SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

RULE 4702 - INTERNAL COMBUSTION ENGINES – PHASE 2
(Adopted August 21, 2003; amended June 16, 2005)

1.0 Purpose

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

2.0 Applicability

This rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower.

3.0 Definitions

3.1 Agreement to Electrify: a binding, non-cancelable contract written by the APCO and signed by the operator and the APCO prior to January 1, 2008 that commits the operator to complying with the requirements of Section 5.1.1 or Section 5.1.2 of this rule by electrifying.

3.2 Agriculture Operations (AO): as defined in Rule 4550 (Conservation Management Practices).

3.3 Beam-balanced Pumping Engine: a cyclic loaded engine powering an oil well pump, with the pump counterweight on the back end of the walking beam. The counterweight is moved mechanically without a cylinder supplying air pressure.

3.4 California Reformulated Gasoline: gasoline meeting California Air Resources Board requirements for motor vehicle fuel in accordance with California Code of Regulations, Chapter 5, Article 1, Subarticle 2 - Standards for gasoline sold beginning March 1, 1996.

3.5 Certified Compression-Ignited Engine: a Tier 1, Tier 2, Tier 3, or Tier 4 compression-ignited engine that is EPA certified as specified in Title 40 Code of Federal Regulations Part 89 or the Federal Register, Vol. 69, No. 124, Tuesday, June 29, 2004.

3.6 Certified Spark-Ignited Engine: a spark-ignited engine that is used exclusively in agricultural operations and that is ARB certified as specified in Title 13, Division 3, Chapter 9, Article 4.5, Section 2433 of the California Code of Regulations and that has been certified to meet a Certification Level for hydrocarbon plus NOx emissions of 0.6 grams/bhp-hr (40.2 ppmv) or less.

3.7 CO: carbon monoxide.

3.8 Compression-Ignited Internal Combustion Engine: an engine that uses the heat of compression to initiate combustion.

3.9 Crank-balanced Pumping Engine: a cyclic loaded engine powering an oil well pump, with the pump counterweight attached to a gearbox which is attached to the walking beam with a pitman arm. The counterweight is moved mechanically, in a circular motion, without a cylinder supplying air pressure.

3.10 Cyclic Loaded Engine: an internal combustion engine that, under normal operating conditions, varies in shaft load by 40% or more of rated brake horsepower during recurrent periods of 30 seconds or less or is used to power an oil well reciprocating pump unit.

3.11 De-rated Engine: an internal combustion engine which has been physically limited and restricted by permit condition to an operational level of less than 50 horsepower.

3.12 Diesel Engine: a compression-ignited internal combustion engine.

3.13 Disaster or State of Emergency: a fire, flood, earthquake, or other similar natural catastrophe.

3.14 Distributed Generation (DG): relatively small power plants, such as internal combustion engine gensets, which are used to generate electrical power that is either fed into the power grid or used on-site. DG units are located throughout the grid and are usually sited in or close to load centers or utility customers' sites. Distributed Generation also refers to a mechanical drive system consisting of one or more internal combustion engines and electric motors, where use of the internal combustion engines or electric motors is interchangeable.

3.15 Emergency Standby Engine: an internal combustion engine which operates as a temporary replacement for primary mechanical or electrical power during an unscheduled outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the operator. An engine shall be considered to be an emergency standby engine if it is used only for the following purposes: (1) periodic maintenance, periodic readiness testing, or readiness testing during and after repair work; (2) unscheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply; and (3) if it is limited to operate 100 hours or less per calendar year for non-emergency purposes. An engine shall not be considered to be an emergency standby engine if it is used: (1) to reduce the demand for electrical power when normal electrical power line service has not failed, or (2) to produce power for the utility electrical distribution system, or (3) in conjunction with a voluntary utility demand reduction program or interruptible power contract.

3.16 Exhaust Control: device or technique used to treat an engine's exhaust to reduce NOx, VOC, or CO emissions, and include, but is not limited to, catalysts, afterburners, reaction chambers, and chemical injectors.

3.17 Flood: a sudden and reasonably unforeseen rising and overflowing of a body of water especially onto normally dry land.

3.18 Gaseous Fuel: a fuel which is a gas at standard conditions including but not limited to natural gas, methane, ethane, propane, butane and liquefied petroleum gas (LPG).

3.19 Installation Date: the date that an internal combustion engine is initially placed at a location in order to be operated for the first time in its lifetime.

3.20 Internal Combustion Engine: any spark- or compression-ignited reciprocating engine.

3.21 Lean-Burn Engine: any spark-ignited internal combustion engine that is operated with an exhaust stream oxygen concentration of four (4) percent by volume, or greater prior to any exhaust stream control device.

3.22 Location: any single site at a building, structure, facility, or installation.

3.23 Military Tactical Equipment: a transportable engine operated by the United States armed forces or National Guard which is designed specifically for military use in an off-road, dense terrain; hostile environment; or aboard military combat vessels.

3.24 Mobile Agricultural Equipment: equipment at an agricultural operation which is towed or mounted on a vehicle and is continuously moved during the operation of the equipment. Mobile Agricultural Equipment includes, but is not limited to sprayers, balers, and harvest equipment.

3.25 NOx: oxides of nitrogen, calculated as equivalent nitrogen dioxide (NO_2).

3.26 Public Utilities Commission (PUC) Quality Natural Gas: PUC quality natural gas means high methane gas (at least 80% methane by volume) as specified in PUC General order 58-A.

3.27 Rated Brake Horsepower: the continuous brake horsepower rating specified for the engine by the manufacturer or listed on the nameplate of the unit, unless otherwise physically limited and specified by a condition on the engine's Permit-to-Operate or Stationary Equipment Registration.

3.28 Replacement Engine: an engine that is installed to replace an engine that was in place as of June 16, 2005 and that such replacement is performed solely for the purpose of complying with the requirements of Section 5.1 of this rule.

