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Executive Director  
Air Pollution Control Officer

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(661) 392-5500 • FAX (661) 392-5585

DATE: October 15, 2020

TO: SJVUAPCD Governing Board



FROM: Samir Sheikh, Executive Director/APCO  
Project Coordinator: Jonathan Klassen

RE: **ITEM NUMBER 11: ADOPT PROPOSED  
AMENDMENTS TO RULE 4905 (NATURAL GAS-  
FIRED, FAN-TYPE CENTRAL FURNACES)**

**RECOMMENDATIONS:**

1. Adopt proposed amendments to Rule 4905 (Natural Gas-Fired, Fan-Type Central Furnaces).
2. Authorize the Chair to sign the attached Resolution.

**BACKGROUND:**

Despite significant improvements in air quality, due to its geography, topography, and meteorology, the Valley continues to face unparalleled challenges in meeting the latest federal air quality standards for ozone and particulate matter. In recognition of these challenges, the District has adopted some of the toughest air regulations in the nation including measures aimed at non-traditional sources such as residential wood burning devices, commercial charbroilers, and residential water heaters and furnaces. Furthermore, in pursuit of all possible reductions in emissions, the District has often adopted technology-forcing measures aimed at accelerating the development and deployment of new pollution controls.

In applying technology-forcing regulations, your Board has always been careful to allow affected entities alternative safeguards if the desired technology does not materialize in a timely fashion.

District Rule 4905, which applies to natural gas-fired central furnaces at the point of sale, is an example of a technology-forcing rule. The stringent NOx emission limits adopted in the 2015 amendment of Rule

4905, developed in line with limits adopted by the South Coast Air Quality Management District (SCAQMD), required that new furnace technologies be developed.

While manufacturers have successfully developed the necessary technologies to comply with rule requirements for certain categories of furnaces, manufacturers have informed the District and SCAQMD that additional time is needed, in part due to COVID-19, to widely commercialize compliant weatherized furnaces. Due to the pandemic, manufacturers have experienced manufacturing delays and interruptions in the development of compliant weatherized furnaces across the majority of furnace sizes and applications. Subsequently, in response to the request of manufacturers, the SCAQMD approved amendments to South Coast Rule 1111 in September, 2020, to extend the compliance deadline for multiple categories of furnaces, including weatherized units, in the South Coast Air Basin.

To accommodate the unexpected impacts of the pandemic on the development of this new ultra low-NOx furnace technology, and at the request of furnace manufacturers, today's amendments are designed to allow for the continued sale of non-compliant weatherized units for one additional year. Consistent with the current regulation, the proposed amendments are designed to allow for the continued sale of non-compliant units while imposing an emissions fee penalty to force development of compliant units and eliminate competitive advantage to manufacturers that have not been able to develop and deploy manufacturing systems for compliant units.

## **DISCUSSION:**

In January 2015, Rule 4905 was amended to fulfill commitments in the District's 2008 *PM2.5 Plan*, 2012 *PM2.5 Plan*, and 2013 *Plan for the Revoked 1-Hour Ozone Standard* to further reduce NOx emissions from this source category. The amendments included lowering the NOx emission limit to 14 nanograms of NOx per Joule of heat output (ng/J) from 40 ng/J. The rule contained compliance effective dates for various types of furnaces, ranging from April 1, 2015 to October 1, 2018. The rule allowed for an initial sell through of existing non-compliant units and in recognition of the technology forcing nature of the rule also allowed for payment of an emissions fee penalty for the sale of non-compliant units for a period of 36 months from the applicable compliance date. Due to the stringency of the rule requirements, Rule 4905 was amended in 2018 to include an emissions fee option to allow additional time for manufacturers to commercialize compliant 14 ng/J furnaces.

Furnace manufacturers have been successful in developing furnace technologies that meet 14 ng/J NOx limit for non-weatherized condensing and non-condensing units. However, due to the COVID-19 impacts, multiple manufacturers have reported manufacturing delays and interruptions in the ability to develop compliant weatherized units by the phase two September 30, 2020 deadline for weatherized furnaces. Furnace manufacturers have expressed how the COVID-19 pandemic has affected business operations and progress in commercializing Rule 4905 weatherized compliant furnaces.

Manufacturers have also commented that the supply chains impacts due to the pandemic have affected existing and future production, and travel restrictions have impacted the commercialization of compliant furnaces, including limiting the ability to test emerging technologies for emissions limit compliance.

In addition, SCAQMD added a compliance deadline extension for high altitude condensing and non-condensing furnace installations for one year until September 30, 2021. SCAQMD is also allowing the installation of dual fuel systems with noncompliant 40 ng/J NO<sub>x</sub> furnaces, with conditions, at elevations above 4,200 feet with a deadline for September 30, 2022.

At this time, the District is only proposing to provide the additional time necessary for manufacturers to continue the technology development for weatherized furnaces. There is a limited application of high altitude natural gas furnaces in the Valley, and for this reason, the District does not propose the inclusion of high altitude condensing and non-condensing furnace installations. Furthermore, the District does not propose to include a dual fuel option due to the commercial availability of compliant furnaces, and limited application in the Valley.

### ***Summary of Proposed Amendments to Rule 4905***

At the request of manufacturers and in response to COVID-19 impacts, SCAQMD adopted an amendment to SCAQMD Rule 1111 on September 4, 2020, to include an extension of the compliance fee option for the weatherized furnaces that comply with 14 ng/J NO<sub>x</sub> limit. Similarly, the District is proposing to amend District Rule 4905 to extend the emissions fee option period for weatherized furnaces for one year, until September 30, 2021, as outlined in Table 1. Extending the existing emissions fee option period will allow an additional period of time for the development of compliant technologies in response to COVID-19 pandemic impacts, while ensuring the availability of furnaces to Valley residents and businesses and providing a strong incentive for the accelerated deployment of compliant units. To ensure regulatory consistency in California, the fees and deadlines for each furnace category are consistent with the SCAQMD furnace rule, as adopted on September 4, 2020. In addition to the proposed deadline extension, the proposed amendments also include some definition clarifications and the removal of outdated requirements that do not result in any new impacts to affected entities.

