

## TITLE 13. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER ENGINE MANUFACTURER DIAGNOSTIC SYSTEM REQUIREMENTS FOR 2007 AND SUBSEQUENT MODEL YEAR HEAVY-DUTY ENGINES (EMD)

The Air Resources Board (the "Board" or "ARB") will conduct a public hearing at the time and place noted below to consider adoption of proposed California EMD requirements for 2007 and subsequent model year heavy-duty engines.

DATE: May 20, 2004

TIME: 9:00 a.m.

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

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., May 20, 2004, and may continue at 8:30 a.m., May 21, 2004. This item might not be considered until May 21, 2004. Please consult the agenda for the meeting, which will be available at least ten days before May 20, 2004, to determine the day on which this item will be considered.

This facility is accessible to persons with disabilities. If you have special accommodation or language needs, please contact the ARB's Clerk of the Board at (916) 322-5594 or [landreon@arb.ca.gov](mailto:landreon@arb.ca.gov) as soon as possible. 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 adoption of title 13, California Code of Regulations (CCR) section 1971 for 2007 and subsequent model year heavy-duty engines.

**Background:** The Board originally adopted title 13, CCR section 1968.1 in 1989, which required manufacturers to implement second generation on-board diagnostic (OBD II) systems on new motor vehicles sold in California. OBD II systems serve an important role in helping to ensure that vehicles maintain low emissions and meet the emission standards. The regulation was first implemented beginning with the 1994 model year, and requires that essentially all new 1996 and later model year passenger cars, light-duty trucks, and medium-duty vehicles and engines be equipped with OBD II systems. The regulation specifically requires monitoring of engine misfire, catalysts, oxygen sensors, evaporative systems, fuel systems, and electronic powertrain components, among other components and systems that can affect emissions when malfunctioning.

The regulations also require OBD II systems to provide specific diagnostic information in a standardized format through a standardized serial data link on-board the vehicles. Subsequently, the Board adopted section 1968.2 in 2002, which established OBD II requirements, for 2004 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles and engines.

Currently, there are no regulations in California requiring OBD systems on heavy-duty vehicles (i.e., vehicles with a gross vehicle weight rating greater than 14,000 pounds). Unfortunately, the emissions emitted from heavy-duty trucks, especially diesel trucks, are of great concern. Currently, diesel truck emissions account for about 28 percent and 16 percent of the total statewide mobile source oxides of nitrogen (NOx) and particulate matter (PM) emissions, respectively. NOx is a precursor to ozone as well as a lung irritant, while diesel PM is carcinogenic and has been identified as a toxic air contaminant by ARB. While emissions from heavy-duty diesels are of particular concern, emissions from heavy-duty gasoline vehicles are also of concern, given the state's ongoing problem in meeting state and federal ambient air quality standards. Additionally, the emission standards for heavy-duty vehicles have become increasingly stringent over the years. By 2004, the heavy-duty diesel emission standards for NOx and PM have been reduced by over 60 to 80 percent compared to the standards in 1990. In 2007, both emission standards would be reduced further by 90 percent compared to the 2004 standards. Emission standards for heavy-duty gasoline vehicles and engines are also similarly reduced in 2008. There must be some assurance that these standards continue to be met in-use, since emission-related malfunctions can cause vehicle emissions to increase well beyond the standards that they are intended to meet.

California's problems with ozone pollution continue to be the worst in the nation. In an effort to meet federal and state ambient air quality standards and comply with the federally mandated State Implementation Plan (SIP) to meet those standards, California has continued to be in the forefront in adopting the most stringent motor vehicle emissions control program in the nation. To complement the new emission standards for heavy-duty diesel engines, measure 17 (M17) was included as part of the SIP. Adopting diagnostic requirements for heavy-duty vehicles is an essential first step towards M17 to reduce emissions from on-road heavy-duty diesels.

**Staff Proposal:** As stated above, considering the amount of pollution emitted from heavy-duty vehicles (particularly NOx and PM emissions from diesel vehicles) and the increasingly stringent emission standards that will be phased in starting in the 2007-2008 timeframe, there must be some assurance that low emissions are maintained and the stringent standards are met in-use.

