State of California
AIR RESOURCES BOARD

Resolution 89-77

September 14, 1989

Agenda Item No.: 89-16-1

WHEREAS, Sections 39002 and 39003 of the Health and Safety Code charge the Air Resources Board (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 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 pollutants from motor vehicles is the primary cause of air pollution in many parts of the state;

WHEREAS, in Section 43000.5 of the Health and Safety Code, enacted as part of the California Clean Air Act of 1988 (Stats. 1988, ch. 1568), the Legislature has declared that while significant reductions in vehicle emissions have been achieved in recent years, continued growth in population and vehicle miles traveled throughout the state have the potential not only of preventing attainment of the state standards, but in some cases of resulting in worsening of air quality;

WHEREAS, in Section 43000.5 of the Health and Safety Code, the Legislature further declared that the attainment and maintenance of the state air quality standards will necessitate the achievement of substantial reductions in new vehicle emissions and substantial improvements in the durability of vehicle emission systems;

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

WHEREAS, the Board has adopted "California Malfunction and Diagnostic System for 1988 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles with Three-Way Catalyst Systems and Feedback Control," in Section 1968, Title 13, California Code of Regulations ("CCR"), which currently requires monitoring of the fuel metering system, exhaust gas recirculation (EGR) system, and certain additional emission-related components by an on-board diagnostic system for passenger cars, light-duty trucks, and medium-duty vehicles equipped with three-way catalyst systems and feedback control;

WHEREAS, the staff has proposed adoption of regulations under Section 1968.1; Title 13, CCR, for monitoring catalyst efficiency, engine misfire, canister purge, secondary air injection, and chlorofluorocarbon (CFC) containment; for improving current monitoring of the fuel system, oxygen sensor, EGR system, and other emission-related components of the on-board diagnostic system; and for standardizing fault codes, diagnostic repair equipment, the vehicle connector used for attaching the repair equipment to the vehicle, and the protocol for downloading repair information in order to improve the effectiveness of emission control system repairs;

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, 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;

WHEREAS, the Board finds that:

Significant numbers of vehicles operate with deteriorated catalytic converters; accordingly, because catalyst performance is crucial to maintaining vehicle emissions in compliance with the applicable standards, it is necessary to monitor catalyst performance to ensure adequate levels of conversion efficiency;

Engine misfire is the leading cause of catalyst degradation; accordingly, monitoring systems must be capable of detecting misfire conditions which may affect converter performance;

In-use surveillance programs indicate that failures in canister purge systems (e.g., deteriorated vacuum lines, damaged canisters, and nonfunctioning purge control valves) and secondary air injection systems (e.g., seized air pumps, missing drive belts, nonfunctioning switching valves and damaged tubing and hoses) cause excess emissions and, therefore, require monitoring;

Current fuel monitoring requirements do not ensure detection of fuel control malfunctions before excess emissions occur; accordingly, improved monitoring requires stricter fault criteria limits to ensure timely detection of fuel system problems;

Current oxygen sensor and EGR monitoring methods are inadequate to determine proper operation. Accordingly, fault detection should be based not only on observing a

minimum level of function, however diminished it may be, but also on achieving emission compliance;

Monitoring chlorofluorocarbon (CFC) leakage in the air conditioning system will help prevent loss of ozone depleting CFC refrigerant into the atmosphere;

Adopting standardized fault codes and diagnostic service equipment will improve the repairability and maintenance and, therefore, the emission characteristics of motor vehicles;

A two-year phase-in would result in more reliable, better designed diagnostic systems for implementing the proposed requirements and would be commensurate with manufacturers' available resources and consistent with their product changeover schedules;

A two year delay in the compliance schedule for vehicles produced by small volume manufacturers which lack the technological capabilities of larger manufacturers and may need to purchase the necessary hardware to meet the proposed requirements;

The proposed on-board diagnostic requirements are cost effective and technologically feasible;

WHEREAS, the Board further finds that:

The proposed regulations will result in reductions of motor vehicle emissions because emission systems would be more closely monitored and better maintained and will not have any significant adverse environmental effects;

NOW, THEREFORE, BE IT RESOLVED that the Board approves Section 1968.1, Title 13, California Code of Regulations as set forth in Attachment A;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Section 1968.1, Title 13, California Code of Regulations, after making it available to the public for a period of 30 days, provided that the Executive Officer shall consider such written comments 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 determines that this is warranted;

BE IT FURTHER RESOLVED that due to the need to update standardization requirements as technology evolves, the Board hereby directs the Executive Officer to take appropriate regulatory action under the Administrative Procedure Act to evaluate and determine whether to incorporate final

recommended general industry standards for onboard diagnostic equipment covered by these proposed regulations if adopted by the Society of Automotive Engineers by September 1991;

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations approved herein will not cause the California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, will not cause the California requirements to be inconsistent with Section 202(a) of the Clean Air Act, and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to Section 209(b) of the Clean Air Act;

BE IT FURTHER RESOLVED that the Executive Officer shall forward the regulations to the Environmental Protection Agency with a request for confirmation that the regulations are within the scope of an existing waiver pursuant to Section 209(b)(1) of the Clean Air Act;

BE IT FURTHER RESOLVED that the Board directs staff to continue monitoring research and development activities related to implementation of the on-board diagnostic system requirements in new Section 1968.1, including those requirements calling for the monitoring of CFC's, and to report back to the Board on the status of those research and development efforts, in two years or sooner, if such requirements are found to be nonfeasible, and/or impracticable, with such report to include recommendations for modification of the regulation, if determined to be appropriate at that time.

I hereby certify that the above is a true and correct copy of Resolution 89-77, as adopted by the Air Resources Board.

Cary Allison, Board Secretary