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FOR NOVEMBER 2002 PUBLIC MEETING
DISCUSSION PURPOSES ONLY**

Proposed Airborne Toxic Control Measure

**To Reduce Diesel Particulate Matter Emissions from
New Stationary Diesel-Fueled CI Engines**

**California Environmental Protection Agency
Air Resources Board**

November 2002

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PROPOSED REGULATION ORDER

**AIRBORNE TOXIC CONTROL MEASURE (ATCM) TO REDUCE DIESEL
PARTICULATE MATTER EMISSIONS FROM NEW STATIONARY DIESEL-
FUELED COMPRESSION IGNITION ENGINES**

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

17 CCR, section xxxxxx. New Stationary Diesel-Fueled Compression Ignition Engine Airborne Toxic Control Measure.

(a) Purpose

- (1) Diesel particulate matter (PM) was identified in 1998 as a non-threshold toxic air contaminant. "Non-threshold" means that there is not a threshold exposure level below which no significant adverse health effects are anticipated. As such, in accordance with Health and Safety Code Section 39666, this airborne toxic control measure (ATCM) shall be employed to reduce exposure to the diesel PM from stationary diesel-fueled engines.

(b) Effective Date

- (1) 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) must:
 - (A) Implement and enforce the requirements of this section; or
 - (B) Propose their own ATCM to reduce diesel PM from new stationary diesel-fueled compression ignition (CI) engines as provided in Health and Safety Code section 39666(d).

(c) Applicability

- (1) Except as provided in subsection (d), this section applies to any person who sells, leases, purchases, owns, or operates for use in California any new stationary diesel-fueled CI engine having a rated brake horsepower greater than 50, used in prime and emergency standby applications.
- (2) Except as provided in subsection (d), this section applies to any person who sells or offers for sale for use in California any new stationary diesel-

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fueled CI engine having a rated brake horsepower less than or equal to 50, used in prime and emergency standby applications.

(d) Exemptions

- (1) The requirements of this section do not apply to new portable CI engines or new CI engines used to provide the motive power in vehicles.
- (2) The requirements of this section do not apply new stationary CI engines primarily used in agricultural operations¹.
- (3) The requirements defined in subsections (f)(1), (f)(2), and (f)(3) do not apply to new stationary diesel-fueled CI engines that are used solely for the training of Department of Defense personnel and are required by Department of Defense Directive or Air Force Space Command Instruction to be in the same configuration as their weapon system counterpart.
- (4) The requirements defined in subsection (f)(1) do not apply to new stationary diesel-fueled CI engines operating on San Nicholas 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. If the land use plans are changes to allow public use of the islands, the exemption from the requirements in subsection (f)(1) shall no longer apply.

(e) Definitions

For purposes of this section, the following definitions apply

- (1) "Alternative fuel" means any fuel that meets the definition of alternative fuel as defined in 13 CCR 2290. Examples of alternative fuels include compressed natural gas and liquefied petroleum gas.
- (2) "Alternative Diesel Fuel" means any fuel used in diesel engines that is not a reformulated CARB diesel fuel as defined in Sections 2281 and 2282 of Title 13, of the California Code of Regulations, 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, and in some cases, diesel fuel combined with a fuel additive.

1) ARB staff is currently working with California agricultural interests to develop an approach to address new agricultural engines.

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Diesel fuel combined with a fuel additive will NOT be considered an alternative diesel fuel if the following criteria are met:

- (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.
- (4) "Air Pollution Control Officer" means the Executive Officer of a district, or his or her designee.
- (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 and III weather conditions. Category II: decision height of 100 feet and runway visual range of 1,200 feet. Category III: no decision height or decision height below 100 feet and runway visual range of 700 feet.
- (6) "CARB Diesel Fuel" means any diesel fuel that meets the specifications defined in subsection (e)(8) and meets the specifications defined in *13 CCR 2281* and *13 CCR 2282*.
- (7) "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.
- (8) "Diesel-Fueled" means fueled by diesel fuel, CARB diesel fuel, or jet fuel, in whole or part. A dual-fueled stationary engine that uses diesel fuel, CARB diesel fuel, or jet fuel as a pilot ignition source is considered a "diesel-fueled" engine.
- (9) "Dual-Fueled" means fueled by both 1) an alternative fuel and 2) diesel fuel, alternative diesel fuel, CARB diesel, or jet fuel; where the diesel fuel, alternative diesel fuel, CARB diesel fuel, or jet fuel is used as a pilot ignition source.

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- (10) “Fuel Additive” means any substance designed to be added to fuel or fuel systems that 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 e(2).
- (11) “Diesel Emission Control Strategy Verification Procedure (DECSVP)” means the ARB regulatory procedure (13 CCR 2700-2710) which could be used to verify the reductions of diesel PM and/or NOx from in-use diesel engines using a particular emission control strategy.
- (12) “Diesel Fuel” means any fuel that meets the following specification: *ASTM D975 – 98, Standard Specification for Diesel Fuel Oils*; includes No. 1-D, No. 1-D low sulfur, No. 2-D, No. 2-D low sulfur, and No. 4-D.
- (13) “Dual-Fueled” means fueled by both 1) an alternative fuel and 2) diesel fuel, alternative diesel fuel, CARB diesel, or jet fuel; where the diesel fuel, alternative diesel fuel, CARB diesel fuel, or jet fuel is used as a pilot ignition source.
- (14) “Fuel Additive” means any substance designed to be added to fuel or fuel systems that 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 e(2)).
- (15) “Diesel Particulate Filter (DPF)” means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate where it is oxidized or burned off, once the filter reaches a certain temperature.
- (16) “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.
- (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).

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- (18) "Emergency Standby CI Engine" means a stationary CI engine used for emergency use.
- (19) "Emergency Use" means used to mitigate any of the following:
- (A) failure or loss of normal electrical power service;
 - (B) failure or loss of normal natural gas supply;
 - (C) flood mitigation;
 - (D) sewage overflow mitigation;
 - (E) pumping of water for fire suppression or protection;
 - (F) for powering airport runway approach lights (ALSF-1 and ALSF-2 systems only) under category II or III weather conditions.
 - (G) Failure of facility's internal power distribution system provided the owner or operator demonstrates to the district APCO's satisfaction that the failure is not:
 - (i) the foreseeable result of gross neglect or of the willful disregard of any applicable air pollution laws, rules or regulations; or
 - (ii) the result of an intentional or negligent act on the part of the owner or operator;
 - (iii) or which results from the gross neglect or willful failure to properly maintain equipment.
- (20) "Emission Control Strategy" means any device, system, or strategy employed with a diesel-fueled CI engine that is intended to reduce emissions. Examples of diesel emission control strategies include, but are 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.
- (21) "Executive Officer" means the executive officer of the Air Resources Board, or his or her delegate.
- (22) "Generator Set" means a compression ignition engine coupled to a generator used as a source of electricity.
- (23) "In-Use"(CI engine) means not a "new" CI engine.
- (24) "Interruptible Load Contract" means a contract between an electric power supplier and an owner of a facility where the facility owner receives economic benefit in return for load reduction.

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(25) "Jet fuel" means fuel meeting the following specification:

ASTM D 1655 – 98, Standard Specification for Aviation Turbine Fuels;
includes Jet A, Jet A-1, and Jet B.

MIL-DTL-5624T, Turbine Fuel, Aviation, Grades JP-4, JP-5, and JP-5/JP8
ST.

MIL-T-83133D, Turbine Fuel, Aviation, Kerosene Types, NATO F-34
(JP-8) and NATO F-35; NATO F-35 similar to (JP-8).

(26) "Location" means any single site at a building, structure, facility, or installation.

