

State of California  
AIR RESOURCES BOARD

**Resolution 05-38**

July 21, 2005

Agenda Item No.: 05-7-4

WHEREAS, sections 39002 and 39003 of the Health and Safety Code charge the Air Resources Board (ARB or the Board) with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Board to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, section 39515 of the Health and Safety Code provides that the Board may delegate any duty to the Executive Officer which the Board deems appropriate and that any power, duty, purpose, function, or jurisdiction which the Board may lawfully delegate shall be conclusively presumed to have been delegated to the Executive Officer unless the Board has expressly reserved such authority onto itself;

WHEREAS, in sections 43000 and 43000.5(a) of the Health and Safety Code, the Legislature declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in many parts of the state and that despite significant reductions in vehicle emissions in recent years, continued growth in population and vehicle miles traveled throughout California have the potential not only to prevent attainment of the state standards, but in some cases, to result in worsening of air quality;

WHEREAS, section 43000.5(c) of the Health and Safety Code provides that the burden for achieving needed reductions in vehicle emissions should be distributed equitably among various classes of vehicles, including heavy-duty vehicles to accomplish improvements in both the emissions level and in-use performance and durability of all new motor vehicles;

WHEREAS, section 43004 of the Health and Safety Code provides that unless expressly exempted, the exhaust emission standards for gasoline powered motor vehicles shall apply to motor vehicles that have been modified or altered to use a fuel other than gasoline or diesel;

WHEREAS, section 43006 of the Health and Safety Code provides that the ARB may certify the fuel system of any motor vehicle powered by a fuel other than gasoline or diesel that meets the standards specified by section 43004 and adopt test procedures for such certification;

WHEREAS, section 43806 of the Health and Safety Code directs the Board to adopt emission standards and procedures applicable to new engines used in publicly owned and privately owned public transit buses;

WHEREAS, section 43013 of the Health and Safety Code authorizes the Board to adopt motor vehicle emission standards and in-use performance standards that it finds to be necessary, cost-effective, and technologically feasible;

WHEREAS, section 43018(a) of the Health and Safety Code directs the Board to achieve the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to accomplish the attainment of state standards at the earliest practicable date;

WHEREAS, section 43018(c) of the Health and Safety Code further directs the Board that in carrying out the directives of section 43018(a), the Board shall adopt standards and regulations which will result in the most cost-effective combination of control measures on all classes of motor vehicles, including but not limited to, reductions in exhaust and evaporative emissions and reductions in in-use emissions through improvements in motor vehicle emission system durability and performance;

WHEREAS, section 43101 of the Health and Safety Code directs the Board to adopt and implement emission standards for new motor vehicles for the control of emissions therefrom that are necessary and technologically feasible;

WHEREAS, section 43102 of the Health and Safety Code provides that the Board shall not certify a new motor vehicle or motor vehicle engine unless the vehicle or engine meets the emission standards adopted by the ARB pursuant to Part 5 of the Health and Safety Code under test procedures adopted pursuant to section 43104;

WHEREAS, section 43104 of the Health and Safety Code provides that the Board shall adopt test procedures and any other procedures necessary to certify that new motor vehicles and engines are in compliance with the emissions standards established under Part 5 of the Health and Safety Code;

WHEREAS, section 43105 of the Health and Safety Code provides that no new motor vehicle or engine required under Part 5 of the Health and Safety Code to meet emission standards shall be sold to the ultimate purchaser, ordered or delivered for sale to the ultimate purchaser, or registered in this state if the manufacturer has violated emission standards or test procedures and has failed to take corrective action, which may include recall of vehicles or engines, specified by the Board in accordance with its regulations;

WHEREAS, section 43105.5 of the Health and Safety Code directs the Board to require motor vehicle manufacturers to provide service information necessary to properly inspect, test and repair motor vehicles equipped with on-board diagnostic (OBD) systems;

WHEREAS, sections 43016, 43154, 43211, and 43212 of the Health and Safety Code provide that penalties may be assessed against motor vehicle manufacturers for noncompliance with ARB emission standards, other certification requirements, or other rules and regulations of the Board;

WHEREAS, the Board has adopted and the Office of Administrative Law subsequently has approved regulations regarding malfunction and diagnostic system requirements for 1994 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles and engines (OBD II);

WHEREAS, in 2001 and 2002, the Board adopted more stringent tailpipe emission standards for 2007 and subsequent heavy-duty diesel engines and 2008 and subsequent heavy-duty otto-cycle engines, respectively;

