
RULE 4905 NATURAL GAS-FIRED, FAN-TYPE CENTRAL FURNACES (Adopted October 20, 2005, Amended January 22, 2015, Amended [*rule adoption date*])

1.0 Purpose

The purpose of this rule is to limit NOx 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}~~
- 4.1 The manufacturer of any natural gas 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 Sections 5.0, 6.1 and 6.2, provided:
- 4.1.1 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 June 1, 2018, the shipping carton and the name plate of the furnace clearly displays: “This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of District Rule 4905.”

4.1.3 The following documents and information shall be provided to the APCO, accompanying the compliance plan report specified in Sections 5.3.5, 5.3.6, and 5.3.7 including but not limited to:

4.1.3.1 The quantity of propane conversion kits for furnaces actually distributed or sold into the San Joaquin Valley Air Basin for the applicable compliance plan period;

4.1.3.2 The quantity of propane conversion kits for furnaces 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; and

4.1.3.3 Photographic evidence of the required language set forth in Section 4.1.2 as it appears on the carton and unit, including all versions utilized by the manufacturer, for approval by the APCO. The photographs must be sufficient to verify the wording is correct and that it is “clearly visible,” taking into account the font type, size, color, and location on the carton and unit.

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.

~~5.15-2~~ 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 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

~~5.25.3~~ 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:

~~5.2.15.3.1~~ The NOx emission limits and certification requirements in effect on the date of manufacture of the unit, and

~~5.2.25.3.2~~ 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

~~5.35.4~~ 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 NOx emission limit in Table 1 of this rule, provided 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 other type of 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.

5.3.2 On and after the phase one emissions fee start date but no later than the emissions fee option end date specified in Table 3, pays a per unit phase one or phase two emissions fee for each condensing, non-condensing, weatherized, or manufactured home furnace according to Table 3.

~~5.4 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~~

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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.

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

5.3.3 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 NOx emission limit.

~~5.3.45.4.1~~ ~~Any manufacturer electing to comply using this emissions fee option shall submit~~ Submits to the APCO a compliance plan no later than 30 days prior to the applicable compliance date, ~~in Table 1 emissions fee time period~~ For non-weatherized condensing furnaces except those installed in manufactured homes, manufacturer shall submit to the APCO a compliance plan no later than July 1, 2018. The compliance plan shall include the following:

~~5.3.4.15.4.1.1~~ 5.3.4.1.1 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.

~~5.3.4.25.4.1.2~~ 5.3.4.1.2 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~~ 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.

~~5.3.55.4.2~~ 5.3.5.4.2 ~~The manufacturer shall submit~~ Submits a report to the APCO, signed by the responsible official for the manufacturer, identifying, by model number and serial 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.

5.3.6 Notwithstanding the requirements set forth in subparagraph 5.3.5, during the phase one period specified in Table 3, submit a report signed by the responsible official for the manufacturer identifying, by model number and serial number, the quantity of Rule 4905 fan-type central furnaces actually distributed or sold into San Joaquin Valley Air Basin and check for payment of emissions fees for the phase one period no later than thirty (30) days after the end of the phase one period. The 12-month compliance plan payment as specified in subparagraph 5.3.5 that includes this phase one period shall be reconciled so as to not include the phase one payment.

5.3.7 For the last and remaining 6-month period of the condensing furnace final compliance plan ending on September 30, 2019 specified in Table 3, submits a report signed by the responsible official for the manufacturer identifying, by model number and serial number, the quantity of Rule 4905 fan-type central furnaces – condensing furnaces actually distributed or sold into the San Joaquin Valley Air Basin and a check for payment of emissions fees to the District no later than October 30, 2019.

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 An application is submitted to the APCO prior to May 19, 2018;

5.4.2 The total quantity of furnaces in application(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; and

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 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

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

6.3.2 Any manufacturer, distributor, or contractor who supplies, distributes, sells, or offers for sale a fan-type central furnace shall maintain the records of the model number, serial number, and purchaser for a period of five years and make it available to the APCO upon request.

6.3.3 Any distributor or contractor who installs a fan-type central furnace shall maintain the records of the model number, serial number, purchaser, and zip code of installation for a period of five years and make it 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 furnace and the shipping container that clearly displays that the unit(s) do not comply with the NO_x limits in Table 1 of this rule.

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