3.29 Rich-Burn Engine: any spark-ignited internal combustion engine that is operated with an exhaust stream oxygen concentration of less than four (4) percent by volume prior to any exhaust stream control device.

3.30 Spark-ignited Internal Combustion Engine: a liquid or gaseous fueled engine designed to ignite its air/fuel mixture by a spark across a spark plug.

3.31 Stationary Source: as defined in Rule 2201 (New and Modified Stationary Source Review Rule).

3.32 Tier 1 Engine, Tier 2 Engine, Tier 3 Engine, and Tier 4 Engine: an EPA certified compression-ignited engine that meets the Tier 1, Tier 2, or Tier 3 emission standards of Table 1 on page 56970 of the Final Rule (October 23, 1998) or the Tier 4 emission standards of Table II.A.2 (Tier 4 NOx and NMHC Standards and Schedule) on page 38971 of the Final Rule (June 29, 2004) or Table II.A.4 (Tier 4 Standards for Engines Over 750 HP (G/BHP-HR)) on page 38980 of the Final Rule (June 29, 2004), respectively.

3.33 VOC: volatile organic compounds, as defined in Rule 1020 (Definitions).

3.34 Waste Gas: an untreated, raw gas derived through a natural process, such as anaerobic digestion, from the decomposition of organic waste at municipal solid waste landfills or publicly owned wastewater treatment facility. Waste gas includes landfill gas which is generated at landfills, digester gas which is generated at sewage treatment facilities, or a combination of the two.

3.35 Wind Machine: a machine consisting of a large fan mounted on a tower powered by an internal combustion engine, used exclusively to provide protection to crops, including, but not limited to oranges, lemons, and grapes, from cold weather by effecting a heat transfer by moving warmer atmospheric air downward and mixing it with the colder air surrounding a crop.

4.0 Exemptions

4.1 The requirements of this rule shall not apply to the following engines:

4.1.1 An engine used to propel implements of husbandry, as that term is defined in Section 36000 of the California Vehicle Code, as that section existed on January 1, 2003.

4.1.2 An engine used exclusively to power a wind machine.

4.1.3 A de-rated spark-ignited engine not used in agricultural operations, provided the de-rating occurred before June 1, 2004.

4.1.4 A de-rated spark-ignited engine used in agricultural operations or a de-rated compression-ignited engine, provided the de-rating occurred before June 1, 2005.

4.1.5 An engine used exclusively to power Mobile Agricultural Equipment.

4.2 Except for the requirements of Section 5.7 and Section 6.2.3, the requirements of this rule shall not apply to:

4.2.1 An emergency standby engine as defined in Section 3.0 of this rule, and provided that it is operated with a nonresettable elapsed operating time meter. In lieu of a nonresettable time meter, the owner of an emergency engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

4.2.2 An internal combustion engine that is operated no more than 200 hours per calendar year as determined by an operational nonresettable elapsed operating time meter and provided the engine is not used to perform any of the functions specified in Section 4.2.2.1 through Section 4.2.2.3 below. In lieu of a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

4.2.2.1 To generate electrical power that is either fed into the electrical utility power grid or used to reduce electrical power purchased by a stationary source,

4.2.2.2 To generate mechanical power that is used to reduce electrical power purchased by a stationary source, or

4.2.2.3 In a distributed generation application.

4.3 Except for the administrative requirements of Section 6.2.3, the requirements of this rule shall not apply to:

4.3.1 An internal combustion engine that meets the following conditions:

4.3.1.1 The engine is operated exclusively to preserve or protect property, human life, or public health during a disaster or state of emergency, such as a fire or flood, and

4.3.1.2 Except for operations associated with Section 4.3.1.1, the engine is limited to operate no more than 100 hours per calendar year as determined by an operational nonresettable elapsed operating time meter, for periodic maintenance, periodic readiness testing, and readiness testing during and after repair work of the engine, and

4.3.1.3 The engine is operated with a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

4.3.2 An internal combustion engine registered as a portable emissions unit under Rule 2280 (Portable Equipment Registration) or the Statewide Portable Equipment Registration Program pursuant to Sections 2450-2465, Article 5, Title 13, California Code of Regulations.

4.3.3 Military Tactical Equipment.

4.4. A replacement engine installed for the sole purpose of complying with the requirements of this rule shall be exempt from the Best Available Control Technology (BACT) and Offsets requirements of District Rule 2201 (New and Modified Stationary Source Review Rule) provided that all of the following conditions are met:

4.4.1 The replacement engine is of equal or lesser horsepower rating of the engine being replaced,

4.4.2 The replacement engine is subject to the same operational parameters (e.g. hours of operation, fuel use limitations, etc.) as the engine being replaced,

4.4.3 The replacement engine performs the same function as the engine being replaced, and

4.4.4 The emissions of the replacement engine are no greater than the emissions of the engine being replaced.

5.0 Requirements

5.1 Engine Emission Limits/Standards

5.1.1 Spark-Ignited Internal Combustion Engine Emission Limits/Standards - The owner of a spark-ignited internal combustion engine shall not operate it in such a manner that results in emissions exceeding the limits in Table

1 below for the appropriate engine type according to the compliance schedules listed in Section 7.0 or according to the compliance dates specified in Table 1 below. A spark-ignited engine shall comply with the applicable emission limits pursuant to Section 5.1 or Section 8.0.