**Table 1 - Emissions Fee Option**

|                     |                    | Phase One       |                      | Phase Two       |                      |                    |
|---------------------|--------------------|-----------------|----------------------|-----------------|----------------------|--------------------|
| Size Range (Btu/hr) | Furnace Category   | Fee Start Date  | Fee Amount (\$/unit) | Fee Start Date  | Fee Amount (\$/unit) | Fee End Date       |
| ≤ 60,000            | Condensing         | August 1, 2018  | \$275                | October 1, 2018 | \$350                | September 30, 2019 |
|                     | Non-condensing     | October 1, 2018 | \$225                | April 1, 2019   | \$300                | September 30, 2019 |
|                     | Weatherized        | October 1, 2018 | \$225                | April 1, 2019   | \$300                | September 30, 2021 |
|                     | Manufactured Homes | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021 |
| >60,000 and ≤90,000 | Condensing         | August 1, 2018  | \$300                | October 1, 2018 | \$400                | September 30, 2019 |
|                     | Non-condensing     | October 1, 2018 | \$250                | April 1, 2019   | \$350                | September 30, 2019 |
|                     | Weatherized        | October 1, 2018 | \$250                | April 1, 2019   | \$350                | September 30, 2021 |
|                     | Manufactured Homes | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021 |
| >90,000             | Condensing         | August 1, 2018  | \$325                | October 1, 2018 | \$450                | September 30, 2019 |
|                     | Non-condensing     | October 1, 2018 | \$275                | April 1, 2019   | \$400                | September 30, 2019 |
|                     | Weatherized        | October 1, 2018 | \$275                | April 1, 2019   | \$400                | September 30, 2021 |
|                     | Manufactured Homes | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021 |

## **Supporting Regulatory Analyses**

### Cost Effectiveness Analysis

Pursuant to CH&SC section 40920.6(a), a cost effectiveness analysis is required for rules that implement BARCT. The purpose of the cost effectiveness analysis is to evaluate the economic reasonableness of the rule or rule amendments. The analysis also serves as a guideline for developing the control requirements of the rule. The proposed amendments do not impose additional requirements on manufacturers of compliant furnaces. An extension to the emissions fee option is proposed, but the fee amount will not increase. Therefore, a cost effectiveness analysis is not required.

### Socioeconomic Impact Analysis

Pursuant to CH&SC 40728.5, “whenever a district intends to propose the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations, that agency shall, to the extent data are available; perform an assessment of the socioeconomic impacts of the adoption, amendment, or repeal of the rule or regulation.” Proposed amendments would extend the emission fee option by up to one year, with no significant impact on air quality, emissions limits, or costs. While previously addressed in adopting the existing regulation, the higher initial capital cost of compliant units are offset by the energy cost savings these newer and more efficient units will provide throughout the life of the unit. Due to these reasons, a socioeconomic analysis is not required for this rule amendment project.

### Rule Consistency Analysis

Pursuant to CH&SC 40272.2, District staff prepared a rule consistency analysis that compares the elements of amendments with the corresponding elements of other District rules, federal regulations, and guidelines that apply to the same source category or type of equipment. District staff found that none of the revised proposed requirements of these rules would conflict with other District rules, or federal rules, regulations, or policies covering similar stationary sources.

### Environmental Impacts

Pursuant to the California Environmental Quality Act (CEQA), staff investigated the possible environmental impacts of the revised proposed amendments to Rule 4905. Based on the analysis conducted, District staff has concluded that the revised proposed amendments are exempt from the provisions of CEQA, as identified in the Staff Report referenced herein. Staff recommends filing a Notice of Exemption under the provisions of Public Resource Code 15062.

## **Rule Development Public Process**

The District hosted a public workshop to present draft amendments and receive public comments on August 25, 2020. In accordance with CH&SC Section 40725, the proposed amendment to Rule 4905 was publicly noticed and made available for public

review on September 15, 2020. The public was also invited to provide comments during the public hearing for the proposed adoption of this rule.

The comments received throughout this public process have been integral to the development of this rule amendment, and have been incorporated as appropriate into the proposed rule and final draft staff report. The District did not receive any significant public comments, and in fact, has generally received supportive comments from manufacturers subsequent to the posting of the proposed rule on September 15, 2020. A summary of significant comments and District responses is available in Appendix A of the final draft staff report.

*Attachments:*

*Attachment A: Resolution for Proposed Amendments to Rule 4905 (4 pages)*

*Attachment B: Proposed Amendments to Rule 4905 (10 pages)*

*Attachment C: Final Draft Staff Report for Proposed Amendments to Rule 4905 (16 pages)*

San Joaquin Valley Unified Air Pollution Control District  
Meeting of the Governing Board  
October 15, 2020

**ADOPT PROPOSED AMENDMENTS TO RULE 4905 (NATURAL GAS-FIRED,  
FAN-TYPE CENTRAL FURNACES)**

Attachment A:

**Resolution for Proposed Amendments to Rule 4905**  
**(4 PAGES)**

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**BEFORE THE GOVERNING BOARD OF THE  
SAN JOAQUIN VALLEY UNIFIED  
AIR POLLUTION CONTROL DISTRICT**

**IN THE MATTER OF: PROPOSED } RESOLUTION NO. \_\_\_\_\_  
AMENDMENTS TO RULE 4905 (NATURAL }  
GAS-FIRED, FAN-TYPE CENTRAL }  
FURNACES) }**

**WHEREAS**, the San Joaquin Valley Unified Air Pollution Control District (District) is a duly constituted unified air pollution control district, as provided in California Health and Safety Code (CH&SC) Sections (§) 40150 et seq. and 40600 et seq.; and

