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(Amended September 5, 2014)(Amended March 2, 2018)(Amended July 6, 2018)
(Amended December 6, 2019)(Amended September 4, 2020)(Amended October 1, 2021)
(Amended September 1, 2023)(Amended [DATE OF RULE ADOPTION])

**PROPOSED AMENDED RULE 1111 **REDUCTION OF NO_x EMISSIONS
FROM NATURAL-GAS-FIRED, ~~FAN-~~
~~TYPE-CENTRAL~~ FURNACES****

[RULE INDEX TO BE ADDED AFTER RULE ADOPTION]

(a) Purpose ~~and Applicability~~

The purpose of this rule is to reduce Oxides of Nitrogen (NO_x) emissions from fan-type central furnaces Furnaces used for interior space heating, as defined in this rule. ~~This rule applies to manufacturers, distributors, sellers, and installers of residential and commercial fan-type central furnaces, requiring either single phase or three phase electric supply, used for comfort heating with a rated heat input capacity of less than 175,000 BTU per hour, or, for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.~~

(b) Applicability

The provisions of this rule are applicable to manufacturers, distributors, retailers, Resellers, and Installers of Furnaces used for interior space heating with a Rated Heat Input Capacity less than 175,000 British thermal units (Btu) per hour, or, for combination heating and cooling units, a cooling rate of less than 65,000 Btu per hour.

(~~b~~c) Definitions

(1) ANNUAL FUEL UTILIZATION EFFICIENCY (AFUE) is defined in Section 10.1 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

~~(2) BTU means British thermal unit or units.~~

(~~3~~2) CONDENSING FURNACE means a high-efficiency ~~furnace~~ Residential Fan-Type Central Furnace that uses a second heat exchanger to extract the latent heat in the flue gas by cooling the combustion gases to near ambient temperature so that water vapor condenses in the heat exchanger, and is collected and drained.

(3) Consumer Price Index (CPI) means the consumer price index for California as reported by the Department of Industrial Relations based on:

- (A) Urban population coverage (CPI-U);
 - (B) California Area Coverage;
 - (C) Series Title “All Items;”
 - (D) Index Base Period “1982-1984=100;” and
 - (E) Reference Period “Annual Average” for All Urban Consumers.
- (4) DOWNFLOW FURNACE means a ~~condensing~~Condensing or ~~non-condensing~~Non-Condensing furnace-Furnace installed in a configuration in which the furnace takes in cool air from the top, warms it, then releases the warm air through the ductwork below.
- ~~(5) DUAL FUEL SYSTEM is a heating, ventilation, and air conditioning system utilizing a HEAT PUMP as the primary source of heating and cooling with a FAN-TYPE CENTRAL FURNACE serving as auxiliary heating.~~
- (5) EXISTING BUILDING means a building that is not a New Building as defined in this rule.
- ~~(6) FAN-TYPE CENTRAL FURNACE is a self-contained space heater using natural gas, or any fan-type central furnace that is in natural gas firing mode, providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that have:~~
- ~~(A) a RATED HEAT INPUT CAPACITY of less than 175,000 BTU per hour; or~~
 - ~~(B) for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.~~
- (6) FLOOR FURNACE means a self-contained, floor-mounted, NOx emitting space heater using natural gas without ducts that has a Rated Heat Input Capacity at or less than 175,000 Btu per hour.
- (7) FURNACE means any Residential Fan-Type Central Furnace, Wall Furnace, or Floor Furnace, as defined in this rule.
- (8) HEAT INPUT ~~means the higher heating value of the fuel to the furnace measured as BTU per hour.~~ means the chemical heat released due to assumed complete combustion of fuel to a Furnace, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- (9) HEAT PUMP means an all-electric device that utilizes condensation and evaporation of refrigerant to absorb and release heat for heating, ventilation, and air conditioning applications.