Table 1 Emission Limits/Standards for a Spark-Ignited Internal Combustion Engine and Emission Limits/Standards and Compliance Schedule for a Spark-Ignited Engine Used Exclusively in Agricultural Operations (corrected to 15% oxygen on a dry basis)

Engine Type	NOx	CO	VOC
1. Rich-Burn			
a. Waste gas fueled	50 ppmv or 90% reduction	2000 ppmv	250 ppmv
b. Cyclic loaded, field gas fueled	50 ppmv	2000 ppmv	250 ppmv
c. All other engines	25 ppmv or 96% reduction	2000 ppmv	250 ppmv
2. Lean-Burn			
a. Two stroke, gaseous fueled, less than 100 horsepower	75 ppmv or 85% reduction	2000 ppmv	750 ppmv
b. All other engines	65 ppmv or 90% reduction	2000 ppmv	750 ppmv
3. Rich-Burn Engine Used Exclusively in Agricultural Operations			
a. Comply by 1/1/2008 or if owner has an agreement to electrify comply by 1/1/2010	90 ppmv or 80% reduction	2000 ppmv	250 ppmv
4. Lean-Burn Engine Used Exclusively in Agricultural Operations			
a. Comply by 1/1/2008 or if owner has an agreement to electrify comply by 1/1/2010	150 ppmv or 70% reduction	2000 ppmv	750 ppmv
5. Certified Spark-Ignited Engine Used Exclusively in AO			
a. Comply by 6/1/2006	Meet Certified Spark-Ignited Engine Standard of HC+NOx < 0.6 g/bhp-hr		

5.1.2 Compression-Ignited Internal Combustion Engine Emission Limits/Standards and Compliance Schedules – The owner of a compression-ignited internal combustion engine shall repower, replace or control the engine to comply with the applicable limits/standards and compliance dates in Table 2 below. The annual hours of operation shall be determined on a calendar year basis. A compression-ignited engine

shall comply with the applicable emission limits/standards pursuant to Section 5.1.2 or Section 8.0.

Table 2 Emission Limits/Standards and Compliance Schedule for a Compression-Ignited Internal Combustion Engine (corrected to 15% oxygen on a dry basis)

Engine Type	Emission Limit/ Standard	Compliance Date
1. Non-Certified Compression-Ignited Engine		
a. Greater than 50 bhp but not more than 500 bhp	EPA Tier 3 or Tier 4	1/1/2010
b. Greater than 500 bhp but not more than 750 bhp and less than 1000 annual operating hours	EPA Tier 3	1/1/2010
c. Greater than 750 bhp and less than 1000 annual operating hours	EPA Tier 4	7/1/2011
d. Greater than 500 bhp and greater than or equal to 1000 annual operating hours	80 ppm NOx, 2,000 ppm CO, 750 ppm VOC	1/1/2008 or, if owner has an agreement to electrify, comply by 1/1/2010
2. Certified Compression-Ignited Engine		
a. EPA Certified Tier 1 or Tier 2 Engine	EPA Tier 4	1/1/2015 or 12 years after installation date, whichever is later
b. EPA Certified Tier 3 or Tier 4 Engine	Meet Certified Compression-Ignited Engine Standard in effect at time of installation	At time of installation

5.1.3 On and after June 1, 2006, the owner of an AO rich-burn spark-ignited engine, AO lean-burn spark-ignited engine, or AO compression-ignited engine that is subject to the requirements of Section 5.1 shall not replace such engine with a rich-burn spark-ignited, lean-burn spark-ignited, or compression-ignited engine, respectively, that emits more emissions of NOx, VOC, and CO, on a ppmv basis, (corrected to 15% oxygen on a dry basis) than the engine being replaced.

5.1.4 The owner of a non-certified compression-ignited engine, in place on June 1, 2006, shall comply with the Emission Limit/Standard and Compliance Date in Table 2 based on the non-certified compression-ignited engine that was in place on June 1, 2006, unless the owner meets one of the following conditions:

5.1.4.1 Replaces the non-certified compression-ignited engine with a non-modified Tier 3 or a non-modified Tier 4 engine after June 1, 2006,

5.1.4.2 Controls the non-certified compression-ignited engine after June 1, 2006, to emit emissions less than, or equal to, 80 ppm NOx, 2,000 ppm CO, and 750 ppm VOC, (corrected to 15% oxygen on a dry basis), or

5.1.4.3 Replaces the non-certified compression-ignited engine after June 1, 2006, with an engine or other source with emissions less than, or equal to, 80 ppm NOx, 2,000 ppm CO, and 750 ppm VOC (corrected to 15% oxygen on a dry basis).

5.2 All continuous emission monitoring systems (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule.

5.3 Percent emission reductions, if used to comply with the NOx emission limits of Section 5.1, shall be calculated as follows:

5.3.1 For engines with external control devices that are not operated in combination with a second emission control device or technique, percent reduction shall be calculated using emission samples taken at the inlet and outlet of the control device.

5.3.2 For engines without external control devices and for engines with an external control device in combination with a second emission control device or technique, percent reduction shall be based on source test results for the uncontrolled engine and the engine after the control device or technique has been employed. In this situation, the engine's typical operating parameters, loading, and duty cycle shall be documented and repeated at each successive post-control source test to ensure that the engine is meeting the percent reduction limit. When representative source sampling prior to the application of an emissions control technology or technique is not available, the APCO may approve the use of a manufacturer's uncontrolled emissions information or source sampling from a similar, uncontrolled engine.

5.4 The owner of an internal combustion engine that uses percent emission reduction to comply with the NOx emission limits of Section 5.1 shall provide an accessible inlet and outlet on the external control device or the engine as appropriate for taking emission samples and as approved by the APCO.

5.5 California Reformulated Gasoline shall be used as the fuel for all gasoline-fired, spark-ignited internal combustion engines.

5.6 Monitoring Requirements A

The owner of a non-AO spark-ignited engine subject to the requirements of Section 5.1 or any engine subject to the requirements of Section 8.0 shall comply with the following requirements:

5.6.1 For each engine with a rated brake horsepower of 1,000 hp or greater and which is allowed by Permit-to-Operate or Stationary Equipment Registration condition to operate more than 2,000 hours per calendar year, or with an external emission control device, either install, operate, and maintain continuous monitoring equipment for NOx, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install, operate, and maintain APCO-approved alternate monitoring. The monitoring system may be a continuous emissions monitoring system (CEMS), a parametric emissions monitoring system (PEMS), or an alternative monitoring system approved by the APCO. APCO-approved alternate monitoring shall consist of one or more of the following:

5.6.1.1 Periodic NOx and CO emission concentrations,
5.6.1.2 Engine exhaust oxygen concentration,
5.6.1.3 Air-to-fuel ratio,
5.6.1.4 Flow rate of reducing agents added to engine exhaust,
5.6.1.5 Catalyst inlet and exhaust temperature,
5.6.1.6 Catalyst inlet and exhaust oxygen concentration,
5.6.1.7 Other operational characteristics.

