DRAFT
FOR NOVEMBER 2002 PUBLIC MEETING
DISCUSSION PURPOSES ONLY

Proposed Airborne Toxic Control Measure

To Reduce Diesel Particulate Matter Emissions from In-Use Stationary Diesel-Fueled CI Engines Greater Than 50 Horsepower

And

To Establish Recordkeeping Requirements for Compression Ignition (Diesel- and Non-Diesel-Fueled) Engines Greater Than 50 Horsepower

California Environmental Protection Agency
Air Resources Board

November 2002

PROPOSED REGULATION ORDER

AIRBORNE TOXIC CONTROL MEASURE (ATCM) TO REDUCE DIESEL PARTICULATE MATTER EMISSIONS FROM IN-USE STATIONARY DIESEL-FUELED COMPRESSION IGNITION (CI) ENGINES GREATER THAN 50 HORSEPOWER AND TO PROVIDE RECORDKEEPING OF CI ENGINES GREATER THAN 50 HORSEPOWER

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

17 CCR, section xxxxxx. In-Use Stationary Diesel-Fueled Compression Ignition (CI) Engine Airborne Toxic Control Measure and Recordkeeping Requirements for In-Use CI Engines Greater Than 50 Horsepower.

(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. The ATCM also requires owners and operators of stationary CI engines - including those that are not currently using diesel-fuel - to provide the districts with a record of where these engines are located and how they are operated.

(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 airborne toxic control measure (ATCM) to reduce diesel PM from in-use 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 owners or operators of in-use stationary CI engines having a rated brake horsepower greater than 50, used in prime or emergency standby applications.

(d) Exemptions

(1) The requirements of this section do not apply to portable CI engines or CI engines used to provide the motive power in vehicles.

(2) The requirements of this section do not apply to in-use stationary CI engines primarily used in agricultural operations [1] that are exempted from permit in accordance with Health and Safety Code Section 42310.

(3) The requirements of this section do not apply to in-use stationary CI engines having a rated brake horsepower of less than or equal to 50 horsepower.

(4) The requirements defined in subsections (f)(2) and (f)(3) do not apply to permitted in-use stationary diesel-fueled CI engines used in emergency standby and prime applications that were required through written authorization by the district, prior to the effective date of this regulation, to meet either the minimum technology requirements or the performance standards defined in the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, October 2000*.

(5) The requirements defined in subsections (f)(2) 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) plan. If the replacement engine is a diesel-fueled CI engine, it must meet the requirements of the New Engine ATCM.

(6) The requirements defined in subsections (f)(1)(A), (f)(2) and (f)(3) do not apply to in-use 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.

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

(7) The requirements defined in subsections (f)(1), (f)(2) and (f)(3) do not apply to in-use 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 changed to allow public use of the islands, the exemption from the requirements in subsections (f)(1), (f)(2) and (f)(3) shall no longer apply.

(8) The requirements defined in subsection (f)(2) and (f)(3) do not apply to in-use emergency standby stationary diesel-fueled engines operating on outer continental shelf (OCS) platforms.

(9) Prior to January 1, 2010, owners or operators of in-use stationary diesel-fueled CI engines may file a Request for Delay of Implementation of the requirements defined in subsection (f)(2) and (f)(3) for remotely located engines. The district APCO may approve a Request for Delay of Implementation if the following criteria are met:

(A) the engine is located at least 2 mile from the nearest receptor, and
(B) the engine operates less than 500 hours per year.
(C) Before providing this exemption, the district APCO shall:

(i) Consider the following information: county land use plans, the current use of the surrounding land, the current and anticipated zoning designations, additional CI engines operating on-site; and;

(ii) Require that any delay of implementation shall be valid for no longer than three years. At the end of the three year period, the owner or operator may reapply.

Any delay of implementation in effect on January 1, 2010 shall cease to be valid and no delays of implementation shall issued or renewed after January 1, 2010.

(10) Owners or operators of in-use stationary emergency standby diesel-fueled CI engines subject to the requirements of the Nuclear Regulatory Commission (NRC) and used for the safe shutdown and maintenance of a nuclear facility when normal power service fails or is lost may file a Request for Exemption for these engines from the requirements defined in subsection (f)(2). The district APCO may approve a Request for Exemption provided the operation of the engine for maintenance and testing purposes does not exceed 200 hours per calendar year. Before providing this exemption, the district APCO may establish additional criteria that must be met prior to approval.

(11) The requirements defined in subsection (f)(3) do not apply to in-use stationary diesel-fueled CI engines that are operated exclusively to facilitate the starting of turbine engines and operate less than or equal to 15 hours per calendar year.

(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 a diesel engine 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. 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) "Baseline Emissions" and "Baseline Testing" means the emission levels measured from, or the emission testing of, an engine that is in its current operating configuration, prior to being retrofitted or modified in order to meet the requirements of this section.

(7) "CARB Diesel Fuel" means any diesel fuel that meets the specifications defined in subsection (e)(9) and meets the specifications defined in *13 CCR 2281*and *13 CCR 2282*.

(8) "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.

(9) "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.

(10) "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.

(11) "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.

(12) "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.

