

**REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 8
NITROGEN OXIDES AND CARBON MONOXIDE
FROM STATIONARY INTERNAL COMBUSTION ENGINES**

INDEX

9-8-100 GENERAL

- 9-8-101 Description
- 9-8-110 Exemptions
- 9-8-111 Limited Exemption for Low Usage
- [9-8-112 Registered Portable Equipment](#)

9-8-200 DEFINITIONS

- 9-8-201 Gaseous Fuels
- 9-8-202 Nitrogen Oxide Emissions
- 9-8-203 Rated Brake Horsepower
- 9-8-204 Stationary Internal Combustion Engine
- 9-8-205 Rich-Burn Engine
- 9-8-206 Lean-Burn Engine
- 9-8-230 Emergency Standby Engine
- 9-8-231 Emergency Use
- 9-8-232 Reliability-related Activities
- 9-8-233 Essential Public Service
- [9-8-234 New Compression-Ignited Engine](#)
- [9-8-235 Portable](#)
- [9-8-236 Unforeseeable](#)

9-8-300 STANDARDS

- 9-8-301 Emission Limits – [Spark-Ignited Engines Powered by Fossil Derived Fuels](#) ~~Gas~~
- 9-8-302 Emission Limits – [Spark-Ignited Engines Powered by Waste Derived Fuels](#) ~~Gas~~
- [9-8-303 Emission Limits – Existing Compression-Ignited Engines](#)
- [9-8-304 Emission Limits – Delayed Compliance, Existing Compression-Ignited Engines, Model Year 1996 or Later](#)
- [9-8-305 Emission Limits – New Compression-Ignited Engines](#)
- 9-8-330 Emergency Standby Engines, Hours of Operation
- 9-8-331 Essential Public Service, Hours of Operation

9-8-400 ADMINISTRATIVE REQUIREMENTS

- 9-8-401 Compliance Schedule
- [9-8-402 Reporting Requirements for Delayed Compliance](#)

9-8-500 MONITORING AND RECORDS

- 9-8-501 Initial Demonstration of Compliance
- 9-8-502 Recordkeeping
- [9-8-503 Biannual Demonstration of Compliance](#)
- 9-8-530 Emergency Standby Engines, Monitoring and Recordkeeping

9-8-600 MANUAL OF PROCEDURES

9-8-601 Determination of Nitrogen Oxides

9-8-602 Determination of Carbon Monoxide and Stack Gas Oxygen

REGULATION 9
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RULE 8
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FROM STATIONARY INTERNAL COMBUSTION ENGINES

(Adopted January 20, 1993)

9-8-100 GENERAL

9-8-101 Description: This rule limits the emissions of nitrogen oxides and carbon monoxide from stationary internal combustion engines with an output rated by the manufacturer at 50 brake horsepower or more.

(Amended August 1, 2001)

9-8-110 Exemptions: The requirements of Sections 9-8-301, ~~302~~, through 305, and ~~502~~ 501 through 503 shall not apply to the following:

110.1 Engines rated by the manufacturer at less than ~~250~~ 50 brake horsepower output rating.

110.2 ~~Engines fired exclusively by liquid fuels including, but not limited to, diesel fuel, gasoline, and methanol.~~

~~110.3~~ Engines used directly and exclusively for the growing of crops or the raising of fowl or animals.

110.~~3~~ Emergency standby engines.

(Amended August 1, 2001)

9-8-111 Limited Exemption for Low Usage: The requirements of Sections 9-8-301, ~~and 302, 303, 304, and 305~~ shall not apply to ~~the following low use operations engines that operate less than 50 hours in any 12-consecutive-month period~~ provided the requirements of Section 9-8-502 are met.:

~~111.1 Engines rated at, or below, 1000 brake horsepower which operate less than 200 hours in any 12-consecutive-month period.~~

~~111.2 Engines rated above 1000 brake horsepower which operate less than 100 hours in any 12-consecutive-month period.~~

9-8-112 Registered Portable Equipment: The requirements of this section shall not apply to an internal combustion engine registered as portable pursuant to the Statewide Portable Engine and Equipment Registration Program, Sections 2450-2465, Article 5, Title 13, California Code of Regulations.

9-8-200 DEFINITIONS

9-8-201 Gaseous Fuels: For the purposes of this rule, gaseous fuels include, but are not limited to:

201.1 Fossil derived fuel gas such as natural gas, methane, ethane, propane, refinery fuel gas, and butane, including gases stored as liquids such as liquified petroleum gas (LPG).