5.6.2 For each engine not subject to Section 5.6.1, monitor operational characteristics recommended by the engine manufacturer or emission control system supplier, and approved by the APCO.

5.6.3 For each engine with an alternative monitoring system, submit to, and receive approval from the APCO, adequate verification of the alternative monitoring system's acceptability. This would include data demonstrating the system's accuracy under typical operating conditions for the specific application and any other information or data deemed necessary in assessing the acceptability of the alternative monitoring system.

5.6.4 For each engine with an APCO approved CEMS, operate the CEMS in compliance with the requirements of 40 Code of Federal Regulations (CFR)

Part 51, 40 CFR Parts 60.7 and 60.13 (except subsection h), 40 CFR Appendix B (Performance Specifications), 40 CFR Appendix F (Quality Assurance Procedures), and applicable provisions of Rule 1080 (Stack Monitoring).

5.6.5 For each engine, have the data gathering and retrieval capabilities of an installed monitoring system described in Section 5.6 approved by the APCO.

5.6.6 For each engine, install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

5.6.7 For each engine, implement the Inspection and Monitoring (I&M) plan, if any, submitted to and approved by the APCO pursuant to Section 6.5.

5.6.8 For each engine, collect data through the I&M plan in a form approved by the APCO.

5.6.9 For each engine use a portable NOx analyzer to take NOx emission readings to verify compliance with the emission requirements of Section 5.1 or Section 8.0 during each calendar quarter in which a source test is not performed and the engine is operated. All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Stationary Equipment Registration. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. All NOx emissions readings shall be reported to the APCO in a manner approved by the APCO. NOx emission readings taken pursuant to this section shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15 consecutive-minute period.

5.6.10 The APCO shall not approve an alternative monitoring system unless it is documented that continued operation within ranges of specified emissions-related performance indicators or operational characteristics provides a reasonable assurance of compliance with applicable emission limits. The operator shall source test over the proposed range of surrogate operating parameters to demonstrate compliance with the applicable emission standards.

5.6.11 For each engine subject to Section 8.0, install and operate a nonresettable fuel meter. In lieu of installing a nonresettable fuel meter, the owner may use an alternative device, method, or technique in determining daily fuel consumption provided that the alternative is approved by the APCO. The owner shall properly maintain, operate, and calibrate the required fuel meter in accordance with the manufacturer's instructions.

5.7 Monitoring Requirements B

5.7.1 The owner of any of the following engines shall comply with the requirements specified in Section 5.7.2 through Section 5.7.5 below:

5.7.1.1 An AO spark-ignited engine subject to the requirements of Section 5.1,

5.7.1.2 A compression-ignited engine subject to the requirements of Section 5.1, or

5.7.1.3 An engine subject to Section 4.2.

5.7.2 Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

5.7.3 Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

5.7.4 Install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

5.7.5 The owner of an AO spark-ignited engine that has been retro-fitted with a NOx exhaust control or a compression-ignited engine that has been retro-fitted with a NOx exhaust control shall comply with the following:

5.7.5.1 Use a portable NOx analyzer to take NOx emission readings to demonstrate compliance with the emission requirements of Section 5.1.

5.7.5.2 The owner of a compression-ignited engine that is subject to the limits/standards of Section 5.1.2 Table 2 Category 1.d shall use a

portable NOx analyzer to take NOx emission readings at least once every six months that the engine is operated.

5.7.5.3 The owner of any other engine that has been retro-fitted with a NOx exhaust control shall use a portable NOx analyzer to take NOx emission readings at least once every 24 months that the engine is operated.

5.7.5.4 All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Stationary Equipment Registration.

5.7.5.5 The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO.

5.7.5.6 All NOx emissions readings shall be reported to the APCO in a manner approved by the APCO.

5.7.5.7 NOx emission readings taken pursuant to this section shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15 consecutive-minute period.

5.8 Stationary Equipment Registration Requirements

The owner of an engine used exclusively in agricultural operations shall register such engine pursuant to Rule 2250 (Stationary Equipment Registration), except for an engine that meets any one of the following conditions:

5.8.1 The engine is required to have a Permit-to-Operate pursuant to California Health and Safety Code Section 42301.16, or

5.8.2 The engine is not required to comply with Section 5.1 of this rule.

6.0 Administrative Requirements

6.1 Emission Control Plan

The owner of an engine subject to the requirements of Section 5.1 or Section 8.0, except for an engine specified in Section 6.1.1, of this rule shall submit to the APCO an APCO-approvable emission control plan of all actions to be taken to satisfy the emission requirements of Section 5.1 and the compliance schedules of Section 7.0.

