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FOR JUNE 2003 PUBLIC MEETING
DISCUSSION PURPOSES ONLY**

**Proposed Airborne Toxic Control Measure for
New and In Use Stationary Compression Ignition
Engines Greater than 50 Horsepower**

**California Environmental Protection Agency
Air Resources Board**

June 2003

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PROPOSED REGULATION ORDER

**AIRBORNE TOXIC CONTROL MEASURE FOR STATIONARY COMPRESSION
IGNITION ENGINES GREATER THAN 50 HORSEPOWER**

Adopt new section xxxxxx, title 17, California Code of Regulations, to read as follows:

17 CCR, section xxxxxx. New and In-Use Stationary Compression Ignition (CI) Engine (> 50 HP) Airborne Toxic Control Measure.

(a) Purpose

- (1) The purpose of this airborne toxic control measure (ATCM) is to reduce diesel particulate matter (PM) emissions from stationary diesel-fueled CI engines having a rated brake horsepower greater than 50 (> 50 hp).

(b) Applicability

- (1) Except as provided in subsection (c), this section applies to any person who sells, offers for sale, leases, purchases, owns, or operates for use in California a stationary CI engine > 50 hp.
- (2) No later than 120 days after the approval of this section by the Office of Administrative Law, each air pollution control and air quality management district (district) shall:
 - (A) implement and enforce the requirements of this section; or
 - (B) propose and adopt its own ATCM to reduce diesel PM from new and in-use stationary diesel-fueled compression ignition (CI) engines as provided in Health and Safety Code section 39666(d).

(c) Exemptions

- (1) The requirements in this section do not apply to portable CI engines or CI engines used to provide the motive power for on-road and off-road vehicles.
- (2) The requirements in this section do not apply to CI engines used for the propulsion of marine vessels or auxiliary CI engines used on marine vessels.
- (3) The requirements of this section do not apply to in-use stationary CI engines used in agricultural operations.

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- (4) The requirements specified in subsections (e)(2)(A), (e)(2)(B), (e)(2)(C), (e)(2)(D), and (e)(3)(A) do not apply to new stationary CI engines used in agricultural operations.
- (5) The requirements in this section do not apply to any stationary CI engine having a rated brake horsepower less than or equal to 50 horsepower (≤ 50 hp).
- (6) The requirements specified in subsections (e)(2)(B) and (e)(2)(D) do not apply to in-use stationary diesel-fueled CI engines used in emergency standby or prime applications that, prior to January 1, 2005, were required in writing by the district, to meet either minimum technology requirements or performance standards implemented by the district from the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, October 2000, which is incorporated herein by reference.*
- (7) The requirements specified in subsection (e)(2)(B) do not apply to permitted in-use emergency standby stationary diesel-fueled CI engines that will be removed from service or replaced prior to January 1, 2009, in accordance with an approved Office of Statewide Health Planning Development (OSHPD) Compliance Plan that has been approved prior to January 1, 2009, except that this exemption does not apply to replacement engines for the engines that are removed from service under the OSHPD plan.
- (8) The requirements in subsections (e)(1) and (e)(2) do not apply to any stationary diesel-fueled CI engine used solely for:
 - (A) the training of United States Air Force maintenance officers or enlisted personnel, or civilian government employees, and are identified as Class I Training Equipment in accordance with Air Force Space Command Instruction 21-0114, dated XX/XX/XXXX; or
 - (B) the training of United States Navy personnel, and are identified as shore based trainers that must be made fully compatible with fleet systems both in configuration and design capability in order to fully support fleet training requirements and sustain operational readiness, in accordance with OPNAV Instruction 1500.51, dated XX/XX/XXXX.
- (9) The requirements specified in subsections (e)(1) and (e)(2) do not apply to stationary diesel-fueled CI engines operating on San Nicolas and San Clemente Islands. The Ventura County Air Pollution Control District APCO and the South Coast Air Quality Management District APCO shall periodically review the land use plans for the island in their jurisdiction and withdraw this exemption if the land use plans are changed to allow use by the general public of the islands. Any engine, and the owners or operators of such engine, for which the exemption under this subsection has been withdrawn, shall meet the requirements specified in (e)(1) and (e)(2) within 180 days of the day the exemption was withdrawn by the district.

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- (10) The requirements specified in subsection (e)(2) do not apply to stationary diesel-fueled engines operating on outer continental shelf (OCS) platforms.
- (11) **Request for Delay of Implementation for Remote Engines.** The enforcement of requirements specified in subsection (e)(2)(A), (e)(2)(B), (e)(2)(C), and (e)(2)(D) may be delayed for certain engines provided a Request for Delay of Implementation has been granted in writing by the district APCO under this subsection. The district APCO may approve a Request for Delay of Implementation of the provisions in subsection (e)(2) for any remotely-located, in-use stationary diesel-fueled CI engine, provided the approval is in writing, the writing specifies all of the following conditions to be met by the owner or operator, and the writing contains the following information to be provided by the district:
- (A) no single delay is longer than 3 years, at the end of which a new delay may be requested
 - (B) no delay goes beyond January 1, 2010;
 - (C) the engine is located at all times at least 2 miles from the nearest receptor location;
 - (D) the engine operates less than 500 hours cumulatively per year; and
 - (E) the district has documented in the approval its considerations of county land use plans; the current use of the surrounding land; the current and anticipated zoning designations; and any additional CI engines operating on site.
- (12) **Request for Exemption for Emergency Engines at Nuclear Facilities.** The district APCO may approve a Request for Exemption from the provisions of subsection (e)(2)(B) for any in-use stationary diesel-fueled CI engines, provided the approval is in writing, the writing specifies all of the following conditions to be met by the owner or operator, and the writing contains the following information to be provided by the district:
- (A) the engine is an emergency standby engine;
 - (B) the engine is subject to the requirements of the Nuclear Regulatory Commission;
 - (C) the engine is used solely for the safe shutdown and maintenance of a nuclear facility when normal power service fails or is lost;
 - (D) the engine undergoes maintenance and testing operations for no more than 200 hours cumulatively per calendar year; and
 - (E) the district specifies in the approval any additional criteria that must be met.
- (13) **Request for Exemption for Low-Use Prime Engines Outside of School Boundaries.** The district APCO may approve a Request for Exemption from the provisions of subsection (e)(2)(D) for any in-use stationary diesel-fueled CI engine located beyond school boundaries, provided the approval is in writing,