(27) "Maintenance and Testing" operation of an emergency standby CI engine means operating the engine during maintenance of engine or generator, or operating the engine to test the engine's, generator's, or supported equipment's ability to perform during an emergency.

(28) "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.

(29) "New" (CI engine) means a stationary CI engine that is either:

(A) an engine installed at a new or existing stationary source after the effective date of section xxx, "The New Diesel-Fueled Engine ATCM." An exact replacement is considered the addition of a new engine.

(B) an engine relocated from an offsite location after the effective date of section xxx, "The New Diesel-Fueled Engine ATCM."

(C) an engine that has been reconstructed after the effective date of this section xxx, "The New Diesel-Fueled Engine ATCM." where the cost of a single reconstruction is greater than or equal to 50 percent of the purchase price of a new similarly sized engine (basic equipment only).

(30) "Nitrogen Oxides" means compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO₂ is a criteria air pollutant, and may result in numerous adverse health effects.

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- (31) “Non-Methane Hydrocarbons (NMHC)” means the sum of all hydrocarbon air pollutants except methane. NMHCs are precursors to ozone formation.
- (32) “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
 - (D) A project proponent and any of its contractors or subcontractors.
- (33) “Portable Engine” means an engine designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. The engine is not portable if it meets the definition of a stationary CI engine (see (d)(37)).
- (34) “Prime CI Engine” means a stationary CI engine that is not an emergency standby engine.
- (35) “Rated Brake Horsepower” means the rating specified for the engine by the manufacturer.
- (36) “Rolling Blackout” means an Involuntary curtailment of electrical power service to consumers as ordered by the California Independent System Operator (CA-ISO) required during a Stage 3 Emergency. A Stage 3 Emergency may be declared at any time the operating reserves for the real time market will fall or have fallen below 1.5%.
- (37) “Stationary CI Engine” means a CI engine that is
- (A) attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. Any engine, such as an emergency standby engine, that replaces an engine at a location, and is intended to perform the same or similar function as the engine being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engines, including the time

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between the removal of the replacement engine, will be counted toward the consecutive time period; or

- (B) the engine remains or will reside at a location for less than 12 consecutive months, if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or
- (C) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

The period during which the engine is maintained at a storage facility is excluded from the residency time determination.

Examples of stationary CI engine applications include, but are not limited to: electric power generator sets, grinders, rock crushers, sand screeners, cranes, cement blowers, air compressors, and water pumps.

- (38) "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.
- (39) "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 "Diesel Emission Control Strategy Verification Procedure" [see subsection (e)(11)].

(f) Requirements

- (1) Diesel Fuel, Alternative Diesel Fuel, and Fuel Additive Requirements for New Stationary CI Engines
 - (A) Owners or operators of stationary diesel-fueled CI engine(s) shall only use diesel fuel as lawful for use or sale in California as a vehicular diesel fuel, as defined in 13 CCR 2282.
 - (B) Owners or operators opting to use an alternative diesel fuel in their stationary CI engine(s) in meeting in whole or part the requirements

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of subsection (f)(2), (f)(3), or (f)(4) shall be limited to using an alternative diesel fuel that meets the requirements of the Verification Procedure, as defined in 13 CCR 2700 through 2710.

(C) Owners or operators opting to use a fuel additive in their stationary CI engine(s) in meeting in whole or part the requirements of subsections (f)(2) or (f)(3) shall be limited to using a fuel additive that meets the requirements of the Verification Procedure, as defined in 13 CCR 2700 through 2710.

(2) New Engines > 50 hp: New Emergency Standby Diesel-Fueled CI Engine Operating Requirements and Emission Standards

(A) With the exception identified in subsection (f)(2)(B), an owner or operator may only operate an emergency standby diesel-fueled CI engine under the following circumstances:

- (i) For emergency use, an unlimited number of hours; and
- (ii) For emission testing purposes to demonstrate compliance with subsection (f)(2)(C), an unlimited number of hours; and
- (iii) For maintenance and testing, in accordance with the limits defined in subsection (f)(2)(C), with the following restriction: an emergency standby diesel-fueled CI engine may not be operated to fulfill the requirements of an interruptible load contract.

