

which refers to maximum allowable standards of emissions of exhaust contaminants from motor vehicles, states that these emission standards must be "compatible with the preservation of the public health including the prevention of irritation to the senses, interference with visibility and damage to vegetation." Provision is made in these statutes for revision of the standards. A copy of "California Standards for Ambient Air Quality and for Motor Vehicle Emissions" is enclosed to indicate in more detail the factors considered in establishing the standards and the justifications for the specific values established.

California's motor vehicle standards were derived from the State's air quality standards and data concerning motor vehicle emissions¹. The emission standards set in 1959 were calculated from the following elements²:

1. Determination of the total emissions from all sources and the concentration emitted by the vehicle, and extrapolation of the data to a reasonable time period in the future. The year 1970 was selected.
2. Evaluation of current levels of atmospheric pollutants, those expected in 1970 and levels in the air quality standards which describe the relationship of air pollution effects and concentrations.
3. Calculation of the necessary reduction of pollutant emissions to maintain the desired air quality. This procedure indicated that motor vehicle hydrocarbons should be reduced by 80 percent and carbon monoxide by 60 percent.

In October 1964, the State of California revised its standards for emission of hydrocarbons and carbon monoxide from motor vehicles using data on vehicular emissions that had been developed since 1959 and using 1980 as the target year in which to restore smog-free air. These new standards were applicable, generally, to 1970 model year vehicles and were considerably more restrictive than the standards originally promulgated in 1959.³ Recent estimates of the California Department of Public Health indicate that even more restrictive standards will be required if clean air is to be maintained in the years 1990 and 2000.⁴

FEDERAL GOVERNMENT

The Clean Air Act Amendments of 1965 directed the Secretary of Health, Education and Welfare to prescribe standards applicable to air pollutant emissions from new motor vehicles which, in his judgment, cause or contribute to, or are likely to cause or contribute to air pollution which endangers the health or welfare of any persons. The Secretary was directed to give appropriate consideration to technological feasibility and economic costs of vehicle emission control. In the Clean Air Act of 1963, the Secretary was directed to compile and publish air quality criteria whenever he determines that there is a particular air pollution agent (or combination of agents) in the air producing effects harmful to the health or welfare of people.

In the normal course of carrying out responsibilities specified in the Clean Air Act and the original Federal air pollution control law of 1955, the Department had been conducting a variety of research projects to determine the effects of air pollutants on health and welfare and had been supporting the work of others in this field through grants and contracts. Consideration of the results of this work, along with the results of work done by many investigators, both since 1955 and earlier had, by 1966, made it possible to develop reasonably good estimates of levels of air pollutants which would be necessary to prevent harmful effects on the public health and welfare. This information, along with data on existing pollution levels in a substantial number of communities clearly indicated that pollution levels associated with pollutants emitted by motor vehicles were in excess of desirable levels in many communities. All estimates of future pollution levels indicated that the situation would worsen rapidly because of the growth of urban communities and increased usage of vehicles, unless action was taken to control pollutant emissions from vehicles. On the basis of all this information, and in consideration of then available means for reducing emissions from vehicles, and their

¹ Technical Report of California Standards for Ambient Air Quality and Motor Vehicle Exhaust; California Dept. of Public Health, Berkeley, Calif., 1960.

² Mage, John A. "Prepared Discussion: The Rationale of Motor Vehicle Pollution Control" in Proceedings, National Conference on Air Pollution, Dec. 10-12, 1962. USDHEW, PHS, USGPO, 1963 (pp. 68-70).

³ State of California, Dept. of Public Health, Bureau of Air Sanitation, "Clean Air Quarterly" 11, March 1967.

⁴ Calif. State Dept. of Public Health "Progress Report—Possible Future Motor Vehicle Emission Standards" presented to the California Motor Vehicle Pollution Control Board, May 10, 1967.