6.1.1 Section 6.1.2 through Section 6.1.3 shall not apply to an engine specified below:

6.1.1.1 A certified compression-ignited engine that has not been retro-fitted with an exhaust control and is not subject to the requirements of Section 8.0,

6.1.1.2 A certified spark-ignited engine that has not been retro-fitted with an exhaust control and is not subject to the requirements of Section 8.0,

6.1.1.3 An AO spark-ignited engine that has not been retro-fitted with a catalytic emission control device and is not subject to the requirements of Section 8.0,

6.1.1.4 An engine subject to Section 4.2, or

6.1.1.5 An engine subject to Section 4.3.

6.1.2 Such emission control plan shall contain the following information, as applicable for each engine:

6.1.2.1 Permit-to-Operate number, Authority-to-Construct number, or Stationary Equipment Registration number
6.1.2.2 Engine manufacturer
6.1.2.3 Model designation and engine serial number
6.1.2.4 Rated brake horsepower
6.1.2.5 Type of fuel and type of ignition
6.1.2.6 Combustion type: rich-burn or lean-burn
6.1.2.7 Total hours of operation in the previous one-year period, including typical daily operating schedule
6.1.2.8 Fuel consumption (cubic feet for gas or gallons for liquid) for the previous one-year period
6.1.2.9 Stack modifications to facilitate continuous in-stack monitoring and to facilitate source testing
6.1.2.10 Type of control to be applied, including in-stack monitoring specifications
6.1.2.11 Applicable emission limits
6.1.2.12 Documentation showing existing emissions of NOx, VOC, and CO, and
6.1.2.13 Date that the engine will be in full compliance with Rule 4702.

6.1.3 The emission control plan shall identify the type of emission control device or technique to be applied to each engine and a construction/removal schedule, or shall provide support documentation sufficient to demonstrate that the engine is in compliance with the emission requirements of this rule.

6.1.4 For an engine being permanently removed from service, the emission control plan shall include a letter of intent pursuant to Section 7.2.

6.2 Recordkeeping

6.2.1 Except for engines subject to Section 4.0, the owner of an engine subject to the requirements of Section 5.1 of this rule shall maintain an engine operating log to demonstrate compliance with this rule. This information shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request. The engine operating log shall include, on a monthly basis, the following information:

6.2.1.1 Total hours of operation,
6.2.1.2 Type of fuel used,
6.2.1.3 Maintenance or modifications performed,
6.2.1.4 Monitoring data,
6.2.1.5 Compliance source test results, and
6.2.1.6 Any other information necessary to demonstrate compliance with this rule.
6.2.1.7 For an engine subject to Section 8.0, the quantity (cubic feet of gas or gallons of liquid) of fuel used on a daily basis.

6.2.2 The data collected pursuant to the requirements of Section 5.6 and Section 5.7 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request.

6.2.3 An owner claiming an exemption under Section 4.2 or Section 4.3 shall maintain annual operating records. This information shall be retained for at least five years, shall be readily available, and provided to the APCO upon request. The records shall include, but are not limited to, the following:

6.2.3.1 Total hours of operation,
6.2.3.2 The type of fuel used,
6.2.3.3 The purpose for operating the engine,
6.2.3.4 For emergency standby engines, all hours of non-emergency and emergency operation shall be reported, and
6.2.3.5 Other support documentation necessary to demonstrate claim to the exemption.

6.3 Compliance Testing

The owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, shall comply with the following requirements, except for an engine specified in Section 6.3.1:

6.3.1 The requirements of Section 6.3.2 through Section 6.3.4 shall not apply to any of the following engines:

6.3.1.1 A certified compression-ignited engine that has not been retro-fitted with an exhaust control and is not subject to the requirements of Section 8.0.

6.3.1.2 A certified spark-ignited engine that has not been retro-fitted with an exhaust control and is not subject to the requirements of Section 8.0.

6.3.1.3 An AO spark-ignited engine that has not been retro-fitted with a catalytic emission control device and is not subject to the requirements of Section 8.0.

6.3.1.4 An engine subject to Section 4.2.

6.3.1.5 An engine subject to Section 4.3.

6.3.2 Demonstrate compliance with applicable limits, ppmv or percent reduction, in accordance with the test methods in Section 6.4, as specified below:

6.3.2.1 By the applicable date specified in Section 5.1.1, Section 5.1.2, Section 7.3, Section 7.4, Section 7.5, or Section 7.6 and at least once every 24 months thereafter, except for an engine subject to Section 6.3.2.2.

6.3.2.2 By the applicable date specified in Section 5.1.1, Section 5.1.2, Section 7.3, Section 7.4, Section 7.5, or Section 7.6 and at least once every 60 months thereafter, for an AO spark-ignited engine that has been retro-fitted with a catalytic emission control device and is not subject to the requirements of Section 8.0.

6.3.3 Conduct emissions source testing with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Stationary Equipment Registration. For emissions source testing performed pursuant to Section 6.3.2 for the purpose of determining compliance with an applicable standard or numerical limitation, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit, the test

cannot be used to demonstrate compliance with an applicable limit. VOC shall be reported as methane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15 percent oxygen. For engines that comply with a percent reduction limit in Table 1, the percent reduction of NOx emissions shall also be reported.

6.3.4 In addition to other information, the source test protocol shall describe which critical parameters will be measured and how the appropriate range for these parameters shall be established. The range for these parameters shall be incorporated into the I&M plan.

6.3.5 Engines that are limited by Permit-to-Operate or Stationary Equipment Registration condition to be fueled exclusively with PUC quality natural gas shall not be subject to the biennial source test requirements of Section 6.3.2 for VOC emissions.

6.4 Test Methods

Compliance with the requirements of Section 5.0 shall be determined, as required, in accordance with the following test procedures or any other method approved by EPA and the APCO:

6.4.1 Oxides of nitrogen - EPA Method 7E, or ARB Method 100.

6.4.2 Carbon monoxide - EPA Method 10, or ARB Method 100.

6.4.3 Stack gas oxygen - EPA Method 3 or 3A, or ARB Method 100.

6.4.4 Volatile organic compounds - EPA Method 25A or 25B, or ARB Method 100.

6.4.5 Operating horsepower determination - any method approved by EPA and the APCO.

6.5 Inspection and Monitoring (I&M) Plan

The owner of an engine that is subject to the requirements of Section 5.1 or the requirements of Section 8.0, except for an engine specified in Section 6.5.1, shall submit to the APCO for approval, an I&M plan that specifies all actions to be taken to satisfy the following requirements and the requirements of Section 5.6. The actions to be identified in the I&M plan shall include, but are not limited to, the information specified below:

6.5.1 The requirements of Section 6.5.2 through Section 6.5.9 shall not apply to any of the following engines:

6.5.1.1 A certified compression-ignited engine that has not been retro-fitted with an exhaust control and is not subject to the requirements of Section 8.0.

