

UPDATED INFORMATIVE DIGEST

ADOPTION OF THE AIRBORNE TOXIC CONTROL MEASURE FOR STATIONARY COMPRESSION IGNITION ENGINES

Sections Affected: Adoption of new section 93115, title 17, California Code of Regulations (“CCR”). Twelve documents were incorporated therein by reference in the original proposal. Of those documents, the Air Force Space Command Instruction 21-0114, dated March 27, 2000, and the Office of the Chief of Naval Operations (OPNAV) Instruction 1500.51B, dated March 31, 1989, were deleted from the proposal to reflect changes subsequently made to the regulation.

Additional documents incorporated by reference since the original proposal include: (1) ASTM D613-03b, Standard Test Method for Cetane Number of Diesel Fuel Oil, ASTM International, as modified on June 10, 2003; (2) The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, Office of Environmental Health Hazard Assessment (OEHHA), August 2003; (3) ASTM D975-81, Standard Specification for Diesel Fuel Oils, ASTM International, as modified in May 1982; and (4) CAPCOA Air Toxics “Hot Spots” Program Facility Prioritization Guidelines, California Air Pollution Control Officers Association (CAPCOA), July 1990.

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 (Section 93000, Title 17, CCR). The ARB adopted the Diesel Risk Reduction Plan (“DRRP” or “Plan”) in 2000, which established the goal of reducing emissions from virtually all in-use diesel engines within the State of California by the year 2010. The methods for achieving the goals in the Plan include new, more stringent standards for new diesel engines, the implementation of low-sulfur diesel fuel, and the use of diesel emission control strategies (DECS) for in-use engines and equipment. Also, according to California law, an airborne toxic control measure (ATCM) using the best available control technology (BACT) shall be employed to reduce the public’s exposure to diesel PM. ARB, therefore, created a diesel particulate ATCM to reduce diesel PM emissions from new and in-use stationary diesel and compression-ignition engines.

In addition to emitting diesel PM, stationary diesel engines also emit criteria pollutants such as oxides of nitrogen (NO_x), oxides of sulfur (SO_x), carbon monoxide (CO), and non-methane hydrocarbons (NMHC). Emissions of these criteria pollutants contribute to violations of applicable California and national ambient air quality standards (CAAQS and NAAQS, respectively). To control criteria pollutant emissions, Health and Safety Code section 43013(b) directs the ARB to adopt standards and regulations for nonvehicle engine categories, including but not limited to construction equipment, farm equipment, and utility engines. Because they are nonvehicle engines, stationary diesel engines subject to the ATCM are covered by this mandate.

Description of the Proposed Regulatory Action:

The ATCM applies to any person who owns, operates, sells, offers for sale, leases, or buys a regulated stationary diesel engine for use in California. In general, a stationary diesel engine is one that remains in one location at a facility for more than 12 months. A new engine is one that is installed after January 1, 2005, while an in-use engine is one that is installed prior to January 1, 2005. The ATCM has separate provisions for engines that are no more than 50 brake horsepower (bhp), engines that are greater than 50 bhp, and new engines used in agricultural operations.

Owners and operators of existing stationary diesel engines rated greater than 50 bhp are required to submit to the air districts specified information regarding their engines, which is due July 1, 2005. Sellers of stationary diesel engines that are less than or equal to 50 bhp or agricultural engines are required to submit to the ARB specified prior-year sales information, which is due January 31, 2006, and annually thereafter.

For new engines that are less than or equal to 50 bhp, the ATCM requires compliance with the current Off-Road Compression Ignition Engine Standards (13 CCR 2423) applicable to an engine of the same brake horsepower rating and model year. These standards represent BACT for this category of engines.

For engines that are greater than 50 bhp, the proposed ATCM establishes different requirements for emergency standby engines and prime engines, which are engines used in non-emergency applications. Separate requirements are also established for engines used in agricultural operations. Flexibility is provided in the form of different tiers of emission levels and permissible hours for non-emergency operations (e.g., maintenance and testing) to ensure that emission reductions are achieved from emergency engines without compromising their utility during a true emergency.

By January 1, 2006, all stationary diesel engines greater than 50 bhp are required to use either CARB diesel or a "clean" alternative, which includes CARB diesel/CNG (compressed natural gas) dual-fuel systems and alternative diesel fuels that have met the requirements of the ARB's Verification Procedure (13 CCR 2700-2710).

In addition to the diesel PM limits, the ATCM restricts criteria pollutant emissions by requiring new emergency standby and prime engines to meet current Off-Road Compression Ignition Engine Standards. The ATCM would also prohibit in-use emergency standby and prime engines from increasing criteria pollutant emissions when controlling diesel PM emissions. Because the ATCM focuses on applying best available control technology to prime engines, it does not limit the number of hours new and in-use prime engines may operate.