(B) An owner or operator who has a district approved Rolling Blackout Operation Plan may operate each emergency standby diesel-fueled CI engine identified in the plan up to 30 minutes prior to a rolling blackout provided the following criteria is met:

- (i) CA-ISO has ordered rolling blackouts, or has indicated it expects to issue such an order at a certain time; and
- (ii) the facility where the emergency standby diesel-fueled engine is located is in a utility service block that is subject to the rolling blackout

(C) Except as provided in subsection (d), all new emergency standby stationary diesel-fueled CI engines operated in California must meet the following requirements:

(i) Emission Limits for Emergency Standby Diesel-Fueled CI Engines

- (1) Diesel PM Limit: Emergency standby diesel-fueled CI engines shall be required to meet the applicable PM

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emission rates and maximum allowable annual hours of operation limits defined in the table below:

DIESEL PM EMISSION RATE (g/bhp-hr)	MAXIMUM ALLOWABLE ANNUAL HOURS OF OPERATION (Maintenance and Testing)
0.15	100
0.01	>100

- (2) NMHC, NO_x, and CO Limits: New emergency stand-by engines must meet, at a minimum, the model year NMHC+NO_x and CO performance standards that would apply if the new stationary diesel-fueled engine were subject to the applicable Off-Road Compression-Ignition Engine Regulations (section 2423, title 13, California Code of Regulations). For any new stationary diesel-fueled engine whose model year NMHC+NO_x and CO performance standards that would apply if the new stationary diesel-fueled engine were subject to the Off-Road Compression-Ignition Engine Regulations but not specified in those Regulations, the engine must meet the applicable NMHC+NO_x and CO performance standards for the 1996 model year; and
- (3) NO₂ Limit: The fraction of total NO₂ emissions may not exceed 20 percent of the total baseline NO_x emissions on a mass basis.
- (4) The District has the authority to establish more stringent diesel PM, NMHC, NO_x, NO₂, and CO limits on a site-specific basis.
- (3) Engines > 50 hp: New Prime Stationary Diesel-Fueled CI Engine Emission Standards
- (i) For Prime Diesel-Fueled CI Engine Applications. Except as provided in subsection (d), no person shall sell, purchase, lease, or operate for use in California any new stationary prime diesel-fueled CI engine that does not meet all of the following emission performance standards:
- (1) Diesel PM Limit: New prime engines must emit less than or equal to 0.01 grams PM per brake-horsepower-hour (g/bhp-hr);

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- (2) NMHC, NO_x, and CO Limits: New prime engines must meet, at a minimum, the model year NMHC+NO_x and CO performance standards that would apply if the new stationary diesel-fueled engine were subject to the applicable Off-Road Compression-Ignition Engine Regulations (section 2423, title 13, California Code of Regulations). For any new stationary diesel-fueled engine whose model year NMHC+NO_x and CO performance standards that would apply if the new stationary diesel-fueled engine were subject to the Off-Road Compression-Ignition Engine Regulations but not specified in those Regulations, the engine must meet the applicable NMHC+NO_x and CO performance standards for the 1996 model year; and
 - (3) NO₂ Limits: The fraction of total NO₂ emissions may not exceed 20 percent of the total baseline NO_x emissions on a mass basis..
 - (4) The District has the authority to establish more stringent diesel PM, NMHC, NO_x, NO₂, and CO limits on a site-specific basis.
- (4) Engines \leq 50 hp: New Prime and Emergency Standby Stationary Diesel-Fueled CI Engine Emission Standards
- (i) Except as provided in subsection (d), no person shall offer for sale any new stationary diesel-fueled engine that has a rated brake horsepower less than or equal to 50 for use in California and that does not meet all of the following emission performance standards:
 - (1) PM, NMHC, NO_x, and CO Limits: New stationary engines with rated brake horsepowers less than or equal to 50 must meet, at a minimum, the model year PM, NMHC+NO_x, and carbon monoxide performance standards that would apply if the new stationary diesel-fueled engine were subject to the applicable Off-Road Compression-Ignition Engine Regulations (section 2423, title 13, California Code of Regulations). For any new stationary diesel-fueled engine whose model year PM, NMHC+NO_x, and carbon monoxide performance standards that would apply if the new stationary diesel-fueled engine were subject to the Off-Road Compression-Ignition Engine Regulations but not specified in those Regulations, the engine must meet their respective performance standards for the 2000 model year; and
 - (2) NO₂ Limits: The fraction of total NO₂ emissions may not exceed 20 percent of the total baseline NO_x emission on a mass basis..

