

Title 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER TECHNICAL STATUS AND PROPOSED REVISIONS TO MALFUNCTION AND DIAGNOSTIC SYSTEM REQUIREMENTS AND ASSOCIATED ENFORCEMENT PROVISIONS FOR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES AND ENGINES (OBD II) AND EMISSION WARRANTY REGULATIONS

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to review the technical status and implementation of California's OBD II requirements. The Board will consider amendments to the OBD II regulation to update the diesel monitoring requirements to be more consistent with the newly-adopted heavy-duty on-board diagnostic (HD OBD) regulation, to improve incorporation of OBD II into Inspection and Maintenance (I/M) programs, to clarify and improve the regulation where necessary, and to make clarifications to the OBD II enforcement provisions, among other things. The Board will also consider amendments to the emission warranty regulations to update the references to emission-related parts that are presently used in emission control technology and to simplify the requirements where possible.

DATE: September 28, 2006

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., September 28, 2006, and may continue at 8:30 a.m., September 29, 2006. This item might not be considered until September 29, 2006. Please consult the agenda for the meeting, which will be available at least ten days before September 28, 2006, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

Sections Affected: Proposed adoption of amendments to title 13, California Code of Regulations (CCR) sections 1968.2 and 1968.5, which establish OBD II requirements and enforcement provisions for 2004 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles and engines; proposed adoption of amendments to title 13, CCR sections 2035, 2037, and 2038, which establish emission control system warranty requirements for 1990 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles and engines.

Documents Incorporated by Reference:

ISO 15765-4:2005 "Road Vehicles-Diagnostics on Controller Area Network (CAN) - Part 4: Requirements for emission-related systems."

SAE J1939 March 2005-"Recommended Practice for a Serial Control and Communications Vehicle Network" and the associated subparts included in SAE HS-1939, "Truck and Bus Control and Communications Network Standards Manual," 2005 Edition.

SAE J1699-3 – "OBD II Compliance Test Cases," May 2006.

SAE J2534 – "Recommended Practice for Pass-Thru Vehicle Programming," April 2004.

Background: The Board originally adopted title 13, CCR section 1968.1 on September 12, 1989, requiring manufacturers to implement OBD II systems on new motor vehicles. The regulation, which was first implemented beginning with the 1994 model year, required that essentially all 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 required monitoring of engine misfire, catalyts, oxygen sensors, evaporative systems, exhaust gas recirculation (EGR), secondary air systems, fuel systems, and all electronic powertrain components that can affect emissions when malfunctioning. The regulation also required OBD II systems to provide specific diagnostic information in a standardized format through a standardized serial data link on-board the vehicles. Pursuant to section 209(b) of the federal Clean Air Act (CAA), ARB obtained a preemption waiver from the U.S. Environmental Protection Agency (U.S. EPA) in October 1996 for the OBD II regulation.

Subsequently, ARB updated the OBD II requirements in 2002 with the adoption of section 1968.2, title 13, CCR, which established OBD II requirements and enforcement requirements for 2004 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles and engines. Section 1968.2 essentially updated the requirements of section 1968.1 by improving and clarifying the monitoring requirements where needed, adding new monitoring requirements, improving the availability of service information, addressing issues associated with the implementation of OBD II

into I/M programs, and adding testing requirements to ensure compliance with the OBD II regulation. Concurrently, ARB also adopted section 1968.5, title 13, CCR, which established OBD II enforcement provisions for 2004 and subsequent model year vehicles, including provisions that set up specific criteria that identify vehicles with OBD II-related problems that are subject to remedial orders by ARB. A waiver request regarding the 2002 amendments is presently pending before U.S. EPA.

In 1979, pursuant to Health and Safety Code section 43205, ARB adopted sections 2035-2041, title 13, CCR, which contain the warranty requirements for passenger cars, light-duty trucks, and medium-duty vehicles. The regulations established requirements for manufacturers to warrant emission-related parts for both defects and performance for a period of three years and 50,000 miles. Additionally, under the regulation, a subset of "high-cost" emission-related parts was eligible to be warranted for seven years and 70,000 miles if they met specific inflation-adjusted cost numbers. ARB subsequently amended the regulation in 1990, and made minor changes regarding the timing of submittal of information required under these sections in 1999.

