

UPDATED INFORMATIVE DIGEST

**ADOPTION OF THE AIRBORNE TOXIC CONTROL MEASURE
FOR PORTABLE DIESEL ENGINES**

Sections Affected: Adoption of sections 93116, 93116.1, 93116.2, 93116.3, 93116.4, and 93116.5, title 17, California Code of Regulations (CCR).

Background

In 1998, the Air Resources Board (“ARB” or “Board”) identified diesel particulate matter (PM) emissions from diesel-fueled engines as a toxic air contaminant (TAC). In September 2000, the Board approved the Diesel Risk Reduction Plan, which outlined steps that would be taken to reduce diesel emissions from both new and existing diesel-fueled engines and vehicles, including portable engines. The ultimate goal of the Diesel Risk Reduction Plan is to reduce California’s diesel PM emissions and associated cancer risks by 85 percent by 2020.

Unlike stationary engines, portable engines may be moved readily from one location to another. The engines are used to power a variety of equipment, including pumps (e.g., agricultural irrigation pumps and other water pumps), ground support equipment at airports, cranes, oil-well drilling and workover rigs, power generators, dredging equipment, rock crushing and screening equipment, welding equipment, woodchippers, and compressors. Portable diesel engines emit approximately 1,500 tons per year of diesel PM. These engines are distributed throughout California, and many are located in urban centers where the population is exposed to diesel PM emissions.

The Portable Diesel Engine Airborne Toxic Control Measure (ATCM) is designed to minimize the public’s exposure to diesel PM emitted from diesel-fueled portable engines. Health and Safety Code (H&SC) sections 39666 and 39667 require the ARB to adopt regulations to achieve the maximum possible reduction in public exposure to TACs through the application of best available control technology (BACT), or a more effective control method, in consideration of cost, risk, environmental impacts, and other specified factors.

Furthermore, the Children’s Environmental Health Protection Act (Stats. 1999, Ch. 731) requires the California Environmental Protection Agency to specifically consider children in setting Ambient Air Quality Standards and in developing criteria for TACs. The Office of Environmental Health Hazard Assessment (OEHHA) identified diesel PM and several other TACs associated with motor vehicle exhaust among the top priority pollutants affecting children’s health.

The ARB staff published an Initial Statement of Reasons (ISOR) for the ATCM that, together with the needs assessment (Diesel Risk Reduction Plan), served as the report on the need and appropriate degree of regulation for diesel-fueled portable engines.

Description of the Regulatory Action

Applicability and Requirements

The ATCM will affect all diesel-fueled portable engines that are 50 horsepower (hp) and larger. The ATCM will require all portable engines to be certified to Tier 1, 2, or 3 United States Environmental Protection Agency (U.S. EPA)/ARB off-road engine standards by 2010, as is currently required for engines registered in the statewide Portable Equipment Registration Program (PERP). After 2010, the ATCM will require all fleets of portable engines to meet diesel PM emission averages that become more stringent in 2013, 2017, and 2020. The owners/operators of these fleets will have flexibility in determining how the fleet emission standards are to be satisfied. Options that are available to satisfy this standard include replacing engines, using add-on control devices, switching to alternative fuels or alternative diesel fuels, and receiving credit for electrification. By 2020, the ATCM will require diesel-fueled portable engines to either:

- 1) be certified to Tier 4 emission standards for newly manufactured off-road engines; or
- 2) be equipped with a diesel PM control technology that has been verified by the ARB under it's Verification Procedure for diesel PM control technologies (title 13, California Code of Regulations (CCR) sections 2700-2710) to reduce diesel PM emissions by 85 percent (Level-3 Verification), or equipped with a combination of verified control technologies that cumulatively achieve 85 percent diesel PM reduction.

Fleet Requirements

In addition to the requirements outlined above, portable engines will be subject to the following fleet weighted standards starting in 2013 and becoming progressively more stringent in 2017 and 2020. Fleet weighted diesel PM standards have been adopted for engines less than 175 hp, engines between 175 hp and 749 hp, and engines 750 hp or greater.

Fleet Standard Compliance Date	Diesel PM Standard (g/bhp-hr) for Engines <175 hp	Diesel PM Standard (g/bhp-hr) for Engines 175 hp to 749 hp	Diesel PM Standard (g/bhp-hr) for Engines ≥ 750 hp
1/1/13	0.3	0.15	0.25
1/1/17	0.18	0.08	0.08
1/1/20	0.04	0.02	0.02

Owners of portable engine fleets will determine compliance with the proposed fleet standard by comparing the fleet's actual weighted diesel PM emission rate with the fleet emission standard.