- (10) HIGH-ALTITUDE means an elevation at or above 4,200 feet above sea level.
- (11) INFORMATIVE MATERIALS means consumer brochures and technical specification sheets for the Furnace and manufacturer's website that promotes, discusses, or lists the Furnace.
- (12) INSTALL means the action of an Installer to place a Furnace in a position ready for use.
- (13) INSTALLER means a person who Installs a Furnace and is required to obtain a license issued by the Department of Consumer Affairs Contractors State License Board for a classification related to buildings and appliances.
- (14) MASTER-METERED MOBILE HOME PARK means a Mobile Home park that takes electricity through a master meter and then distributes it to park residents through the Mobile Home park's system.
- (~~9~~15) MOBILE HOME means a ~~prefabricated structure on a permanently attached chassis.~~structure, transportable in one or more sections, that is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities.
- (~~10~~16) MOBILE HOME FURNACE means a Residential Fan-Type Central furnace-Furnace designed specifically and solely for installation to heat a mobile home.
- (17) NEW BUILDING means a building that is newly constructed or a building with a major alteration which changes the occupancy classification of a building, which means a change in the formal designation of the primary purpose of the building pursuant to 2022 Title 24 California Building Code Part 2 Chapter 3 for occupancy classification and use, or any subsequent version of the Building Code. For Mobile Homes, the newly constructed building includes installation of the Mobile Home onto the property of residence.
- (18) NON-CONDENSING FURNACE means a standard Residential Fan-Type Central Furnace that is not a Condensing Furnace, Weatherized Furnace, or Mobile Home Furnace.
- (~~11~~19) NOx EMISSIONS means the sum of ~~nitrogen-nitric~~nitric oxide and nitrogen dioxide (~~oxides of nitrogen~~) in the flue gas collectively emitted; calculated and expressed as nitrogen dioxide.
- (~~12~~20) RATED HEAT INPUT CAPACITY means the gross ~~HEAT INPUT~~Heat Input of the combustion device, as supported by required documentation.

- (21) RESELLER means anyone who sells Furnace(s) either retail, wholesale, or on an individual basis.
- (22) RESIDENTIAL FAN-TYPE CENTRAL FURNACE is a self-contained natural gas-fired space heater, or any fan-type central Furnace that is in natural gas-firing mode and emits NOx, providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that has:
- (A) A Rated Heat Input Capacity less than 175,000 Btu per hour; or
- (B) For combination heating and cooling units, a cooling rate of less than 65,000 Btu per hour.
- ~~(13)23~~ RESPONSIBLE OFFICIAL means:
- (A) 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 the corporation; or
- (B) For a partnership or sole proprietorship: general partner or proprietor, respectively.
- ~~(14) — SINGLE FIRING RATE means the burners and control system are designed to operate at only one fuel input rate and the control system cycles burners between the maximum heat output and no heat output.~~
- ~~(15)24~~ USEFUL HEAT DELIVERED TO THE HEATED SPACE is the AFUE (expressed as a fraction) multiplied by the heat input.
- ~~(16) — VARIABLE FIRING RATE means the burners and control system are designed to operate at more than one fuel input rate and the control system cycles burners between two or more heat output rates and no heat output.~~
- (25) WALL FURNACE means a wall-mounted, self-contained NOx emitting space heater using natural gas without ducts that exceed 10 inches that has a Rated Heat Input Capacity less than 175,000 Btu per hour.
- ~~(17)26~~ WEATHERIZED means a Residential Fan-Type Central Furnace designed for installation outside of a building, equipped with a protective jacket and integral venting, and labeled for outdoor installation.
- (27) ZERO-NOx EMISSION UNIT means an appliance that provides space heating with heating capacity equivalent to, or sized to replace, Furnaces subjected to this rule and emits no more than zero nanograms of NOx per joule of Useful Heat Delivered To The Heated Space (ng/J).