201.2 Waste derived fuel gas such as sewage sludge digester gas or landfill gas.

9-8-202 Nitrogen Oxide (NO_x) Emissions: The sum of nitric oxide (NO) and nitrogen dioxide (NO₂) in the engine exhaust, collectively expressed as nitrogen dioxide.

9-8-203 Rated Brake Horsepower: The maximum brake horsepower rating at maximum revolutions per minute (RPM) specified for the engine by the manufacturer or indicated on the engine nameplate.

9-8-204 Stationary Internal Combustion Engine (Engine): Any spark or compression ignited internal combustion engine that is operated, or intended to be operated, at a specific site for more than one year or is attached to a foundation at that site.

9-8-205 Rich-Burn Engine: Any spark or compression ignited internal combustion engine that is designed to be operated with an exhaust stream oxygen concentration of less than 4 percent, by volume. The exhaust gas oxygen content shall be determined from the uncontrolled exhaust stream.

- 9-8-206 Lean-Burn Engine:** Any spark or compression ignited internal combustion engine that is designed to be operated with an exhaust stream oxygen concentration of 4 percent, by volume, or greater. The exhaust gas oxygen content shall be determined from the uncontrolled exhaust stream.
- 9-8-230 Emergency Standby Engine:** Any engine that is exclusively operated:
- 230.1 For emergency use; and
 - 230.2 For reliability-related activities.
- (Adopted August 1, 2001)*
- 9-8-231 Emergency Use:** The use of an emergency standby engine during any of the following:
- 231.1 In the event of unforeseeable loss of regular natural gas supply;
 - 231.2 In the event of unforeseeable failure of regular electric power supply;
 - 231.3 Flood mitigation;
 - 231.4 Sewage overflow mitigation;
 - 231.5 Fire;
 - 231.6 Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.
- (Adopted August 1, 2001)*
- 9-8-232 Reliability-related Activities:** Either:
- 232.1 Operation of an emergency standby engine to test its ability to perform for an emergency use; or
 - 232.2 Operation of an emergency standby engine during maintenance of a primary motor.
- (Adopted August 1, 2001)*
- 9-8-233 Essential Public Service:**
- 233.1 A sewage treatment facility, and associated collection system, which is publicly owned and operated;
 - 233.2 Water treatment and delivery operations;
 - 233.3 Public transit;
 - 233.4 Police or fire fighting facility;
 - 233.5 Airport runway lights; or
 - 233.6 Hospital or other medical emergency facility.
- (Adopted August 1, 2001)*
- 9-8-234 New Compression-Ignited Engine:** An compression-ignited engine of model year 2008 or later.
- 9-8-235 Portable:** Designed and capable of being carried or moved from one location to another. Indication of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.
- 9-8-236 Unforeseeable:** Not able to be reasonably anticipated and demonstrated by the owner or operator to the satisfaction of the APCO to have been beyond the reasonable control of the owner or operator. The enforcement of a contractual obligation the owner or operator has with a third party or any other party is foreseeable.
- 9-8-300 STANDARDS**
- 9-8-301 Emission Limits - Spark-Ignited Engines Powered by Fossil Derived Fuels-Gas:** Effective January 1, 1997, a person shall not operate a stationary internal combustion engine fired exclusively on fossil derived fuels ~~s-gas~~, unless the following emission limits are met:
- 301.1 Rich-Burn Engines: Nitrogen oxide (NOx) emissions shall not exceed 56 ppmv as corrected to 15% oxygen, dry basis. Effective January 1, 2008, nitrogen oxide (NOx) emissions shall not exceed 0.36 grams per brake horse power-hour (g/bhp-hr).
 - 301.2 Lean-Burn Engines: Nitrogen oxide (NOx) emissions shall not exceed 140 ppmv as corrected to 15% oxygen, dry basis. Effective January 1, 2008, nitrogen oxide (NOx) emissions shall not exceed 1.0 g/bhp-hr.
 - 301.3 Carbon monoxide (CO) emissions shall not exceed 2000 ppmv as corrected to 15% oxygen, dry basis.

