

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

**RULE 74.9 - STATIONARY INTERNAL COMBUSTION ENGINES**

*(Adopted 7/21/81, Revised 7/2/85, 9/5/89, 12/3/91, 12/21/93, 11/14/00, 11/8/05)*

A. Applicability

This rule applies to any stationary spark-ignited or diesel internal combustion engine rated at 50 or more horsepower, operated on any gaseous fuel, including liquid petroleum gas (LPG), or liquid fuel, and not subject to the provisions of Rule 74.16.

B. Requirements

1. Except as noted in Subsection B.1.a, the owner or operator of a stationary internal combustion engine to which this rule is applicable shall limit emissions from that engine to no more than the following:

Engine Type	NO <sub>x</sub> (ppmv)	ROC (ppmv)	CO (ppmv)
Rich-burn, general	25	250	4500
Lean-burn, general	45	750	4500
Diesel	80	750	4500
Rich-burn, waste gas	50	250	4500
Lean-burn, waste gas	125	750	4500

where ppmv = parts per million by volume at 15 percent oxygen on a dry basis

NO<sub>x</sub> = oxides of nitrogen

ROC = reactive organic compounds

CO = carbon monoxide

- a. Carbon monoxide emissions from any engine installed after November 8, 2005, shall be limited to 2000 ppm by volume at 15 percent oxygen on a dry basis.
2. In lieu of compliance with a NO<sub>x</sub> emission limit in Subsection B.1, engines may achieve and maintain a percent NO<sub>x</sub> reduction by weight limit specified below, as measured concurrently across an emission control device:

Rich-burn, general	96 percent
Lean-burn, general	94 percent
Diesel	90 percent

3. No person shall allow the discharge into the atmosphere of ammonia (NH<sub>3</sub>) in excess of 20 ppmv from any emission control device installed and operated pursuant to the requirements of Subsections B.1 or B.2 above.

4. The owner or operator of a stationary internal combustion engine shall perform a biennial source test to verify compliance with all applicable emission limits. A source test shall consist of the average of three (3) runs, with data from each run averaged over 15 consecutive minutes.
5. The owner or operator of a stationary internal combustion engine shall perform a screening analysis of NO<sub>x</sub> and CO emissions on a quarterly basis unless:
  - a. the biennial source test specified in Subsection B.4 is required, or
  - b. the engine operated less than 32 hours in each of the three months of the applicable quarter, as measured by a non-resettable elapsed operating hour meter.

The operator shall notify the APCD by telephone 24 hours prior to any quarterly screening analysis.

#### C. Engine Operator Inspection Plan

The operator of an engine subject to the provisions of Subsection B.1 or B.2 of this rule shall submit to the District an Engine Operator Inspection Plan for review and approval by the Air Pollution Control Officer in writing. The plan shall be updated after any change in operation. For new engines and modifications to existing engines, issuance of the Permit to Operate shall be contingent on approval of the plan. The operator may request a change to the plan at any time.

The Plan shall include the following:

1. The manufacturer, model number, rated horsepower, and combustion method (i.e., rich-burn, lean-burn or diesel) of the engine.
2. A description of the NO<sub>x</sub> control system installed on the engine (if any), including type (e.g., nonselective catalyst, "clean-burn" combustion) and manufacturer, as well as a description of any ancillary equipment related to the control of emissions (e.g., automatic air/fuel ratio controller, fuel valves).
3. The company identification number and the location of the engine by a schematic of the affected facilities.
4. A specific emission inspection procedure to assure that the engine is operated in continual compliance with the provisions of this rule. The procedure shall include an inspection schedule. At a minimum, inspections shall be conducted quarterly unless the engine operated less than 32 hours in each of the three months of the applicable quarter, as measured by a non-resettable elapsed operating hour meter.
5. Each preventative or corrective maintenance procedure or practice that will be used to maintain the engine and NO<sub>x</sub> control system in continual compliance with the

provisions of this rule, including the response time for both corrective action and reinspection.

#### D. Exemptions

The provisions of Sections B, C and E of this rule shall not apply to the operation of stationary internal combustion engines used under the following conditions:

1. Engines rated at less than 50 brake horsepower.
2. Engines operated less than 200 hours per calendar year. Engines claiming this exemption shall be required to install and operate a non-resettable elapsed operating hour meter.
3. Emergency standby engines operated during either an emergency or maintenance operation. Maintenance operation is limited to 50 hours per calendar year. Engines claiming this exemption shall be required to install and operate a non-resettable elapsed operating hour meter.
4. Engines used in research or teaching programs.
5. Engines used directly and exclusively for agricultural operations necessary for the growing of crops or the raising of fowl or animals.
6. Engine test stands used for evaluating engine performance.
7. All engines rated at less than 100 horsepower, emitting NO<sub>x</sub> at not more than 5 gm/bhp-hr (shaft), and utilized as a qualified cogeneration facility permanently displacing the use of a specified boiler or boilers. This exemption shall apply to only those engines installed prior to December 31, 1988. A qualified cogeneration facility is one meeting the requirements of 18 CFR Part 292 Subpart B Section 292.205.
8. Diesel engines with a permitted capacity factor of 15 percent or less.
9. Diesel engines used to power cranes and welding equipment.
10. Diesel engines operated on San Nicolas island and Anacapa Island.

