

UPDATED INFORMATIVE DIGEST

Adoption of Regulatory Amendments to the California Heavy-duty Vehicle Inspection Program and Periodic Smoke Inspection Program

Sections Affected: Amendments to California Code of Regulations, title 13, sections 2180 through 2188, and sections 2190 through 2194.

The preexisting HDVIP regulations. Current Air Resources Board (ARB or Board) regulations establish the Heavy-Duty Vehicle Inspection Program (HDVIP or the roadside program), in which heavy-duty vehicles are tested by ARB inspectors at various roadside locations to identify vehicles that emit excessive smoke or have defective or tampered emission control systems. The opacity of smoke from diesel engines is measured in accordance with a “snap-acceleration” stationary vehicle test procedure that uses an electronic smokemeter and is based on the Society of Automotive Engineers (SAE) SAE J1243 procedure. The regulations have required that smoke emissions from heavy-duty engines not exceed smoke standards of 55 percent opacity or 40 percent opacity, depending primarily on the year, make and model of the vehicle being tested. A visual inspection is also conducted. The owners of vehicles failing the smoke test or inspection are issued citations which require the timely repair of the vehicle and carry civil penalties ranging from \$300 to \$1800 per violation. The repair is documented by a “demonstration of correction” submitted to the ARB. Vehicle owners may appeal citations through the ARB's administrative hearing program, established in sections 60075.1 through 60075.47, title 17, California Code of Regulations.

The HDVIP regulations were adopted following a November 1991 hearing, in response to directives in Health and Safety Code section 44011.6, enacted in 1988 by Senate Bill (SB) 1997 (Stats. 1988, ch. 1544, Presley). The regulations became operative on November 21, 1991 and the program was actively enforced until October 15, 1993. During this time, the failure rate was reduced from 34 percent to 21 percent, resulting in an estimated 38 percent reduction in the number of excessively smoking trucks and buses operating in California. Segments of the trucking industry argued that the snap-acceleration test used in the HDVIP was unreliable and incorrectly failed clean trucks. At least four lawsuits were filed to challenge the J1243 procedure; all of the decisions to date have upheld use of the test.

On October 15, 1993 the ARB temporarily suspended enforcement of the HDVIP and redirected the staff to work on reformulated fuels issues. Around the same time, the State Legislature enacted Assembly Bill (AB) 584 (Stats. 1993, ch. 578, Cortese), which required that the test procedures used in the HDVIP “produce consistent and repeatable results” and stated that this requirement is satisfied by the adoption of the SAE J1667 test procedure that was then under development. AB 584 further required that the program produce “no false failures,” or ensure that any false failures be remedied without penalty to the vehicle owner. The ARB postponed resumption of the HDVIP pending the completion of SAE J1667 and the development of

mechanisms for complying with the AB 584 mandates. Since October 15, 1993, the staff has continued outreach enforcement of the HDVIP on a voluntary compliance basis. In 1996 the Legislature enacted AB 1460 (Stats. 1996, ch. 292, Morrissey), making limited additional changes to the statute authorizing the HDVIP. After a multi-year process by the SAE task group, which included an ARB representative as well as representatives of industry, academia and other governmental agencies, the final SAE J1667 was issued in February 1996. In developing the document, the SAE task group addressed the technical issues surrounding the smoke test procedures, equipment performance specifications, and test corrections for the effects of altitude and weather.

The preexisting PSIP regulations. The ARB's Periodic Smoke Inspection (PSIP or fleet program) regulations have required that the owners of California-based fleets having two or more heavy-duty diesel-powered vehicles must perform annual inspections for excessive smoke and for defective or tampered emission control system components. Vehicles failing the smoke test or other aspects of the inspection must be repaired and retested. The smoke test is to be conducted using the SAE J1243 procedures specified in the HDVIP. Fleet owners are required to maintain specified records regarding their periodic inspections and follow-up repairs.

The PSIP regulations were adopted following a December 1992 hearing, in response to Health and Safety Code section 43701(a), enacted in 1990 by SB 2330 (Stats. 1990, ch. 1453, Killea). The regulations were originally scheduled to become operative in January 1995, with a 15-month phase-in period. In 1995 the Board amended the regulations to postpone the operative date until January 1, 1996, with the first 25 percent of an operator's fleet having to be tested by July 1, 1996. The Board enacted this postponement so that fleet operators could defer purchase of smokemeters until SAE's development of SAE J1667 was completed. Due to continued delays in the completion of SAE J1667, the ARB advised fleet operators in March 1996 that it would administer the PSIP as a voluntary program pending its adoption of the SAE J1667 procedure.

The adopted amendments. Following a December 11, 1997 hearing, the Board adopted the following amendments to implement the requirements of AB 584 and AB 1460, and to improve the regulations:

- (1) Designate SAE J1667 "Snap-Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles," as issued February 1996, as the test procedure for determining smoke opacity under the HDVIP and the PSIP.
- (2) Maintain the existing snap-acceleration opacity standards of 55 percent for pre-1991 model-year heavy-duty diesel engines and 40 percent for 1991 and subsequent model-year heavy-duty diesel-powered engines, without reference to the engines' federal peak smoke certification level. These standards reflect data on maximum emissions from vehicles in good operating condition, gathered in the ARB's recently completed 71-vehicle Truck Repair Study, and include a safety margin to account for variability in smoke measurement. On average, an SAE

J1667 type smokemeter reads about 5 to 10 opacity points less for mechanical and electronic engines, respectively, compared to an SAE J1243 type meter.

- (3) Establish a mechanism under which owners of pre-1991 model-year heavy-duty diesel-powered engines that have roadside test snap-acceleration opacity levels that exceed 55 percent but do not exceed 69 percent are initially issued a Notice of Violation (NOV) in lieu of a citation. If, within 45 days, the owner demonstrates that he or she has made repairs which bring the vehicle into compliance with the 55 percent opacity standard, there will be no monetary penalty. If a demonstration of correction is not submitted within the 45-day period, a citation would be issued. The NOV mechanism would not apply where a previous NOV or citation had been issued for the vehicle in the preceding 12 months.
- (4) Retain exemptions to allow technologically less stringent standards for specific engine families based on data submitted by the engine manufacturers, and “grandfather-in” exemptions of engine families issued under the preexisting HDVIP.
- (5) Require explicitly that a demonstration of correction for a vehicle failing a roadside smoke test or visual inspection must include evidence that the vehicle has passed a post-repair test or inspection of the pertinent components.
- (6) Institute a new 15-month phase-in schedule for the PSIP, starting July 1, 1998.
- (7) Allow the SAE J1243 type smokemeter to be used in PSIP testing at facilities that are not equipped with an SAE J1667 type smokemeter, until July 1, 1999.
- (8) Exempt the newest four model years of heavy-duty engines from the PSIP requirements (vehicles equipped with these engines would remain subject to roadside inspections under the HDVIP); exempt heavy-duty vehicles that are employed solely for personal use.
- (9) Make various other changes to generally improve the regulations and to make them clearer and more readable.
- (10) Define excessive smoke as smoke opacity exceeding the applicable opacity standard.

The administrative hearing process for challenging citations has been retained; the staff plans to propose various amendments to the administrative hearing regulations to be considered by the Board in the spring of 1998.