

State of California
AIR RESOURCES BOARD

Resolution 00-30

September 28, 2000

Agenda Item No: 00-9-1

WHEREAS, in section 39001 of the Health and Safety Code (H&SC), the Legislature has declared that the public interest shall be safeguarded by an intensive, coordinated State, regional, and local effort to protect and enhance the ambient air quality of the State;

WHEREAS, in H&SC sections 39003, 39500, 39602, and 41500 the Air Resources Board (ARB or Board) is charged to coordinate, encourage, and review air pollution control activities and efforts throughout the State to achieve and maintain the State and national ambient air quality standards at the earliest practicable date;

WHEREAS, sections 39002, 39500, and 40000, empower local and regional authorities with the primary responsibility for control of air pollution from all sources other than vehicular sources; the control of emissions from motor vehicles shall be the responsibility of the Board; local and regional authorities may establish stricter standards than those set by law or by the Board for nonvehicular sources;

WHEREAS, sections 39003 and 43000 of the H&SC charge the Board to conduct research into the causes of and solution to air pollution, and to systematically attack the serious air pollution problem caused by motor vehicles, which is the primary cause of air pollution in many parts of the State;

WHEREAS, sections 39600 and 39601 of the H&SC authorize the Board 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 and to adopt standards, rules, and regulations;

WHEREAS, section 39605 of the H&SC authorizes the Board to provide assistance to local air pollution control and management districts (districts);

WHEREAS, H&SC section 40926 stipulates that nothing in this Chapter restricts the authority of the Board or a district to adopt regulations to control suspended particulate matter (PM);

WHEREAS, sections 43013, 43101, and 43104 of the H&SC authorize the Board to adopt emission standards and test procedures to control air pollution caused by motor vehicles;

WHEREAS, section 43013(a) of the H&SC authorizes the Board to adopt and implement motor vehicle emission standards and in-use performance standards for the control of air contaminants and sources of air pollution which the Board has found to be necessary, cost-effective and technologically feasible, unless preempted by federal law;

WHEREAS, section 43013(b) of the H&SC requires the Board, consistent with section 43013(a), to adopt standards and regulations for off-road or nonvehicle engine categories;

WHEREAS, sections 41750 - 41755 of the H&SC establish the responsibilities of the Board and districts to implement and enforce the Statewide Portable Equipment Registration Program for portable engines and associated equipment;

WHEREAS, the Statewide Portable Equipment Registration Program was adopted by the Board on March 27, 1997, and the new regulation is set forth in the California Code of Regulations, title 13, article 5, sections 2450 - 2465;

WHEREAS, in section 41750(c) of the H&SC, the Legislature declared that a uniform, voluntary system of statewide registration and regulation of portable engines and associated equipment is necessary to ensure consistent and reasonable regulation of that equipment without undue burden on their owners, operators, and manufacturers;

WHEREAS, section 39618 classifies refrigerated trailers, also known as transport refrigeration units (TRUs), "as mobile sources and declares these units shall be regulated by the Board on a statewide basis; the Board shall achieve reductions in emissions attributable to TRUs;

WHEREAS, section 43018 of the H&SC directs the Board to endeavor to achieve the maximum degree of emission reduction possible from vehicular sources to accomplish the attainment of state ambient air quality standards by the earliest practicable date;

WHEREAS, section 43701(b) of the H&SC requires the Board to adopt regulations that require heavy-duty diesel vehicles to utilize emission control equipment and alternative fuels to reduce emissions to the greatest extent feasible;

WHEREAS, Assembly Bill (AB) 1807 (Tanner, Chapter 1047, Statutes of 1983, Health and Safety Code section 39650 et seq.) was enacted by the State of California in 1983 and requires that the ARB identify and control emissions of toxic air contaminants (TACs);

WHEREAS, section 39650 of the H&SC finds and declares that public health, safety, and welfare may be endangered by the emissions into the ambient air of substances which are determined to be carcinogenic, teratogenic, mutagenic, or otherwise toxic or injurious to humans; and it is the public policy of the State that emissions of TACs should be controlled to levels which prevent harm to the public health;

WHEREAS, section 39666 of the H&SC directs the Board to reduce emissions to the lowest level achievable through application of best available control technology or a more effective control method for TACs for which there is not a specified threshold exposure level;