#### E. Recordkeeping Requirements

1. The owner or operator of any engine subject to the provisions of Section B of this rule shall maintain an inspection log containing, at a minimum, the following data:
  - a. Identification and location of each engine subject to the provisions of this rule,
  - b. Date and results of each screening analysis and inspection,

- c. A summary of any emissions corrective maintenance taken, and
- d. Any additional information required in the Engine Operator Inspection Plan.

The operator shall maintain the inspection log for a period of 2 years after the date of each entry. The log shall be available for inspection by the District upon request.

- 2. For each engine exempt from quarterly screening analysis pursuant to Subsection B.5.b and inspection pursuant to Subsection C.4, the owner or operator shall record total hours of operation each month. Records shall be maintained for a period of 2 years after the date of each entry.

#### F. Reporting Requirements

- 1. Within 45 days of the end date of each permit renewal period, the operator of a permitted engine subject to the provisions of this rule shall provide the District with the following information:
  - a. Engine manufacturer, model number, operator identification number, and location.
  - b. A summary of maintenance reports during the renewal period, including quarterly screening data if applicable.
- 2. For each engine exempt pursuant to Subsection D.2, total annual operating hours shall be reported annually. For each engine exempt pursuant to Subsection D.3, total annual hours of maintenance operation shall be reported annually. Reports shall be provided to the District after every calendar year by February 15.

#### G. Test Methods

- 1. Oxides of nitrogen emissions for compliance source tests shall be determined by using ARB Method 100.
- 2. Carbon monoxide emissions for compliance source tests shall be determined by using ARB Method 100.
- 3. Reactive organic compound emissions for compliance source tests shall be determined by using EPA Method 25 or EPA Method 18, referenced to methane.
- 4. Oxygen content for compliance source tests shall be determined by using ARB Method 100.
- 5. Screening analyses shall be performed using a portable analyzer either verified by the Environmental Protection Agency or approved in writing by the APCO. The

portable analyzer shall be calibrated, maintained and operated in accordance with the recommendations of the manufacturer.

6. Ammonia emissions shall be determined using Bay Area Air Quality Management District Method ST-1B, dated 1/20/82.
7. Non-resettable elapsed operating hour meters shall be maintained in accordance with the recommendations of the manufacturer.

#### H. Violations

1. Failure to comply with any provision of this Rule shall constitute a violation of this rule.
2. It is the responsibility of the engine operator to demonstrate to the satisfaction of the Air Pollution Control Officer that an engine subject to the provisions of this rule is being operated in continuous compliance with all applicable provisions of this rule.

An engine shall be in violation if it is operated out of compliance with an approved Engine Operator Inspection Plan. However, if data from a source test of the engine operating under identical conditions indicates that the engine is in compliance with the requirements of this rule, then a violation will not have occurred. The source test shall be conducted at the engine operator's expense.

#### I. Definitions

1. "Diesel Engine": A compression ignited two or four-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition.
2. "Emergency Standby Engine": An internal combustion engine used only as follows:
  - a. When normal power line or natural gas service fails.
  - b. For the emergency pumping of water for either fire protection or flood relief.

An emergency standby engine may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has been either reached or exceeded.

3. "Engine Rating": The output of an engine as determined by the engine manufacturer and listed on the nameplate of the unit, regardless of any derating.
4. "Lean-burn Engine": Any two or four-stroke spark-ignited engine that is not a rich-burn engine.

5. "Maintenance Operation": The use of an emergency standby engine and fuel system during testing, repair and routine maintenance to verify its readiness for emergency standby use, or to facilitate the training of personnel on emergency activities.
6. "Oxides of Nitrogen": The sum of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) in flue gas, collectively expressed as nitrogen dioxide.
7. "Permitted Capacity Factor": The annual permitted fuel use divided by the manufacturers specified maximum hourly fuel consumption times 8760 hours per year.
8. "Rich-burn Engine": A two or four-stroke spark-ignited engine where the manufacturers original recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.
9. "Stationary Internal Combustion Engine": Any internal combustion engine of the reciprocating type that is operated at a site for more than one year or is attached to a foundation.
10. "Stoichiometric Air/Fuel Ratio": The chemically correct air/fuel ratio where all fuel and all oxygen in the air/fuel mixture will be consumed.
11. "Waste Gas": Fuel gas produced at either waste water/sewage treatment facilities or landfills containing no more than 25 percent by volume supplemental gas.