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the writing specifies all of the following conditions to be met by the owner or operator, and the writing contains the following information to be provided by the district:

- (A) the engine is a prime engine;
 - (B) the engine is located more than 1000 feet from a school at all times; and
 - (C) the engine operates no more than 18 hours cumulatively per year.
- (14) The requirements in subsections (e)(2)(B) and (e)(2)(D) do not apply to in-use dual-fueled diesel pilot CI engines that use an alternative fuel or an alternative diesel fuel.
- (15) The requirements in subsection (e) do not apply to dual-fueled diesel pilot CI engines that use diesel fuel and digester gas or landfill gas.

(d) Definitions

For purposes of this section, the following definitions apply:

- (1) "Alternative fuel" means natural gas, propane, ethanol, or methanol.
- (2) "Alternative Diesel Fuel" means any fuel used in a CI engine that is not a reformulated CARB diesel fuel as defined in Title 13 CCR Sections 2281 and 2282 or an alternative fuel, and does not require engine or fuel system modifications for the engine to operate, although minor modifications (e.g., recalibration of the engine fuel control) may enhance performance. Examples of alternative diesel fuels include, but are not limited to, biodiesel, Fischer Tropsch fuels, and emulsions of water in diesel fuel. An emission control strategy using a fuel additive will be treated as an alternative diesel fuel based strategy unless:
 - (A) the additive is supplied to the engine fuel by an on-board dosing mechanism, or
 - (B) the additive is directly mixed into the base fuel inside the fuel tank of the engine, or
 - (C) the additive and base fuel are not mixed until engine fueling commences, and no more additive plus base fuel combination is mixed than required for a single fueling of a single engine.
- (3) "Agricultural Operations" means the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. Agricultural operations do not include activities involving the processing or distribution of crops or fowl.

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- (4) "Air Pollution Control Officer" means the Executive Officer or director of a district, or his or her delegate.
- (5) "ALSF-1 and ALSF-2" mean high intensity approach lighting systems with sequenced flashers used at airports to illuminate specified runways during category II or III weather conditions, where category II means a decision height of 100 feet and runway visual range of 1,200 feet, and category III means no decision height or decision height below 100 feet and runway visual range of 700 feet.
- (6) "Baseline (emissions)" means the emission level of a diesel-fueled engine using CARB diesel fuel as configured upon initial installation or by January 1, 2003, whichever is later.
- (7) "Carbon Monoxide (CO)" is a colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels.
- (8) "CARB Diesel Fuel" means any diesel fuel that meets the specifications defined in subsection (e)(12) and meets the specifications defined in *Title 13 CCR sections 2281-2282*.
- (9) "Compression Ignition (CI) Engine" means an internal combustion engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.
- (10) "Control Area" means the electrical region that regulates its power generation in order to balance electrical loads and maintain planned interchange schedules with other control areas.
- (11) "Cumulatively" means the aggregation of hours or days of engine use, and any portion of an hour or day of engine use, toward the specified time limit(s).
- (12) "Diesel Fuel" means any fuel that meets the American Society for Testing and Materials (ASTM) *D975 – 98, Standard Specification for Diesel Fuel Oils* (dated XX/XX/XXXX), which is incorporated herein by reference. "Diesel Fuel" includes, but is not limited to, No. 1-D, No. 1-D low sulfur, No. 2-D, No. 2-D low sulfur, and No. 4-D diesel fuel oils.
- (13) "Diesel-Fueled" means fueled by diesel fuel, CARB diesel fuel, or jet fuel, in whole or part.
- (14) "Diesel Particulate Filter (DPF)" means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

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- (15) "Diesel Particulate Matter (PM)" means the particles found in the exhaust of diesel-fueled CI engines which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.
- (16) "Digester Gas" is any gas derived from anaerobic decomposition of wastewater.
- (17) "District" means an air pollution control district or air quality management district created or continued in existence pursuant to provisions of Part 3 (commencing with section 40000) of the California Health and Safety Code. Each district is headed by an Air Pollution Control Officer (APCO).
- (18) "Dual-fuel engine" means any CI engine that is engineered and designed to be operated on either a gaseous or liquid petroleum fuel.
- (19) "Dual-fuel diesel pilot engine" means a dual-fueled engine that uses diesel fuel as a pilot ignition source at an annual average ratio of less than 5 parts diesel fuel to 100 parts total fuel on an energy equivalent basis.
- (20) "Emergency Standby CI Engine" means a stationary CI engine operated solely during an emergency use, except as otherwise permitted for maintenance and testing operations, emission testing, and initial start-up testing as specified in (e)(2).
- (21) "Emergency use" means using an emergency standby CI engines to provide electrical power or mechanical work during any of the following events and subject to the following conditions:
- (A) the failure or loss of normal electrical power service or normal natural gas supply to the facility,
 - (i) which is caused by any reason other than the enforcement of a contractual obligation the owner or operator has with a third party or any other party including, but not limited to, an interruptible service contract or similar arrangement; and
 - (ii) which is demonstrated by the owner or operator to the district APCO's written satisfaction to have been beyond the reasonable control of the owner or operator; and
 - (iii) provided the emergency engine is used solely to the extent it is necessary to prevent damage to equipment in the facility, operate pollution control equipment, or complete the processing of products that would be irreparably damaged or destroyed as a direct result of an involuntary electrical power service interruption; and
 - (iv) provided the emergency engine is not used to begin a new process or to process additional products during the electrical service interruption.
 - (B) the failure of a facility's internal power distribution system:
 - (i) which is caused by any reason other than the enforcement of a contractual obligation the owner or operator has with a third party or