WHEREAS, the California Environmental Quality Act (CEQA), section 21080.5 of the Public Resources Code and Board regulations at title 17, California Code of Regulations (CCR) section 60006 require that no project which may have significant adverse environmental impacts may be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, pursuant to section 43101 of the Health and Safety Code and section 11346.3 of the Government Code, the Board has considered and assessed the effects of the proposed regulation on the economy of the state;

WHEREAS, following a May 2004 hearing, the Board adopted and the Office of Administrative Law subsequently approved a regulation regarding "Engine Manufacturer Diagnostic System Requirements – 2007 and Subsequent Model-Year Heavy-Duty Engines," (EMD) which are codified at title 13, CCR section 1971, and which set forth requirements for (1) monitoring the fuel system, exhaust gas recirculation system, particulate matter (PM) trap, and emission-related electronic components; and (2) alerting the vehicle operator to the problem by illuminating a warning light and outputting diagnostic information for use by repair technicians;

WHEREAS, the staff has now proposed adoption of title 13, CCR, section 1971.1, which would establish OBD system requirements for 2010 and subsequent model year heavy-duty engines;

WHEREAS, proposed section 1971.1 would include more comprehensive diagnostic system requirements than the EMD regulation by establishing, among other things,

monitoring requirements for virtually every emission-related component or system, standardized requirements defining the content and format of specific diagnostic information required to be output for use by repair technicians, testing requirements to ensure the OBD systems comply with the proposed regulation, and requirements for standardized measurement of real world monitoring performance;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code to consider adoption of proposed section 1971.1, title 13, CCR;

WHEREAS, the Board finds regarding the adoption of proposed section 1971.1 of title 13, CCR, that:

Since the introduction of 1996 model year light-duty and medium-duty motor vehicles and engines, manufacturers have incorporated OBD II systems into nearly all of their light-duty and medium-duty vehicle models and engines pursuant to the standards and other requirements of title 13, CCR, sections 1968.1 and 1968.2;

Emissions from heavy-duty trucks, especially oxides of nitrogen (NO<sub>x</sub>) and particulate matter (PM) emissions released from diesel trucks, are of great concern;

NO<sub>x</sub> is a precursor to ozone and causes lung irritation, and diesel PM is carcinogenic and identified as a toxic air contaminant.

Particulate filters are expected to be universally used on heavy-duty engines by the 2007 model year;

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 in the forefront in adopting the most stringent motor vehicle emission control program in the nation;

On-Road Heavy-Duty strategy #5 (previously called measure 17) was included as part of the SIP to complement the new emission standards for heavy-duty diesel engines and with the objective to reduce in-use emissions from on-road heavy-duty diesel vehicles;

Adopting diagnostic requirements for heavy-duty vehicles is an essential step towards meeting the obligations of On-Road Heavy-Duty strategy #5 to reduce emissions from on-road heavy-duty diesels;

To assure compliance with increasingly stringent emission standards that are required for future heavy-duty engines and to better serve repair technicians, it is necessary that engines certified to those standards be equipped with diagnostic systems that monitor the emission control system;

To assure sufficient leadtime and to complement the more stringent emission standards being phased in during the 2007 through 2010 timeframe, proposed section 1971.1 of title 13, CCR, would require OBD systems produced for sale in California to be phased in starting in the 2010 model year on on-road heavy-duty engines and vehicles with a gross vehicle weight rating of greater than 14,000 pounds;

The new regulation would include more comprehensive diagnostic system requirements than the EMD regulation, which only builds on the basic engine diagnostic system heavy-duty engine manufacturers are currently using to provide diagnostic capability for the most important emission control systems;

Monitoring of virtually every emission-related component and system is needed to help ensure that heavy-duty engines that have been certified to the more stringent emission standards perform at or near such levels in-use;

To ensure that a malfunction of any of these systems/components is promptly fixed, the new regulation would require the OBD system to alert the vehicle operator to the problem by illuminating a warning light;

To assist repair technicians in fixing the emission control system, the new regulation would include standardization requirements that, among other things, would ensure the use of uniform communication protocols and diagnostic information – including readiness status, fault codes, and “real-time” data parameters;

It is essential to the success of the heavy-duty OBD program that engine manufacturers verify that the OBD systems on production engines and vehicles comply with the OBD regulation and communicate properly with off-board test equipment;

To ensure that the major OBD monitors are able to detect a fault before emissions become too high, it is necessary for engine manufacturers to conduct emission testing of these monitors and present the data to ARB for review prior to certification of the OBD system;

Establishing certification requirements would ensure that ARB obtains all information necessary to evaluate and certify heavy-duty OBD systems on new engines in a timely manner;