WHEREAS, section 39667 of the H&SC directs the Board to achieve the maximum possible reduction in public exposure to TACs by establishing emission standards for vehicular sources including new and in-use motor vehicles and fuels, not limited to, the modification, removal, or substitution of vehicle fuel, vehicle fuel components, or fuel additives, or the required installation of vehicular control measures on new motor vehicles;

WHEREAS, on August 27, 1998, Board Resolution 98-35, and in accordance with the requirements of H&SC section 39662, the Board determined that it was appropriate to list particulate matter from diesel-fueled engines (diesel PM) as a TAC, and that existing authority for controlling emissions of already-identified TACs and criteria pollutants can be utilized to consider any additional reductions that may be necessary in vapor organic gases;

WHEREAS, Board Resolution 98-35 directed ARB staff to begin the risk management process and focus on control measures that may be needed as a consequence of listing diesel PM from diesel-fueled engines as a TAC, and that also may be needed to reduce other potentially harmful pollutants from diesel-fueled engines;

WHEREAS, H&SC section 39665 directs ARB staff, with participation of the districts, and in consultation with affected sources and the interested public, to prepare a report on the need and appropriate degree of regulation for each substance which the Board has determined to be a TAC;

WHEREAS, at the direction of the Board in Resolution 98-35, ARB staff established an Advisory Committee, with four working group subcommittees, to ensure public consultation and participation in its risk management efforts;

WHEREAS, the "needs assessment report" required by section 39665 of the H&SC is herein identified as the Proposed Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (RRP) dated September 13, 2000 (Attachment A);

WHEREAS, based on the information in the public record, including the staff report and written and oral testimony, the Board finds that:

Diesel exhaust is a complex mixture of gases and fine particles emitted by a diesel-fueled engine;

The gaseous fraction of diesel exhaust contains volatile organic compound (VOC) components, but is primarily composed of typical combustion gases such as nitrogen, oxygen, carbon dioxide, and water vapor. However, as a result of incomplete combustion, the gaseous fraction also contains air pollutants such as carbon monoxide, sulfur oxides, nitrogen oxides, and VOCs such as alkenes, aromatic hydrocarbons, aldehydes such as formaldehyde and 1,3-butadiene, and low-molecular weight polycyclic aromatic hydrocarbons (PAH) and PAH-derivatives;

Organic vapor-phase substances emitted by diesel-fueled engines have been listed as TACs and have or can be controlled as VOC emissions;

The scientific evidence indicates particulate matter and organic vapor phase emissions are the most likely contributors to adverse health effects from exposure to diesel exhaust;

Particulate and VOC emissions in diesel exhaust include over 40 substances that are listed by the U.S. Environmental Protection Agency (U.S. EPA) as hazardous air pollutants and by the ARB as TACs, and 15 of these substances are listed by the International Agency for Research on Cancer as carcinogenic to humans, or as probable or possible human carcinogens;

It is in the public interest that the ARB coordinates an intensive statewide, regional, and local effort to protect and enhance the ambient air quality of the State by further reducing diesel PM emissions from all diesel-fueled engines and vehicles;

That the major sources of diesel PM emissions are diesel-fueled mobile sources (i.e., on-road vehicles and off-road engines (equipment) and vehicles, which includes certain equipment considered portable);

The ARB staff estimates the statewide potential diesel PM emissions inventory for stationary and mobile diesel-fueled vehicles and engines for the years 1990, 2000, 2010, and 2020 are 46,400 tons per year (tpy), 28,000 tpy, 22,800 tpy, and 18,900 tpy, respectively;

The ARB staff estimates that, in the absence of new measures to reduce diesel PM, the outdoor statewide potential cancer risk from exposure to diesel particulate matter (expressed as potential cancers/million people) for the years 1990, 2000, 2010, and 2020 are 900, 540, 450, and 360, respectively;

The ARB staff compared the top ten identified and monitored air pollutants that contribute to inhalation health risk and determined that diesel PM comprises approximately 70 percent to the total statewide inhalation health risk attributable to toxic air pollutants;

The ARB staff's findings are consistent with the South Coast Air Quality Management District's study of air toxics in the South Coast Air Basin (the Multiple Air Toxics Exposure Study (MATES II)) wherein it was found that diesel PM is a major contributor to ambient air health risk and accounts for approximately 70 percent of the ambient air toxics risk;