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- any other party including, but not limited to, an interruptible service contract;
- (ii) which is demonstrated by the owner or operator to the district APCO's written satisfaction to have been beyond the reasonable control of the owner or operator; and provided the emergency engine is used solely to the extent it is necessary to prevent damage to equipment in the facility, operate pollution control equipment, or complete the processing of products that would be irreparably damaged or destroyed as a direct result of an involuntary electrical power service interruption; and
 - (iii) provided the emergency engine is not used to begin a new process or to process additional products during the electrical service interruption.
- (C) the pumping of flood water or sewage overflow;
 - (D) the pumping of water for fire suppression or protection;
 - (E) the powering of ALSF-1 and ALSF-2 airport runway lights under category II or III weather conditions;
 - (F) during an impending rotating outage provided the following criteria are met:
 - (i) the emergency standby diesel-fueled engine's permit to operate allows operation of the engine in anticipation of a rotating outage, or the District has established a policy or program that authorizes operation of the engine in anticipation of a rotating outage; and
 - (ii) the system operator has ordered rotating outages in the control area where the engine is located, or has indicated it expects to issue such an order at a certain time; and
 - (iii) the emergency standby diesel-fueled engine is located in a utility service block that is subject to the rotating outage; and
 - (iv) the emergency standby diesel-fueled engine is operated no more than 30 minutes prior to the officially forecasted clock time, as determined by the system operator, when electrical reserves will fall to a level that will result in the anticipated rotating outage; and
 - (v) the emergency standby diesel-fueled engine is operated no more than 30 minutes after the system operator advises that a rotating outage is no longer imminent or in effect.
- (22) "Emission Control Strategy" means any device, system, or strategy employed with a diesel-fueled CI engine that is intended to reduce emissions including, but not limited to, particulate filters, diesel oxidation catalysts, selective catalytic reduction systems, fuel additives used in combination with particulate filters, alternative diesel fuels, and combinations of the above.
- (23) "Executive Officer" means the executive officer of the Air Resources Board, or his or her delegate.
- (24) "Facility" means one or more contiguous properties in actual physical contact or separated solely by a public roadway or other public right-of-way under common ownership on which engines operate.

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- (25) "Fuel Additive" means any substance designed to be added to fuel or fuel systems or other engine-related engine systems such that it is present in-cylinder during combustion and has any of the following effects: decreased emissions, improved fuel economy, increased performance of the engine; or assists diesel emission control strategies in decreasing emissions, or improving fuel economy or increasing performance of the engine. Fuel additives used in conjunction with diesel fuel may be treated as an alternative diesel fuel. (See (d)(2).)
- (26) "Generator Set" means a CI engine coupled to a generator which is used as a source of electricity.
- (27) "Hydrocarbon (HC)" means the sum of all hydrocarbon air pollutants.
- (28) "In-Use" means a CI engine that is not a "new" CI engine.
- (29) "Initial Start-up Testing" means operating a new stationary diesel-fueled engine after initial installation at a facility to ensure proper performance of the engine and supported equipment.
- (30) "Interruptible Service Contract" means any arrangement in which a nonresidential electrical customer agrees to reduce or consider reducing its electrical consumption during periods of peak demand or at the request of the System Operator in exchange for compensation, or for assurances not to be blacked out or other similar non-monetary assurances.
- (31) "Jet fuel" means fuel meeting any of the following specifications:
- (A) *ASTM D 1655 – 98, Standard Specification for Aviation Turbine Fuels*; includes Jet A, Jet A-1, and Jet B.
 - (B) *MIL-DTL-5624T, Turbine Fuel, Aviation, Grades JP-4, JP-5, and JP-5/JP8 ST.*
 - (C) *MIL-T-83133D, Turbine Fuel, Aviation, Kerosene Types, NATO F-34 (JP-8) and NATO F-35; NATO F-35 similar to (JP-8).*
- (32) "Landfill Gas" means any gas derived through any biological process from the decomposition of waste buried within a waste disposal site.
- (33) "Location" means any single site at a facility.
- (34) Maintenance and Testing means operating an emergency standby CI engine during maintenance of the engine or the supported equipment; or operating the engine to test the engine's ability to perform during an emergency, or the supported equipment's ability to perform during an emergency. Supported

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equipment includes, but is not limited to, generators, pumps, transformers, switch gear, and breakers.

- (35) "Model Year" means the stationary CI engine manufacturer's annual production period, which includes January 1st of a calendar year, or if the manufacturer has no annual production period, the calendar year.
- (36) "New" (CI engine) means any of the following:
- (A) a stationary CI engine installed at a facility, including an engine relocated from an off-site location, after January 1, 2005, except the following shall be considered to be in-use engines:
 - (i) a replacement stationary CI engine that is installed to temporarily replace an in-use engine while the in-use engine is undergoing maintenance and testing provided the replacement engine emits no more than the in-use engine and the replacement engine is not used more than 180 days cumulatively in any 12-month rolling period is not considered a new engine.
 - (ii) an engine that was approved by the District for installation prior to the effective date of this section but is not installed until after January 1, 2005, is not considered a new engine.
 - (iii) an engine that is one of four or more engines owned by an owner or operator and is relocated prior to January 1, 2008 to an offsite location that is owned by the same owner or operator is not considered a new engine.
 - (iv) an engine used in agricultural operations that is owned by an owner or operator and is relocated to an offsite location that is owned by the same owner or operator is not considered a new engine.
 - (B) a stationary CI engine that has been reconstructed after January 1, 2005, is a new engine, unless the cost of all reconstruction of that engine after January 1, 2005 is less than 50% of the lowest available purchase price of a complete, comparably-equipped new engine, that is within 10% of the reconstructed engine's brake horsepower rating. For purposes of this subsection, the cost of reconstruction and the cost of a comparable new engine shall not include the cost of equipment and devices required to meet the requirements of this ATCM.
- (37) "Nitrogen Oxides (NO_x)" means compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen, which are typically created during combustion processes, and are major contributors to smog formation and acid deposition.
- (38) "Non-Methane Hydrocarbons (NMHC)" means the sum of all hydrocarbon air pollutants except methane.