(ed) Requirements

- ~~(1) — A manufacturer shall not, after January 1, 1984, manufacture or supply for sale or use in the South Coast AQMD fan-type central furnaces, unless such furnaces meet the requirements of paragraph (c)(3).~~
- ~~(2) — A person shall not, after April 2, 1984, sell or offer for sale within the South Coast AQMD fan-type central furnaces unless such furnaces meet the requirements of paragraph (c)(3).~~
- ~~(3) — Fan-type central furnaces shall:~~
 - ~~(A) — not emit more than 40 nanograms of oxides of nitrogen (calculated as NO₂) per joule of useful heat delivered to the heated space; and~~
 - ~~(B) — be certified in accordance with subdivision (d) of this rule.~~
- (4) On or after October 1, 2012, a person shall not manufacture, supply, sell, resell, offer for sale, import, or install, for use within the South Coast AQMD, fan-type central furnaces subject to this rule any of the Furnaces listed in Table 1, unless such furnace complies with is certified pursuant to subdivision (e) not to exceed the applicable Table 1 emission limit and compliance date set forth in Table 1 and is certified in accordance with subdivision (d) of this rule, expressed by nanograms of NO_x per joule of Useful Heat Delivered to the Heated Space (ng/J):**

Table 1—Furnace NO_x Limits and Compliance Schedule

Compliance Date	Equipment Category	NO_x Emission Limit (nanograms/Joule*)
October 1, 2012	Mobile Home Furnace	40
April 1, 2015	Condensing Furnace	14
October 1, 2015	Non-condensing Furnace	14
October 1, 2016	Weatherized Furnace	14
October 1, 2018	Mobile Home Furnace	14

Table 1 – Residential Fan-Type Central Furnace NOx Limits

<u>Equipment Category</u>	<u>NOx Emission Limit (ng/J)</u>
<u>Condensing Furnace</u>	<u>14</u>
<u>Non-Condensing Furnace</u>	<u>14</u>
<u>Weatherized Furnace</u>	<u>14</u>
<u>Mobile Home Furnace</u>	<u>14</u>

(2) On and after the applicable Table 2 compliance date, a person shall only manufacture, supply, sell, resell, offer for sale, import, or Install, for use in the South Coast AQMD, a Zero-NOx Emission Unit, that emits zero ng/J of NOx, in place of a Furnace according to the Table 2 compliance schedule for each Furnace equipment category, unless the Furnace is included in the zero-NOx emission manufacturer alternative compliance option pursuant to paragraph (f)(2) as indicated in the Informative Materials for the Furnaces pursuant to subparagraph (g)(1)(C). The applicable Table 2 compliance dates for New Building types shall be determined based on the construction or alteration completion date.

Table 2 – Zero-NOx Emission Limit Compliance Schedule

<u>Equipment Category</u>	<u>Building Type</u>	<u>Compliance Date</u>
<u>Residential Fan-Type Central Furnace¹</u>	<u>New</u>	<u>January 1, 2027</u>
	<u>Existing</u>	<u>January 1, 2029</u>
<u>Mobile Home Furnace</u>	<u>New</u>	<u>January 1, 2027</u>
<u>Wall Furnace and Floor Furnace</u>	<u>New</u>	<u>January 1, 2027</u>
	<u>Existing</u>	<u>January 1, 2029</u>

¹ Includes Condensing, Non-Condensing, and Weatherized Furnaces.

~~(5) Any manufacturer of fan type central furnaces regulated by this rule may elect to pay a per unit mitigation fee in lieu of meeting the 14 nanogram/Joule NOx emission limit in Table 1 of paragraph (e)(4) of this rule, provided the manufacturer complies with the following requirements: (A) Prior to the phase one mitigation fee start date specified in Table 2, pays a per unit mitigation fee of \$200 for each condensing furnace~~

and \$150 for each other type of furnace distributed or sold into the South Coast AQMD, disregarding the furnace size.

(B) — On and after the phase one mitigation fee start date but no later than the mitigation fee option end date specified in Table 2, pays a per unit phase one or phase two mitigation fee for each condensing, non-condensing, weatherized or mobile home furnace according to Table 2.