Staff Proposal: In 2002, the Board directed the staff to continue to follow manufacturers' progress towards meeting the OBD II requirements and to report back should modifications to the requirements be deemed appropriate. Since then, the staff has identified areas in which modifications to section 1968.2 would provide for improved monitoring system performance. The majority of the proposed modifications are related to the monitoring requirements for diesel vehicles. The staff proposes updating the diesel monitoring requirements to make them more consistent with the monitoring requirements of the HD OBD regulation (title 13, CCR section 1971.1) that was recently adopted in 2005. Specifically, to alleviate manufacturers' concerns about meeting the proposed malfunction emission thresholds, the proposal would amend the regulation to phase-in the final, more stringent malfunction thresholds at which the manufacturers must illuminate the malfunction indicator light and would not require general compliance with final thresholds until the 2013 model year.

For 2007 through 2012 model year light-duty diesel vehicles certified to the higher interim malfunction emission thresholds, the proposal would include an additional step to help protect against possible increased emissions from the higher thresholds and to help ensure that these vehicles are indeed performing as designed. Specifically, the proposal would require manufacturers of these vehicles to perform emission testing on actual production vehicles to verify their compliance with the emission standard. Having the manufacturers perform this testing on all diesel vehicle models (which would be equivalent to the in-use tailpipe compliance testing done by ARB on a limited number of vehicle models each year) would provide some assurance that the vehicles, as a whole, do not have a design defect that causes them to fail to meet the base emission standards.

Among the other amendments being proposed to the OBD II regulation are:

- Adding additional requirements for the storage and erasure of permanent fault codes.
- Allowing manufacturers to use 0.100 as the minimum in-use performance ratio for determining acceptable OBD II monitoring frequency for the first three years that a vehicle model is certified instead of just the first two years.
- Allowing manufacturers to continue to use a malfunction threshold of “3.5 times the NOx standards” for gasoline catalysts for two additional years, through the 2008 model year.
- Requiring manufacturers to detect failures caused by an air-fuel ratio cylinder imbalance under the gasoline fuel system monitoring requirements.
- Revising the gasoline primary and secondary oxygen sensor monitoring requirements to clarify and detail the minimum acceptable amount of monitoring that OBD II systems must perform.
- Revising the comprehensive component monitoring requirements to provide more guidance to manufactures related to monitoring components on hybrid vehicles.
- Adding additional parameters that manufacturers must include in the data stream for gasoline and diesel vehicles.
- Requiring manufacturers to provide additional engine run time tracking requirements for medium-duty diesel vehicles.
- Deleting the service information requirements.
- Extending the deadline under the production vehicle evaluation testing requirements for reporting of in-use monitoring performance data from six months to twelve months after start of normal production.

The staff is also proposing amendments to section 1968.5 to align the enforcement provisions, as necessary, with the proposed changes to section 1968.2. Additionally, the staff is proposing the Board delete reference to the “procedures of the California I/M program” from the mandatory recall provisions related to I/M testing and instead list the specific criteria of OBD II noncompliances related to conducting Smog Check inspections that would result in mandatory recall. The staff is also proposing more appropriate in-use thresholds (i.e., thresholds at which a vehicle would be found to have a nonconforming OBD II system and would be subject to possible enforcement action) for OBD II emission testing of diesel vehicles certified to the higher interim malfunction thresholds required for the 2007 through 2012 model years.

Additionally, the staff is proposing amendments to the ARB emission warranty regulations (specifically title 13, CCR, sections 2035, 2037 and 2038) to update the references to emission-related parts used with current emission control technology and to simplify the requirements where possible. Specifically, the proposed amendments would eliminate the outdated (last updated in 1985) emission-related parts list used today to identify components eligible for the high-cost warranty and instead require high cost warranty coverage for any component that is subject to warranty for 3 years and 50,000 miles and meets the inflation-adjusted cost limit.

Comparable Federal Regulations: In February 1993, U.S. EPA promulgated final on-board diagnostic requirements for federally certified vehicles. (40 CFR Part 86, sections 86.094-2, 86.094-17, 86.094-18(a), 86.094-21(h), 86.094-25(d), 86.094-30(f), 86.094-35(l), 86.095-30(f), 86.095-35(l); see 58 Fed.Reg. 9468-9488 (February 19, 1993).) The requirements were last modified with a final rule signed on November 29, 2005 and published December 20, 2005 (70 Fed.Reg. 75403). A central part of the federal regulation is that, for purposes of federal certification of vehicles, U.S. EPA will deem California-certified OBD II systems to comply with the federal regulations. On October 3, 1996, U.S. EPA formally granted California's request for a waiver regarding the OBD II regulation, as last amended in December 1994,¹ recognizing that the OBD II regulation is at least as stringent in protecting public health and welfare as the federal regulation, and that unique circumstances exist in California necessitating the need for the state's own motor vehicle regulations program.

