

TITLE 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTION OF THE HEAVY-DUTY DIESEL ENGINE SOFTWARE UPGRADE REGULATION (CHIP REFLASH)

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to consider adopting the proposed heavy-duty diesel engine software upgrade regulation. This proposed software upgrade regulation mandates installation of software to reduce emissions of oxides of nitrogen (NOx) from 1993-1999 model year heavy-duty vehicles.

The software upgrades, referred to as low NOx software, were developed in the 1990s as a result of negotiations between the United States Environmental Protection Agency (U.S. EPA), the ARB, and seven engine manufacturers. Owners of eligible vehicles and dealers/distributors with the capability to install the software have responsibilities under the proposed regulation. This notice summarizes the proposed regulation requirements.

DATE: October 23, 2003

TIME: 9:00 a.m.

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

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., October 23, 2003, and may continue at 8:30 a.m., October 24, 2003. This item may not be considered until October 24, 2003. Please consult the agenda for the meeting, which will be available at least 10 days before October 23, 2003, to determine the day on which this item will be considered.

If you have special accommodation or language needs, please contact the ARB's Clerk of the Board at (916) 322-5594 or sdorais@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 section 2011 of article 3, chapter 1, division 3, title 13, California Code of Regulations (CCR). Proposed amendments to sections 2180.1, 2181, 2184, 2185, 2186, 2192, and 2194 of article 1, chapter 3.5, division 3, title 13, CCR.

Background: In the 1990s, engine manufacturers used computer-based strategies on engines in trucks, school buses, urban buses, and motor homes that allowed the engines to comply with emission limits under certification conditions but caused significantly higher NOx emissions during highway driving. The U.S. EPA and ARB consider these strategies to be defeat devices (a.k.a. dual mapping and transient sensing algorithms) that result in off-cycle NOx emissions.

In 1998, the following manufacturers signed Consent Decrees with the U.S. EPA (represented by the Department of Justice (DOJ)), and the ARB: Caterpillar, Cummins, Detroit Diesel, Navistar, Mack/Renault, and Volvo. The Consent Decrees stipulate penalties, additional certification requirements, an October 2002 deadline for meeting 2004 model year standards, in-use testing, offset and incentive programs, and the Low NOx Rebuild Program. The state of California has similar agreements, called "Settlement Agreements."

The Low NOx Rebuild Program contained in the Consent Decrees and Settlement Agreements is simply engine software upgrades. The software is applicable to specified 1993-1998 model year electronically-controlled engines and is designed to reduce some of the high NOx emissions. The Consent Decrees and Settlement Agreements require low NOx rebuild kits to be installed at the time of normal engine rebuild. Information available during the time of the Consent Decree and Settlement Agreement negotiations indicated that rebuilds would be occurring around 300,000 to 400,000 miles of service. Increased durability of the diesel engine has enabled many engines to run 750,000 to 1,000,000 miles before needing a rebuild.

The engine manufacturers have complied with a portion of the Low NOx Rebuild Program by providing the low NOx rebuild kits (i.e. engine software) to dealers and distributors. However, only four to ten percent of the heavy-duty diesel vehicles with eligible engines have low NOx rebuild kits installed.

Factors contributing to the small percentage of low NOx software installations may be varied. As diesel engines have become increasingly durable, fewer rebuilds are being performed or are performed at higher mileage intervals. Some engines subject to the Consent Decree/Settlement Agreement Low NOx rebuild requirements are used in school buses and motor homes, which travel significantly fewer annual miles than do long-haul trucks. Additionally, the poor economy during the past few years may have contributed to vehicle owners delaying their engine rebuilds. Finally, it is possible that some engines are not having software installed at rebuild as required under the Consent Decrees and Settlement Agreements.

Therefore, excess NOx emissions continue to be emitted. In order to reduce NOx emissions, staff has developed a regulatory proposal to require engine software upgrade on all applicable 1993-1998 model year engines used in 1993-1999 model year vehicles.

What is ARB proposing?

The ARB staff is proposing to reduce air pollution by requiring owners and operators of trucks, school buses, and motor homes with 1993-1998 model year heavy-duty diesel engines to upgrade the software in the electronic control module (ECM) of these engines. Software upgrades were developed by the engine manufacturers and are available now for most 1993-1998 model year engines.

If adopted, owners and operators of eligible vehicles that operate in California must ensure that their vehicles' engines have the appropriate low NOx software installed. Since many 1999 model year vehicles have engines produced in 1998, owners and operators of 1999 model year vehicles will need to check to determine if they are affected. Distributors and dealers must provide the appropriate low NOx software to the vehicle owner or operator upon request.

What is a heavy-duty diesel engine software upgrade?

A heavy-duty diesel software upgrade (also referred to as low NOx software upgrade or chip reflash) is simply software installed in the engine that reprograms the vehicle's computer and reduces off-cycle NOx emissions. The installation process takes between one-half to one hour.

The ARB staff has prepared a list that can be checked to determine if low NOx software is available for the engine. This list is available from our web site at:

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

Would out-of-state vehicles be subject to the proposed requirements?

Yes. If adopted, owners and operators of 1993-1999 model year heavy-duty diesel vehicles (trucks, school buses, and motor homes) registered out-of-state, but that travel within California, would also be required to ensure that the engines in their vehicles have the appropriate low NOx software installed.

How much would the low NOx software installation cost?

The low NOx software should be provided and installed free of charge to vehicle owners and operators. Engine manufacturers have a responsibility to mitigate the excess NOx emissions caused by the "computer-based strategies" they programmed into their engines. The ARB staff believes the applicable Consent Decrees and Settlement Agreements require manufacturers to supply the Low NOx software at no added cost whenever it is requested.

