

UPDATED INFORMATIVE DIGEST

AMENDMENTS TO THE AIRBORNE TOXIC CONTROL MEASURE FOR STATIONARY COMPRESSION IGNITION ENGINES

Sections Affected: Amendments to title 17, California Code of Regulations (CCR), sections 93115.3, 93115.4, 93115.6, 93115.7, 93115.8, 93115.9, and 93115.10, the Stationary Diesel Engine ATCM (ATCM).

Background: In 2004, the Board adopted the Stationary Diesel Engine ATCM (title 17, CCR section 93115). The ATCM established emission controls on stationary diesel-fueled engines that were greater than 50 horsepower (hp). For new emergency standby engines, the ATCM requires these engines to meet a 0.15 grams per brake horsepower (g/bhp-hr) particulate matter (PM) emission limit or the Off-Road Compression Ignition Engine Standard (title 13, CCR, section 2423)(Off-Road Standards), whichever is more stringent. In California, the Off-Road Standards will become more stringent than the ATCM 0.15 g/bhp-hr PM emissions requirement beginning with Tier 4 engines. The Tier 4 emissions limits will most likely cause engine manufacturers to require after-treatment technologies such as a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) system on their engines to meet the PM and oxides of nitrogen (NOx) standards.

Effective July 11, 2006, the U.S. Environmental Protection Agency (U.S. EPA) promulgated Standards of Performance for Stationary Compression-Ignition Internal Combustion Engines (NSPS)¹. However, the NSPS final rule does not require manufacturers of new emergency standby diesel engines to meet the Tier 4 emission standards if after-treatment controls must be installed.

Due to the promulgation of the NSPS, ARB staff investigated the feasibility, costs, and emissions impacts associated with aligning the ATCM with the federal NSPS. Based on this work, ARB staff proposed and the Board approved amendments to the ATCM to closely align with the federal NSPS requirements on October 21, 2010. The amendments reduce the cost of complying with the ATCM while still providing health protective emission limits for new emergency standby engines. The amendments primarily affect the requirements for new stationary diesel engines used in non-agricultural operations.

Description of the Adopted Regulatory Amendments: On October 21, 2010, the ARB approved, and subsequently adopted amendments to the existing Stationary Diesel Engine ATCM. The amendments to the ATCM closely align the emissions standards with those in the federal NSPS, clarify provisions in the ATCM and address new information, and remove provisions no longer needed. A summary of the amendments is presented below. A more detailed description can be found in the Initial

¹U.S. Environmental Protection Agency, Final New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, 71 FR 39154, July 11, 2006.

Statement of Reasons for Rulemaking at <http://www.arb.ca.gov/diesel/statport.htm>.

Exemptions: The ATCM was amended to remove the exemption that creates a sell-through provision in the ATCM. This provision was originally included in the regulation to help ensure an adequate supply of complying engines was available for installation and to minimize the adverse economic impacts to dealers as the new engine standards transitioned from one tier to the next. Since the regulation now only requires new emergency standby engines that meet a 0.15 g/bhp-hr emission standard and engines that meet this standard have been available for several years, the sell-through provision is no longer needed.

Definitions: A new criterion was added to the “emergency standby engine” definition to clarify that any diesel engine that supplies power to an electric grid or that supplies power as part of a financial arrangement with any entity, except for those engines enrolled in a demand response program (DRP) as defined in the ATCM, is not considered an emergency standby engine. This amendment makes the emergency standby engine definition consistent with the NSPS final rule.

The amendments also include a modification to the definition of “emergency use.” The previous definition of “emergency use” included the operation of emergency standby engines on the day of rocket launch tracking performed by the U.S. Department of Defense at Command Destruct sites. This provision was originally included to address engines at Command Destruct sites supporting military operations at the Vandenberg Air Force Base. The base is now responsible for space plane landing and the definition of emergency use was amended to specify that the operation of engines during rocket launch and space plane re-entry/landing is considered emergency use.

An amendment was made to the definition of “maintenance and testing” to add “uninterruptible power supply” to the list of supported equipment that may be tested during maintenance and testing operations.