The ARB staff predicts that without further action the diesel PM inventory and associated potential cancer risk will only decline by 20 percent from 2000 to 2010, and by 30 percent from 2000 to 2020. These reductions would result from the implementation of existing federal and State regulations and the attrition of older diesel-fueled passenger cars and light-duty trucks from the on-road fleet;

The ARB staff estimates the full implementation of the recommended measures in the proposed RRP will result in an overall 75 percent reduction in the diesel PM inventory and the associated potential cancer risk by 2010, and an 85 percent reduction by 2020 in the diesel fuel inventory and potential cancer risk;

The ARB staff estimates that over two-thirds of the emission reductions in 2010 and about half of the emissions reductions in 2020 are attributable to the retrofit elements of the RRP;

The ARB staff estimates that the costs associated with implementation of the RRP are in the range of other major programs approved by the Board;

The recommended measures can be grouped as measures that address on-road vehicles, off-road equipment and vehicles, and stationary and portable engines;

In developing the measures it is appropriate for ARB staff to identify opportunities to reduce diesel PM emissions and associated potential risk through alternative technologies and fuels;

The ARB staff recognizes that additional reductions in diesel PM can be achieved by developing alternative, non-regulatory strategies for mobile sources, such as guideline development, voluntary memoranda of understanding, or non-regulatory incentive programs;

The recommended voluntary, non-regulatory strategies being considered in the proposed RRP include idling restrictions, retrofitting emergency vehicles, installing diesel particulate filters on locomotives, older school bus replacement/retrofit programs, and retrofitting ground support equipment at airports;

The ARB staff has worked closely with California air districts, affected industries, environmental groups, and other interested parties in the development of the proposed RRP;

In response to comments made by industry and the districts the ARB staff has made revisions to the draft proposed RRP, and to the appendices thereto, that were presented at a joint meeting of the subcommittees, and made available to the public on July 13, 2000, and discussed at a full Advisory Committee/public meeting on August 11, 2000;

The California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

The ARB staff has identified in the proposed RRP possible adverse environmental and safety impacts associated with the recommended measures;

The Board has considered the possible adverse impacts of the proposed recommended measures identified in the proposed RRP on the environment or the economy of California;

It is appropriate to fully investigate and address all possible adverse impacts during the rulemaking process for each recommended measure; and

The Board has held a duly-noticed public meeting, in accordance with all applicable provisions of law 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 approval of the proposed Risk Reduction Plan, and the Board has heard and considered the comments presented by representatives of the Board, districts, affected industries, and other interested persons and agencies.

WHEREAS, the Board further finds that:

The proposed RRP provides sufficient basis for approval and that the recommended measures and guidance in the proposed RRP are necessary;

Implementation of the recommended measures in the proposed RRP will establish uniform and consistent statewide ATCMs or regulations for the control of diesel PM emissions from diesel-fueled engines and vehicles;

It is appropriate to complete detailed feasibility, cost and cost-effectiveness analyses during the preparation of each control measure;

The federal Clean Air Act preemption of authority to regulate new construction and farm equipment below 175 horsepower, new locomotives and locomotive engines, and commercial marine equipment limits California's ability to achieve significant diesel PM emission reductions from off-road sources. The U.S. EPA has the authority to adopt standards and regulations to address these sources;

The U.S. EPA must be urged to adopt standards and regulations applicable to all 50 states that are similar in both scope and stringency to the measures in the proposed RRP; and

No alternatives considered by the Board would be more effective than the controls identified in the proposed RRP in carrying out the Board's directions in Board Resolution 98-35, or the requirements of AB 1807 (AB 1807 Tanner, Chapter 1047, Statutes of 1983, H&SC section 39650 et seq.).

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the Proposed Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Executive Officer is directed to forward the Proposed Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles to the U.S. EPA and to urge the U.S. EPA to enact the recommended actions to be taken by the U.S. EPA to support the measures in the RRP.

BE IT FURTHER RESOLVED that the Executive Officer is directed to forward the Proposed Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles document to all California air districts for their consideration in implementing a coordinated State effort to further reduce diesel PM emissions.

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BE IT FURTHER RESOLVED that the Executive Officer is directed to begin development of the individual measures in the Proposed Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

BE IT FURTHER RESOLVED that the Executive Officer is directed to investigate economic incentives as appropriate to assist in carrying out the Proposed Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

I hereby certify that the above is a true and correct copy of Resolution 00-30, as adopted by the Air Resources Board.



Marie Kavan, Clerk of the Board