Some engine manufacturers are already providing the software free of charge to all who request it. Unfortunately, some engine manufacturers are not installing the low NOx software free of charge unless it is installed in conjunction with an engine rebuild. If those engine manufacturers continue refusing to reimburse the dealers/distributors,

dealers and distributors will likely pass charges on to the vehicle owner/operator for about one-half to one hour of labor. The ARB is pressing the engine manufacturers to meet their financial obligations so that no costs are incurred by vehicle operators and owners.

When would low NOx software have to be installed?

If adopted by the Board as proposed by the staff, this regulation would require the low NOx software upgrade to be installed between April and December 2004, depending on the model year of the engine in the affected vehicle. Our proposal is as follows:

1993-1994 model years	By April 30, 2004
1995-1996 model years	By August 31, 2004
1997-1998 model years	By December 31, 2004

How would the low NOx software installations be enforced?

The ARB enforcement staff would verify the installations of the low NOx software through the existing Heavy-Duty Vehicle Inspection Program (HDVIP). In the HDVIP, the ARB staff already inspects heavy-duty vehicles at California Highway Patrol (CHP) weigh stations, randomly selected roadside locations, and fleet facilities for excessive smoke and tampering.

Staff is proposing to amend the HDVIP to include the verification of the low NOx software installations. Inspectors, using an electronic device appropriate for the engine, would be able to verify that the correct low NOx software has been installed. Failure to have the low NOx software installed by the compliance dates would result in a citation accompanied by monetary penalties.

What would the proposed penalty be for not having the low NOx software installed?

The penalty would be \$300 if the low NOx software were installed within 45 days of issuance of a citation. If the software were not installed until after 45 days of issuance of a citation, there would be an additional \$500 penalty. The penalties for the failure to install the low NOx software would apply to both California-registered vehicles and out-of-state registered vehicles, and would be in addition to any penalties incurred in the HDVIP for excessive smoke and tampering.

The \$300 penalty would be waived for California-registered school buses if the low NOx software were installed within 45 days of issuance of a citation. If the software were not installed until after 45 days of issuance of a citation, both the \$300 penalty and the additional \$500 penalty would apply.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

The Board staff has prepared a staff report: Initial Statement of Reasons (ISOR) for the Proposed Regulation, which includes a summary of the environmental and economic impacts of the proposal and supporting documentation. The staff report is entitled: "Initial Statement of Reasons, Public Hearing to Consider Adoption Of The Heavy-Duty Diesel Engine Software Upgrade Regulation (Chip Reflash)."

Copies of the staff report 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, 1st Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing October 23, 2003.

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 the designated agency contact persons, Lisa Jennings, Air Pollution Specialist, at (916) 322-6913, or Earl Landberg, Air Pollution Specialist, at (916) 323-1384.

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 Amy Whiting, Regulations Coordinator, (916) 322-6533. 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 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 www.arb.ca.gov/regact/chip03/chip03.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 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 developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. There may be as many as 40,000 businesses, up to 3,000 school districts, and over 5,000 individuals who own motor homes with 1993-1999 model year heavy-duty diesel vehicles affected by this proposal. Also affected are approximately 100 dealers/distributors for Caterpillar, Cummins, Detroit Diesel, Mack/Renault, International (Navistar), or Volvo that have the capability to install low NOx software into an eligible engine's ECM. Finally, this proposal will also affect the seven engine manufacturers mentioned already – each of which is located outside of California. The total statewide costs that businesses and individuals may incur to comply with this regulation over its lifetime are up to eight million dollars.

The ARB staff believes that the low NOx software should be provided and installed free of charge to vehicle owners and operators. If engine manufacturers reimburse the dealers and distributors for labor charges, the only cost to the vehicle owner would be the time that the vehicle is out-of-service. This includes time: 1) to drive the vehicle to the dealer or distributor facility; 2) to install the low NOx software; and 3) to return the vehicle back to service. Waiting time would be minimized if vehicle owners and operators make an appointment with the dealer or distributor. This "time cost" can be reduced to next to nothing if the low NOx software is installed at the same time that another service or repair is performed on the vehicle.

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 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. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the staff report (ISOR).

The Executive Officer has also determined, pursuant to Title 1, CCR, section 4, that the proposed regulatory action will affect small businesses. Staff was unable to determine the number or percentage of total businesses impacted that are small businesses. Staff believes that some of the 40,000 companies that own 1993-1999 model year heavy-

duty diesel vehicles affected by this proposal are small businesses based on income, profit, number of employees, or number of vehicles owned. Some of the dealers/distributors affected may also be small businesses. Staff has estimated the initial cost for a small business at 0-200 dollars with the typical businesses spending 0-1500 dollars to comply with this regulatory proposal.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the ARB's 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 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, October 22, 2003**, 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: chip03@listserv.arb.ca.gov and received at the ARB **no later than 12:00 noon, October 22, 2003**.

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 October 22, 2003**.

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 Health and Safety Code, sections 39600, 39601, 43013, 43018, 43701, and 44011.6 Health and Safety Code.

This action is proposed to implement, interpret and make specific sections 39001, 39002, 39003, 39010, 39033, 43000, 43013, 43018, 43701, and 44011.6 Health and Safety Code, and sections 305, 505, 545, and 2813 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 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, Public Information Office, Sacramento, CA 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon
Executive Officer

Date: August 26, 2003

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.