Emission Limits for New Emergency Standby Engines: The amendments retain the 0.15 g/bhp-hr PM emissions limit for new emergency standby engines, align the other pollutant emission standards with the NSPS requirements, and, consistent with the NSPS requirements, require any new emergency standby engine to be 2007 model year or newer. This eliminates the previous requirement in the ATCM that would have required new emergency standby engines to meet the after-treatment based Tier 4 standards when they are more stringent than 0.15 g/bhp-hr. It also prevents the installation of any new emergency standby engine that does not meet the 2007 model year or newer emissions limits in the Off-Road Standards for all pollutants. No changes were made to the restrictions on the hours of operation for maintenance and testing or to the provisions that allow Districts to impose more stringent requirements.

Emission Limits for New Emergency Standby Direct-Drive Fire Pump Engines: The ATCM was amended to harmonize the PM and other pollutant emission standards with those in the NSPS for new emergency standby direct-drive fire pump engines. The

NSPS final rule requires stationary fire pump diesel engines to meet emission standards similar to the NSPS stationary emergency standby engine standards with delays in implementation up to three years for most engines. There are also special extensions for engines with greater than 2,650 revolutions per minute. This was based on the timeframe required for these engines to meet National Fire Protection Association specifications, and the significant costs to require after-treatment when compared to amount of pollutant reduced. These amendments do not require new emergency standby direct drive fire pump engines to meet Tier 4 after-treatment based standards. Rather they will meet either Tier 2 or Tier 3 standards based on the horsepower and model year of the engine.

Tier 4 Emissions Limit and Sell-Through Requirements for Prime Engines: The ATCM previously required new prime engines to meet a 0.01 g/bhp-hr PM emissions limit. This emission limit is the Tier 4 final PM limit for most horsepower ranges. However, for certain horsepower ranges, the Tier 4 final PM emissions limit is 0.02 g/bhp-hr.² To address this difference in emission standards, in an earlier rulemaking, the Board approved an alternative compliance provision that allows engines certified to the 0.02 g/bhp-hr PM emissions standards to be in compliance with the ATCM. To simplify the regulatory language in the ATCM, the amendments aligned the PM emissions limits for these engines with the NSPS standard of 0.02 g/bhp-hr. In addition, the ATCM was amended to align the sell-through provision with the NSPS final rule. This change essentially allows for a 2-year sell-through for engines when the new engine standards transition from one tier to the next.

Emissions Limit and Reporting for Less than or Equal to 50 Horsepower Engines: The amendments exempt less than or equal to 50 hp direct drive fire pump engines from the requirement to meet the Off-Road Standards and instead rely on the federal NSPS requirements for these engines. To align the ATCM with the NSPS, after-treatment based Tier 4 standards are not required for new emergency standby engines less than or equal to 50 hp. In addition, the ATCM provision that requires sellers and dealers of less than or equal to 50 hp stationary engines to annually report to the ARB the number of engines sold was removed. This data is no longer needed to support ARB's emission inventory program.

Reporting: An amendment was added to require the owners or operators of emergency standby engines used in demand response programs to annually report information on engines and hours of operation to the local district and the Executive Officer of the ARB. The ATCM requires this information to be provided to the District upon request. This amendment ensures that both the ARB and the Districts will obtain this data annually and will enable more routine monitoring of the hours that engines are operating during demand response programs.

² Engines in the 50 to 75 bhp range and those greater than 750 bhp have a 0.02 g/bhp-hr PM emissions limit. These engines are DPF-equipped to meet that limit.

Comparable Federal Regulations: On July 11, 2006, the U.S. EPA promulgated the NSPS for Stationary Diesel Engines. The emission standards required by the NSPS are modeled after U.S. EPA's standards for nonroad and marine diesel engines, which are phased in over several years (tiered standards) with increasing levels of stringency for NOx and PM. However, the NSPS final rule does not require manufacturers of new stationary emergency standby diesel engines to meet the Tier 4 interim and final standards if after-treatment controls must be installed. The amendments bring the State ATCM and the federal NSPS into very close alignment.

Benefits of the Amendments: The total economic impact of the amendments to affected private businesses and public agencies would be a cost savings of approximately \$460 million between 2010 and 2020 or about \$46 million annually. Of this, private businesses and public agencies are each expected to realize cost savings of about \$23 million annually. These cost savings are due to the alignment of the ATCM emissions standards for new emergency standby engines with those in the NSPS which do not require after-treatment based emission standards. Foregoing the application of after-treatment technologies such as DPF and SCR for new emergency standby engines, results in cost savings of about \$118 per hp. This translates to about \$71,000 cost savings for a typical 600 hp emergency standby engine.