**WHEREAS**, said District is authorized by CH&SC §40702 to make and enforce all necessary and proper orders, rules, and regulations to accomplish the purpose of Division 26 of the CH&SC; and

**WHEREAS**, pursuant to CH&SC §39608, the Valley is designated as a nonattainment area for the state health-based air quality standards for ozone and PM2.5; and

**WHEREAS**, pursuant to federal Clean Air Act (CAA) §107, the San Joaquin Valley Air Basin (Valley) is designated as nonattainment for the national health-based air quality standards for ozone and particulate matter 2.5 microns and smaller (PM2.5); and

**WHEREAS**, proposed amendments would extend the existing emissions fee compliance option period for weatherized furnaces to allow an additional period of time necessary to continue technology development and certification, while providing strong incentive for accelerated deployment of compliant units; and

**WHEREAS**, proposed amendments would continue to provide a sell-through period that provides manufacturers, distributors, and installers with a six month sell-through period after the Phase Two emissions fee end date for 40 ng/J units; and

**WHEREAS**, a public hearing for the adoption of proposed amendments to Rule 4905 was duly noticed for October 15, 2020 in accordance with CH&SC §40725.

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1 **NOW, THEREFORE, BE IT RESOLVED AS FOLLOWS:**

2 1. The Governing Board hereby adopts the proposed amendments to Rule 4905  
3 (Natural Gas-Fired, Fan-Type Central Furnaces). Said rule shall become effective on  
4 October 15, 2020.

5 2. The Governing Board hereby finds, based on the evidence and information  
6 presented at the hearing upon which its decision is based, that all notices required to be  
7 given by law have been duly given in accordance with CH&SC §40725, and the  
8 Governing Board has allowed public testimony in accordance with CH&SC §40726.

9 3. In connection with said rulemaking, the Governing Board makes the following  
10 findings as required by CH&SC §40727:

11 a. **NECESSITY.** The Governing Board finds, based on the staff report, public  
12 testimony, and the record for this rulemaking proceeding, that a need exists for said rule  
13 amendments.

14 b. **AUTHORITY.** The Governing Board finds that it has the legal authority for  
15 said rulemaking under CH&SC §40000 and 40001.

16 c. **CLARITY.** The Governing Board finds that said rule is written or displayed  
17 so that the meaning can be easily understood by those persons or industries directly  
18 affected by said rule.

19 d. **CONSISTENCY.** The Governing Board finds that said rule is in harmony with,  
20 and not in conflict with or contradictory to, existing statutes, court decisions, or state or  
21 federal regulations.

22 e. **NONDUPLICATION.** The Governing Board finds that said rule does not  
23 impose the same requirements as any existing state or federal regulation.

24 f. **REFERENCE.** The Governing Board finds that said rulemaking implements  
25 federal CAA §172(c)(1) and CH&SC §40920.

26 4. The Governing Board hereby finds that the requirements of CH&SC §40728.5  
27 and 40920.6 have been satisfied to the greatest extent possible, and that the Governing

1 Board has actively considered and made a good faith effort to minimize any adverse  
2 socioeconomic impacts associated with the proposed rulemaking.

3 5. The Governing Board finds that, because this rulemaking will not cause either a  
4 direct physical change in the environment or a reasonably foreseeable indirect physical  
5 change in the environment, the proposed actions do not constitute a project under the  
6 provisions of the California Environmental Quality Act (CEQA) Guidelines §15378.  
7 Furthermore, the proposed actions are exempt for actions taken by regulatory agencies,  
8 as authorized by state or local ordinance, to assure the maintenance, restoration,  
9 enhancement, or protection of the environment where the regulatory process involves  
10 procedures for protection of the environment (CEQA Guidelines §15308) (Actions by  
11 Regulatory Agencies for Protection of the Environment) and exempt from CEQA per the  
12 general rule that CEQA applies only to projects which have the potential for causing a  
13 significant effect on the environment (CEQA Guidelines §15061 (b)(3)).

14 6. Pursuant to Section 15062 of the CEQA guidelines, The Executive Director/Air  
15 Pollution Control Officer is directed to file a Notice of Exemption with the County Clerks  
16 of each of the counties in the District.

17 7. The Executive Director/Air Pollution Control Officer is directed to file with all  
18 appropriate agencies certified copies of this resolution and the rule adopted herein and  
19 is directed to maintain a record of this rulemaking proceeding in accordance with  
20 CH&SC §40728.

21 8. The Executive Director/Air Pollution Control Officer is directed to transmit said rule  
22 to the California Air Resources Board for incorporation into the SIP.

23 9. The Governing Board authorizes the Executive Director/Air Pollution Control  
24 Officer to include in the submittal or subsequent documentation any technical  
25 corrections, clarifications, or additions that may be needed to secure EPA approval,  
26 provided such changes do not alter the substantive requirements of the approved rule.

27 ///

1           **THE FOREGOING** was passed and adopted by the following vote of the  
2 Governing Board of the San Joaquin Valley Unified Air Pollution Control District this 15<sup>th</sup>  
3 day of October 2020, to wit:

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**AYES:**

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**NOES:**

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**ABSENT:**

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SAN JOAQUIN VALLEY UNIFIED  
AIR POLLUTION CONTROL DISTRICT

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By \_\_\_\_\_

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Craig Pedersen, Chair  
Governing Board

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**ATTEST:**  
Deputy Clerk of the Governing Board

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By \_\_\_\_\_

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Michelle Franco

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San Joaquin Valley Unified Air Pollution Control District  
Meeting of the Governing Board  
October 15, 2020

**ADOPT PROPOSED AMENDMENTS TO RULE 4905 (NATURAL GAS-FIRED,  
FAN-TYPE CENTRAL FURNACES)**

Attachment B:

**Proposed Amendments to Rule 4905**  
**(10 PAGES)**

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

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- 3.8 Manufactured Home Unit: a furnace designed specifically and solely for installation to heat a manufactured home.
- 3.89 Natural Gas: a mixture of gaseous hydrocarbons containing at least 80 percent methane by volume, as determined according to Standard Method ASTM D1945-64.
- 3.910 NOx: any oxides of nitrogen.
- 3.101 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.
- 3.112 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.
- 3.123 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.
- 3.134 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, n~~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-Furnace Category   | NOx Emission Limit (nanograms/Joule) | Compliance Date  |
| <del>Units installed in manufactured homes</del><br>Manufactured Home Units  | 40                                   | February 1, 2015 |
| <del>All non-weatherized c</del> Condensing Uunits<br><del>except those installed in manufactured homes</del>      | 14                                   | April 1, 2015    |
| <del>All non-weatherized, n</del> Non-condensing Uunits<br><del>except those installed in manufactured homes</del> | 14                                   | October 1, 2015  |
| Weatherized Uunits   | 14                                   | October 1, 2016  |
| <del>Units installed in manufactured homes</del><br>Manufactured Home Units  | 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 Furnace Category   | Sell-through Period End date |
| All non-weatherized c-Condensing units except those installed in manufactured homes                                | January 26, 2016             |
| All non-weatherized, n-Non-condensing units except those installed in manufactured homes                           | July 27, 2016                |
| Weatherized units  | July 27, 2017                |
| Units installed in m-Manufactured h-Homes (for certified 40 ng/J units)  | July 27, 2019                |

5.2 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 unit is certified pursuant to Section 6.1 to have NOx emissions less than or equal to 40 ng/J of heat output and the manufacturer complies with the following requirements:

- 5.2.1 Prior to the phase one emissions fee start date specified in Table 23, pays a per unit emissions fee of \$290 for each condensing furnace and \$225 for each other type of furnace.
- 5.2.2 During phase one, specified in Table 23, pays the applicable per unit emissions fee for each condensing, non-condensing, weatherized, or manufactured home furnace.
- 5.2.3 During phase two, specified in Table 23, pays the applicable per unit emissions fee for each condensing, non-condensing, weatherized, or manufactured home furnace.
- 5.2.4 Units manufactured prior to the phase two fee end date specified in Table 23, 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 23, for each condensing, non-condensing, weatherized, or manufactured home furnace.
- 5.2.5 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 NOx 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:

- 5.2.5.1 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.
  
- 5.2.5.2 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.
  
- 5.2.6 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 23 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 eCondensing Units except those installed in manufactured homes      | August 1, 2018  | \$275                | October 1, 2018 | \$350                | September 30, 2019     |
|                               | All non-weatherized, nNon-condensing Units  | October 1, 2018 | \$225                | April 1, 2019   | \$300                | September 30, 2019     |
|                               | Weatherized Units   | October 1, 2018 | \$225                | April 1, 2019   | \$300                | September 30, 20202021 |
|                               | Units installed in mManufactured Hhomes Units   | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021     |
| > 60,000 and ≤ 90,000         | All non-weatherized eCondensing Units except those installed in manufactured homes      | August 1, 2018  | \$300                | October 1, 2018 | \$400                | September 30, 2019     |
|                               | All non-weatherized, nNon-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, 20202021 |
|                               | Units installed in mManufactured Hhomes Units   | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021     |
| > 90,000                      | All non-weatherized e Condensing Units except those installed in manufactured homes     | August 1, 2018  | \$325                | October 1, 2018 | \$450                | September 30, 2019     |
|                               | All non-weatherized, nNon-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, 20202021 |
|                               | Units installed in mManufactured Hhomes Units   | 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 (NOx 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> limits in Table 1 of this rule.

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San Joaquin Valley Unified Air Pollution Control District  
Meeting of the Governing Board  
October 15, 2020

**ADOPT PROPOSED AMENDMENTS TO RULE 4905 (NATURAL GAS-FIRED,  
FAN-TYPE CENTRAL FURNACES)**

Attachment C:

**Final Draft Staff Report with Appendix for  
Proposed Amendments to Rule 4905**  
(16 PAGES)

# SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

## DRAFT STAFF REPORT

### Proposed Amendments to Rule 4905 (Natural Gas-fired, Fan-Type Central Furnaces)

October 15, 2020

Prepared by: Ariana Hooks, Air Quality Specialist

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Sheraz Gill, Deputy APCO

#### I. SUMMARY

In 2015, the San Joaquin Valley Air Pollution Control District (District) amended Rule 4905 (Natural Gas-Fired, Fan-Type Central Furnaces) to fulfill commitments in the *2008 PM2.5 Plan*, *2012 PM2.5 Plan*, and *2013 Plan for the Revoked 1-Hour Ozone Standard* to further reduce NOx emissions from this source category. Amendments to the rule included lowering the NOx emission limit from 40 nanograms of NOx per joule of heat output (ng/J) to 14 ng/J. To address manufacturer concerns about the short time-frame to implement these technology-forcing limits, the 2015 amendments to Rule 4905 also allowed for the sale of non-compliant units during an initial 36-month implementation period in exchange for the payment of an emissions fee for each non-compliant unit sold, distributed, or installed in or into the San Joaquin Valley (Valley).

The lower NOx limits required by this rule amendment were guided by a technology assessment funded by the District, the South Coast Air Quality Management District (SCAQMD), and others to evaluate the performance of ultra-low NOx furnace technologies.<sup>1</sup> The technology assessment resulted in the successful demonstration of several low-NOx furnace designs, which were expected to be commercially available by the compliance dates as established in the current Rule 4905, and through SCAQMD's amendment to their Rule 1111 in September 2014. For those manufacturers that are not able to respond to increased demand for new compliant units by the compliance dates, the emissions fee option allowed them to continue selling units in the Valley. Rule 4905 was

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<sup>1</sup> SCAQMD. (2014, September 5). *Governing Board Agenda Item, September 5, 2014: Amend Rule 1111 – Reduction of NOx Emissions from Natural-gas-fired, Fan-type Central Furnaces*. Retrieved 9/9/14 from <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2014/2014-sep5-032.pdf?sfvrsn=2>.

# SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

Final Draft Staff Report: Rule 4905

October 15, 2020

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amended in 2018 to include an emissions fee option to allow additional time for manufacturers to commercialize compliant 14 ng/J furnaces.

While manufacturers have successfully developed the necessary technologies to comply with rule requirements for *non-weatherized* condensing and *non-weatherized* non-condensing units, manufacturers have informed the District and SCAQMD that additional time is needed, in part due to COVID-19, to widely commercialize compliant *weatherized* furnaces. Multiple manufacturers have reported manufacturing delays and interruptions in the ability to develop compliant weatherized units by the phase two September 30, 2020 deadline for weatherized furnaces. Furnace manufacturers have expressed how the COVID-19 pandemic has affected business operations and progress in commercializing Rule 4905 weatherized compliant furnaces. Manufacturers have also commented that the supply chains impacts due to the pandemic have affected existing and future production, and travel restrictions have impacted the commercialization of compliant furnaces, including limiting the ability to test emerging technologies for emissions limit compliance.

For the reasons listed above, SCAQMD amended their furnace rule (Rule 1111 - NO<sub>x</sub> Emissions from Natural Gas-fired, Fan type Central Furnaces) on September 4, 2020, to extend the compliance fee option period to allow additional time for furnace manufacturers to develop weatherized furnaces that comply with 14 ng/J NO<sub>x</sub> limit. In addition, SCAQMD also included:

- An extension for high altitude condensing and non-condensing furnace installations for one year until September 30, 2021;
- Allow installations for dual fuel systems with noncompliant 40 ng/J NO<sub>x</sub> furnaces, with conditions, at elevations above 4,200 feet until September 30, 2022;
- Require manufacturers, distributors, and installers of 40 ng/J NO<sub>x</sub> furnaces for operation as propane-firing only and dual fuel systems with noncompliant 40 ng/J NO<sub>x</sub> furnaces to maintain recordkeeping of sales and installations.

At this time, the District is only proposing to provide the additional time necessary for manufacturers to continue the technology development for weatherized furnaces. There is a limited application of high altitude natural gas furnaces in the Valley, and for this reason, the District does not propose the inclusion of high altitude condensing and non-condensing furnace installations. Furthermore, the District does not propose to include a dual fuel option due to the commercial availability of compliant furnaces, and limited application in the Valley. However, the proposed amendments to District Rule 4905 requirements for weatherized units are analogous to the changes in SCAQMD's Rule 1111, and provide for regulatory consistency in California.

## II. BACKGROUND

### A. Source Category

Rule 4905 is a point-of-sale rule that applies to any person who supplies, sells, offers for sale, installs, or solicits the installation of natural-gas-fired, fan-type central furnaces with a rated heat input capacity of less than 175,000 Btu/hr and a rated cooling capacity of less than 65,000 Btu/hr for combination heating and cooling units. Affected parties include furnace manufacturers, residential heating wholesalers, supply stores, contractors and end-users. The point-of-sale approach has allowed the District to achieve NO<sub>x</sub> reductions without placing an undue financial burden on residents, operators and businesses that sell these units in the Valley.

The most common residential and commercial heat sources are boilers and furnaces. Other heating options include heat pumps, active solar heating, electric heating, wood or pellet stoves, portable and direct vent wall heaters, and fireplaces.<sup>2</sup> Heat distribution systems are either central heating, meaning heat is generated in a central location and distributed throughout the building, or point-of-use or space heating, meaning supplemental heat is provided to a specific room. Types of central heating systems include forced air, steam radiant, radiant, hot water baseboards, and electric baseboards. Types of space heaters include wood or pellet stoves, portable and direct vent wall heaters, and fireplaces. Fuel types include natural gas, propane, heating oil, electricity, and solid fuels such as wood or pellets.

All heating systems have three basic components: a heat source, a heat distribution system, and a control system. The control system is usually a programmable thermostat. The heat source, which generally determines the type of distribution system used, is selected based on many factors. The most important factor is geographical location, which determines the climate and types of available fuel. Most commercial and residential buildings in the Valley have access to natural gas, which is typically the cheapest and most convenient fuel source in areas where it is available.

Rule 4905 applies to furnaces fueled by natural gas that use forced air distribution, the most common type of heating system for residential and commercial buildings. Central furnaces are controlled by a thermostat, which sends signals to turn the device on or off when the building temperature does not match a chosen set point. A valve then opens to send natural gas to the burners, which combust the gas directly into the heat exchangers. A blower pulls air from outside the building through a filter, across the heat exchanger, and through a series of ducts and vents to different areas of the building. Exhaust from the combustion exits the building through a separate duct. Condensing units use an additional heat exchanger to extract the latent heat in the flue (exhaust) gas by cooling the combustion gasses to near ambient temperature and thereby

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<sup>2</sup> Department of Energy. (2013, December 16). *Energy Saver 101: Everything You Need to Know About Home Heating*. Retrieved 12/17/13 from <http://energy.gov/articles/energy-saver-101-infographic-home-heating>.

# SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

increase the heating efficiency by up to 10%. The water vapor in the flue gas is condensed, collected, and drained.

Units installed in manufactured homes utilize the same types of materials and operating principles as commercial and residential units; however, significant differences exist. Furnaces installed in manufactured homes use sealed combustion, meaning all of the combustion air is taken from outside the building. These units also pre-heat the air, typically to 50-60°F, using a concentric vent where the combustion air is drawn in through the outer ring, while exhaust gases are vented through the inside core of the vent pipe. The air is pre-heated because the cold outside air does not mix well with the fuel, while pre-heated air blends well and allows for quieter ignition and combustion.

## **B. Current District Rule 4905**

Current District Rule 4905 limits NO<sub>x</sub> emissions from natural gas-fired, fan-type central furnaces with rated heat inputs less than 175,000 Btu/hr and for combination heating and cooling units rated at a cooling capacity less than 65,000 Btu/hr. Unit types include condensing furnaces, non-condensing furnaces, weatherized furnaces, and furnaces installed in manufactured homes.