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- (39) "Owner or operator" means any person subject to the requirements of this section, including but not limited to:
- (A) an individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including but not limited to, a government corporation;
 - (B) any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law; or
 - (C) a project proponent and any of its contractors or subcontractors.
- (40) "Particulate Matter" means the particles found in the exhaust of CI engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.
- (41) "Portable Engine" means an engine designed and capable of being carried or moved from one location to another. Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.
- (42) "Prime CI Engine" means a stationary CI engine that is not an emergency standby engine.
- (43) "Rated Brake Horsepower" means the maximum continuous rating for an engine as specified by the manufacturer, based on Society of Automotive Engineers (SAE) test 1349 or a similar standard, without taking into account any deratings.
- (44) "Receptor location" means any location outside the boundaries of a facility where a person may experience exposure to diesel exhaust due to the operation of a stationary diesel-fueled CI engine. Receptor locations include, but are not limited to, residences, businesses, hospitals, daycare centers, and schools.
- (45) "Reconstruction" means the rebuilding of the engine or the replacement of engine parts, including pollution control devices and filter, but excluding operating fluids, lubricants, and consumables such as air filters, fuel filters, and glow plugs that are subject to regular replacement.
- (46) "Rotating Outage" means a controlled, involuntary curtailment of electrical power service to consumers as ordered by the System Operator.
- (47) "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

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- (48) “Stationary CI Engine” means a CI engine, such as an electric power generator set, grinder, rock crusher, sand screener, crane, cement blower, air compressor, and water pump, that is stationary for the purposes of this section because:
- (A) it is physically attached to a foundation, or
 - (B) it remains at the same stationary source for more than 12 consecutive rolling months or 365 rolling days, whichever occurs first, not including time spent in a storage facility at the stationary source, or
 - (C) it is located at a stationary source that operates for at least 3 consecutive or nonconsecutive months per year for at least two years (also referred to as a “seasonal source”), or
 - (D) it is moved from one stationary source to another or one location to another location in the same facility such that, under the totality of the circumstances, the district APCO determines the movement of the engine is an attempt to circumvent the 12 consecutive rolling month requirement in (B) above, or
 - (E) it is a replacement engine for any engine falling within (A), (B), (C), or (D) above.
- (49) “Stationary Source” means an emission unit or aggregation of emission units which are located on the same or contiguous properties and which units are under common ownership or entitlement to use. Stationary sources also include those emission units or aggregation of emission units located in the California Coastal Waters. “Emission Unit” means any article, machine, equipment, contrivance, process, or process line which emit(s) or reduce(s), or may emit or reduce, the emissions of any air contaminant, except motor vehicles.
- (50) “System Operator” means one of the several organizations that control energy distribution in California. System operators include, but are not limited to, the California Independent System Operator, the Los Angeles Department of Water and Power, the Imperial Irrigation District, and the Sacramento Municipal Utility District.
- (51) “Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (Verification Procedure)” means the ARB regulatory procedure codified in *Title 13 CCR sections 2700-2710*, which is incorporated herein by reference, could be used to verify the reductions of diesel PM and/or NOx from in-use diesel engines using a particular emission control strategy.
- (52) “Verified Diesel Emission Control Strategy” means an emission control strategy designed primarily for the reduction of diesel PM emissions that has been verified per the Verification Procedure.

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(e) Requirements

(1) Fuel and Fuel Additive Requirements for New and In-Use Stationary CI Engines That Have a Rated Brake Horsepower of Greater than 50

(A) By no later than January 1, 2005, except as provided for in subsection (c), all new stationary CI engines and all in-use stationary diesel-fueled CI engines shall only use:

- (i) CARB Diesel Fuel, or
- (ii) an alternative diesel fuel that meets the requirements of the Verification Procedure, or
- (iii) an alternative fuel, or
- (iv) CARB Diesel Fuel used with fuel additives that meets the requirements of the Verification Procedure, or
- (v) any combination of (i) through (iv) above.

(2) Operating Requirements and Emission Limits for New and In-Use Stationary Diesel-Fueled CI Engines, That Have a Rated Brake Horsepower of Greater than 50 (>50 hp).

(A) *New Emergency Standby Diesel-Fueled CI Engine (> 50 hp) Operating Requirements and Emission Limits*

- (i) As of January 1, 2005, except as provided in subsection (c), no person shall sell, offer for sale, purchase, or lease for use in California any emergency standby stationary diesel-fueled CI engine that has a rated brake horsepower greater than 50, or operate any new emergency standby stationary diesel-fueled CI engine that has a rated brake horsepower greater than 50, unless it meets all of the following operating requirements or emission performance standards:
 - (a) A new emergency standby diesel-fueled CI engine (> 50 hp) may not be operated to fulfill the requirements of an interruptible load contract.
 - (b) A new emergency standby diesel-fueled CI engine (> 50 hp) located within 1000 feet of a school may not operate for non-emergency use when school activities are taking place and children are present.
 - (c) Diesel PM Limit: New emergency standby diesel-fueled CI engines (> 50 hp) shall be required to meet the applicable PM emission rates and maximum allowable annual hours of operation limits defined in the Table 1.