Engines that are used exclusively in emergency applications or meet the requirements for low-use engines must be certified to U.S. EPA/ARB off-road engine standards by 2010 but are not subject to the fleet emission standards in 2013 or 2017. These engines will be required by January 1, 2020, to be certified to Tier 4 engines standards, or be equipped with a Level-3 diesel PM control technology, or a combination of verified control technologies to achieve a 85 percent diesel PM reduction.

Incentives

The ATCM provides several incentives to encourage repowering or replacement of older engines with new, lower-emitting engines as part of the fleet reduction approach. Engine owners can claim credits toward satisfying a fleet standard requirement by adding alternative-fueled engines to the fleet (additional credit is available for early replacement to alternative-fueled engines), replacing diesel-fueled engines with electrification, and replacing older engines with Tier 4 engines in an earlier timeframe than that required by the ATCM.

Recordkeeping and Reporting Requirements

Specific recordkeeping requirements address only those engines in a fleet whose use is based on hourly limitations, fleets taking advantage of the electrification incentive, and engines equipped with Selective Catalytic Reduction (SCR). All fleet owners will have to submit a status report to the ARB by March 1, 2011, that includes the fleet's average diesel PM emission rate for the 2010 calendar year, information identifying each engine in the fleet, and each engine's emission rate. In addition, fleet owners must submit signed statements of compliance and corroborating data indicating that they are meeting the fleet standards by March 1 of each applicable year (i.e., 2013, 2017, 2020).

Exemptions

Engines that will be exempt from the ATCM include: engines less than 50 hp, engines used to propel mobile equipment or motor vehicles; portable equipment that is owned by the United States Department of Defense and used in combat, combat support, tactical or relief operations, or training for such operations (military tactical support equipment); and portable engines used at San Clemente or San Nicolas Island.

Modifications

At the public hearing, the staff presented, and the Board approved, modifications to the originally proposed language to address minor clarifications and to respond to comments received since the ISOR was published. The following is a summary of those modifications:

1. Clarified that the ATCM applies to portable diesel-fueled engines that are 50 horsepower and larger to be consistent with other regulations affecting portable engines;
2. Revised the “alternative fuel” definition to include liquid petroleum gas (LPG) and hydrogen;
3. Revised the definitions for “alternative diesel fuel” and “CARB diesel fuel,” and added a definition for “diesel fuel” to clarify the differences between these fuels;
4. Added definitions for “engines exclusively used in emergency applications,” and “emergency event” to be consistent with other regulations that affect stationary and portable engines;
5. Revised the definition of “emergency” to be consistent with other regulations that affect stationary and portable engines, and to include the breakdown of electric-powered pumping equipment and the pumping of water to maintain water pressure;
6. Revised the definitions for “fuel additive,” “selective catalytic reduction system,” and “verified emission control strategy” to be consistent with other regulations that affect stationary and portable engines;
7. Deleted the definition for “school” because the word is not used in the regulation;
8. Clarified that engines manufactured and sold under the flexibility provisions contained in federal and State regulations are considered certified engines and will satisfy the “most stringent” requirement;
9. Added provisions to allow the Executive Officer or Air Pollution Control Officer to exempt portable diesel-fueled engines used in lattice boom cranes from the 2010 requirement, but require these engines to be replaced with a Tier 4 engine or achieve equivalent diesel PM reductions by 2020.
10. Revised the incentive for using an alternative-fueled engine by providing additional credit toward satisfying the fleet standards if the alternative-fueled engine is added to the fleet and operated prior to January 1, 2009, and the engine is certified to a nonroad engine standard;
11. Added clarification language to test methods requirements;
12. Revised recordkeeping and reporting requirements to include specific requirements for alternative-fueled engines added to the fleet prior to January 1, 2009; and
13. Revised the sections’ numbering sequence to conform to regulation order format and add minor clarification language to other sections of the regulation.

Comparable Federal Regulations

There are no federal regulations that are comparable to the ATCM. However, since January 1, 1996, new portable engines sold in California have been subject to ARB's Off-Road Compression Ignition emission standards (title 13, CCR, sections 2320 et seq.), which are equivalent to the U.S. EPA emission standards for newly manufactured nonroad engines (40 Code of Federal Regulations (CFR), Part 89). Until recently, there have been only three tiers of standards: Tier 1, 2, and 3. In May 2004, the U.S. EPA promulgated Tier 4 emission standards, which will require most engines to meet more stringent emission limits in the 2011-2014 timeframe.