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June 12, 2000

Mail-Out # MSO 2000-06

TO: ALL MANUFACTURERS OF PASSENGER CARS
ALL MANUFACTURERS OF LIGHT-DUTY TRUCKS
ALL MANUFACTURERS OF MEDIUM-DUTY VEHICLES
ALL OTHER INTERESTED PARTIES

SUBJECT: Alternative Method for In-Use Verification Testing and Determining NMOG and HCHO Emission Values

Under "California Exhaust Emission Standards and Test Procedures for 1988 through 2000 Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," manufacturers are allowed to use an alternative durability program (ADP) to demonstrate durability and emission compliance for affected vehicles. As part of each manufacturer's ADP package, which must be approved by the Air Resources Board (ARB or the Board), the manufacturer agrees to conduct in-use verification testing of customer vehicles to demonstrate emission compliance and the validity of the alternative durability procedure. For in-use verification testing, manufacturers are required to measure the exhaust emissions of the pollutants that are subject to the standards. That is, for vehicles certified to the low-emission vehicle standards (TLEV, LEV, ULEV, SULEV), the emissions of non-methane organic gas (NMOG), carbon monoxide (CO), oxides of nitrogen (NOx) and formaldehyde (HCHO) must be measured.

Since the 1992 model year, many engine families (most notably, from General Motors and Honda) were certified according to their individual ADPs. Based on their in-use verification test data, some manufacturers requested permission to measure non-methane hydrocarbon (NMHC) emissions and then apply the NMOG/NMHC and HCHO/NMHC ratios established during certification testing to determine the NMOG and HCHO emission levels for in-use verification purposes. This procedure was used in lieu of direct measurement of these latter pollutants, which is more costly and time consuming. Upon a review of these manufacturers' in-use verification data, in particular those that covered a wide range of vehicle mileage, ARB staff found that the ratios of actual NMOG and NMHC emissions were substantially stable and fairly close to those found at the time of certification. The ratios of actual HCHO and NMHC emissions showed more variation; however, the HCHO test results clearly indicated that the HCHO emissions were very low compared to, and unlikely to exceed, the standard. For these reasons, ARB has permitted these requesting manufacturers to use the optional method

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for determining NMOG and HCHO emissions via the use of the certification NMOG/NMHC and HCHO/NMHC ratios.

The findings above are also representative of other in-use verification data staff has reviewed to date. As a result, ARB will allow the general use of the optional determination of NMOG and HCHO emissions for in-use verification purposes described below. It is noted that besides reducing the test laboratory burdens without jeopardizing the goals of the ADP program, this allowance is also in general alignment with similar provisions under the CAP 2000 certification procedure approved by the Board in November 1998.

POLICY:

- (1) For in-use verification purposes, manufacturers may measure NMHC emissions and then apply the NMOG/NMHC and HCHO/NMHC ratios established during certification of the corresponding engine families to determine the representative NMOG and HCHO emission levels of low-emission vehicles certified under ADP provisions. This procedure will be accepted in lieu of direct measurement of the NMOG and HCHO emissions.
- (2) Until more test data are available, the allowance in Policy (1) applies only to gasoline-fueled vehicles, or to the gasoline testing portion for dual-, bi- or flexible-fueled vehicles.

For testing with the alternative fuel for dedicated-, dual-, bi- and flexible-fueled vehicles, direct measurement of NMOG and HCHO emissions for in-use verification purposes must be conducted.

- (3) In-use verification testing of test groups certified under CAP 2000 provisions shall be conducted in accordance with CAP 2000 requirements, and is not affected by the policies described herein.
- (4) The policies above are effective immediately.

Should you have any further questions, please contact Ms. Kimberly Pryor, Air Resources Engineer, Certification Section, at (626) 575-6640, or at kpryor@arb.ca.gov.

Sincerely,

R. B. Summerfield, Chief
Mobile Source Operations Division