

RULE 4905 NATURAL GAS-FIRED, FAN-TYPE CENTRAL FURNACES (Adopted October 20, 2005, Amended January 22, 2015)

1.0 Purpose

The purpose of this rule is to limit NO_x emissions from natural gas-fired, fan-type central furnaces.

2.0 Applicability

The provisions of this rule shall apply to any person who supplies, sells, offers for sale, installs, or solicits the installation of natural gas-fired, fan-type central furnaces for use within the San Joaquin Valley Air Basin with a rated heat input capacity of less than 175,000 British thermal units per hour, and for combination heating and cooling units with a rated cooling capacity of less than 65,000 British thermal units per hour.

3.0 Definitions

3.1 Air Pollution Control Officer (APCO): as defined in Rule 1020 (Definitions).

3.2 Annual Fuel Utilization Efficiency: the efficiency descriptor as defined by Section 430.2 of the Code of Federal Regulations, Title 10, Part 430, Subpart A.

3.3 Condensing Unit: for purposes of this rule, a natural gas-fired, fan-type central furnace, as defined in Section 3.5, that uses a second heat exchanger to extract the latent heat in the flue gas by cooling the combustion gasses to near ambient temperature so that water vapor condenses in the heat exchanger, is collected, and is drained.

3.4 District: as defined in Rule 1020 (Definitions).

3.5 Fan-type Central Furnace: a self-contained space heater providing for circulation of heated air at pressures other than atmospheric, through ducts more than 10 inches in length.

3.6 Heat Output (Central Furnace): the product obtained by multiplying the annual fuel utilization efficiency by the rated heat input capacity of the natural gas-fired, fan-type central furnace.

3.7 Manufactured Home: as defined in 42 United States Code Section 5402 and California Health and Safety Code Section 18007. "Manufactured home" includes a mobile home subject to the National Manufactured Housing Construction and Safety Act of 1974 (42 U.S.C., Sec. 5401, et seq.).

- 3.8 Natural Gas: a mixture of gaseous hydrocarbons containing at least 80 percent methane by volume, as determined according to Standard Method ASTM D1945-64.
- 3.9 NOx: any oxides of nitrogen.
- 3.10 Rated Cooling Capacity: the amount of heat energy the cooling system can displace in one hour (British thermal units per hour), as specified on the rating plate of the cooling unit.
- 3.11 Rated Heat Input Capacity: the amount of energy consumed in one hour (British thermal units per hour), as specified on the rating plate of the combustion unit.
- 3.12 Responsible Official: for the purposes of this rule: for a corporation, a president or vice-president of the corporation in charge of a principal business function or a duly authorized person who performs similar policy-making functions; for a partnership or sole proprietorship, a general partner or proprietor, respectively.
- 3.13 Weatherized Unit: for the purposes of this rule, a natural gas-fired, fan-type central furnace designed for installation outside of a building, equipped with a protective jacket and integral venting, and labeled for outdoor installation.

4.0 Exemptions

[Reserved]

5.0 Requirements

- 5.1 No person shall supply, sell, offer for sale, install, or solicit the installation of any natural gas-fired, fan-type residential central furnace unless it is certified pursuant to Section 6.1 to have NOx emissions less than or equal to 40 nanograms per joule (ng/J) of heat output.
- 5.2 Effective on and after the specified compliance dates in Table 1, no person shall supply, sell, offer for sale, install, or solicit the installation of any natural gas-fired, fan-type central furnace unless it is certified pursuant to Section 6.1 and complies with the applicable NOx emission limit in Table 1.

Table 1 NOx Emission Limits and Compliance Schedule		
Unit Type	NOx Emission Limit (nanograms/Joule)	Compliance Date
Units installed in manufactured homes	40	February 1, 2015
All non-weatherized condensing units except those installed in manufactured homes	14	April 1, 2015
All non-weatherized, non-condensing units except those installed in manufactured homes	14	October 1, 2015
Weatherized units	14	October 1, 2016
Units installed in manufactured homes	14	October 1, 2018

5.3 Sell-Through Period

Any natural gas-fired, fan-type central furnace manufactured prior to the applicable compliance date in Table 1 may be supplied, sold, offered for sale, or installed until the applicable sell-through period end-date in Table 2, provided the unit is compliant with the following requirements:

5.3.1 The NOx emission limits and certification requirements in effect on the date of manufacture of the unit, and

5.3.2 The labeling requirements specified in Section 6.1.2.

Table 2 Sell-through Period End-Dates for Units Manufactured Prior to the Applicable Compliance Dates in Table 1	
Unit Type	Sell-through Period End-date
All non-weatherized condensing units except those installed in manufactured homes	January 26, 2016
All non-weatherized, non-condensing units except those installed in manufactured homes	July 27, 2016
Weatherized units	July 27, 2017
Units installed in manufactured homes (for certified 40 ng/J units)	July 27, 2019

5.4 Emissions Fee Option

Any manufacturer of units regulated by this rule may elect to pay a per unit emissions fee of \$290 for each condensing furnace and \$225 for each non-condensing or manufactured home furnace distributed or sold into the San Joaquin Valley Air Basin in lieu of meeting the 14 ng/J emission limit in Table 1 of this rule, provided the NOx emission rate is less than or equal to 40 ng/J. A manufacturer may elect to pay the per unit emissions fee for a time period of no more than 36 months after the applicable compliance date in Table 1. A

manufacturer shall submit a compliance plan for each 12-month time period after the applicable compliance date during which the manufacturer elects to pay the emissions fee in lieu of meeting the NO_x emission limit.

5.4.1 Any manufacturer electing to comply using this emissions fee option shall submit to the APCO a compliance plan no later than 30 days prior to the applicable compliance date in Table 1. The compliance plan shall include the following:

5.4.1.1 A letter with the name of the manufacturer requesting the emissions fee option signed by a responsible official identifying the unit type and the 12-month emissions fee option compliance period that the emissions fees cover.

5.4.1.2 An estimate of the quantity of applicable units to be distributed or sold into the San Joaquin Valley Air Basin during the emissions fee option compliance period and supporting documentation. The estimate shall be based on total distribution and sales records or invoices of condensing, non-condensing, weatherized or mobile home fan-type central furnaces that were distributed or sold into the San Joaquin Valley Air Basin during the 12-month period of July 1 to June 30 prior to the applicable compliance date, along with supporting documentation.

5.4.2 The manufacturer shall submit a report to the APCO, signed by the responsible official for the manufacturer, identifying by model number the quantity of applicable units actually distributed or sold into the San Joaquin Valley Air Basin during the applicable 12-month emissions fee option compliance period and a check for payment of emissions fees for those units. The report and payment of emissions fees must be submitted to the APCO no later than thirty (30) days after the end of each 12-month emissions fee option compliance period.

6.0 Administrative Requirements

6.1 Emission Certification

6.1.1 Certified emissions levels shall be demonstrated by an emission certification approved under any of the following:

6.1.1.1 Certification testing as described in Section 6.2 of this rule,

- 6.1.1.2 The South Coast Air Quality Management District Certification List for Rule 1111 (NO_x Emissions From Natural-gas-fired, Fan-type Central Furnaces), or
 - 6.1.1.3 Other emission certification programs approved by the APCO and the United States Environmental Protection Agency.
- 6.1.2 The manufacturer of the natural gas-fired, fan-type central furnace shall comply with the following labeling requirements:
- 6.1.2.1 Display the model number of the unit complying with Section 5.0 on the shipping container and the rating plate of the unit; and
 - 6.1.2.2 Units manufactured after the applicable compliance date in Table 1 shall display the following on the shipping container and the rating plate of the unit, in addition to the labeling requirements under Section 6.1.2.1:
 - 6.1.2.2.1 Rated heat input capacity or rated cooling capacity,
 - 6.1.2.2.2 The applicable NO_x emission limit in Section 5.0, and
 - 6.1.2.2.3 The date of manufacture or date code of the unit.
- 6.1.3 Upon request of the APCO, each manufacturer shall submit to the District a statement confirming the unit subject to this rule is in compliance with the emission limit specified in Section 5.0. The statement shall be signed, dated, and shall attest to the accuracy of all information. The statement shall include:
- 6.1.3.1 Name and address of manufacturer,
 - 6.1.3.2 Brand name,
 - 6.1.3.3 Model number, as it appears on the rating plate of the unit,
 - 6.1.3.4 Rated heat input capacity, British thermal units per hour, and
 - 6.1.3.5 A source test report verifying compliance with Section 5.0.

6.2 Certification Testing

6.2.1 During testing, each tested natural gas-fired, fan-type central furnace model shall be operated in accordance with the procedures specified in 10 CFR 430, Subpart B, Appendix N.

6.2.2 Compliance with the NO_x emission requirements in Section 5.0 shall be determined using California Air Resources Board Method 100, SCAQMD Method 100.1, or United States Environmental Protection Agency Methods 7E and 3A.

6.3 Recordkeeping

Compliance testing records shall be maintained for five years and made available to the APCO upon request.