State of California
AIR RESOURCES BOARD

Resolution 92-34

May 14, 1992

Agenda Item No.: 92-6-2

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the Board or ARB) to adopt standards, rules, and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Section 43004 of the Health and Safety Code provides that the emission standards applicable to gasoline-powered motor vehicles shall also apply to vehicles which have been modified to use fuels other than gasoline or diesel;

WHEREAS, Section 43006 of the Health and Safety Code authorizes the Board to certify the fuel systems of vehicles powered by fuels other than diesel or gasoline which meet the standards specified in Section 43004, and to adopt test procedures for such certification;

WHEREAS, Section 43018(a) of Health and Safety Code directs the Board to endeavor to achieve the maximum degree of emission reduction possible from vehicular sources in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date; Section 43018(c) provides that in carrying out Section 43018(a), the Board is to adopt standards and regulations which will result in the most cost-effective combination of control measures for motor vehicles and motor vehicle fuels, including controls which will achieve reductions in motor vehicle exhaust and evaporative emissions;

WHEREAS, Sections 27156 and 38391 of the California Vehicle Code prohibit the installation, sale, offering for sale, or advertisement of any motor vehicle pollution control device or system which alters or modifies the original design or performance of any such motor vehicle pollution control device or system, unless found by resolution of the Board either not to reduce the effectiveness of any motor vehicle pollution control device or to result in the modified vehicle's emissions continuing to comply with existing state or federal standards;

WHEREAS, Section 43802(b) of the Health and Safety Code requires the Board to identify those motor vehicle control devices and applications which convert conventional vehicles into low-emission vehicles as identified in Section 39037.05, Health and Safety Code;

WHEREAS, the Board has established procedures for approval of systems designed to convert motor vehicles to use liquefied petroleum gas, natural

gas, alcohol and alcohol/gasoline fuels in the "California Exhaust Emission Standards and Test Procedures for Systems Designed to Convert Motor Vehicles to Use Liquefied Petroleum Gas or Natural Gas Fuels" and the "California Exhaust Emission Standards and Test Procedures for Systems Designed to Convert Motor Vehicles to Use Alcohol or Alcohol/Gasoline Fuels," which are incorporated by reference in Sections 2030 and 2031, Title 13, California Code of Regulations;

WHEREAS, the Board's recently adopted low-emission vehicle standards take into account the differing reactivities of exhaust gases that result from using fuels other than conventional gasoline, by requiring the application of reactivity adjustment factors to the non-methane organic gas (NMOG) mass exhaust emissions from low-emission vehicles operating on such fuels;

WHEREAS, the staff has proposed a regulatory action to establish new certification and installation procedures for alternative fuel retrofit systems for 1994 and subsequent model-year vehicles; these new procedures would include requirements for more extensive emission testing, including durability and in-use compliance testing, interfacing with on-board diagnostic (OBD) systems, warranties by retrofit system manufacturers and installers, and inspection and testing of each converted vehicle at a Bureau of Automotive Repair Smog Check referee station;

WHEREAS, the proposal would be effected by amendments to Title 13, California Code of Regulations, Sections 2030 and 2031, and adoption of and amendments to the Procedures incorporated therein by reference, as set forth in Attachments A through D hereto;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project having significant adverse environmental impacts be adopted if feasible alternatives or mitigation measures to the proposed action are available to reduce and avoid such impacts;

WHEREAS, the Board has considered the impact of the proposed regulatory action on the economy of the state;

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; and

WHEREAS, the Board finds that:

Surveillance testing of vehicles converted to use gaseous fuels indicates that these vehicles are not achieving in-use compliance with applicable emission standards, and the causes of the excess emissions appear to be both poor installation and insufficient durability of the retrofit systems;

The existing certification provisions for alternative fuel retrofit systems are not sufficiently rigorous to assure that the retrofitted vehicles adequately comply with new vehicle emission standards;

The alternative fuel retrofit certification procedures approved herein contain more stringent certification test requirements, including engine-family-specific certifications, restrictions on the adjustability of fuel system components and calibrations, and durability bench testing; these new requirements are appropriate and necessary to help ensure in-use compliance by retrofitted vehicles;

The provisions in the new procedures approved herein requiring manufacturers of alternative fuel retrofit systems to test specified numbers of in-use certified systems each year are necessary and appropriate to help assure that installed systems do in fact comply with the retrofit requirements;

The provisions in the new procedures approved herein allowing necessary modifications to the OBD systems during the installation of an alternative fuel retrofit system, and requiring that the OBD system remain fully functional following installation of the retrofit system, are necessary and appropriate to assure that the OBD system continue to work effectively with the new fuel;

The new procedures approved herein impose warranty obligations on manufacturers and installers of alternative fuel retrofit systems; these provisions are necessary and appropriate to provide an effective incentive to assure that retrofit systems are correctly designed, manufactured, and installed, and that defects discovered in customer service are corrected;

The provisions in the new procedures approved herein requiring installers of retrofit systems to submit each converted vehicle for inspection and testing at a Bureau of Automotive Repair Smog Check referee station are necessary and appropriate to help assure that the installer has not tampered with the emission control system and will aid in the detection of the installation of noncertified configurations;

The new procedures approved herein incorporate the pertinent provisions of the recently adopted low-emission vehicle standards, including the application of reactivity adjustment factors to mass NMOG exhaust emissions from vehicles operated on fuels other than conventional gasoline; these provisions will accordingly subject all retrofitted low-emission vehicles to a consistent standard based on their potential for forming ozone;