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(5) Recordkeeping, Reporting, and Monitoring Requirements

(A) Notification Requirements

(i) Except as provided in subsection (d) and subsection (f)(5)(A)(iii), prior to installation of any new stationary diesel-fueled engine having a rated brake horsepower greater than 50 at a facility or stationary source, each owner or operator of a stationary CI engine shall be required to provide the following information to the District APCO:

- (1) Contact Information
 - (A) Company name
 - (B) Contact name, phone number, e-mail address
 - (C) Address of engine(s)
- (2) Engine(s) Information
 - (A) Make
 - (B) Model
 - (C) Serial number
 - (D) Year of manufacture
 - (E) Manufacturer's Maximum Horsepower Rating
 - (F) Exhaust stack height from ground
 - (G) Engine Emission Factors and supporting data for PM, NO_x and NMHC separately or NMHC+NO_x, and CO, (if available)
 - 1) Manufacturers data
 - 2) Source test
 - 3) Other
 - (H) Emission Control (if applicable)
 - 1) Turbocharger
 - 2) Aftercooler
 - 3) Injection Timing Retard
 - 4) Catalyst
 - 5) Diesel Particulate Filter
 - 6) Other
- (3) Fuel(s) Used
 - (A) CARB Diesel
 - (B) Jet fuel
 - (C) Diesel
 - (D) Alternative diesel fuel (specify)
 - (E) Alternative fuel (specify)
 - (F) Combination (Dual fuel) (specify)
 - (G) Other (specify)

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- (4) Operation Information
 - (A) Describe general use of engine
 - (B) Typical load (percent of maximum bhp rating)
 - (C) Typical annual hours of operation
 - (D) If seasonal, months of year operated and typical hours per month operated
 - (E) Fuel usage
 - (5) Distance to nearest receptor
- (ii) Except as provided in subsection (d) and by December 31, 2004, and each year thereafter, any person who sells new stationary diesel-fueled engines having a rated brake horsepower less than or equal to 50 for use in California shall provide the following information to the Executive Officer of the Air Resources Board:
- (1) Contact Information
 - (A) Company name
 - (B) Contact name, phone number, e-mail address
 - (2) Engine Sales Information (for each engine sold in the previous 12 month calendar period)
 - (A) Make
 - (B) Model
 - (C) Serial number
 - (D) Year of manufacture
 - (E) Fuel consumption rate
 - (F) Emission control (if applicable)
- (iii) The District APCO may exempt the owner or operator from providing all or part of the information identified in subsection (f)(5)(A)(i), if there is a current record of the information in the owner or operators permit-to-operate.
- (iv) 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 (f)(5)(A)(i) and (f)(5)(A)(ii).

(B) Demonstration of Compliance

- (i) An owner or operator of a new stationary diesel-fueled CI engine(s) subject to the requirements of section (f)(2) or (f)(3) shall provide off-road engine certification test data or emission test results in accordance with the requirements of subsection (g) for purposes of showing compliance with the requirements of

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subsection (f)(2) or (f)(3).

