, 43205.5, and 43806 of the Health and Safety Code, and section 28114 of the Vehicle Code.

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 ARB may adopt the regulatory language as originally proposed or with nonsubstantial or grammatical modifications. The ARB 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 the event that such modifications are made, 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, Environmental Services Center, 1001 "I" Street, First Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Michael P. Kenny
Executive Officer

Date:

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.