

UPDATED INFORMATIVE DIGEST

Approved Actions and Sections Affected:

I. THE ADOPTION OF NEW OPTIONAL RETROFIT EMISSION STANDARDS FOR HEAVY-DUTY ENGINES AND VEHICLES -- NEW SECTION 1956.9, TITLE 13, CALIFORNIA CODE OF REGULATIONS (CCR).

Health and Safety Code sections 43701(b) and (c) provide that the ARB shall require control equipment and adopt emission standards and procedures to qualify equipment used to reduce emissions from existing heavy-duty diesel motor vehicles.

The optional retrofit emission standards will establish emission standards that could be met through retrofitting existing heavy-duty engines. These standards will form the basis for determining emission reduction credits ("credits") that could be earned through retrofitting existing engines. These credits would be used in mobile source emission reduction credit programs developed by the air pollution control districts and air quality management districts.

The retrofit emission standards are optional emission standards for heavy-duty engines that have been retrofitted for credit. Operators of certain heavy-duty vehicles may find it attractive, because of circumstances such as the availability of an alternative fuel terminal or the type of service that the vehicles are engaged in, to retrofit their vehicles to obtain mobile source emission reduction credits.

The optional emission standards for heavy-duty diesel engines apply to the following pollutants: a) total hydrocarbons (THC), or non-methane hydrocarbons (NMHC) if the engine were originally certified to the optional NMHC standard; b) carbon monoxide (CO); c) oxides of nitrogen (NOx); and d) particulate matter (PM). The optional emission standards for heavy-duty gasoline engines are the same as for heavy-duty diesel engines for all pollutants except PM. Emissions of PM from gasoline engines are very small, and are not considered eligible for emission reduction credit.

The amount of emission reduction credit that could be generated from heavy-duty vehicle retrofits is based on the difference between the pre-conversion certification level (the "ceiling standard"), and the post-conversion certification level (the "credit standard"). The ceiling standard for determining the emission reduction is generally the emission certification standard applicable to that model year engine when new. The optional emission standards also include many levels of credit standards to which the engine can be certified after conversion. The first level credit standard is based on 75 percent of the ceiling standard, and other credit standards are set at fixed increments (depending on the pollutant) below the first level.

There are a few cases where the ceiling standard is not defined to be the pre-conversion certification level. For some specific pollutants and model years, heavy-duty engines had no original engine certification level. In other cases, the original certification level is not appropriate for a ceiling standard because it was either a) negligible, or b) much higher than

actual emissions. Thus, ceiling standards are defined differently for the following cases:

1. THC (or NMHC as applicable) and CO emissions from heavy-duty diesel engines;
2. PM from pre-1987 model year heavy-duty diesels; formaldehyde emissions; and
3. hydrocarbon (HC) and NOx emissions for engines originally certified to a combined HC plus NOx standard.

II. AMENDMENTS TO THE CALIFORNIA CERTIFICATION AND INSTALLATION PROCEDURES FOR ALTERNATIVE FUEL RETROFIT SYSTEMS FOR MOTOR VEHICLES CERTIFIED FOR 1994 AND SUBSEQUENT MODEL YEARS

Health and Safety Code section 43004 provides that the exhaust emission standards applicable to gasoline-powered motor vehicles shall also apply to gasoline- or diesel-powered vehicles converted to use fuels other than the fuel for which the vehicles were certified. Health and Safety Code section 43006 authorizes the Board to certify these alternative fuel systems if they meet the standards specified in section 43004. In addition, Health and Safety Code section 43018(a) 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 standards at the earliest practicable date. Section 43018(c) provides that in carrying out 43018(a), the Board is to adopt standards and regulations that will result in the most cost-effective combination of controls to achieve reductions in motor vehicle exhaust and evaporative emissions.

Furthermore, Vehicle Code section 27156 provides that no person shall advertise, sell, or install any device or system intended for use with, or as part of, any required motor vehicle pollution control system which modifies its original design or performance. In addition, Vehicle Code section 27156 authorizes the ARB to allow a device or system to be sold if it satisfies either of the following conditions: a) the device or system does not reduce the effectiveness of any required emission control device; or b) the modified vehicle complies with the applicable emission standards for the model year in which it was produced.

The changes to the California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model Years will enable heavy-duty vehicle retrofits to generate emission reduction credits. The changes will also facilitate durability testing and certification. The credit-related changes define the ceiling standards, and specify that retrofits for credit must not increase emissions to 110 percent or more of the ceiling standard. To facilitate durability testing and certification, the amendments will a) extend the phase-in period for the procedures by one year; b) allow kit manufacturers until the end of the following calendar year to complete durability testing; and c) allow installers to use an alternative inspection schedule for high volume (fleet)

conversions. The amendments also include an alternate durability test plan for all classes of vehicle: light-duty, medium-duty, and heavy-duty vehicles. The alternate test plan allows retrofit kit manufacturers to complete durability testing after certification, and includes further changes to the durability testing provisions.

III. AMENDMENTS TO THE CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR SYSTEMS DESIGNED TO CONVERT MOTOR VEHICLES CERTIFIED FOR 1993 AND EARLIER MODEL YEARS TO USE LIQUEFIED PETROLEUM GAS OR NATURAL GAS FUELS

Health and Safety Code Section 43006 provides that the Board may certify the fuel system of any motor vehicle which meets the standards specified by Section 43004 and adopt test procedures for such certification for motor vehicles powered by a fuel other than gasoline or diesel.

The amendments reflect the new title and phase-in schedule for the 1994 and later model year retrofit procedures, and allow an alternative inspection schedule for high volume conversions.

IV. AMENDMENTS TO THE CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR SYSTEMS DESIGNED TO CONVERT MOTOR VEHICLES CERTIFIED FOR 1993 AND EARLIER MODEL YEARS TO USE ALCOHOL OR ALCOHOL/GASOLINE FUELS

Health and Safety Code Section 43006 provides that the Board may certify the fuel system of any motor vehicle which meets the standards specified by Section 43004 and adopt test procedures for such certification for motor vehicles powered by a fuel other than gasoline or diesel.

The amendments reflect the new title and phase-in schedule for the 1994 and later model year retrofit procedures, and allow an alternative inspection schedule for high volume conversions.

V. AMENDMENTS TO PROCEDURES FOR APPROVAL OF SYSTEMS DESIGNED TO CONVERT MOTOR VEHICLES TO USE FUELS OTHER THAN THE ORIGINAL CERTIFICATION FUEL

Health and Safety Code Section 43006 provides that the Board may certify the fuel system of any motor vehicle which meets the standards specified by Section 43004 and adopt test procedures for such certification for motor vehicles powered by a fuel other than gasoline or diesel.

Article 5, Chapter 1, Division 3, Title 13, of the California Code of Regulations is titled "Approval of Systems Designed to Convert Motor Vehicles to Use Fuels Other Than the Original Certification Fuel." There are two sections of Article 5 that contain references to "The California Certification And Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model Years" ("the procedures"). These sections are Section 2030, "Liquefied Petroleum Gas or Natural Gas Retrofit Systems," and Section 2031, "Alcohol or

Alcohol/Gasoline Fuels Retrofit Systems." Because of the change in the title of the procedures to reflect their applicability to performing retrofits to meet optional credit standards, non-substantive amendments to Article 5 and Sections 2030 and 2031 of Article 5 are included that reflect the change in the title of the procedures.