6.5.1.2 A certified spark-ignited engine that has not been retro-fitted with an exhaust control and is not subject to the requirements of Section 8.0.

6.5.1.3 An AO spark-ignited engine that has not been retro-fitted with a catalytic emission control device and is not subject to the requirements of Section 8.0.

6.5.1.4 An engine subject to Section 4.2.

6.5.1.5 An engine subject to Section 4.3.

6.5.2 Procedures requiring the owner or operator to establish ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.

6.5.3 Procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored monthly in conformance with a regular inspection schedule listed in the I&M plan.

6.5.4 Procedures for the corrective actions on the noncompliant parameter(s) that the owner or operator will take when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NOx, CO, VOC, or oxygen concentrations.

6.5.5 Procedures for the owner or operator to notify the APCO when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NOx, CO, VOC, or oxygen concentrations.

6.5.6 Procedures for preventive and corrective maintenance performed for the purpose of maintaining an engine in proper operating condition.

6.5.7 Procedures and a schedule for using a portable NOx analyzer to take NOx emission readings pursuant to Section 5.6.9.

6.5.8 Procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the I&M plan and the monitoring systems described in Sections

5.6.1 and 5.6.2. Data collected through the I&M plan shall have retrieval capabilities as approved by the APCO.

6.5.9 Procedures for revising the I&M plan. The I&M plan shall be updated to reflect any change in operation. The I&M plan shall be updated prior to any planned change in operation. An engine owner that changes significant I&M plan elements must notify the District no later than seven days after the change and must submit an updated I&M plan to the APCO no later than 14 days after the change for approval. The date and time of the change to the I&M plan shall be recorded in the engine operating log. For new engines and modifications to existing engines, the I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit-to-Operate or Stationary Equipment Registration. The owner of an engine may request a change to the I&M plan at any time.

7.0 Compliance Schedules

7.1 Loss of Exemption

The owner of an engine which becomes subject to the emission limits/standards of this rule through loss of exemption shall not operate the subject engine, except as required for obtaining a new or modified Permit-to-Operate or Stationary Equipment Registration for the engine, until the owner demonstrates that the subject engine is in full compliance with the requirements of this rule.

7.2 Permanent Removal of an Engine

The owner of an engine who elects to permanently remove the engine from service shall comply with all of the following conditions:

7.2.1 Comply with all applicable requirements of this rule until the engine is permanently removed from service;

7.2.2 Submit a letter to the APCO no later than 14 days before the engine is permanently removed from service, stating the intent to permanently remove the engine from service. The engine removal letter can be submitted with the emission control plan, if any; and

7.2.3 Permanently remove the engine from service and officially surrender the Permit-to-Operate or Stationary Equipment Registration, if any, to the APCO no later than 30 days after the engine is permanently removed from service.

7.3 Compliance Schedule for an AO Compression-Ignited Engine

7.3.1 Compliance Schedule - Submission of Emission Control Plan, I&M Plan, Stationary Equipment Registration Application and Authority-to-Construct for an AO Compression-Ignited Engine

7.3.1.1 The owner of an engine that is subject to Section 4.2 or Section 4.3 and that is required to submit an Emission Control Plan, an I&M Plan, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) no later than January 1, 2006.

7.3.1.2 The owner of an engine that is subject to Section 5.1 and that is required to submit an Emission Control Plan, an I&M Plan, a Stationary Equipment Registration application, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) by June 1, 2006, or 18 months before the engine is required to be in compliance with the requirements of Section 5.1 of Rule 4702, whichever is later.

7.3.2 Compliance Schedule - Monitoring and Recordkeeping for an AO Compression-Ignited Engine Subject to Section 5.1 and Section 5.7

On and after June 1, 2006, the owner of an engine that is subject to Section 5.1 and Section 5.7 of Rule 4702 shall be in compliance with the requirements of Section 5.7, Section 6.2.1.1, and Section 6.2.1.2.

7.3.3 Compliance Schedule - General for an AO Compression-Ignited Engine

7.3.3.1 On and after January 1, 2006, unless otherwise specified, the owner of an engine that is subject to the requirements of Section 4.2 or Section 4.3 of Rule 4702 shall be in full compliance with Rule 4702.

7.3.3.2 Unless otherwise specified, the owner of an engine that is subject to the requirements of Section 5.1 of Rule 4702 shall be in full compliance with Rule 4702 by the indicated dates pursuant to Section 5.1.2.

7.4 Compliance Schedule for an AO Spark-Ignited Engine

7.4.1 Compliance Schedule - Submission of Emission Control Plan, I&M Plan, Stationary Equipment Registration Application and Authority-to-Construct for an AO Spark-Ignited Engine

7.4.1.1 The owner of an engine that is subject to Section 4.2 or Section 4.3 and that is required to submit an Emission Control Plan, an I&M Plan, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) no later than January 1, 2006.

7.4.1.2 The owner of an engine that is subject to Section 5.1 and that is required to submit an Emission Control Plan, an I&M Plan, a Stationary Equipment Registration application, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) by June 1, 2006, or 18 months before the engine is required to be in compliance with the requirements of Section 5.1 of Rule 4702, whichever is later.

7.4.2 Compliance Schedule - Monitoring and Recordkeeping for an AO Spark-Ignited Engine Subject to Section 5.1 and Section 5.7

On and after June 1, 2006, the owner of an engine that is subject to Section 5.1 and Section 5.7 of Rule 4702 shall be in compliance with the requirements of Section 5.7.3 through Section 5.7.5, Section 6.2.1.1, and Section 6.2.1.2.

