State of California
AIR RESOURCES BOARD

Resolution 92-46

June 11, 1992

Agenda Item No.: 92-9-1

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (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, in section 43000 of the Health and Safety Code the Legislature has declared that the emission of air contaminants from motor vehicles is the primary cause of air pollution in many parts of the state, and that the control and elimination of those air contaminants is of prime importance for the protection and preservation of the public health and well-being, and for the prevention of irritation to the senses, interference with visibility, and damage to vegetation and property;

WHEREAS, section 43018(a) of the Health and Safety Code, enacted by the California Clean Air Act of 1988, directs the Board 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 ambient air quality standards at the earliest practicable date;

WHEREAS, section 43018(b) of the Health and Safety Code directs the Board no later than January 1, 1992, to take whatever actions are necessary, cost-effective, and technologically feasible in order to achieve, by December 31, 2000, a reduction of reactive organic gases (ROG) of at least 55 percent and a 15 percent reduction in the emissions of oxides of nitrogen (NOx) from motor vehicles, and the maximum feasible reductions in particulates (PM), carbon monoxide (CO), and toxic air contaminants from vehicular sources;

WHEREAS, section 43018(c) of the Health and Safety Code provides that in carrying out section 43018, 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 and motor vehicle fuels, including but not limited to reductions in motor vehicle exhaust and evaporative emissions, reductions in in-use vehicular emissions through durability and performance improvements, requiring the purchase of low-emission vehicles by state fleet operators, and specification of vehicular fuel composition;

WHEREAS, section 43101 of the Health and Safety Code directs the Board to adopt and implement emission standards for new motor vehicles which the Board has found to be necessary and technologically feasible to carry out the purposes of Division 26 of the Health and Safety Code;

WHEREAS, following a hearing on September 27-28, 1990, the Board in Resolution 90-58 approved the Low-Emission Vehicles and Clean Fuels regulations which require the production of low-emission light- and medium-duty vehicles and require that alternative fuels used by these vehicles be made reasonably available to motorists; at the direction of the Board these regulations were subsequently adopted by the Executive Officer in Executive Order G-604;

WHEREAS, the vehicle elements of the Low-Emission Vehicles and Clean Fuels regulations include:

Four new levels of exhaust emission standards for light-duty vehicles which, in order of increasing stringency, are called transitional low-emission vehicles (TLEVs), low-emission vehicles (LEVs), ultra-low-emission vehicles (ULEVs), and zero-emission vehicles (ZEVs);

Non-methane organic gas standards which, for fuels other than conventional gasoline, are adjusted by reactivity adjustment factors that account for ozone-forming potential;

Annually descending fleet average requirements for light-duty vehicles which begin with the 1994 model year, with provisions for marketable credits and carry-forward of credits and deficits;

Requirements that, starting with the 1998 model year, two percent of a manufacturer's production of passenger cars and light-duty trucks from 0 to 3750 lbs. loaded vehicle weight shall be ZEVs, with the percentage increasing to five percent in 2001, and ten percent in 2003; and

Two new categories of standards, LEV and ULEV, for medium-duty vehicles, with emission standards of equivalent stringency to those for light-duty vehicles, taking into account the greater load requirements of medium-duty vehicles, and with an implementation schedule starting with the 1998 model year under which each manufacturer would have to certify an increasing percentage of each model year's fleet to LEV and ULEV standards;

WHEREAS, the amendments made by the Low-Emission Vehicles and Clean Fuels regulations are contained in Title 13, California Code of Regulations, sections 1900, 1904, 1956.8, 1960.1, 1960.1.5, 1960.5, 1965, 2061, 2111, 2112, 2125, 2139, 2300 through 2317, and the documents incorporated by reference therein;

WHEREAS, one of the fundamental premises of the Low-Emission Vehicles and Clean Fuels program is that the vehicle and its fuel are considered part of a single system, and the emission benefits of cleaner fuels are recognized when the vehicle/fuel system is evaluated for certification to the low-emission vehicle standards;

WHEREAS, when the Board approved the Low-Emission Vehicles and Clean Fuels regulations in 1990 it anticipated that regulations requiring that gasoline sold in California meet stringent "Phase 2" reformulated gasoline specifications would be approved the following year, and that the low-emission vehicle regulations would then be revised to allow low-emission vehicles to be certified using a certification fuel reflecting the specifications for Phase 2 gasoline; such Phase 2 certification fuel specifications were not included in the original low-emission vehicles regulations because insufficient data then existed to identify the most appropriate specifications for commercial Phase 2 gasoline;