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TABLE 1: DIESEL PM LIMITS AND OPERATIONAL REQUIREMENTS FOR NEW EMERGENCY STANDBY DIESEL-FUELED CI ENGINES				
DIESEL PM LIMITS (g/bhp-hr)	MAXIMUM ALLOWABLE ANNUAL HOURS OF OPERATION FOR ENGINES MEETING DIESEL PM LIMIT			
	Emergency Use	Non-Emergency Use		
		Emission Testing to show compliance ²	Initial Start-up (hrs)	Maintenance & Testing (hours/year)
$\leq 0.15^1$ and $> 0.01^1$	Not Limited by ATCM ³	Not Limited by ATCM ³	4.5	100
$\leq 0.01^1$	Not Limited by ATCM ³	200		

- 1 Or off-road certification standard (title 13 CCR section 2423) for an off-road engine with the same horsepower rating, whichever is more stringent
- 2 Emission testing limited to testing to show compliance with subsections (e)(2)(A)(ii).
- 3 May be subject to emission or operational restrictions as defined in current applicable district rules, regulations, or policies.

- (d) HC, NOx, NMHC+NOx, and CO Limits: New emergency stand-by engines (> 50 hp) must meet, at a minimum, the appropriate model year HC, NOx, (or NMHC+NOx) and CO Off-Road Compression-Ignition Engine Standards, or Tier 1 HC, NOx and CO off-road certification standards for the horsepower category of that engine (Title 13 CCR section 2423), whichever is more stringent; and
- (e) The District has the authority to establish more stringent diesel PM, NMHC+NOx, HC, NOx, and CO limits and annual hours of operation requirements on a site-specific basis.

**(B) In-Use Emergency Standby Diesel-Fueled CI Engine (> 50 hp)
Operating Requirements and Emission Limits**

- (i) An in-use emergency standby diesel-fueled CI engine (> 50 hp) located within 1000 feet of a school may not operate for non-emergency use when school activities are taking place and children are present.
- (ii) Except as provided in subsection (c), all in-use emergency standby stationary diesel-fueled CI engines (> 50 hp) operated in California must meet, in accordance with the appropriate compliance schedule as defined in subsection (e)(2)(B)(iii), (e)(2)(B)(iv), (f), or (g), the following requirements:

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- (a) Diesel PM Limit: In-use emergency standby diesel-fueled CI engines (> 50 hp) shall be required to meet the applicable PM emission rates and maximum allowable annual hours of operation limits defined in Table 2.

TABLE 2: DIESEL PM LIMITS AND OPERATIONAL REQUIREMENTS FOR IN-USE EMERGENCY STANDBY DIESEL-FUELED CI ENGINES				
DIESEL PM LIMITS (g/bhp-hr)	MAXIMUM ALLOWABLE ANNUAL HOURS OF OPERATION FOR ENGINES MEETING DIESEL PM LIMIT			
	Emergency Use	Non-Emergency Use		
		Emission Testing to show compliance ²	Initial Start-up (hours)	Maintenance & Testing (hours/year)
$>0.40^1$	Not Limited by ATCM ³	Not Limited by ATCM ³	4.5	18
$\leq 0.40^1$ and $>0.15^1$	Not Limited by ATCM ³	Not Limited by ATCM ³	4.5	40
$\leq 0.15^1$ and $>0.01^1$	Not Limited by ATCM ³	Not Limited by ATCM ³	4.5	100
$\leq 0.01^1$	Not Limited by ATCM ³	200		

- 1 Or off-road certification standard (title 13 CCR section 2423) for an off-road engine with the same horsepower rating, whichever is more stringent
- 2 Emission testing limited to testing to show compliance with subsection (e)(2)(A)(iv).
- 3 May be subject to emission or operational restrictions as defined in current applicable district rules, regulations, or policies.

(b) Additional Limits:

- (1) Owners or operators that choose to meet the diesel PM limits defined in subsection (e)(2)(B)(ii)(a) with emission control strategies that are not verified through the Verification Procedure are required to meet the following limits.
 - (A) HC, NOx, and NMHC + NOx Limits: Diesel PM emission control strategies shall not result in either :
 - (i) an increase in HC or NOx emissions by greater than 10% from baseline levels, or
 - (ii) an increase in the sum of NMHC and NOx emissions greater than the baseline levels.
 - (B) CO Limit: Diesel PM emission control strategies shall not result in an increase in CO emissions by greater than 10% from baseline levels.

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- (c) The District has the authority to:
 - (1) establish more stringent diesel PM, NMHC+NO_x, HC, NO_x, and CO limits;
 - (2) establish more stringent annual hours of operation requirements on a site-specific basis; and
 - (3) allow additional hours of operation for demonstrating compliance with other district rules provided hours do not exceed XXX per year.

- (iii) Prior to January 1, 2008, an in-use emergency standby diesel-fueled CI engine (> 50 hp) can only be used to meet the requirements of an interruptible load contract (ILC) if the following conditions are met:
 - (a) the ILC contract was effective prior to January 1, 2003;
 - (b) the engine under ILC contract (ILC engine) complies with either 0.15 g/bhp-hr or 0.01 g/bhp-hr diesel PM limit, associated operational requirements, and the Additional Limits defined in subsection (e)(2)(B)(ii), no later than July 1, 2005, and the ILC hours of operation are included when calculating the Maintenance and Testing total, as required; and
 - (c) the ILC engine continues to meet the requirements defined in subsection (e)(2)(B)(iii)(b) after the ILC contract is ended.