To minimize in-use problems with the heavy-duty OBD systems that may otherwise go undetected, it is necessary that engine manufacturers conduct validation testing of the different diagnostics required under the heavy-duty OBD regulation on engines and vehicles manufactured in the first several months after full-scale production for a model year commences;

Allowing engine manufacturers to certify OBD systems with unlimited “free” deficiencies during the first few years of OBD system implementation is appropriate if manufacturers demonstrate a good faith effort to comply with the OBD regulation, and, in an effort to encourage manufacturers to verify compliance on post-certification production engines and vehicles, manufacturers should be allowed to request and receive deficiency allowances, under limited circumstances, during the first several months after model-year production has commenced;

To ensure that OBD monitors run frequently in-use, it is necessary for ARB to adopt standardized procedures for determining real world monitoring performance and that engine manufacturers track the frequency of in-use operation of specified monitors;

To provide ARB with necessary information to determine whether or not specified OBD monitors equipped on production engines and vehicles are operating with sufficient frequency in-use, engine manufacturers should collect and provide ARB with tracking data from vehicles introduced during the first six months of a model year; and

The proposed requirements of title 13, CCR, section 1971.1 are necessary, cost-effective, and technologically feasible to carry out the purposes of the California Clean Air Act; and

WHEREAS, the Board further finds regarding the adoption of proposed section 1971.1 of title 13, CCR that:

With respect to the requirements of CEQA, proposed section 1971.1, title 13, CCR, would not adversely impact the environment but would help guarantee that engines initially certified to low emission standards maintain such emission levels throughout their lives; by doing so, the proposed regulation would help in the attainment and maintenance of the national ambient air quality standards for ozone, carbon monoxide and NOx;

Having determined that the proposed regulation should not adversely affect the environment, but rather help ensure that measurable emission benefits are achieved statewide, proposed section 1971.1, title 13, CCR, should not adversely impact any community in the State, especially low-income or minority communities;

The economic and cost impacts of proposed title 13, CCR, section 1971.1 have been analyzed as required by California law, and the conclusions and supporting documentation for this analysis are set forth in the Initial Statement of Reasons for this regulatory action;

The reporting requirements of title 13, CCR, section 1971.1 applicable to businesses are necessary for the health, safety, and welfare of the people of the State;

Though there is currently no federal regulation requiring diagnostic systems on vehicles and engines above 14,000 pounds (i.e., similar to the requirements of proposed title 13, CCR, section 1971.1), the U.S. Environmental Protection Agency (U.S. EPA) has indicated its intent to develop a federal program in the near future that would harmonize with the California program and use the former program as a template; and

No reasonable alternative considered or that has otherwise been identified and brought to the attention of the ARB would be more effective in carrying out the purpose for which the amendments are proposed, or be as effective and less burdensome to affected private persons and businesses than the proposed amendments.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves adoption of proposed section 1971.1, title 13, CCR as set forth in Attachment A hereto, with the modifications set forth in Attachment B hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt proposed section 1971.1, title 13, CCR as approved herein, after making the modified regulatory language, with such other conforming modifications as may be appropriate, available for public comment for a period of at least 45 days, provided that the Executive Officer shall consider such written comments regarding the modifications as may be submitted during this period, shall make modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he or she determines that this is warranted.

BE IT FURTHER RESOLVED that the Board hereby determines, pursuant to section 209(b) of the federal Clean Air Act, that the State's standards with the adoption of title 13, CCR, section 1971.1 as approved herein would, in the aggregate, be at least as protective of the public health and welfare as applicable federal standards, that

California needs its own state mobile source program to meet compelling and extraordinary conditions, and that the standards and procedures approved herein are not inconsistent with section 202(a) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Executive Officer shall, upon adoption, forward the regulations to the U.S. Environmental Protection Agency with a request for a waiver of federal preemption pursuant to section 209(b) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Board directs the staff to continue to closely monitor the progress of heavy-duty engine manufacturers in implementing and complying with the requirements of section 1971.1, title 13, CCR, and to report back to the Board in approximately two years from the effective date of the regulations with a status report and such amendments as deemed necessary to effectuate the purposes and policies outlined above.

I hereby certify that the above is a true and correct copy of Resolution 05-38, as adopted by the Air Resources Board.

/S/

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Lori Andreoni, Clerk of the Board



Resolution 05-38  
July 21, 2005

**Identification of Attachments to the Resolution**

**Attachment A:** On-Board Diagnostic System Requirements for 2010 and Subsequent Model Year Heavy-Duty Engines, Section 1971.1, Title 13, California Code of Regulations

**Attachment B:** Staff's Suggested Modifications to the Original Proposal, as made available at the July 21, 2005 hearing.