7.4.3 Compliance Schedule - General for an AO Spark-Ignited Engine

7.4.3.1 On and after June 1, 2006, unless otherwise specified, the owner of an engine that is subject to the requirements of Section 4.2 or Section 4.3 of Rule 4702 shall be in full compliance with Rule 4702.

7.4.3.2 Unless otherwise specified, the owner of an engine that is subject to the requirements of Section 5.1 of Rule 4702 shall be in full compliance with Rule 4702 by the indicated dates pursuant to Section 5.1.1.

7.5 Compliance Schedule for a Non-AO Compression-Ignited Engine

7.5.1 Compliance Schedule - Submission of Emission Control Plan, I&M Plan, and Authority-to-Construct for a Non-AO Compression-Ignited Engine

7.5.1.1 The owner of an engine that is subject to Section 4.2 or Section 4.3 and that is required to submit an Emission Control Plan, an I&M Plan, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) no later than June 1, 2006.

7.5.1.2 The owner of an engine that is subject to Section 5.1 and that is required to submit an Emission Control Plan, an I&M Plan, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) by June 1, 2006 or 18 months before the engine is required to be in compliance with the requirements of Section 5.1 of Rule 4702, whichever is later.

7.5.2 Compliance Schedule - General for a Non-AO Compression-Ignited Engine

7.5.2.1 On and after June 1, 2006, unless otherwise specified, the owner of an engine that is subject to the requirements of Section 4.1, Section 4.2, or Section 4.3 of Rule 4702 shall be in full compliance with Rule 4702.

7.5.2.2 Unless otherwise specified, the owner of an engine that is subject to the requirements of Section 5.1 of Rule 4702 shall be in full compliance with Rule 4702 by the indicated dates pursuant to Section 5.1.2.

7.5.2.3 The owner of an engine that is subject to the requirements of Section 4.0 or Section 5.0 of Rule 4701 (Internal Combustion Engines – Phase 1) shall no longer be subject to the requirements of Rule 4701 pursuant to the following requirements:

7.5.2.3.1 For an engine that is subject to the requirements of Section 4.1, Section 4.2, or Section 4.3 of Rule 4702, the requirements of Rule 4701 shall not apply effective on the date that such engine is required to be in full compliance with Rule 4702, or

7.5.2.3.2 For an engine that is subject to the requirements of Section 5.1 of Rule 4702, the requirements of Rule 4701 shall not apply effective on the date that such engine is required to be in full compliance with Rule 4702.

7.6 Compliance Schedule for a Non-AO Spark-Ignited Engine

7.6.1 Compliance Schedule - Submission of Emission Control Plan, I&M Plan, and Authority-to-Construct for a Non-AO Spark-Ignited Engine

Effective on and after June 16, 2005, the owner of an engine that is required to submit an Emission Control Plan, an I&M Plan, or an Authority-to-Construct in order to comply with the requirements of Rule 4702, shall submit such document(s) no later than 18 months before the engine is required to be in full compliance with Rule 4702.

7.6.2 Compliance Schedule – Emission Limits for a Non-AO Spark-Ignited Engine

The owner of a non-AO spark-ignited engine subject to the requirements of Rule 4702 shall not operate the engine unless the owner demonstrates and maintains the engine in compliance with the applicable requirements of Rule 4702 by the indicated dates below.

Compliance Schedule 1 – Non-AO Spark-Ignited Engine

Quantity of Non-AO Spark-Ignited Engines to be in Compliance at a Stationary Source	Compliance Date
a. 25% or more of the total number of non-AO spark-ignited engines at a stationary source on June 1, 2005	6/1/05
b. 62.5% or more of the total number of non-AO spark-ignited engines at a stationary source on June 1, 2006	6/1/06
c. 100% of the total number of non-AO spark-ignited engines at a stationary source on June 1, 2007	6/1/07

For the purposes of Section 7.6, the total number of non-AO spark-ignited engines at a stationary source on a specified date includes those non-AO spark-ignited engines subject to Rule 4702 pursuant to Section 2.0 and excludes any engines exempt from Rule 4702 pursuant to Section 4.1 on the specified date.

7.6.3 Compliance Schedule - General for a Non-AO Spark-Ignited Engine

7.6.3.1 On and after January 1, 2006, unless otherwise specified, the owner of an engine that is subject to the requirements of Section 4.1 of Rule 4702 shall be in full compliance with Rule 4702.

7.6.3.2 Unless otherwise specified, the owner of an engine subject to the requirements of Rule 4702 shall be in full compliance with Rule 4702 by the applicable compliance date pursuant to Section 7.6.2.

7.6.3.3 The owner of an engine that is subject to the requirements of Rule 4701 shall no longer be subject to the requirements of Rule 4701 pursuant to the following requirements:

7.6.3.3.1 For an engine that is subject to the requirements of Section 4.1 of Rule 4702, the requirements of Rule 4701 shall not apply effective on and after January 1, 2006, or

7.6.3.3.2 For an engine that is subject to the requirements of Section 4.2, Section 4.3, or Section 5.1 of Rule 4702, the requirements of Rule 4701 shall not apply effective on the date that such engine is required to be in full compliance with Rule 4702.

8.0 Alternative Emission Control Plan (AECP)

An owner may comply with the NOx emission requirements of Section 5.1 for a group of engines by meeting the requirements below. An owner that is subject to the requirements below shall also comply with all the applicable requirements of Sections 5.0, 6.0, and 7.0. An engine that is not subject to Section 5.1 is not eligible for inclusion in an AECP.

8.1 During any 7 (seven) consecutive calendar day period, the owner shall operate all engines in the AECP to achieve an actual aggregate NOx emission level that is not greater than 90 percent of the NOx emissions that would be obtained by controlling the engines to comply individually with the NOx limits in Section 5.1. The owner shall operate engines in the AECP such that

$$AE_{Actual} <= 0.90\ (AE_{Limit})$$

and shall notify the APCO within 24 hours of any violation of this section.