The federal OBD requirements are comparable in concept and purpose with California's OBD II regulation; however, differences exist with respect to the scope and stringency of the requirements of the two regulations. More specifically, California's current OBD II regulations are generally more stringent than the comparable federal requirements. Under the OBD II requirements, manufacturers must implement monitoring strategies for essentially all emission control systems and emission-related components. Generally, the OBD II regulation requires that components be monitored to indicate malfunctions when component deterioration or failure causes emissions to exceed 1.5 times the applicable tailpipe emission standards of the certified vehicle. The regulation also requires that components be monitored for functional performance even if the failure of such components does not cause emissions to exceed the 1.5 times the standards threshold. The federal requirements, in contrast, require monitoring only of the catalyst, engine misfire, evaporative emission control system, and oxygen sensors. Other emission control systems or components, such as exhaust gas recirculation and secondary air systems, need only be monitored if by malfunctioning, vehicle emissions exceed 1.5 times the applicable tailpipe standards. No functional monitoring is required. This also applies to after-treatment devices on diesel applications, such as catalyst systems and particulate matter traps.

In Health and Safety Code sections 43013, 43018, and 43101, the Legislature has expressly directed ARB to adopt emission standards for new motor vehicles that are necessary and technologically feasible and to endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state standards at the earliest practicable date. ARB initially adopted and is proposing to amend the OBD II regulation to meet those legislative directives.

Regarding emission warranties, the federal emission warranty requirements (section 207 of the Federal CCA) are comparable in concept but with significant

¹ *California State Motor Vehicle Pollution Control Standards; Waiver of Federal Preemption; Decision*, dated October 3, 1996, 61 Fed.Reg. 53371-53372.

differences in actual warranty coverage. California's current emission warranty provisions, pursuant to Health and Safety Code section 43205, provide coverage of all emission-related parts for three years and 50,000 miles while the federal emission warranty provides similar coverage only for two years and 24,000 miles. Additionally, California's emission warranty provisions cover specific "high-cost" emission parts for a longer warranty period of seven years and 70,000 miles with the "high-cost" determination based on exceeding an annually CPI-adjusted repair cost limit. Federal warranty provisions, on the other hand, mandate coverage only for the catalyst and the vehicle on-board computer for eight years and 80,000 miles, regardless of the repair cost for either of those items or any other emission related part. While the federal warranty provision does provide for longer coverage on the catalyst and the on-board computer, it does not provide the same level of consumer protection for other high-cost emission parts as the California provisions for seven years and 70,000 miles. Further, the three years and 50,000 miles California warranty provides additional coverage for all emission-related parts beyond the federal two years and 24,000 miles (or the typical vehicle manufacturer "bumper-to-bumper" warranty of three years and 36,000 miles). When taken in total, the California emission warranty provisions are more stringent than the federal requirements given they provide additional coverage for all parts and many high-cost parts.

The differing ARB warranty provisions have been adopted pursuant to the express dictates of Health and Safety Code section 43205. Both the costs amendments to the OBD and warranty regulation are justified by the benefit to human health, public health and safety, and environment.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

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: Technical Status and Revisions to Malfunction and Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD II) and the Emission Warranty Regulations.

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 website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing (September 28, 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 website listed below.

Inquiries concerning the substance of the proposed regulation should be directed to the agency contact persons for this rulemaking: Mike Regenfuß, Staff Air Pollution Specialist, at (626) 575-7004 or email (mregenfu@arb.ca.gov), or Mike McCarthy, Manager, Advanced Engineering Section, Mobile Source Control Division, at (626) 575-6615 or email (mmccarth@arb.ca.gov).

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, 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 Air Resources Board ADA Coordinator at (916) 323-4916, or TDD (916) 324-9531, or (800) 700-8326 for TDD calls 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/obdii06/obdii06.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 amendments are presented below.