The rule requires units to comply with a 14 ng/J NO<sub>x</sub> emission limit, and requires units be certified through the District's certification program, the SCAQMD certification process for SCAQMD Rule 1111, or another emission certification program approved by the United States Environmental Protection Agency (EPA) and the District's Air Pollution Control Officer (APCO). Manufacturers are also required to display the model number of the unit on the shipping carton and rating plate. If requested by the APCO, each manufacturer must submit a statement confirming the unit is in compliance, including a source test report verifying compliance with the emission limit.

To help minimize unfair competitive disadvantage for manufacturers that will provide compliant units to the San Joaquin Valley, this rule allows the sale of non-compliant units during the initial implementation period (36-months) in exchange for the payment of an emissions fee for each non-compliant unit sold. This allowance has been necessary to ensure adequate supply for the expected demand for new units in the San Joaquin Valley. The emissions fee was set at a level to provide a financial disincentive for continued sale of non-compliant units, requiring a fee of \$225 for each non-condensing, weatherized, and manufactured home units and \$290 for each condensing unit. The emissions fee compliance option has expired for non-weatherized condensing and non-condensing units.

**C. South Coast AQMD Rule 1111**

SCAQMD amended Rule 1111 (Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-type Central Furnaces) in November 2009 to lower the NO<sub>x</sub> emission limit for applicable units from 40 ng/J to 14 ng/J.<sup>3</sup>

In 2009, because no compliant units for the new lower NO<sub>x</sub> limit were commercially available, the District, SCAQMD, and others funded a technology assessment to evaluate the performance of ultra-low NO<sub>x</sub> furnace technologies.<sup>4</sup> The technology assessment resulted in the successful demonstration of several low-NO<sub>x</sub> furnace designs, which were expected to be commercially available by the compliance dates.

SCAQMD amended Rule 1111 again in September 2014, to extend the compliance date and add an emissions fee option due to lack of commercially available compliant units.<sup>5</sup> The alternate compliance option allowed manufacturers to pay a per unit fee in lieu of meeting the 14 ng/J NO<sub>x</sub> limit.

At the request of furnace manufacturers, on March 2, 2018, SCAQMD amended Rule 1111 to extend the fee period by up to 1.5 years and increased the alternative compliance emissions fee amounts. In December 2019, SCAQMD amended Rule 1111 to provide a limited exemption from the 14 ng/J emission limit for condensing and non-condensing furnace installations at elevations greater than or equal to 4,200 feet above sea level until October 1, 2020.<sup>6</sup>

Most recently, SCAQMD amended Rule 1111 on September 4, 2020, to extend the existing mitigation fee alternate compliance option for weatherized units for one year until September 30, 2021. In addition SCAQMD extended the exemption for high altitude condensing and non-condensing furnace installation for one year until September 30, 2021. The amendment includes installations of dual fuel systems with noncompliant 40 ng/J NO<sub>x</sub> furnaces at elevations above 4,200 feet above sea level until September 30, 2022. Manufacturers, distributors, and installers of 40 ng/J NO<sub>x</sub> furnaces for operation as propane-firing only and dual fuel systems with non-compliant furnaces are required to maintain recordkeeping of sales and installations.<sup>7</sup>

<sup>3</sup> SCAQMD. (2009, November 6). *Final Staff Report with Socioeconomic Impact Assessment*. Retrieved 9/16/14 from <http://www3.aqmd.gov/hb/2009/November/091130a.htm>.

<sup>4</sup> SCAQMD. (2014, September 5). *Governing Board Agenda Item, September 5, 2014: Amend Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-gas-fired, Fan-type Central Furnaces*. Retrieved 9/9/14 from <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2014/2014-sep5-032.pdf?sfvrsn=2>.

<sup>5</sup> SCAQMD. (2014, September 5). *Governing Board Agenda Item, September 5, 2014: Amend Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-gas-fired, Fan-type Central Furnaces*. Retrieved 9/9/14 from <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2014/2014-sep5-032.pdf?sfvrsn=2>.

<sup>6</sup> SCAQMD. (2020, September 4). *Governing Board Agenda Item, September 4, 2020: Amend Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-gas-fired, Fan-type Central Furnaces*. Retrieved 9/5/20 from <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2020/2020-Sept4-031.pdf?sfvrsn=6>

<sup>7</sup> SCAQMD. (2020, September 4). *Governing Board Agenda Item, September 4, 2020: Amend Rule 1111 – Reduction of NO<sub>x</sub> Emissions from Natural-gas-fired, Fan-type Central Furnaces*. Retrieved 9/5/20 from <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2020/2020-Sept4-031.pdf?sfvrsn=6>

**D. Control Technology**

Furnace manufacturers have been successful in developing compliant non-weatherized condensing and non-condensing natural gas-fired furnaces. Based on information provided by the manufacturers, the market availability for condensing and non-condensing compliant furnaces has increased during the past year since the last amendment of Rule 4905. According to the manufacturers, 448 compliant models have been released to the market as of May 2020<sup>8</sup>. These units are commercially and widely available.

However, due to the supply chain impacts, travel restrictions, and other impacts to business operations caused by the COVID-19 pandemic, the majority of manufacturers have not been successful at developing compliant weatherized furnace technology to meet the 14 ng/J NOx limit. At this time, only two manufacturers, Goodman and Johnson Controls, offer compliant weatherized furnaces in advance of the current fee period.

- Goodman includes 4 different brand options and 21 model options that were certified by SCAQMD. These certified weatherized furnaces include maximum input rates of 40,000, 60,000, and 80,000 btu/hr. According to SCAQMD, these weatherized furnaces have not been confirmed for commercialization.
- Johnson Controls weatherized units include 6 different brand options and 60 model options that were certified by SCAQMD. The certified furnace models cover weatherized furnaces with maximum input rates of 50,000 and 65,000 btu/hr. These weatherized furnaces have not been confirmed for commercialization.