(C) Notification of Non-Compliance

- (i) Owners or operators that have determined that they are operating their new stationary diesel-fueled engines in violation of the requirements defined in (f)(2), or (f)(3) shall notify the district APCO of the violation upon detection and be subject to district approved alternative requirements or compliance plan. **[Note: Staff evaluating how best to define the alternative requirements an owner or operator must meet upon detection of violation.]**

(D) Emergency Standby Engines

- (i) A non-resettable hour meter must be installed on all engines subject to the requirements of subsection (f)(2).
- (ii) An owner or operator of an emergency standby diesel-fueled CI engine shall keep a monthly log of usage that shall indicate the following:
 - (1) Hours of operation (total)
 - (2) Hours of operation (maintenance and testing)
 - (3) Hours of operation (emission testing to show compliance with (f)(2)(B))
 - (4) Hours of operation (emergency use)
 - (5) Hours of operation (prior to rolling blackout)
 - (6) For emergency use, the nature of use Log entries shall be retained for a minimum of 36 months from the date of entry and made available to the District staff upon request.

(E) All DPFs installed pursuant to the requirements in subsection (f)(3)(A) must be installed with a backpressure monitor to notify the owner or operator when the high backpressure limit of the engine is approached.

(F) The District APCO reserves the right to require additional monitoring equipment dependent on the emission control strategy used to meet the requirements of subsection (f)(3)(A).

(G) **Rolling Blackout Operation Plan**

- (1) Owner or operators of stationary emergency standby diesel-fueled CI engines subject to the requirements of subsection (f)(2) may submit to the District APCO a Rolling Blackout Operation Plan that identifies the following:

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- (A) the make, model, horsepower rating of the engine(s) that the owner or operator is requesting to be able to operate up to 30 minutes prior to a rolling blackout
 - (B) the reason why operation of the engine(s) up to 30 minutes prior a rolling blackout is necessary.
- (2) Within 30 calendar days of the Plan being deemed complete, or a time period mutually agreed upon by the owner or operator and the District APCO, the District APCO shall approve or disapprove the Plan.

(g) Emission Testing

- (1) Emission testing of a new stationary diesel-fueled CI engine shall be done in accordance with the methods specified in subsection (h).
- (2) 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.
- (3) Emission testing for the purposes of demonstrating compliance with an emission level must be performed on the new stationary diesel-fueled CI engine with the emission control strategy fully implemented.
- (4) Upon approval by the District APCO, off-road engine certification test data for the new 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 DECSVP for the emission control strategy implemented, can be used in whole or part to meet the emission test requirements of this subsection.

(h) Test Methods

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

- (1) The following test methods shall be used to determine diesel PM, NO_x, CO and NMHC emission rates:
 - (A) Diesel PM emission testing shall be done in accordance with ARB Method 5; NO_x, CO and NMHC emission testing shall be done in accordance with ARB Method 100.

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- (i) The tests are to be carried out under steady state operation. Test cycles and loads shall be in accordance with ISO-8178 Part 4 or alternative test cycle approved by the district APCO. If an alternative cycle is requested, additional engine or operational duty cycle data may be required.
 - (ii) PM, NO_x, CO, and NMHC emissions shall be reported for each test mode and as a weighed average according to the provisions of ISO 8178 Part 4. Emissions must be reported in accordance with the applicable ARB Method and in gram per brake horsepower hour (g/bhp-hr).
 - (iii) The projected total diesel PM catch for any ARB Method 5 test run must be greater than or equal to 50 mg.
- (2) Alternatives to the test methods listed in subsection (h)(1), which are shown to accurately determine the emission rate of diesel PM, NO_x, NMHC, or CO may be used upon the approval of the District APCO.
- (3) Nitrogen dioxide (NO₂) measurement shall be done in accordance with the procedure specified in the DECSVP, Section 2706 (a).