Pursuant to Government Code section 11346.5(a)(5), the Executive Officer has determined that the proposed amendments will not impose a mandate on local agencies or school districts. The Executive Officer has further determined pursuant to Government Code section 11346.5(a)(6) that the proposed regulatory action will result in some additional costs to the ARB and will create negligible costs to all other state agencies that purchase diesel vehicles. In addition, the Executive Officer has determined that the proposed regulatory action will not create costs or savings in federal funding to the state, will not create costs or savings to local agencies or school districts that is required to be reimbursed under Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, and will not result in other nondiscretionary savings to state or local agencies.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons and businesses, and has determined that any business or individual purchasing a diesel vehicle equipped with an OBD II system would incur additional costs as a result of this regulation. Specifically, retail costs for new medium-duty diesel vehicles equipped with an OBD II system are expected to increase by \$153 per vehicle (an increase of approximately 0.4% of the retail cost of the

vehicle), while retail costs for new light-duty diesel vehicles equipped with an OBD II system are expected to increase by \$140 per vehicle. Further, because OBD II systems are expected to detect emission-system and component malfunctions that would not otherwise be detected, the regulation would be expected to result in owners and operators potentially incurring additional emission-related repairs. However, the increase in repairs from having more components on the vehicle that are subject to OBD II monitoring would be offset by expected increases in component durability as vehicle manufacturers produce more durable vehicles to avoid warranty expense or consumer dissatisfaction. It is expected that these repairs would result in average costs of approximately \$22 per diesel vehicle, per year over the 20 year life of the vehicle (all vehicles are expected to incur, on average, 0.6 additional repairs over the first 20 years of operation at an average repair cost of \$444).

The Executive Officer has made an initial determination, pursuant to Government Code section 11346.5(a)(8), that the proposed regulatory action would 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. Support for this determination is set forth in the ISOR. Additionally, in accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action would 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.

For manufacturers of light- and medium-duty gasoline vehicles, the costs to comply with the proposed regulatory action are expected to be negligible. The proposed revisions consist primarily of modifications to existing computer software. Incorporation and verification of the revised OBD II software would be accomplished during the regular design proves at no additional cost. As a result, costs to manufacturers, and therefore consumers, are anticipated to remain virtually unchanged.

For manufacturers of light-duty and medium-duty diesel vehicles, the costs to comply with the proposed regulatory action are expected to be less than the \$140 and \$153 retail price increases that were calculated for implementation of the requirements. Manufacturers would incur these costs in the form of additional hardware and software installed in the engine and the testing and development costs to implement the requirements. The Executive Officer anticipates that manufacturers would recoup these costs through the anticipated \$140 and \$153 retail price increase on each vehicle they sell.

Of the 34 domestic and foreign corporations that manufacturer California-certified passenger cars, light-duty trucks, and medium-duty gasoline and diesel vehicles equipped with OBD II systems, only one motor vehicle manufacturing plant, the New United Motor Manufacturing, Inc. (NUMMI), a joint venture between Toyota Motor Corporation and General Motors Corporation, is located in California. As stated, the costs associated with the amendments principally involve research and development

costs and do not affect assembly line production. Additionally, all manufacturers that produce diesel vehicles should experience similar, if not identical costs. Thus, the NUMMI facility, which does not produce diesel vehicles, should not be at either an advantage or disadvantage in relation to out-of-state car manufacturing facilities and should not experience an increase or decrease in the number of jobs at the facility.

In developing this regulatory proposal, ARB staff has found that the proposal would impose no significant adverse economic impact on private persons and businesses as consumers. The \$153 cost increase, for example, represents less than a 0.4% increase in the retail price of a medium-duty diesel vehicle, and the \$22 per vehicle per year in increased maintenance costs is negligible. Accordingly, 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 Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will have no significant adverse effect on small businesses because the regulation primarily affects vehicle manufacturers, none of which are small businesses. Further, small businesses which service or repair vehicles should not see any increased cost in equipment or tools or any reduction in the number of vehicles needing repair as a result of these amendments. Small businesses that own or operate vehicles would incur the same costs as individuals or other businesses in an increase in vehicle maintenance costs of \$22 per vehicle per year for any 2007 model year or newer medium-duty diesel vehicle purchased.

The amendments to the regulation do not impose any additional reporting requirements of manufacturers. In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the ARB's Executive Officer has previously 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 agency or that has been otherwise 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 must be received by no later than 12:00 noon, **September 28, 2006** 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 submittal : <http://www.arb.ca.gov/lispub/comm/bclist.php> and received at the ARB no later than 12:00 noon, **September 28, 2006**.

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, **September 28, 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 comment. The ARB 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 sections 39600, 39601, 43000.5, 43013, 43016, 43018, 43100, 43101, 43104, 43105, 43105.5, 43106, 43154, 43205, 43211, and 43212 of the Health and Safety Code. 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, 43205, 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 non substantial 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, 1st Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon
Executive Officer

Date: July 31, 2006