Table 2—Alternate Compliance Plan with the Phase One and Phase Two Mitigation Fee Schedules

Furnace		Phase One Mitigation Fee		Phase Two Mitigation Fee		
Size Range	Furnace Category	Phase One Mitigation Fee Start Date	Phase One Mitigation Fee (\$/Unit)	Phase Two Mitigation Fee Start Date	Phase Two Mitigation Fee (\$/Unit)	Phase Two Mitigation Fee Option End Date
≤ 60,000 BTU/hr	Condensing	May 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
	Mobile Home	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2025
> 60,000 Btu/hr and ≤ 90,000 BTU/hr	Condensing	May 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
	Mobile Home	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2025
> 90,000 BTU/hr	Condensing	May 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
	Mobile Home	October 1, 2018	\$150	April 1, 2019	\$150	September 30, 2025

(C) — Submits an alternate compliance plan for each 12-month time period after the applicable Table 1 compliance date during which the manufacturer elects to pay the mitigation fee in lieu of meeting the NOx emission limit.

- ~~(D) — Submits to the South Coast AQMD an alternate compliance plan no later than 60 days prior to the applicable compliance date, or no later than March 16, 2018 for the condensing furnace compliance plan starting on April 1, 2018, which includes the following:~~
- ~~(i) — a letter with the name of the manufacturer requesting the mitigation fee compliance option signed by a responsible official identifying the category of fan-type central furnaces and the 12 month alternate compliance period that the mitigation fees cover;~~
 - ~~(ii) — an estimate of the quantity of applicable Rule 1111 fan-type central furnaces to be distributed or sold into the South Coast AQMD during the alternate compliance period, which estimate shall be based on total distribution and sales records or invoices of weatherized or mobile home fan-type central furnaces that were distributed or sold into the South Coast AQMD during the 12 month period of July 1 to June 30 prior to the applicable compliance date, along with supporting documentation;~~
 - ~~(iii) — a completed South Coast AQMD Form 400A with company name, identification that application is for an alternate compliance plan (section 7 of form), identification that the request is for the Rule 1111 mitigation fee compliance option (section 9 of form), and signature of the responsible official;~~
 - ~~(iv) — a check for payment of the alternate compliance plan filing fee (Rule 306, subdivision (e)).~~
- ~~(E) — Submits to the Executive Officer a report signed by the responsible official for the manufacturer identifying by model number the quantity of Rule 1111 fan-type central furnaces actually distributed or sold into South Coast AQMD and a check for payment of mitigation fees for the applicable 12 month alternate compliance period for the quantity of applicable Rule 1111 fan-type central furnaces distributed or sold into the South Coast AQMD during the alternate compliance period. The report and the payment of mitigation fees must be submitted to the South Coast AQMD no~~

~~later than thirty (30) days after the end of each 12-month mitigation fee alternate compliance period.~~

~~(F) Notwithstanding the requirements set forth in subparagraph (e)(5)(E), during the phase one period specified in Table 2, submits a report signed by the responsible official for the manufacturer identifying by model number the quantity of Rule 1111 fan-type central furnaces actually distributed or sold into South Coast AQMD and a check for payment of mitigation 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 (e)(5)(E) that includes this phase one period shall be reconciled so as not to include the phase one payment.~~

~~(G) For the last and remaining 6-month period of the condensing furnace final alternate compliance plan ending on September 30, 2019, specified in Table 2, submits a report signed by the responsible official for the manufacturer identifying by model number the quantity of Rule 1111 fan-type central furnaces—condensing furnaces actually distributed or sold into South Coast AQMD and a check for payment of mitigation fees to the South Coast AQMD no later than October 30, 2019.~~

~~(de)~~ Certification

(1) The manufacturer shall have each ~~appliance~~Furnace model that is required to be certified to meet Table 1 emission limits tested in accordance with the following:

(A) ~~Oxides of nitrogen~~NOx measurements, test equipment, and other required test procedures ~~shall be~~ in accordance with South Coast AQMD Method 100.1; and

(B) Operation of the ~~furnace~~Furnace ~~shall be~~ in accordance with the procedures specified in:

(i) Section 4.0 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N; or

(ii) South Coast AQMD Rule 1111 Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired, Fan-Type Central Furnaces certification protocol.

