

RULE 4905 NATURAL GAS-FIRED, FAN-TYPE CENTRAL FURNACES (Adopted October 20, 2005; Amended January 22, 2015; Amended June 21, 2018)

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 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

4.1 Propane

Any natural gas fired, fan-type central furnace that is not certified to meet 14 ng/J of NOx emissions and is to be installed with a propane conversion kit for propane firing only, in the San Joaquin Valley Air Basin, is exempt from Section 5.0, provided the manufacturer complies with the following:

- 4.1.1 The natural gas fired, fan-type central furnace 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.
- 4.1.2 Effective on and after August 1, 2018, the carton or furnace is labeled to clearly display the following, or an alternative APCO-approved language: “This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of District Rule 4905.”

5.0 Requirements

5.1 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 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

5.2 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:

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

5.2.2 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

5.3 Emissions Fee Option

Any manufacturer of units regulated by this rule may elect to pay a per unit emissions fee in lieu of meeting the 14 ng/J NO_x emission limit in Table 1 of this rule, provided the unit is certified pursuant to Section 6.1 to have NO_x emissions less than or equal to 40 ng/J of heat output and the manufacturer complies with the following requirements:

- 5.3.1 Prior to the phase one emissions fee start date specified in Table 3, pays a per unit emissions fee of \$290 for each condensing furnace and \$225 for each other type of furnace.
- 5.3.2 During phase one, specified in Table 3, pays the applicable per unit emissions fee for each condensing, non-condensing, weatherized, or manufactured home furnace.
- 5.3.3 During phase two, specified in Table 3, pays the applicable per unit emissions fee for each condensing, non-condensing, weatherized, or manufactured home furnace.
- 5.3.4 Units manufactured prior to the phase two fee end date specified in Table 3, may be supplied, sold, offered for sale, or installed into the San Joaquin Valley Air Basin for a period of no more than six months after the phase two emissions fee end date, provided the manufacturer pays the applicable per unit phase two emissions fee specified in Table 3, for each condensing, non-condensing, weatherized, or manufactured home furnace.
- 5.3.5 Submits to the APCO a compliance plan for each 12-month time period after the applicable Table 1 compliance date during which the manufacturer elects to pay the emissions fee in lieu of meeting the NO_x emission limit. The compliance plan must be submitted no later than 30 days prior to the applicable compliance date. The compliance plan shall include the following:
 - 5.3.5.1 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.
 - 5.3.5.2 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 manufactured 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.

- 5.3.6 Submits 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 sixty (60) days after the end of each 12-month emissions fee option compliance period.

Table 3 Emissions Fee Option						
Size Range (Btu/hr)	Furnace Category	Phase One		Phase Two		
		Fee Start Date	Fee Amount (\$/unit)	Fee Start Date	Fee Amount (\$/unit)	Fee End Date
≤ 60,000	All non-weatherized condensing units except those installed in manufactured homes	August 1, 2018	\$275	October 1, 2018	\$350	September 30, 2019
	All non-weatherized, non-condensing units except those installed in manufactured homes	October 1, 2018	\$225	April 1, 2019	\$300	September 30, 2019
	Weatherized units	October 1, 2018	\$225	April 1, 2019	\$300	September 30, 2020
	Units installed in manufactured homes	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2021
> 60,000 and ≤ 90,000	All non-weatherized condensing units except those installed in manufactured homes	August 1, 2018	\$300	October 1, 2018	\$400	September 30, 2019
	All non-weatherized, non-condensing units except those installed in manufactured homes	October 1, 2018	\$250	April 1, 2019	\$350	September 30, 2019
	Weatherized units	October 1, 2018	\$250	April 1, 2019	\$350	September 30, 2020
	Units installed in manufactured homes	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2021
> 90,000	All non-weatherized condensing units except those installed in manufactured homes	August 1, 2018	\$325	October 1, 2018	\$450	September 30, 2019
	All non-weatherized, non-condensing units except those installed in manufactured homes	October 1, 2018	\$275	April 1, 2019	\$400	September 30, 2019
	Weatherized units	October 1, 2018	\$275	April 1, 2019	\$400	September 30, 2020
	Units installed in manufactured homes	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2021

5.4 Emissions Fee Option for Furnaces Encumbered in Contractual Agreement

For furnaces that have been encumbered in a contractual agreement, signed prior to January 1, 2018, by a furnace manufacturer or distributor for future or planned

construction, the manufacturer shall be allowed to sell the units within the San Joaquin Valley Air Basin at the emissions fee specified in Section 5.3.1 provided:

- 5.4.1 A request is submitted to the APCO prior to August 1, 2018.
- 5.4.2 The total quantity of furnaces in request(s) by any one manufacturer does not exceed 15% of furnaces distributed and sold in the previous compliance plan period.
- 5.4.3 Those furnaces are sold no later than their emissions fee option period end dates specified in Table 3.
- 5.4.4 The following documents and information are provided to the APCO, including but not limited to:
 - 5.4.4.1 Contractual agreement for the units sold or to be sold in the San Joaquin Valley Air Basin,
 - 5.4.4.2 Quantity, model number, and serial number of the subject units,
 - 5.4.4.3 Contract execution date, and
 - 5.4.4.4 Name(s) of the contractor(s).
- 5.4.5 Failure to comply with the requirements specified in Section 5.4 shall result in the requirement to pay or retroactively pay the corresponding emissions fee specified in Table 3 within 30 days upon notification from the APCO.

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 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, 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. 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.

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 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

Any manufacturer, distributor, or contractor who supplies, distributes, sells, offers for sale or installs a furnace in or into the San Joaquin Valley Air Basin shall maintain such records as necessary to demonstrate compliance with this rule for a period of not less than five years and make such records available to the APCO upon request.

6.4 Non-Compliant Unit Labeling

Any furnace manufactured after October 1, 2018, using the emissions fee option shall have a label with APCO-approved language on the carton or furnace that clearly displays that the unit does not comply with the NO_x limits in Table 1 of this rule.

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