9-8-302 Emission Limits - Spark-Ignited Engines Powered by Waste Derived Fuels-Gas: Effective January 1, 1997, a person shall not operate a spark-ignited stationary internal combustion engine fired on waste derived fuels-~~gas~~ or any combination of waste- and fossil-derived gaseous fuels and liquid fuels unless the following emission limits are met:

- 302.1 Lean-Burn Engines: Nitrogen oxide (NO_x) emissions shall not exceed 140 ppmv as corrected to 15% oxygen, dry basis. Effective January 1, 2008, nitrogen oxide (NO_x) emissions shall not exceed 1.0 g/bhp-hr.
- 302.2 Rich-Burn Engines: Nitrogen oxide (NO_x) emissions shall not exceed 210 ppmv as corrected to 15% oxygen, dry basis. Effective January 1, 2008, nitrogen oxide (NO_x) emissions shall not exceed 0.70 g/bhp-hr.
- 302.3 Carbon monoxide (CO) emissions shall not exceed 2000 ppmv as corrected to 15% oxygen, dry basis.

9-8-303 Emission Limits – Existing Compression-Ignited Engines: A person shall not operate a stationary internal combustion compression-ignited engine unless one the following sets of emission limits for NO_x and CO is met:

	<u>Existing Compression-Ignited Engine (bhp)</u>	<u>Emission Standards (g/bhp-hr)</u>			<u>Effective Date</u>
		<u>NMHC + NOx</u>	<u>NOx only</u>	<u>CO</u>	
<u>303.1</u>	<u>50 up to 75</u>	<u>3.5</u>	<u>n/a</u>	<u>3.7</u>	<u>January 1, 2011</u>
<u>303.2</u>	<u>75 up to 175</u>	<u>n/a</u>	<u>2.5</u>	<u>3.7</u>	<u>January 1, 2012</u>
<u>303.3</u>	<u>175 through 750</u>	<u>n/a</u>	<u>1.5</u>	<u>2.6</u>	<u>January 1, 2011</u>
<u>303.4</u>	<u>> 750</u>	<u>n/a</u>	<u>0.5</u>	<u>2.6</u>	<u>January 1, 2011</u>

9-8-304 Emission Limits – Delayed Compliance, Existing Compression-Ignited Engines, Model Year 1996 or Later: In lieu of compliance with Section 9-8-303.2 or 303.3, a person may operate a stationary internal combustion compression-ignited engine provided the requirements of Section 9-8-402 are met and one the following sets of emission limits for NO_x and CO is met:

	<u>Existing Compression-Ignited Engine (bhp)</u>	<u>Emission Standards (g/bhp-hr)</u>		<u>Effective Date</u>
		<u>NOx only</u>	<u>CO</u>	
<u>304.1</u>	<u>75 up to 175</u>	<u>0.3</u>	<u>3.7</u>	<u>January 1, 2016</u>
<u>304.2</u>	<u>175 through 750</u>	<u>0.3</u>	<u>2.6</u>	<u>January 1, 2016</u>

9-8-305 Emission Limits – New Compression-Ignited Engines: Effective January 1, 2008, no person shall operate a new compression-ignited engine 50 bhp or greater unless the engine has been certified in accordance with 40 CFR Parts 9, 69, et seq. to meet one of the following sets of emission limits for NO_x and CO:

	<u>New Compression-Ignited Engine</u> (bhp)	<u>Emission Standards</u> (g/bhp-hr)		
		<u>NMHC + NOx</u>	<u>NOx only</u>	<u>CO</u>
<u>305.1</u>	<u>50 up to 75</u>	<u>3.5</u>	<u>n/a</u>	<u>3.7</u>
<u>305.2</u>	<u>75 up to 175</u>	<u>n/a</u>	<u>0.3</u>	<u>3.7</u>
<u>305.3</u>	<u>175 through 750</u>	<u>n/a</u>	<u>0.3</u>	<u>2.6</u>
<u>305.4</u>	<u>> 750</u>	<u>n/a</u>	<u>0.5</u>	<u>2.6</u>

9-8-330 Emergency Standby Engines, Hours of Operation: A person may only operate an emergency standby engine under the following circumstances:

- 330.1 For emergency use for an unlimited number of hours; and
- 330.2 For reliability-related activities so long as total hours of operation for this purpose do not exceed ~~400~~ 50 hours in a calendar year, or limitations contained in a District permit, whichever is lower.

(Adopted August 1, 2001)

9-8-331 Essential Public Service, Hours of Operation: An essential public service may only operate an emergency standby engine under the following circumstances:

- 331.1 For emergency use for an unlimited number of hours; and
- 331.2 For reliability-related activities so long as total hours of operation for this purpose do not exceed ~~200~~ 50 hours per calendar year, or limitations contained in a District permit, whichever is lower.