- (2) ~~One of the two formulas shown below Equation 1 or 2~~ shall be used to determine the nanograms of ~~oxides of nitrogen~~ NO_x per joule of ~~useful heat delivered to the heated space~~: Useful Heat Delivered to the Heated Space:

$$N = \frac{4.566 \times 10^4 \times P \times U}{H \times C \times E} \quad (\text{Eq. 1})$$

$$N = \frac{3.655 \times 10^{10} \times P}{(20.9 - Y) \times Z \times E} \quad (\text{Eq. 2})$$

Where:

- N = ~~nanograms ng/J~~ of emitted ~~oxides of nitrogen~~ NO_x per joule of useful heat.
- P = concentration (~~parts per million by ppm~~ volume) of ~~oxides of nitrogen~~ NO_x in flue gas as tested.
- U = volume percent carbon dioxide (CO_2) in water-free flue gas for stoichiometric combustion.
- H = gross heating value of fuel, ~~BTU/cu.ft.~~ Btu/ft³ (60°F, 30-in. Hg).
- C = measured volume percent of CO_2 in water-free flue gas, assuming complete combustion and no carbon monoxide ~~CO~~ present.
- E = AFUE, percent.
- Y = volume percent of oxygen O_2 in flue gas.
- Z = heating value of gas, ~~joules/cu. meter~~ J/m³ (0.0°C, 1 ~~ATM~~ standard atmosphere).

- (3) ~~Prior to the date a furnace model is first shipped to a location in the South Coast AQMD for use in the South Coast AQMD, the manufacturer shall obtain Executive Officer's approval for the emission test protocol and emission test results verifying compliance with the applicable NO_x limit specified in Table 1, submitting the following~~ When applying for certification of Furnaces, the manufacturer shall submit to the Executive Officer the following:

- (A) A statement ~~that indicating~~ the model is in compliance with subdivision ~~(e)~~ (d) ~~that is (The statement shall be signed and dated by a responsible official Responsible Official, and dated, and shall attest~~ ing to the accuracy of all statements-);
- (B) General Information, including:
- (i) Name and address of manufacturer-;

- (ii) Brand name; ~~and~~;
- (iii) Model number, as it appears on the ~~furnace~~ Furnace rating plate;
- (C) A description of the ~~furnace~~ Furnace and specifications for each model being certified; ~~and~~
- (D) A source test report verifying compliance with the emission limits in subdivision (d) for each model to be certified. The source test report shall contain all the elements identified in the procedures specified in (e)(2) for each unit tested.
- (4) When applying for certification of Furnaces, the manufacturer shall submit the items identified in paragraph (e)(3) no more than 180 days after the date of the source test identified in subparagraph (e)(3)(D).

~~(e) Identification of Compliant Units~~

- ~~(1) The manufacturer of the furnace complying with subdivisions (c) and (d) shall display the following on the shipping container label and rating plate of the furnace:
 - ~~(A) Model number;~~
 - ~~(B) Heat input capacity;~~
 - ~~(C) Applicable NO_x emission limit in Table 1; and~~
 - ~~(D) Date of manufacture or date code.~~~~
- ~~(2) Any non-certified furnace shipped to a location in the South Coast AQMD for distribution or sale outside of the South Coast AQMD shall have a label on the shipping container identifying the furnace as not certified for use in the South Coast AQMD.~~
- ~~(3) Consumer Notification Requirement
 - ~~(A) For the purposes of subparagraph (e)(3)(B), “Informative Materials” shall mean the following:
 - ~~(i) The consumer brochure for the furnace;~~
 - ~~(ii) The technical specification sheet for the furnace; and~~
 - ~~(iii) The manufacturer’s website that promotes, discusses, or lists the furnace.~~~~
 - ~~(B) Effective October 1, 2018, for any furnace that is for distribution or sale inside of the South Coast that is using an alternate compliance plan in lieu of meeting the 14 ng/J certification limit, a manufacturer shall only distribute or publish Informative Materials that clearly~~~~