Staff is proposing the adoption of title 13, CCR section 1971 that would require first-generation diagnostic systems be equipped on all 2007 and subsequent model year on-road heavy-duty engines and vehicles produced for sale in California with a GVWR greater than 14,000 pounds. These proposed requirements, which are referred to as engine manufacturer diagnostic system (EMD) requirements, build on the basic diagnostic system heavy-duty engine manufacturers are currently using to provide diagnostic capability for the most important emission control systems. Sufficient

leadtime exists to implement the EMD system by the 2007 model year when emission standards become more stringent and universal use of particulate filters is expected. The EMD system would help ensure that the engines are able to meet the new emission standards and maintain low emissions for the life of the engine. It would accomplish this by monitoring the durability and performance of the emission control components and systems, and by providing technicians with information that would help in diagnosing and fixing malfunctions. Having first adopted OBD II requirements for light-duty and medium-duty vehicles in 1989, ARB staff has had extensive experience with OBD systems and in developing diagnostic requirements.

The proposal, however, does not reflect the level of diagnostics that staff plans on presenting to the Board for consideration in 2005 that will more closely reflect light- and medium-duty OBD II requirements. Recognizing the strict compliance schedule facing engine manufacturers to meet the stringent 2007 model year emission standards and the continued developments in new and emerging emission control technologies, the ARB staff is not proposing the immediate development of comprehensive OBD systems that require the monitoring of every emission-related component in the vehicle.

The proposed EMD regulation would require manufacturers to monitor the fuel system, exhaust gas recirculation (EGR) system, the PM trap, and emission-related electronic components. Unlike the requirements for light-duty vehicles, the proposed EMD monitoring requirements would not require manufacturers to tie the monitors to the emission standards (i.e., to indicate a malfunction before a specific emission threshold is reached). When a malfunction is detected, the proposed regulation would require the EMD system to illuminate a warning light, which could be an existing light or a new light based on the manufacturer's preference. Additionally, though the EMD system would be required to output diagnostic information for use by repair technicians, the proposed regulation would not establish standardized requirements defining the content or format of specific information required to be output.

As stated, this regulation is intended to be the first step towards adopting comprehensive heavy-duty OBD requirements analogous to the OBD II regulation. In the near future, staff will be proposing this more complete OBD regulation for the Board's consideration. The future heavy-duty OBD regulation would address the new and improved emission control technologies used to help meet the 2010 standards as well as include requirements that would assist repair technicians and facilitate implementation of heavy-duty OBD checks in inspection and maintenance or other roadside inspection programs.

### **COMPARABLE FEDERAL REGULATIONS**

Currently, the United States Environmental Protection Agency (U.S. EPA) has OBD requirements only for light-duty vehicles and trucks and federally defined "heavy-duty" vehicles and engines with a GVWR between 8,500 to 14,000 pounds. These are the same categories of vehicles covered by ARB's OBD II regulations, which apply to light- and medium-duty vehicles (where medium-duty is defined in California as the 8,500 to 14,000 pound GVWR range). However, like ARB, the U.S. EPA currently does not have OBD requirements for vehicles and engines above 14,000 pounds, which is the weight

range for California's "heavy-duty" class. The U.S. EPA staff has indicated its intent to propose and adopt an OBD regulation for heavy-duty vehicles and engines over 14,000 pounds in the near future, and has indicated a strong interest in developing harmonized ARB and federal OBD programs.

## **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 that includes a summary of the environmental and economic impacts of the proposal. The report is entitled: Engine Manufacturer Diagnostic Requirements for 2007 and Subsequent Model Year Heavy-Duty Engines (EMD).

Copies of the ISOR and the full text of the proposed regulatory language 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, California 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing (May 20, 2004).

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 web site listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons for this rulemaking: Jason Wong, Air Resources Engineer, at (626) 575-6838 or e-mail [jjwong@arb.ca.gov](mailto:jjwong@arb.ca.gov), or Mike McCarthy, Manager, Advanced Engineering Section, Mobile Source Control Division, at (626) 575-6615 or e-mail [mmccarth@arb.ca.gov](mailto:mmccarth@arb.ca.gov).

Further, the agency representative and designated back-up contact persons to who 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 agency contact persons.