The regulatory action approved herein will enable the ARB to identify pursuant to Section 43802(b) of the Health and Safety Code those systems that convert conventional vehicles,

including 1993 and earlier model-year vehicles, into low-emission vehicles;

The regulatory action approved herein will enable the ARB to identify pursuant to Sections 27156 and 38391 of the Vehicle Code those retrofit devices that either do not reduce the effectiveness of any motor vehicle pollution control device or result in the modified vehicle's emissions continuing to comply with existing state or federal standards;

The modifications to the staff's original proposal, as set forth in Attachments E and F hereto, are necessary and appropriate to make implementation of the new requirements more practical and effective;

The economic impacts of the regulatory action approved herein are justified in light of the public health benefits of the emission reductions associated with the amendments; and

The attached amendments will not result in any significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Sections 2030 and 2031 of Title 13, California Code of Regulations, and the adoption of and amendments to the procedures incorporated therein, as set forth in Attachments A through D hereto, with the modifications set forth in Attachments E and F hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to incorporate into the approved regulations and incorporated documents the modifications described in Attachments E and F hereto, with such other conforming modifications as may be appropriate, and to adopt the amendments approved herein, after making the modified regulatory language available for public comment for a period of 15 days, provided that the Executive Officer shall consider such written comments regarding the modifications as may be submitted during this period, shall make additional modifications if deemed appropriate after consideration of supplemental comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

I hereby certify that the above is a true and correct copy of Resolution 92-34, as adopted by the Air Resources Board.

Pat Hutchens

Pat Hutchens, Board Secretary

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RESOURCES AGENCY OF CALIFORNIA

Resolution 92-34

May 14, 1992

Identification of Attachments to the Resolution

Attachment A: Amendments to Title 13, California Code of Regulations, Sections 2030 and 2031, as attached to the Staff Report released March 27, 1992.

Attachment B: "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model Years," as attached to the Staff Report released March 27, 1992.

Attachment C: Amendments to "California Exhaust Emission Standards and Test Procedures for Systems Designed to Convert Motor Vehicles to Use Liquefied Petroleum Gas or Natural Gas Fuels," as attached to the Staff Report released March 27, 1992.

Attachment D: Amendments to the "California Exhaust Emission Standards and Test Procedures for Systems Designed to Convert Motor Vehicles to Use Alcohol or Alcohol/Gasoline Fuels," as attached to the Staff Report released March 27, 1992.

Attachment E: Staff's Suggested Changes to the Proposed Regulatory Action on Alternative Fuel Retrofit Systems (Distributed at the hearing on May 14, 1992).

Attachment F: Modifications to the Proposed Regulatory Action on Alternative Fuel Retrofit Systems as Decided at the Board Hearing on May 14, 1992.

Attachment E

PUBLIC HEARING TO CONSIDER ADOPTION OF AMENDMENTS TO THE CERTIFICATION AND COMPLIANCE TEST PROCEDURES FOR ALTERNATIVE FUEL RETROFIT SYSTEMS FOR MOTOR VEHICLES

May 14, 1992

Staff's Suggested Changes to Original Regulatory Proposal

1. Deterioration Factors

Allow the manufacturers to use durability vehicle testing, as well as bench aging of the system, to determine deterioration factors for alternative fuel retrofit systems. This will provide manufacturers with additional flexibility in developing deterioration factors. The modification would be affected by revisions in subsections 5.(b-d) of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model Years," which is proposed for incorporation by reference in Title 13, California Code of Regulations, Sections 2030 and 2031.

2. Warranty Requirements

Modify the language on required warranties to refer to warranting that the alternative fuel retrofit system conforms with the applicable requirements of the Procedures. This language is parallel to the statutory emission warranty provisions (HSC Sec. 43205(a)(1)&(2)) and references in the new motor vehicle emission warranty regulations (13 CCR Sec. 2037(b)(1)). Add clarifying language stating that costs covered by the warranty include the costs of parts on the retrofitted vehicle that are damaged due to a defect in the alternative fuel retrofit system (manufacturer's warranty) or due to incorrect installation of the retrofit system (installer's warranty). These modifications would be effected by revisions of the "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model Years," Sections 9.(a)&(c).

Attachment F

PUBLIC HEARING TO CONSIDER ADOPTION OF AMENDMENTS TO THE CERTIFICATION AND COMPLIANCE TEST PROCEDURES FOR ALTERNATIVE FUEL RETROFIT SYSTEMS FOR MOTOR VEHICLES

May 14, 1992

Modification to the Proposed Regulatory Action on Alternative Fuel Retrofit Systems presented at the Board Hearing on May 14, 1992

1. Phase-In Implementation Schedule

Provide a phase-in implementation schedule for certification of alternative fuel retrofit systems by manufacturers, wherein, a minimum of 15 percent of 1994, 55 percent of 1995, and 100 percent of 1996 and subsequent model year engine family systems shall be certified according to "California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model Years." Only these certification procedures for 1994 and subsequent model years shall be applied to certify a retrofit system for installation on a transitional low-emission vehicle (TLEV), low-emission vehicle (LEV), or ultra low-emission vehicle (ULEV) or for a retrofit system designed to convert a vehicle to TLEV, LEV, or ULEV emission standards.