- (iv) As of January 1, 2008, an in-use emergency standby diesel-fueled CI engine (> 50 hp) can only be used to meet the requirements of an interruptible load contract (ILC), if the following conditions are met:
 - (a) the ILC contract was effective prior to January 1, 2003;
 - (b) the ILC engine complies with the 0.01 g/bhp-hr diesel PM limit, associated operational requirements, and the Additional Limits defined in subsection (e)(2)(B)(ii), no later than January 1, 2008; and
 - (c) the ILC engine continues to meet the requirements defined in subsection (e)(2)(B)(iv)(b) after the ILC contract is ended.

(C) *New Prime Stationary Diesel-Fueled CI Engine (> 50 hp) Emission Limits*

- (i) As of January 1, 2005, except as provided in subsection (c), no person shall sell, purchase, or lease for use in California a stationary prime

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diesel-fueled CI engine that has a rated brake horsepower greater than 50, or operate any new stationary prime diesel-fueled CI engine that has a rated brake horsepower greater than 50 that unless its meets all of the following emission performance standards:

- (a) Diesel PM Limit: New prime engines (> 50 hp) must emit less than or equal to 0.01 grams PM per brake-horsepower-hour (g/bhp-hr), or the applicable off-road PM certification standard (Title 13 CCR section 2423), whichever is more stringent;
- (b) HC, NO_x, NMHC + NO_x, and CO Limits: New prime engines (> 50 hp) must meet, at a minimum, the appropriate model year HC, NO_x (or NMHC+NO_x) and CO Off-Road Compression-Ignition Engine Standards, or Tier 1 HC, NO_x, and CO off-road certification standards for the horsepower category of that engine, whichever is more stringent (Title 13 CCR section 2423); and
- (c) The District has the authority to establish more stringent diesel PM, NMHC+NO_x, HC, NO_x, and CO limits on a site-specific basis.

(D) *In-Use Prime Stationary Diesel-Fueled CI Engine (> 50 hp) Emission Limits*

- (i) Except as provided in subsection (c), all in-use prime stationary diesel-fueled CI engines (> 50 hp) operated in California must meet, in accordance with the appropriate compliance schedule as defined in subsection (f) or (g), the following requirements:
 - (a) Diesel PM Limits: Prime engines (> 50 hp) must either reduce diesel PM emissions by greater than or equal to 85 percent, by weight, from baseline levels, or emit less than or equal to 0.01 g/bhp-hr of diesel PM.
 - (b) Additional Limits:
 - (1) Owners or operators that choose to meet the diesel PM limits defined in subsection (e)(2)(D)(i)(a) with emission control strategies that are not verified through the Verification Procedure are required to meet the following limits.
 - (A) HC, NO_x, and NMHC + NO_x Limits: Diesel PM emission control strategies shall not result in either :
 - (i) an increase in HC or NO_x emissions by greater than 10% from baseline levels, or
 - (ii) an increase in the sum of NMHC and NO_x emissions greater than the baseline levels.
 - (B) CO Limit: Diesel PM emission control strategies shall not result in an increase in CO emissions by greater than 10%

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from baseline levels.

- (c) The District has the authority to establish more stringent diesel PM, NMHC+NO_x, HC, NO_x, and CO limits on a site-specific basis.

(E) *Emission Limits for New Stationary Diesel-Fueled CI Engines (>50hp) Used in Agricultural Operations*

- (i) As of January 1, 2005, except as provided in subsection (c) and subsection (e)(2)(E)(ii), no person shall sell, purchase, or lease for use in California any stationary diesel-fueled engine to be used in agricultural operations that has a rated brake horsepower greater than 50; or operate any stationary diesel-fueled engine to be used in agricultural operations that has a rated brake horsepower greater than 50, unless it meets all of the following emission performance standards:
 - (a) Diesel PM Limit: New agricultural diesel-fueled CI engines must meet at a minimum a 0.15 g/bhp-hr diesel particulate matter (PM) limit or the applicable off-road PM certification standard (Title 13, CCR section 2423), whichever is lower; and
 - (b) NMHC, NO_x, and CO Limits: New agricultural diesel-fueled CI engines must meet, at a minimum, the appropriate model year NMHC + NO_x, and CO Off-road Compression Ignition Engine Standards (Title 13 CCR section 2423).
- (ii) Prior to January 1, 2008, the requirements of subsections (e)(2)(E)(i) do not apply to any stationary diesel-fueled CI engine used in agricultural operations that had been funded under a State or federal incentive funding program including, but not limited to, California's Carl Moyer Program, as set forth in Title 17, Part 5, Chapter 9 of the California Health and Safety Code, or the U.S. Department of Agriculture's Environmental Quality Incentives (EQIP) Program, as set forth in Title 7, Chapter XIV, Part 1466 of the Code of Federal Regulations, and sold for use in another agricultural operation provided the stationary diesel-fueled CI engine complies with Tier II Off-road Compression Ignition Standards for the horsepower category of that engine (Title 13, CCR section 2423).

(3) Recordkeeping, Reporting, and Monitoring Requirements

(A) Recordkeeping Requirements

- (i) Except as provided in subsection (c) and subsection (e)(3)(A)(v) prior to the installation of any new stationary CI engine having a rated horsepower greater than 50 at a facility, each owner or operator shall

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be required to provide the information identified in subsection (e)(3)(A)(iii) to the District APCO.