WHEREAS, on November 22, 1991, the Board approved regulations establishing stringent specifications for commercial Phase 2 gasoline, applicable starting March 1, 1996;

WHEREAS, the Executive Officer plans to notice a public hearing for August 13, 1992, at which the Board will consider amending its motor vehicle emission test procedures to establish specifications for Phase 2 gasoline certification fuel;

WHEREAS, in determining the in-use compliance of low-emission vehicles, a fuel reflecting the fuel on which the vehicles were certified is used in any testing;

WHEREAS, as a result of cooperative programs between the ARB, California Energy Commission, South Coast Air Quality Management District, Sacramento Metropolitan Air Quality Management District, and auto manufacturers, significant advancements have occurred in the development of alternative fuel vehicles (e.g. compressed natural gas and methanol) which provide manufacturers with additional options for meeting the low-emission vehicle standards;

WHEREAS, the Board in Resolution 90-58 directed the Executive Officer to report to the Board by the Spring of 1992, and thereafter at least biennially, on the status of implementation of the Low-Emission Vehicles and Clean Fuels regulations;

WHEREAS, the Board has conducted a public meeting to consider the Executive Officer's report on the status of implementation of the Low-Emission Vehicles and Clean Fuels regulations, and has received oral and written comment from interested members of the public on the report and implementation status; and

WHEREAS, the Board finds that:

The 1993 Ford Escort/Mercury Tracer has been certified to the TLEV standards nearly two years earlier than the expected introduction date for TLEVs, and approximately ten other engine families are expected to be certified to the TLEV emission standards for the 1993 model year;

The certification emission levels of the 1993 Ford Escort/Mercury Tracer were at or below the 50,000 and 100,000 mile certification standards for LEVs using conventional vehicle technology which is widely available to vehicle manufacturers;

The LEV standards and phase-in requirements can be achieved by the 1997 model year by improving the fuel control and catalyst systems of conventional vehicles with small to medium displacement engines, and Phase 2 certification gasoline can provide an additional margin for compliance; for vehicles whose emissions are more difficult to control, electrically heated catalysts can be used to attain compliance with the LEV standards;

In consideration of the state of development of electrically heated catalyst systems, the results of current test programs and durability studies, and the efforts being made to resolve any remaining questions concerning the feasibility of electrically heated catalysts, electrically heated catalysts are a technologically feasible strategy for meeting the LEV and ULEV emission standards and phase-in requirements within the applicable timeframes;

The TLEV, LEV, and ULEV standards are technologically feasible within the applicable timeframes for vehicles certifying on conventional gasoline, although the use of Phase 2 gasoline certification fuel is expected to be an important element in the compliance strategy of manufacturers, enhancing the margin of safety and in some cases eliminating the need for some other emission control mechanisms; the option of using alternative fuels with appropriate emission controls provides another technologically feasible means of meeting the standards; and

It is technologically feasible to meet the ZEV phase-in requirements with battery-powered electric vehicles; however, infrastructure improvements are needed to support large-scale implementation of electric vehicles.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby finds that the Low-Emission Vehicles and Clean Fuels regulations remain technologically feasible within the given timeframes and that no changes to the emission standards or implementation schedule are needed at the present time.

BE IT FURTHER RESOLVED that the Board hereby directs the Executive Officer to evaluate infrastructure improvements needed to support the large-scale introduction of electric vehicles and other ZEV technologies, including battery recycling facilities, and to coordinate activities with the appropriate organizations to facilitate the implementation of such infrastructure improvements.

BE IT FURTHER RESOLVED that the Board hereby directs the Executive Officer to continue monitoring the status of implementation of the Low-Emission

Vehicles and Clean Fuels regulations and to report to the Board on the status of the program thereof, identifying any significant problems and proposing any appropriate regulatory modifications; the regulated public and other interested parties shall be provided an opportunity to make oral and written comments to the Board in conjunction with the reports.

BE IT FURTHER RESOLVED that the Board reaffirms its intent that the low-emission vehicles regulations consider the vehicle and fuel as part of a single system.

I hereby certify that the above is a true and correct copy of Resolution 92-46 as adopted by the Air Resources Board.

Pat Hutchens

Pat Hutchens, Board Secretary