Modifications from the regulation as originally proposed include: modified exemptions for new agricultural operation engines; military training engines; nuclear facility engines; low-use prime engines located beyond 500 feet of a school; combustion gas turbine engines; National Aeronautics and Space Administration (NASA) engines used in

manned space flight facilities; and remotely-located in-use prime engines. New or modified requirements include: allowing air districts to approve reasonable limited delays from the fuel requirements to use up fuel purchased before the ATCM becomes effective; a near-school 500 foot “buffer zone” within which engines are not permitted to operate for non-emergency purposes during specified hours unless the engine meets clean engine standards; clarified language pertaining to the use of emergency engines in a specific location within a control area during a rotating outage; additional options for operators to meet the off-road engine standards; and new requirements specific to diesel engines operating under demand response programs (DRPs), including interruptible service contracts (ISC) and the rolling blackout reduction program (RBRP).

A number of definitions were added to or changed from the original proposal to improve clarity or to reflect modifications made elsewhere in the regulation. Also, Tables 2, 4, and 5 in the regulation were clarified. Changes to the monitoring and recordkeeping requirements include: a modified and clarified list of required information to be reported; a new exemption from reporting if the required information can be found in specified alternative sources; a delay to January 31, 2006 and annually thereafter for the reporting requirements applicable to agricultural engines and engines smaller than 50 horsepower; a clarification that agricultural engines that are exempt from subsection (e)(2)(E)1 of the regulation are required to meet that subsection if the owner/operator loses that exemption prior to January 1, 2008; a clarification that the sellers of new agricultural engines, not the owners and operators, are responsible for meeting the applicable reporting requirements; modified language permitting districts some discretion in requiring an hour-meter with different display specifications than specified in the regulation; modified language for the monthly log requirements; and requirements specific to owners and operators under an ISC or the RBRP.

The compliance schedule provisions were clarified to make it clear that the schedule that applies to “3 or Fewer Engines” applies to owners and operators of 3 or fewer engines that are all located within the same district. Also, the compliance schedules were changed from the original proposal for the fuel and fuel additive requirements (from January 1, 2005, to January 1, 2006) and for owners and operators of four or more engines in the same district (from January 1, 2006, to July 1, 2006, for pre-1989 through 1989 model year engines). And a new requirement was added that prohibits any fuel that does not meet specified requirements to be added to an in-use emergency standby engine after January 1, 2006.

Finally, superfluous references to Health and Safety Code section 39666(d) were deleted in several places in the regulation, and a severability provision was added.

Comparable Federal Regulations

Under Title I of the Federal Clean Air Act, States are fully authorized to establish standards for stationary engines, and these engines are not affected by Section 209(e) provisions of the Act, which may require a waiver from the United States Environmental

Protection Agency (U.S. EPA) when establishing requirements for mobile non-road engines.

The U.S. EPA has promulgated a national standard for reciprocating internal combustion engines that includes stationary diesel engines. On February 26, 2004, U.S. EPA issued final requirements to reduce toxic air emissions *The National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* (RICE NESHAP or NESHAP) in the Federal Register (69 FR 33473). The RICE NESHAP establishes requirements for stationary internal combustion engines rated above 500 horsepower (hp) that are located at major sources of hazardous air pollutants (HAPs). The RICE NESHAP requires new compression ignition engines either reduce CO by 70 percent or limit formaldehyde concentration to 580 parts per billion. The RICE NESHAP affects facilities in California that are also subject to the proposed ATCM. The NESHAP requires installation of a diesel oxidation catalyst (DOC) to reduce HAPs (aldehydes) and carbon monoxide. It also includes recordkeeping, monitoring, and testing requirements.

Because the NESHAP does not recognize particulate matter (PM) as a public health concern, it is not designed to reduce PM emissions, and it does not allow for the installation of a diesel particulate filter (DPF) in lieu of a DOC. As a result, facilities complying with the ATCM may be required to install additional controls and to conduct continuous monitoring with little or no additional environmental benefit. ARB staff raised several concerns regarding the RICE NESHAP including: (1) that the State and Local agencies have authority to regulate PM to reduce diesel exhaust risk, which is also a goal in the Urban Air Toxic Strategy; (2) that the EPA should recognize that DPFs are more effective in reducing diesel engine emissions; and (3) the current definition of "reconstruction" may affect facilities in California using retrofit technologies and may exceed the reconstruction cost threshold.

The U.S. EPA is also in the process of writing a New Source Performance Standard (NSPS) for diesel engines. The NSPS will include controlling emissions, including PM, from existing engines and small diesel engines (as low as 50 hp).

Most local air pollution control and air quality management districts require some level of control to reduce NO_x emissions from new and modified stationary and portable diesel-fueled engines. The South Coast Air Quality Management District adopted its Rule 1470, Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines, on April 2, 2004. .