

State of California
AIR RESOURCES BOARD

~~CALIFORNIA CERTIFICATION PROCEDURES FOR PM RETROFIT DEVICES
FOR ON ROAD HEAVY DUTY DIESEL ENGINES~~

Adopted: _____ November 22, 2000 _____

~~Note: The entire text of this document, which is incorporated by reference in section 1956.2, Title 13, CCR, is new language.~~

~~(a) — **Applicability:** These procedures apply to applicants for certification of retrofit devices to reduce particulate matter (PM) emissions from on-road heavy-duty diesel engines, when PM retrofit is required or permitted for an affected engine family. Certification compliance shall be demonstrated as set forth in subdivisions (b) through (h), below.~~

~~(b) — **Test procedure:** The applicant shall use the heavy-duty engine Federal Test Procedures as set forth in “California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-duty Diesel Engines and Vehicles” adopted April 8, 1985, as last amended November 22, 2000. Alternatively, the applicant, with written approval of the Executive Officer, may use a chassis test cycle for certification compliance. The Executive Officer shall approve the chassis test cycle if he determines that it represents normal driving conditions of the vehicle application(s) for which the device is warranted for use by the applicant. For each engine selected for testing, the applicant shall complete at least two emission tests using the same retrofit device.~~

~~(c) — **Emission results:** In order for the retrofit device to be certified by the Executive Officer, the test results must demonstrate that the retrofit device reduces engine-out PM emissions by at least 85 percent, or, alternatively, reduces PM emissions to 0.01 g/bhp-hr or less. For retrofit devices tested with an Executive Officer-approved chassis test cycle, certification compliance shall be demonstrated by compliance with the 85 percent emission reduction requirement. The retrofit device shall not cause the engine to fail to meet any California emission standard or other requirement for the heavy-duty application for which the retrofit device is certified.~~

~~Pursuant to subdivision (h) of section 27156 of the Vehicle Code, an original equipment pollution control device may be removed from the test engine provided that the certification emission test results demonstrate an 85 percent conversion efficiency, or, alternatively, that PM emissions have been reduced to 0.01 g/bhp-hr or less, and that the engine does not fail to meet any California emission standard or other requirement applicable to that engine. No deterioration factors shall be applied to the measured results.~~

~~(d) — **Emissions test engine selection:** The applicant shall select separate test engines to represent four-stroke engine families and two-stroke engine families. In each case, the test engine used must represent the “worst case” with respect to particulate emission control for each engine family for which the retrofit device is being certified. Engine families may be aggregated if the applicant can demonstrate to the Executive Officer that emissions and retrofit device performance do not vary significantly between aggregated engine families. For retrofit devices being certified to reduce PM emissions by 85 percent, the worst case test engine shall represent the engine family with the lowest PM emissions when originally certified by the ARB. For retrofit devices being certified to reduce PM emissions to a level of 0.01 g/bhp-hr or less, the worst case test engine shall represent the engine family with the highest PM emissions when originally certified by the ARB.~~

~~(e) — **Diesel test fuels:** The test fuel required for the baseline test and the test with the retrofit device in place shall meet the specifications contained in 40 CFR 86.1313-94(b)(2)(Federal Register, Vol.62, No. 172, September 5, 1997, page 47125), with the exception that the sulfur content must not exceed 15 parts per million by weight, and shall be representative of fuel used in-use.~~

~~(f) — **Emissions warranty:** As a condition of certification, the applicant shall warrant that the certified retrofit device, when properly installed and maintained as stated in the applicant's written instructions for proper maintenance and use, will not cause the heavy-duty diesel engine for which the retrofit device is certified to exceed the applicable emission standards set forth in Title 13, CCR, for a period of at least 150,000 miles from the date when the retrofit device is installed. The applicant shall also warrant that the certified retrofit device will not cause damage to the engine, when properly installed and maintained, for this same mileage interval.~~

~~The applicant shall provide an emissions defect warranty stating that if the certified retrofit device is properly installed and maintained as stated in the applicant's written instructions for proper maintenance and use, the applicant will replace all defective parts, free of charge, for a period of at least 100,000 miles from the date when the retrofit device is installed.~~

~~The applicant shall provide a written statement to the purchaser that the certified retrofit device will not result in any unsafe condition endangering the motor vehicle or its occupants in any operational mode, including malfunction.~~

~~(g) — **Durability requirements:** The applicant shall demonstrate device durability through field testing representing a mileage interval of at least 150,000 miles. Mileage accumulation shall be performed on a vehicle application representative of the vehicle application for which the applicant warrants the use of the retrofit device. The applicant may propose to shorten the durability testing requirements, with prior approval by the Executive Officer, if sufficient data, such as durability bench testing data, are available to determine durability to at least 150,000 miles. Any durability testing shall use diesel fuel meeting the specifications in subdivision (e), above.~~

~~(h) — **Labeling requirements:** The applicant shall label each retrofit device with a permanent, non-destructible label or stamp identifying the manufacturer, the model number, the month and year of manufacture, and the Executive Order number issued by the ARB. The label or stamp shall be easily visible after installation of the retrofit device according to the applicant's written instructions for proper maintenance and use. Each applicant shall submit a sample of its label or stamp to the ARB for review and approval, prior to selling the retrofit device.~~