- (ii) Except as provided in subsection (c) and subsection (e)(3)(A)(v), and no later than July 1, 2005, each owner or operator of an in-use stationary CI engine shall be required to provide the information identified in subsection (e)(3)(A)(iii) to the District APCO.
- (iii) The following information shall be submitted to the District APCO in accordance with the requirements of subsections (e)(3)(A)(i) and (e)(3)(A)(ii):
 - (a) Owner/Operator Contact Information
 - (1) Company name
 - (2) Contact name, phone number, e-mail address
 - (3) Address of engine(s)
 - (b) Engine Information
 - (1) Make
 - (2) Model
 - (3) Serial number
 - (4) Year of manufacture (if unable to determine, approximate age)
 - (5) Rated Brake Horsepower Rating
 - (6) Exhaust stack height from ground
 - (7) Engine Emission Factors and supporting data for PM, NO_x and NMHC separately or NMHC+NO_x, and CO, (if available)
 - (A) Manufacturers data
 - (B) Source test
 - (C) Other
 - (8) Control equipment (if applicable)
 - (A) Turbocharger
 - (B) Aftercooler
 - (C) Injection Timing Retard
 - (D) Catalyst
 - (E) Diesel Particulate Filter
 - (F) Other
 - (c) Fuel(s) Used
 - (1) CARB Diesel
 - (2) Jet fuel
 - (3) Diesel
 - (4) Alternative diesel fuel (specify)
 - (5) Alternative fuel (specify)
 - (6) Combination (Dual fuel) (specify)
 - (7) Other (specify)

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- (d) Operation Information
 - (1) Describe general use of engine
 - (2) Typical load (percent of maximum bhp rating)
 - (3) Typical annual hours of operation
 - (4) If seasonal, months of year operated and typical hours per month operated
 - (5) Fuel usage rate (if available)
 - (e) Distance to nearest offsite receptor location
 - (f) Identify if the engine is included in an existing AB2588 emission inventory
- (iv) Except as provided in subsection (c), and no later than 180 days prior to the earliest applicable compliance date specified in subsection (f) or (g), whichever is applicable, each owner or operator of an in-use stationary diesel-fueled CI engine (> 50 hp) shall be required to provide the following additional information to the District APCO:
- (a) identify the control strategy for each stationary diesel-fueled CI engine that when implemented will result in compliance with subsections (e)(2). If applicable, the information should include the diesel emission control strategy verification executive order number for control strategies that have been approved through the Verification Procedure.
 - (v) The District APCO may exempt the owner or operator from providing all or part of the information identified in subsection (e)(3)(A)(iii) or (e)(3)(A)(iv), if there is a current record of the information in the owner or operators permit-to-operate.
 - (vi) Upon the written request by the Executive Officer, the District APCO shall provide to the Executive Officer a written report of all information identified in subsections (e)(3)(A)(iii) and (e)(3)(A)(iv).
- (B) Reporting Requirements for New Emergency Standby or Prime Stationary Diesel-Fueled CI Engines Used In Agricultural Operations
- (i) Except as provided by subsection (c), and by January 1, 2006, and each year thereafter, any person who sells an emergency standby or prime stationary diesel-fueled CI engine having a rated horsepower greater than 50 horsepower for use in an agricultural operation shall provide the following information to the Executive Officer of the Air Resources Board:
 - (a) Contact Information

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- (1) Seller's Company Name (if applicable)
 - (2) Contact name, phone number, e-mail address
- (b) Engine Sales Information (for each engine make and model, and for retail sales, for each make and model sold in the previous 12 month calendar month period that is required to comply with the requirements defined in subsections (e)(2)(E)(i).
- (1) Individual Sales
 - (A) Make
 - (B) Model
 - (C) Model year
 - (D) Rated brake horsepower
 - (E) Number of engines sold
 - (2) Retail Sales
 - (A) Make
 - (B) Model
 - (C) Rated brake horsepower
 - (D) Number of engines sold
 - (E) Executive order number (certification)
 - (F) Engine family number
 - (G) Emission control strategy (if applicable)
- (C) Demonstration of Compliance
- (i) Prior to installation of a new stationary diesel-fueled CI engine at a facility the owner or operator of the new stationary diesel-fueled CI engine(s) subject to the requirements of section (e)(2)(A), (e)(2)(B), (e)(2)(C), and (e)(2)(D) shall provide emission data to the District APCO in accordance with the requirements of subsection (h) for purposes of demonstrating compliance.
 - (ii) No later than the earliest applicable compliance date specified in subsections (e)(2)(B)(iii), (e)(2)(B)(iv), (f), or (g), an owner or operator of an in-use stationary diesel-fueled CI engine(s) subject to the requirements of subsection (e)(2)(A), (e)(2)(B), (e)(2)(C), and (e)(2)(D) shall provide emission data to the District APCO in accordance with the requirements of subsection (h) for purposes of demonstrating compliance.
- (D) Notification of Non-Compliance
- (i) Owners or operators that have determined that they are operating their stationary diesel-fueled engine(s) in violation of the requirements defined in subsections (e)(2) shall notify the district APCO upon detection and be subject to district enforcement action.

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(E) Notification of Loss of Exemption or Loss of Delay of Implementation

- (i) Owners or operators of in-use stationary diesel-fueled CI engines receiving a delay of implementation from the requirements of subsection (e)(2) pursuant to subsection (c)(11), that violate the receptor location distance limits specified in subsection (c)(11) shall notify the district APCO of the exceedence upon detection. No later than 180 days after notification, the owner or operator must demonstrate compliance with the requirements of subsection (e)(2). An owner or operator of an in-use stationary diesel-fueled CI engine(s) subject to the requirements of subsection (e)(2) shall provide emission data to the District APCO in accordance with the requirements of subsection (h) for purposes of demonstrating compliance.
- (ii) Owners or operators of in-use stationary diesel-fueled CI engines exempt from, or receiving a delay of implementation from, the requirements of subsections (e)(1) and (e)(2), or (e)(2) pursuant to subsections (c)(9) and (c)(11), respectively, shall be notified by the District APCO if the exemption/delay no longer applies. No later than 180 days after notification, the owner or operator must demonstrate compliance with the requirements of subsection (e)(1) and (e)(2), or (e)(2), whichever is applicable. An owner or operator of an in-use stationary diesel-fueled CI engine(s) subject to the requirements of subsection (e)(2) shall provide emission data to the District APCO in accordance with the requirements of subsection (h) for purposes of demonstrating compliance.