(Adopted August 1, 2001)

9-8-400 ADMINISTRATIVE REQUIREMENTS

9-8-401 Compliance Schedule: A person subject to the requirements of Section 9-8-301, ~~or 302, 303, or 304~~ shall submit an application for any Authority to Construct, necessary to achieve compliance with such requirements, ~~by January 1, 1996 20, and be in compliance with all of the requirements of this rule by January 1, 1997~~ no later than one year prior to the applicable compliance date listed in Sections 9-8-301, 302, 303, or 304.

9-8-402 Reporting Requirements for Delayed Compliance: a person opting to comply with Section 9-8-304 shall:

- 402.1 Notify the APCO no later than the effective compliance date in Section 9-8-303 that the owner or operator of a stationary compression-ignited engine has elected to comply with requirements of Section 9-8-304,
- 402.2 Report the following information about the engine: source number; plant number, name, contact, phone number, address; and engine make, model, model year, and size and also certify.

9-8-500 MONITORING AND RECORDS

9-8-501 Initial Demonstration of Compliance: A person who must modify existing sources or install new control equipment shall conduct a District approved source test, pursuant to Sections 9-8-601 and 602 ~~by March 31, 1997, for the purpose of demonstrating compliance with Section 9-8-301 or 302. Source test results shall be submitted to the District by May 31, 1997;~~ according to the schedule listed in the following table:

<u>Engines Operated to Comply with Section</u>	<u>Date that the Source Test Must Be Completed</u>	<u>Date that the Source Test Results Must Be Submitted to the District</u>
<u>9-8-301 or 302</u>	<u>March 31, 2008</u>	<u>May 31, 2008</u>
<u>9-8-303.1, 303.3 or 303.4</u>	<u>March 31, 2011</u>	<u>May 31, 2011</u>
<u>9-8-303. 2</u>	<u>March 31, 2012</u>	<u>May 31, 2012</u>
<u>9-8-304.1 or 304.2</u>	<u>March 31, 2016</u>	<u>May 31, 2016</u>

9-8-502 Recordkeeping: Any person who operates one or more engines subject to Section 300 shall comply with the following recordkeeping requirements:

502.1 Any person who operates engines which are exempt from the requirements of Section 9-8-301, ~~or 302, 303, or 304~~ by Section 9-8-111 shall keep records of the number of hours the engines are fired on a monthly basis. Such records shall be retained for a minimum of 24 months from the date of entry and made available to District staff upon request.

502.2 Any person who conducted either an initial demonstration of compliance according to Sections 9-8-501 and 9-8-601 or an annual demonstration of compliance according to Section 9-8-503 and 9-8-601 shall keep records of the compliance demonstration for a minimum of 24 months from the date of creation and made available to the District staff upon request.

502.3 Any person who operates an engine pursuant to Section 9-8-305 shall keep records verifying the certification of that engine for a minimum of 24 months.

9-8-503 Biannual Demonstration of Compliance: Any person who must comply with Section 301, 302, 303, 304, or 305 shall conduct a District approved source test, pursuant to Sections 9-8-601 and 602 at least once every two years beginning no later than one year following the applicable compliance date listed in Section 9-8-301, 302, 303, 304, or 305.

9-8-530 Emergency Standby Engines, Monitoring and Recordkeeping: Each emergency standby engine shall be equipped with a non-resettable totalizing meter that measures hours of operation or fuel usage. All records shall be kept for at least two years, and shall be available for inspection by District staff upon request. The operator shall keep a monthly log of usage that shall indicate the following:

530.1 Hours of operation (total)

530.2 Hours of operation (emergency)

530.3 For each emergency, the nature of the emergency condition.

(Adopted August 1, 2001)

9-8-600 MANUAL OF PROCEDURES

9-8-601 Determination of Nitrogen Oxides: The methods by which samples of exhaust gases are collected and analyzed to determine concentrations of nitrogen oxides are set forth in the District's Manual of Procedures, Volume IV, ST-13 A or B.

9-8-602 Determination of Carbon Monoxide and Stack Gas Oxygen: The methods by which samples of exhaust gases are collected and analyzed to determine concentrations of carbon monoxide and stack gas oxygen are set forth in the District's Manual of Procedures, Volume IV, ST-6 (carbon monoxide) and ST-14 (oxygen).