If you are a person with a disability and desire to obtain this document in an alternative format, please contact the ARB's Clerk of the Board at (916) 322-5594 or [landreon@arb.ca.gov](mailto:landreon@arb.ca.gov) as soon as possible. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

This notice, the ISOR, and subsequent regulatory documents, including the FSOR, when completed, are available on the ARB internet site for this rulemaking at: [www.arb.ca.gov/regact/emd2004/emd2004.htm](http://www.arb.ca.gov/regact/emd2004/emd2004.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 by 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 result in some additional costs to ARB but will not create cost or savings to any other state agencies. In addition, the Executive Officer has determined that the proposed regulatory action will not create costs or savings 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 developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons and businesses. The ARB is not aware of any significant cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Executive Officer has made an initial determination that the adoption of this regulation will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with business in other states. Support for this determination is set forth in the ISOR.

The Executive Officer has further found pursuant to Government Code sections 11346.5(a)(10) and 11346.3(b) that the proposed regulation would have minor or no impact on the creation and elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within California, or the expansion of businesses currently doing business within California.

The businesses to which the proposed requirements are primarily addressed and for which compliance would be required are manufacturers of California-certified heavy-duty engines and other powertrain components (e.g., transmissions) used in heavy-duty vehicles. None of these businesses are located in California. The proposed requirements are also addressed to manufacturers of heavy-duty vehicles (assemblers, coach builders, etc.) installed with California-certified heavy-duty engines.

For all of the manufacturers identified above, the costs are expected to be negligible to comply with the proposed regulatory action. Manufacturers would be able to meet the proposed monitoring requirements without the addition of extra hardware on the vehicle or engine.

In developing this regulatory proposal, ARB staff has found that the proposed regulation will pose no adverse economic impact on private persons and businesses as consumers. The Executive Officer has determined that there will be no, or negligible, potential cost impact on representative private persons or businesses as a result of the

proposed regulatory action. The proposed requirements are not expected to increase the rate or the cost of vehicle repairs, so no cost impact on consumers is expected.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will affect a minimal number of small businesses.

The Executive Officer has determined, pursuant to Government Code section 11346.3(c) and 11346.5(a)(11), that the reporting requirements that apply to manufacturers are necessary for the health, safety, and welfare of the people of the State of California.

The proposed regulatory action would require manufacturers to file written reports. The requirements would be minimal and should have a negligible impact on vehicle costs.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable 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.

#### **FINDING OF NECESSITY FOR REPORTS**

Pursuant to Government Code section 11346.3(c), the Board finds that it is necessary for the health, safety, and welfare of the people of this state that this regulation which requires a report apply to businesses.

#### **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 **by no later than 12:00 noon, May 19, 2004** 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: [emd2004@listserv.arb.ca.gov](mailto:emd2004@listserv.arb.ca.gov) and received at the ARB **no later than 12:00 noon, May 19, 2004**.

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, May 19, 2004**.

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 comment. The ARB encourages members of the public to bring to the attention of the 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 39600, 39601, 43000.5, 43013, 43018, 43100, 43101, and 43104. This action is proposed to implement, interpret and make specific sections 39002, 39003, 39010-39060, 39515, 39600-39601, 43000, 43000.5, 43004, 43006, 43013, 43016, 43018, 43100, 43101, 43102, 43104, 43105, 43105.5, 43106, 43150-43156, 43204, 43211, and 43212 of the Health and Safety Code.

### **HEARING PROCEDURES AND AVAILABILITY OF MODIFIED TEXT**

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 Board'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:

*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).*

## Request for Staff Report and Proposed Regulatory Language

The documents listed on the lower portion of this page are available on the Air Resources Board's Web Site, which can be accessed at:

<http://www.arb.ca.gov/msprog/obdprog/hdobdreg.htm>

If you would like to receive a hard copy of any of the documents, please mail or fax this form to:

Adrieann Medina  
California Air Resources Board  
9528 Telstar Avenue  
El Monte, California 91731

FAX: (626) 575-7012      Phone: (626) 459-4405

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Please check all that apply:

- \_\_\_\_\_ Staff Report: Initial Statement of Reasons. (15 pages)
- \_\_\_\_\_ Proposed EMD Requirements for 2007 and Subsequent Model-Year Heavy-Duty Engines. (4 pages)

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

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