(F) Non-Resettable Hour Meter

- (i) A non-resettable hour meter must be installed on all engines subject to the requirements of subsection (e)(2).

(G) Exempted Engines

- (i) A non-resettable hour meter must be installed on all engines exempted from, or receiving a delay in implementation of, the requirements of subsections (e)(2) pursuant to subsections (c)(6), (c)(11), (c)(12), and (c)(13).
- (ii) An owner or operator of an engine exempted from the requirements of subsections (e)(2) pursuant to subsections (c)(6), (c)(11), (c)(12), and (c)(13) shall keep records of the number of hours the engines are operated on a monthly basis. Such records shall be retained for a minimum of 60 months from the date of entry. Record entries made within 24 months of the most recent entry shall be retained on-site,

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either at a central location or at the engine's location, and made immediately available to the District staff upon request. Record entries made from 25 to 60 months from most recent entry shall be made available to District staff 5 working days from request.

(H) Emergency Standby Engines

- (i) An owner or operator of an emergency standby diesel-fueled CI engine shall keep a monthly log of usage that shall indicate the following:
 - (a) emergency use hours of operation;
 - (b) maintenance and testing hours of operation (including ILC hours, as appropriate);
 - (c) hours of operation for emission testing to show compliance with subsections (e)(2)(A)(i) and (e)(2)(B)(ii));
 - (d) initial start-up hours; and
 - (e) other use hours

Log entries shall be retained for a minimum of 60 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request. Log entries made from 25 to 60 months from most recent entry shall be made available to District staff 5 working days from request.

- (ii) All DPFs installed pursuant to the requirements in subsection (e)(2) must be installed with a backpressure monitor to notify the owner or operator when the high backpressure limit of the engine is approached.
- (iii) The district APCO reserves the right to require additional monitoring equipment dependent on the emission control strategy used to meet the requirements of subsection (e)(2).

(f) Compliance Schedule

- (1) Except as provided in subsection (g), each owner or operator of an in-use stationary diesel-fueled CI engine (> 50 hp) shall be required to meet the requirements of subsections (e)(2)(A), (e)(2)(B), (e)(2)(C), and (e)(2)(D) in accordance with the following schedule:
 - (A) All 1989 model year engines and pre-1989 model year engines must be in compliance by no later than January 1, 2006.
 - (B) All 1990 model year and post-1990 model year engines, to pre-1996 model year engines must be in compliance by no later than January 1, 2007.
 - (C) All 1996 model year engines and post-1996 model year engines must be in compliance by no later than January 1, 2008.

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(g) Compliance Schedule for Owners or Operators of Four or More Engines

- (1) Owner or operators of four or more in-use stationary diesel-fueled CI engines (> 50 hp) subject to the requirements of subsections (e)(2)(A), (e)(2)(B), (e)(2)(C), and (e)(2)(D) shall be required to meet the requirements of subsections (e)(2)(A), (e)(2)(B), (e)(2)(C), and (e)(2)(D) in accordance with the following schedule:

1989 and Pre-1989 Model Year Engines	
Percent of Engines	Compliance date
25%	January 1, 2006
50%	January 1, 2007
75%	January 1, 2008
100%	January 1, 2009

1990, Post-1990 thru Pre-1996 Model Year Engines	
Percent of Engines	Compliance date
30%	January 1, 2007
60%	January 1, 2008
100%	January 1, 2009

1996 and Post-1996 Model Year Engines	
Percent of Engines	Compliance date
50%	January 1, 2008
100%	January 1, 2009

(h) Emissions Data

- (1) Upon approval by the District APCO, off-road engine certification test data for the stationary diesel-fueled CI engine, engine manufacturer test data, emission test data from a similar engine, and emission test data used in meeting the requirements of the Verification Procedure for the emission control strategy implemented, can be used in whole or part to meet the emission data requirements of subsection (e)(2).
- (2) Emission testing of a stationary diesel-fueled CI engine, for purposes of showing compliance with the requirements of subsection (e)(2), shall be done in accordance with the methods specified in subsection (i).
- (3) For purposes of emission testing, the particulate matter emissions from a dual-fueled stationary CI engine that uses a fuel that is mixture of diesel fuel and another fuel(s) shall be considered to be 100% diesel PM.
- (4) Emission testing for the purposes of determining the percent increase/decrease

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from baseline shall include baseline and emission control strategy testing.

- (A) Baseline testing may be conducted with the emission control strategy in place, if the emission control strategy is shown to the satisfaction of the district APCO not to influence the emission test results.
 - (B) Control strategy testing must be performed on the stationary diesel-fueled CI engine with full implementation of the emission control strategy.
 - (C) Percent increase/decrease = $100 \times (\text{baseline emissions} - \text{control strategy emissions}) / \text{baseline emissions}$.
- (5) Emission testing for the purposes of demonstrating compliance with an emission level must be performed on the stationary diesel-fueled CI engine with the emission control strategy fully implemented.

(i) Test Methods

- (1) The following test methods shall be used to determine diesel PM, HC, NO_x, CO and NMHC emission rates:

[Note: Staff currently evaluating which test methods are most appropriate for in-use stationary diesel-fueled engines.]

- (2) Alternatives to the test methods listed in subsection (i)(1), which are shown to accurately determine the emission rate of diesel PM, HC, NO_x, NMHC, or CO may be used upon the approval of the District APCO.