(13) "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.

(14) "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).

(15) "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.

(16) "Emergency Standby CI Engine" means a stationary CI engine used for emergency use.

(17) "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 catergory 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.

(18) "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.

(19) "Executive Officer" means the executive officer of the Air Resources Board, or his or her delegate.

(20) "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)).

(21) "Generator Set" means a compression ignition engine coupled to a generator used as a source of electricity.

(22) "In-Use"(CI engine) means not a "new" CI engine

(23) "Interruptable Load Contract" means a contract between an electric power supplier and an owner of a facility where the facility owner receives payment or other economic benefit (e.g. lower rates) in return for load reduction.

(24) "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).

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

(26) "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.

(27) "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.

(28) "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." with the following exception:

(i) An exact replacement stationary CI engine that is installed on a temporary basis for purposes of allowing for maintenance of the existing permanent engine is not considered 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 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).

(29) "Nitrogen Oxides" means compounds of nitric oxide (NO), nitrogen dioxide (NO_2), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant, and may result in numerous adverse health effects.

(30) "Non-Methane Hydrocarbons (NMHC)" means the sum of all hydrocarbon air pollutants except methane. NMHCs are precursors to ozone formation.

(31) "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.

(32) "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)).

(33) "Prime CI Engine" means a stationary CI engine that is not an emergency standby engine.

(34) "Rated Brake Horsepower" means the rating specified for the engine by the manufacturer.

(35) "Receptor" includes, but is not limited to, any hospital, school, day care center, work site, business, residence, and permanent campground.

(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 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 stationary CI engine residence time requirements.

The period during which the engine is maintained at a storage facility is excluded from the residence 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)(9)].

(f) Requirements

(1) Diesel Fuel, Alternative Diesel Fuel, and Fuel Additive Requirements for In-Use 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 of subsections (f)(2) or (f)(3), 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) and (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) 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 to show compliance with subsection (f)(2)(C), an unlimited number of hours;

(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 in-use emergency standby stationary diesel-fueled CI engines operated in California must meet, in accordance with the appropriate compliance schedule as defined in subsection (g) or (h), 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 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)**
>0.50	15
0.50	30
0.40	40
0.15	100
0.01	>100

(2) NMHC and NOx Limits: Engines that operate more than 15 hours per year for maintenance and testing may not employ emission control strategies that will result in either:

(A) an increase in NMHC and NOx emissions by greater than 10% from baseline levels, or
(B) an increase in the sum of NMHC and NOx emissions greater than the baseline levels.

(3) CO Limit: Engines that operate more than 15 hours per year for maintenance and testing may not employ emission control strategies that will result in an increase in CO emissions by greater than 10% from baseline levels.

(4) NO_2 Limit: Engines that operate more than 15 hours per year may not employ emission control strategies that will result in the fraction of total NO_2 emissions exceeding 20 percent of the total baseline NOx emissions on a mass basis.

(5) The District has the authority to establish more stringent diesel PM, NMHC, NOx, CO, and NO_2 limits on a site-specific basis.

(3) Prime Stationary Diesel-Fueled CI Engine Emission Standards

Except as provided in subsection (d), all prime stationary diesel-fueled CI engines operated in California must meet, in accordance with the appropriate compliance schedule as defined in subsection (g) or (h), the following requirements:

(i) Emission Limits for Prime Stationary Diesel-Fueled CI engines

(1) Diesel PM Limits: Prime engines 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.

(2) NMHC and NOx Limits: Prime engines may not employ emission control strategies that will result in either:

(A) an increase in NMHC and NOx emissions by greater than 10% from baseline levels, or
(B) an increase in the sum of NMHC and NOx emissions greater than baseline levels.

(3) CO Limit: Engines that operate more than 15 hours per year for maintenance and testing may not employ emission control strategies that will result in an increase in CO emissions by greater than 10% from baseline levels.

(4) NO_2 Limit: The fraction of total NO_2 emissions may not exceed 20 percent of the total baseline NOx emissions on a mass basis.

(5) The District has the authority to establish more stringent diesel PM, NMHC, NOx, CO, and NO_2 limits on a site-specific basis.

(4) Recordkeeping, Reporting, and Monitoring Requirements

(A) Recordkeeping Requirements

(i) Except as provided in subsection (d)(1), (d)(2), and (d)(3) and subsection (f)(4)(A)(iii), and no later than 6 months after the effective date of this regulation, 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, NOx and NMHC separately or NMHC+NOx, and CO, (if available)
  1) Manufacturers data
  2) Source test
  3) Other
- (H) Control equipment (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)

(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 subsection (f)(4)(A)(iii), and no later 180 days prior to the earliest applicable compliance date specified in subsection (g) or (h), whichever is applicable, each owner or operator of a stationary CI engine shall be required to provide the following additional information to the District APCO:

(1) identify the control strategy for each stationary diesel-fueled CI engine that when implemented will result in compliance with subsections (f)(2) or (f)(3). If applicable, the information should include the diesel emission control strategy verification executive order number for control strategies that have been approved through the DECSVP.