Based on input received from the eight furnace manufacturers that develop furnaces for sale in the Valley, a year-long extension of the compliance fee provision will be sufficient time to complete the development, commercialization and certification of compliant weatherized furnaces. The extension of the District's compliance fee

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<sup>8</sup> SCAQMD. (2020, September 4). *Governing Board Agenda Item, September 4, 2020: Amend Rule 1111 – Reduction of NOx Emissions from Natural-gas-fired, Fan-type Central Furnaces*. Retrieved 9/8/20 from <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2020/2020-Sept4-031.pdf?sfvrsn=6>

provision to be consistent with the extension being provided in the South Coast AQMD will provide for regulatory consistency in California.

**III. PROPOSED AMENDMENTS TO RULE 4905**

**Definitions (Section 3.0)**

Various definitions added or modified to provide more clarity with other proposed changes to the rule.

**Exemptions (Section 4.0)**

There are no exemptions in this proposed amendment of Rule 4905.

**Requirements (Section 5.0)**

Section 5.2 and Table 2 would be deleted in order to remove expired language.

**Section 5.3 – Emissions Fee Option**

As discussed above, manufacturers have yet to develop, certify, and mass produce sufficient numbers of compliant units to meet Valley consumer demands for weatherized furnaces. In response to the lack of compliant units available, the District is proposing to amend Rule 4905 to extend the emissions fee option period for weatherized units, with no changes in the fee structure, to allow an additional period of time necessary to continue technology development and certification while providing strong incentive for accelerated deployment of compliant units (see table below). The current fee structure, amount, and timeline was previously established based on several discussions with multiple stakeholders, including manufacturers, distributors, and contractors to ensure sufficient time necessary to continue technology development and the certification process while providing strong incentive for accelerated deployment of compliant units. The fees and timelines for each furnace category below are similar to SCAQMD's latest rule, adopted September 4, 2020.

Furthermore, manufacturers have expressed the need to provide a sell-through transition period from non-compliant units to compliant units in order to alleviate inventory uncertainty and allow for the sale of remaining non-compliant units in inventory that were manufactured prior to the applicable fee end date. As such, the amended rule provides a six month sell-through period after the proposed Phase Two fee end date for all units manufactured prior to that end date.

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**Table 1 Proposed Rule 4905 Emissions Fee Option Table**

| 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            | Condensing         | August 1, 2018  | \$275                | October 1, 2018 | \$350                | September 30, 2019 |
|                     | Non-condensing     | October 1, 2018 | \$225                | April 1, 2019   | \$300                | September 30, 2019 |
|                     | Weatherized        | October 1, 2018 | \$225                | April 1, 2019   | \$300                | September 30, 2021 |
|                     | Manufactured Homes | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021 |
| >60,000 and ≤90,000 | Condensing         | August 1, 2018  | \$300                | October 1, 2018 | \$400                | September 30, 2019 |
|                     | Non-condensing     | October 1, 2018 | \$250                | April 1, 2019   | \$350                | September 30, 2019 |
|                     | Weatherized        | October 1, 2018 | \$250                | April 1, 2019   | \$350                | September 30, 2021 |
|                     | Manufactured Homes | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021 |
| >90,000             | Condensing         | August 1, 2018  | \$325                | October 1, 2018 | \$450                | September 30, 2019 |
|                     | Non-condensing     | October 1, 2018 | \$275                | April 1, 2019   | \$400                | September 30, 2019 |
|                     | Weatherized        | October 1, 2018 | \$275                | April 1, 2019   | \$400                | September 30, 2021 |
|                     | Manufactured Homes | October 1, 2018 | \$150                | April 1, 2019   | \$150                | September 30, 2021 |

Section 5.4 would be deleted to remove language for furnaces encumbered in a contractual agreement.

**IV. ANALYSES**

**A. Emission Reduction Analysis**

The 2015 amendments to Rule 4905 lowered the NO<sub>x</sub> emission limit for residential units and added NO<sub>x</sub> emission limits for units installed in commercial buildings (commercial units) and units installed in manufactured homes. Because Rule 4905 is a point-of-sale rule, the emissions reduced from the 2015 amendments of 2.10 tons per day are achieved gradually as older units are replaced over the 20 year turnover period. Annual NO<sub>x</sub> emission reductions were determined to be 0.105 tons per day.

The proposed amendments provide additional time necessary to continue technology development and the certification process while providing strong incentive for accelerated deployment of compliant units. As such, the amendment will not result in any change in emissions.

**B. Cost Effectiveness Analysis**

The proposed amendments do not impose additional requirements on manufacturers of compliant furnaces. An extension to the emissions fee option is proposed, but the fee amount will not increase. Therefore, a cost effectiveness analysis is not required.

**C. Socioeconomic Analysis**

Pursuant to California Health and Safety Code (CH&SC) §40728.5, the District conducts a socioeconomic analysis of a proposed rule or rule amendment that will significantly affect air quality or emission limitations prior to rule adoption. A socioeconomic analysis examines how a rule project may impact industries, businesses, employment rates, and the economy in the Valley. Proposed amendments would extend the emission fee option by up to one year, with no significant impact on air quality, emissions limits, or costs. In addition, the higher initial capital cost of compliant units are offset by the energy cost savings these newer and more efficient units will provide throughout the life of the unit. Due to these reasons, a socioeconomic analysis is not required for this rule amendment project.

**D. Rule Consistency Analysis**

Pursuant to CH&SC §40727.2, prior to adopting, amending, or repealing a rule or regulation, the District is required to perform a written analysis that identifies and compares the air pollution control elements of the rule or regulation with corresponding elements of existing or proposed District and EPA rules, regulations, and guidelines that apply to the same source category. The elements analyzed are emission standards, monitoring and testing requirements, and recordkeeping and reporting requirements.

# SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

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Based on the following analysis, District staff found that the proposed amendments to Rule 4905 would not conflict with any District or federal rules, regulations, or policies covering similar stationary sources.

## *District Rules*

There is no other District prohibitory rule or regulation tailored specifically for natural gas-fired, fan-type central furnaces.

## *Federal Rules, Regulations, and Policies*

There are no applicable Control Technique Guidelines (CTG), Alternative Control Techniques (ACT), New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Best Available Control Technology (BACT), or Maximum Achievable Control Technology (MACT) guidelines for natural gas-fired, fan-type central furnaces with a rated heat input capacity less than 175,000 Btu/hr or, for combination heating and cooling units, a rated cooling capacity less than 65,000 Btu/hr.

EPA Policy on Recordkeeping: EPA has a policy that mandates stationary sources keep and maintain records for at least five years; however, as a point-of-sale rule, natural gas-fired, fan-type commercial and residential central furnaces of this size are not permitted sources and are thus not required to follow specific recordkeeping guidelines. Therefore, units subject to Rule 4905 are not subject to EPA's Policy on Recordkeeping.

## **E. Environmental Impact Analysis**

Based on the District's investigation, substantial evidence supports the District's conclusion that the proposed amendments will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment, and as such is not a "project" as that term is defined under the California Environmental Quality Act (CEQA) Guidelines § 15378.

In addition, according to Section 15061 (b)(3) of the CEQA Guidelines, a project is exempt from CEQA if, "(t)he activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." As such, substantial evidence supports the District's assessment that assuming the amendment is a "project" under CEQA, it will not have any significant adverse effects on the environment.

Furthermore, the proposed amendment to District Rule 4905 is an action taken by a regulatory agency, the San Joaquin Valley Air Pollution Control District, as authorized

by state law to assure the maintenance, restoration, enhancement, or protection of air quality in the San Joaquin Valley where the regulatory process involves procedures for protection of air quality. CEQA Guidelines §15308 (Actions by Regulatory Agencies for Protection of the Environment), provides a categorical exemption for “actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption.” No construction activities or relaxation of standards are included in this project.

Therefore, for all of the above reasons, the proposed rule amendment is not subject to CEQA. Pursuant to Section 15062 of the CEQA Guidelines, staff will file a Notice of Exemption upon Governing Board approval of amendments to Rule 4905.

## **V. RULE DEVELOPMENT PROCESS**

### **A. Public Workshop for Rule 4905**

The District hosted a public workshop to present draft amendments and receive public comments on August 25, 2020, followed by a public comment period ending at 5:00 PM on September 1, 2020. All significant comments received have been reviewed and incorporated into the proposed rule and staff report. A summary of significant comments and District responses will be available in Appendix A of the final staff report.

### **B. Public Hearing for Rule 4905**

In accordance with CH&SC § 40725, the proposed amendments to Rule 4905 and the final draft staff report were publicly noticed prior to the Governing Board public hearing to consider adoption of the proposed amendments and made available on September 15, 2020. All significant comments received will be considered and incorporated into the proposed rule and staff report, as appropriate. A summary of significant comments and District responses will be available in Appendix A of the final staff report. The public is also invited to provide comments on the proposed amendments to Rule 4905 and staff report during the public hearing on October 15, 2020, for proposed adoption of this rule.

**SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT**

Final Draft Staff Report: Rule 4905

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**APPENDIX A**

**Summary of Significant Comments and Responses  
For Proposed Amendments to Rule 4905**

**October 15, 2020**

**SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT**

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**SUMMARY OF SIGNIFICANT COMMENTS  
DRAFT AMENDMENTS TO RULE 4905  
(NATURAL GAS-FIRED, FAN-TYPE RESIDENTIAL CENTRAL FURNACES)  
October 15, 2020**

The District held a public workshop to present, discuss, and receive comments on the draft amendments to Rule 4905 on August 25, 2020. Summaries of significant comments received during the public workshop and associated comment period are summarized below.

**Comments were received from the following:**

Rheem Manufacturing (Rheem)  
Johnson Controls (JCI-CF)  
Lennox International (Lennox)  
Trane Technologies (Trane)  
Goodman Manufacturing (Goodman)  
Refrigeration Supplies Distributors (RSD)  
American Heating Refrigeration Institute (AHRI)

1. **COMMENT:** If the proposed amendments aren't taken to the District Governing Board until October 15<sup>th</sup>, does that mean there will be a sales hold for weatherized units through that 25-30 day period? (RSD)

**RESPONSE:** District Rule 4905 currently includes a six month sell-through provision to allow for the sale of affected weatherized units through March, 2021.

2. **COMMENT:** Due to the impacts of the COVID-19 pandemic on the manufacture of compliant units, the compliance deadline for weatherized furnaces should be extended up to one year. (AHRI, Goodman, JCI-CF, Lennox, Rheem, Trane)

**RESPONSE:** The District is proposing to extend the compliance deadline for weatherized units by one year.

3. **COMMENT:** The District should consider a consumer rebate to reward manufacturers that provide compliant units. (Rheem)

**RESPONSE:** Consistent with Governing Board direction and action in prior approvals of this regulation, and given the quickly approaching deadlines associated with this regulation, the District is not proposing to include a consumer rebate at this time. Please note that the emissions fee penalty serves as an incentive for manufacturers to provide compliant units.

4. **COMMENT:** The District should include provisions to allow for the sale of non-compliant high-altitude and dual-fuel units to increase consumer market choice. (JCI-CF)

# SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

**RESPONSE:** Due to the commercial availability of compliant condensing and non-condensing units, and dual fuel systems, the District is not recommending any additional provisions related to these units at this time.

5. **COMMENT:** Additional provisions to allow the sale of non-compliant dual-fuel and high-altitude units should not be included due to the commercial availability of compliant units for these categories. (Goodman)

**RESPONSE:** The District agrees with the commenter and the District is not recommending any additional provisions related to these units at this time.