8.1.1 The actual aggregate NOx emissions (AE_{Actual}) is the sum of the actual NOX emissions, over a 7 (seven) consecutive calendar day period, from all engines in the AECP which were actually operated during that period. AE_{Actual} shall be calculated as follows:

$$AE_{Actual} = \sum_{i} (EF_i)(F_i)(k_i)$$

where:

i identifies each engine in the AECP.

EF_i is the NOx emission factor of the engine established pursuant to Section 8.2 and approved by the APCO.

F_i is the actual total fuel used by the engine during the 7 (seven) consecutive calendar day period.

k_i is a constant used to convert an engine's fuel use and NOx emission factor to the amount of NOx emitted. k_i is dependent on the engine and the pollutant emitted. Calculation of k_i shall be accomplished using 40 CFR Part 60, Appendix A, Method 19, or an equivalent method approved by EPA, ARB and the APCO.

8.1.2 The estimated aggregate NOx emissions limit (AE_{Limit}) is the sum of the NOx emissions, over a 7 (seven) consecutive calendar day period, for the same engines in the AECP which were actually operated during the same period as considered in Section 8.1.1, calculated with the NOx limits of Section 5.1 and the actual fuel usage during that 7 (seven) consecutive calendar day period. AE_{Limit} shall be calculated as follows:

$$AE_{Limit} = \sum_i (EL_i)(F_i)(k_i)$$

where:

i identifies each engine in the AECP.

EL_i is the NOx emission limit from Section 5.1 for each engine.

F_i is the actual total fuel used by the engine during the 7 (seven) consecutive calendar day period.

k_i is a constant used to convert an engine's fuel use and NOx emission limit to the amount of NOx emitted. k_i is dependent on the engine and the pollutant emitted. Calculation of k_i shall be accomplished using 40 CFR Part 60, Appendix A, Method 19, or an equivalent method approved by EPA, ARB and the APCO.

8.1.3 Only engines in the AECP which were operated during the 7 (seven) consecutive calendar day period shall be included in the calculations of AE_{Limit} and AE_{Actual}.

8.1.4 The owner shall, at least one time each day the AECP is used, calculate and record the actual aggregate NOx emissions (AE_{Actual}) and the aggregate NOx

emission limit (AE_{Limit}) for the preceding 7 (seven) consecutive calendar day period.

8.2 The owner shall establish a NOx emission factor limit for each engine. The established NOx emission factor of an engine shall be no less than the NOx emission factor of the engine from the most recent source test conducted pursuant to Section 6.3 and approved by the APCO. The owner shall not operate an AECP engine in such a manner that NOx emissions exceed the established NOx emission factor of the engine.

8.3 The owner shall submit the AECP to the APCO at least 18 months before compliance with the emission limits in Section 5.1 is required. The AECP shall:

8.3.1 Not be implemented prior to APCO approval.

8.3.2 Be enforceable on a daily basis by the District.

8.3.3 Contain any information necessary to determine eligibility of the engines for alternative emission control, including, but not limited to:

8.3.3.1 A list of engines subject to the AECP. All engines in an AECP shall be under the operational control of a single owner and shall be located at a single stationary source.

8.3.3.2 The NOx emission factor established by the engine owner for each engine pursuant to Section 8.2.

8.3.3.3 The estimated aggregate NOx emissions calculated according to Section 8.1.2.

8.3.4 Present the methodology for determining equivalency of actual NOx emissions under the proposed AECP as compared to the estimated NOx emissions allowed by this rule.

8.3.5 Detail the method of recording and verifying daily compliance with the AECP.

8.3.6 Demonstrate to the satisfaction of the APCO that the difference between the NOx emission limits of this rule and any lower actual NOx emissions will not be used to increase emissions from the same or another source.

8.3.7 Demonstrate that the engines subject to the requirements of Section 5.1 are in compliance with or on an approved schedule for compliance with all applicable District rules.

8.4 The owner shall submit an updated or modified AECP for approval by the APCO prior to any of the following:

8.4.1 Modification of the engine(s) which would require an Authority-to-Construct.

8.4.2 When new or amended rules are adopted which regulate the emissions from the engines.

8.4.3 When the NOx emission factor established by the engine owner for an engine pursuant to Section 8.2 is modified.

8.5 In addition to the records kept pursuant to Section 6.2, the owner shall maintain records, on a daily basis, of the parameters needed to demonstrate compliance with the applicable NOx emission limits when operating under the AECP. These records shall be retained for at least five years, shall be readily available, and be made available to the APCO upon request. The records shall include, but are not limited to, the following for each engine unless otherwise indicated:

8.5.1 Total hours of operation.

8.5.2 Type and quantity (cubic feet of gas or gallons of liquid) of fuel used.

8.5.3 The actual NOx emissions limits to be included in the calculation of AE_{Actual} pursuant to Section 8.1.1.

8.5.4 The actual aggregate NOx emissions (AE_{Actual}) for all the engines in the AECP calculated pursuant to Section 8.1.1.

8.5.5 The estimated NOx emissions limits to be included in the calculation of AE_{Limit} pursuant to Section 8.1.2.

8.5.6 The estimated aggregate NOx emissions (AE_{Limit}) for all the engines in the AECP calculated pursuant to Section 8.1.2.

8.5.7 The comparison of the actual aggregate NOx emissions (AE_{Actual}) for all the engines in the AECP and 90 percent of the estimated aggregate NOx emissions (AE_{Limit}) for all the engines in the AECP to demonstrate compliance with Section 8.1.

8.5.8 Any other parameters needed to demonstrate daily compliance with the applicable NOx emission limits when operating under the AECP.

8.6 For the purpose of determining the quantity of spark-ignited engines in compliance pursuant to Section 7.6, a spark-ignited engine in an AECP shall not be considered to be in compliance until all spark-ignited engines in the AECP that have been

designated to meet more stringent NOx emission factors pursuant to Section 8.2 are in compliance with the rule.

This page intentionally blank.