(iii) The District APCO may exempt the owner or operator from providing all or part of the information identified in subsection (f)(4)(A)(i) or f)(4)(A)(ii), 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 subsection (f)(4)(A)(i) or f)(4)(A)(ii).

(B) Demonstration of Compliance

(i) No later than the earliest applicable compliance date specified in subsection (g) or (h), an owner or operator of an in-use stationary diesel-fueled CI engine(s)subject to the requirements of subsection (f)(2) or (f)(3) shall provide emission test results to the District APCO in accordance with the requirements of subsection (j) for purposes of demonstrating compliance.

(C) Notification of Non-Compliance

(ii) Owners or operators that have determined that they are operating their in-use stationary diesel-fueled engine(s) in violation of the requirements defined in subsections (f)(2) and (f)(3) shall notify the district APCO 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) Notification of Non-Compliance for Previously Exempt Engines

(i) Owners or operators of engines exempt from, or receiving a delay of implementation from, the requirements of subsection (f)(2) or (f)(3) pursuant to subsections (d)(4), (d)(9), (d)(10) or (d)(11), that exceed the applicable maximum allowable annual hours of operation or receptor distance limits specified in subsections (d)(4), (d)(9), (d)(10), or (d)(11), shall notify the district APCO of the exceedence upon detection. No later than 6 months after notification, the owner or operator must demonstrate compliance with the requirements of subsection (f)(2) or (f)(3), whichever is applicable. An owner or operator of an in-use stationary diesel-fueled CI engine(s)subject to the requirements of subsection (f)(2) or (f)(3) shall provide emission test results to the District APCO in accordance with the requirements of subsection (i) for purposes of demonstrating compliance.

(ii) Owners or operators of engines exempt from, or receiving a delay of implementation from, the requirements of subsection (f)(2) or (f)(3) pursuant to subsections (d)(7), and (d)(9) shall be notified by the District APCO if the

exemption/delay no longer applies. No later than 6 months after notification, the owner or operator must demonstrate compliance with the requirements of subsection (f)(2) or (f)(3), whichever is applicable. An owner or operator of an in-use stationary diesel-fueled CI engine(s)subject to the requirements of subsection (f)(2) or (f)(3) shall provide emission test results to the District APCO in accordance with the requirements of subsection (i) for purposes of demonstrating compliance.

(F) 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 (f)(2) or (f)(3) pursuant to subsections (d)(4), (d)(7), and (d)(11).

(ii) An owner or operator of an engine exempted from the requirements of subsections (f)(2) or (f)(3) pursuant to subsections (d)(4), (d)(7), and (d)(11) 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 36 months from the date of entry and made available to the District staff upon request.

(G) Emergency Standby Engines

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

(H) 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.

(l) The district APCO reserves the right to require additional monitoring equipment dependent on the emission control strategy used to meet the requirements of subsections f(2) or (f)(3).

(g) Compliance Schedule

(1) Except as provided in subsection (h), each owner or operator of an in-use stationary diesel-fueled CI engine shall be required to meet the requirements of subsections (f)(2) or (f)(3) 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 July 1, 2005.

(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 July 1, 2006.

(C) All 1996 model year engines and post-1996 model year engines must be in compliance by no later than July 1, 2007.

(h) 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 subject to the requirements of subsections (f)(2) or (f)(3) shall be required to meet the requirements of subsections (f)(2) or (f)(3) in accordance with the following schedule:

1989 and Pre-1989 Model Year Engines

Percent of Engines	Compliance date
25%	July 1, 2005
50%	July 1, 2006
75%	July 1, 2007
100%	July 1, 2008

1990, Post-1990 thru Pre-1996 Model Year Engines

Percent of Engines	Compliance date
30%	July 1, 2006
60%	July 1, 2007
100%	July 1, 2008

1996 and Post-1996 Model Year Engines

Percent of Engines	Compliance date
50%	July 1, 2007
100%	July 1, 2008

(i) Rolling Blackout Operation Plan

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

(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.

(3) 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.

(4) Upon district APCO approval of the Plan, the owner or operator may operate engines specifically identified in the Plan thirty minutes

prior to a rolling blackout.

(j) Emission Testing

(1) Emission testing of an in-use stationary diesel-fueled CI engine shall be done in accordance with the methods specified in subsection (k).

(2) For purposes of emission testing, the particulate matter emissions from a dual-fueled in-use 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 determining the percent increase/decrease 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 in-use stationary diesel-fueled CI engine with full implementation of the emission control strategy.

(C) Percent increase/decrease = 100 x (baseline emissions – control strategy emissions)/baseline emissions.

(4) Emission testing for the purposes of demonstrating compliance with an emission level must be performed on the in-use stationary diesel-fueled CI engine with the emission control strategy fully implemented.

(5) Upon approval by the District APCO, off-road engine certification test data for the in-use stationary diesel-fueled CIengine, 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.

(k) 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, NOx, CO and NMHC emission rates:

(A) Diesel PM emission testing shall be done in accordance with ARB Method 5; NOx, CO and NMHC emission testing shall be done in accordance with ARB Method 100.

(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, NOx, 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 (j)(1), which are shown to accurately determine the emission rate of diesel PM, NOx, 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).