

ARB'S HEAVY-DUTY VEHICLE SMOKE INSPECTION PROGRAMS

Paul E. Jacobs
California Air Resources Board

Heavy-duty vehicles account for approximately 30 percent of the oxides of nitrogen (NO_x) and 65 percent of the particulate matter (PM) emitted from California's on-road vehicle fleet, despite the fact that these vehicles comprise only 2 to 3 percent of the same. To meet legislative mandates to reduce excessive smoke emissions from on-road heavy-duty diesel-powered vehicles, the Air Resources Board (ARB or Board) adopted, in December 1997, a set of regulations that reactivated the Board's Heavy-Duty Vehicle Inspection Program (HDVIP or roadside program) and Periodic Smoke Inspection Program (PSIP or fleet program). These programs make use of the Society of Automotive Engineers J1667 test procedure to detect excess smoke emissions.

The roadside smoke inspection program commenced enforcement on June 1, 1998. To date, more than 40,000 vehicles have been inspected, with 3,113 vehicles (7.7 percent) cited for excessive smoke. Furthermore, 2,127, or approximately 70 percent of these cited vehicles have been repaired under the program. Over \$600,000 has been collected in penalties, most of which has

been deposited in the Diesel Emission Reduction Fund to fund clean diesel technology research and incentive programs.

The fleet smoke inspection program commenced enforcement on July 1, 1998, and offered fleet owners a phase-in period of fifteen months. The ARB began auditing fleets on October 1, 1999. To date, nearly 2,000 fleets have been audited. The full-compliance rate sits at around 51%, with 90% of the non-compliant fleets demonstrating partial compliance.

The two programs will produce the following benefits in 2010:

- 5.3 tons per day ROG reduced;
- 14.0 tons per day NO_x reduced;
- 3.19 tons per day PM₁₀ reduced;
- diesel fuel consumption reduced by 19.2 million gallons.

Studies are underway to develop a gaseous emissions inspection program for on-road heavy-duty diesel powered vehicles. It is anticipated that such a program will be adopted and implemented by 2005.