~~display the following language: “If installed in South Coast AQMD only: This furnace does not meet the South Coast AQMD Rule 1111 NOx emission limit (14 ng/J), and thus is subject to a mitigation fee of up to \$450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.”~~

~~(C) — A manufacturer may use alternative language in lieu of subparagraph (e)(3)(B), provided the alternative language is:~~

~~(i) — Similar to the language in subparagraph (e)(3)(B);~~

~~(ii) — Submitted to the Executive Officer by August 1, 2018; and~~

~~(iii) — Approved by the Executive Officer no later than August 31, 2018.~~

~~The manufacturer shall use the language in subparagraph (e)(3)(B) if the alternative language is not approved.~~

(f) Alternative Compliance Options

(1) Mitigation Fee Alternative Compliance Option for Mobile Home Furnaces

A manufacturer of Mobile Home Furnaces may elect to pay a per unit mitigation fee for selling or enabling distributors, retailers, Resellers, or Installers to sell Mobile Home Furnaces certified to emit 40 ng/J of NOx in lieu of complying with the 14 ng/J NOx emission limit in Table 1, provided the manufacturer complies with the following requirements:

(A) Pays a per unit mitigation fee of:

(i) Until September 30, 2025, \$150 for each Mobile Home Furnace distributed or sold into or within the South Coast AQMD; and

(ii) On and after October 1, 2025, \$100 for each Mobile Home Furnace distributed or sold into or within the South Coast AQMD;

(B) Submits an alternative compliance plan, no later than 60 days prior to each 12-month compliance period that begins on October 1st during which the manufacturer elects to pay the mitigation fee in lieu of meeting the NOx emission limit that includes:

(i) A letter with the name of the manufacturer requesting the Mobile Home mitigation fee compliance option signed by a Responsible Official and the 12-month alternative compliance period that the mitigation fees cover;

- (ii) An estimate of the quantity of applicable Mobile Home Furnace to be distributed or sold into or within the South Coast AQMD during the alternative compliance period, which estimate shall be based on total distribution and sales records or invoices of Mobile Home Furnaces that were distributed or sold into or within the South Coast AQMD during the 12- month period of July 1 to June 30 prior to the applicable compliance date, along with supporting documentation;
 - (iii) A complete South Coast AQMD Form 400A with company name, identification that application is for an alternative compliance plan (section 7 of form), identification that the request is for the Rule 1111 mitigation fee compliance option (section 9 of form), and signature of the Responsible Official; and
 - (iv) Payment for the alternative compliance plan filing fee pursuant to Rule 306– Plan Fees;
- (C) Submits to the Executive Officer a report signed by the Responsible Official for the manufacturer, no later than 90 days after the end of each 12-month mitigation fee alternative compliance period, that shall for the applicable 12-month alternative compliance period:
 - (i) Identify each model number and the quantity of Mobile Home Furnaces distributed or sold into or within South Coast AQMD; and
 - (ii) Include the payment of mitigation fees.
- (2) Zero-NOx Emission Manufacturer (ZEM) Alternative Compliance Option
Any manufacturer of Furnaces, other than Mobile Home Furnaces, subject to this rule may elect to comply with the ZEM alternative compliance option in lieu of complying with paragraph (d)(2) provided:
 - (A) The manufacturer submits an alternative compliance plan, no later than November 1, 2026, or no later than 60 days prior to any sales into or within the South Coast AQMD for a new manufacturer, which is a manufacturer who does not have any sales into or within the South Coast AQMD as of October 31, 2026, that includes:

- (i) A letter with the name of the manufacturer requesting the ZEM alternative compliance option signed by a Responsible Official;
 - (ii) A complete South Coast AQMD Form 400A with company name, indicating the application is for a compliance plan (section 7 of form), indicating the request is for the “Rule 1111 ZEM alternative compliance option” (section 9 of form), and signature of the Responsible Official; and
 - (iii) Payment for the alternative compliance plan filing fee pursuant to Rule 306– Plan Fees;
- (B) The manufacturer sells, or enables distributors, retailers, Resellers, or Installers to sell, Zero-NOx Emission Units into or within the South Coast AQMD:
- (i) At a percentage greater than or equal to the Zero-NOx Emission Unit sales target specified in Table 3 and pays the mitigation fee in subparagraph (f)(2)(F); or
 - (ii) At a percentage less than the Zero-NOx Emission Unit sales target specified in Table 3 and pays the mitigation fee in paragraph (f)(3)(A);
- (C) Zero-NOx Emission Unit sales percentage is calculated by Equation 3. For determining the number of Zero-NOx Emission Units sold in a calendar year into or within the South Coast AQMD:
- (i) Each Zero-NOx Emission Unit that utilizes ductwork to distribute heated air through the home shall be counted as one Zero-NOx Emission Unit;
 - (ii) Each Zero-NOx Emission Unit that does not utilize ductwork to distribute heated air through the home, e.g., a mini-split, shall be counted as half of a Zero-NOx Emission Unit;
 - (iii) Each Zero-NOx Emission Unit that does not utilize ductwork to distribute heated air through the homes but is a multiple zone system with multiple indoor units for one outdoor unit, e.g., a multi-split, only the outdoor unit shall be counted as one Zero-NOx Emission Unit; and
 - (iv) A zero-NOx emission space heating appliance that is portable or has a Rated Heat Input Capacity less than 5,500

Btu per hour shall not be counted as a Zero-NOx Emission Unit;

$$\text{Zero-NOx Emission Unit Sales Percentatge} = \frac{(Z)}{(Z + N)} \times 100$$

(Eq. 3)

Where:

Z = Number of Zero-NOx Emission Units sold in a compliance year

N= Number of Furnaces sold in a compliance year

(D) Furnace sales percentage is calculated by Equation 4;

$$\begin{aligned} & \text{Furnace Sales Percentatge} \\ & = 100 - \text{Zero-NOx Emission Unit Sales Percentage} \end{aligned}$$

(Eq. 4)

(E) The Furnaces sold under this alternative compliance option are:

(i) Residential Fan-Type Central Furnaces certified to emit 14 ng/J or less of NOx; or

(ii) Wall or Floor Furnaces;

(F) The manufacturer pays the following mitigation fee for each Furnace sold within the Furnace sales target for the applicable calendar year in Table 3:

(i) \$100 for the calendar year 2027;

(ii) \$100 adjusted by the CPI annual percent increase for each subsequent calendar year after 2027; and

(iii) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase;

(G) The manufacturer submits a report and mitigation fee payment pursuant to paragraph (g)(2) no later than 90 days after the end of each calendar year utilizing this alternative compliance option; and

(H) The manufacturer complies with the Informative Material requirements pursuant to paragraph (g)(1).

Table 3 – ZEM Alternative Compliance Option Targets

<u>Compliance phase</u>	<u>Phase 1</u>	<u>Phase 2</u>	<u>Phase 3</u>	<u>Phase 4</u>
<u>Calendar Years</u>	<u>2027 - 2028</u>	<u>2029 - 2032</u>	<u>2033-2035</u>	<u>2036 and after</u>
<u>Zero-NOx Emission Unit Sales Target</u>	<u>30 percent</u>	<u>50 percent</u>	<u>75 percent</u>	<u>90 percent</u>
<u>Furnace Sales Target</u>	<u>70 percent</u>	<u>50 percent</u>	<u>25 percent</u>	<u>10 percent</u>

(3) ZEM Alternative Compliance Option Sales Target Deviation

Any manufacturer of Furnaces subject to this rule that elects to comply with the ZEM Alternative Compliance Option pursuant to paragraph (f)(2) that deviates from the applicable Sales Targets in Table 3 shall:

(A) If the annual Furnaces sales percentage is greater than the applicable calendar year Furnace sales target specified in Table 3, pay the following mitigation fee for each Furnace sold above the sales target:

- (i) \$500 for the calendar year 2027;
- (ii) \$500 adjusted by the CPI annual percent increase for each subsequent calendar year after 2027; and
- (iii) If the CPI annual percent increase for a calendar year is greater than three percent, a three percent increase will apply to that year in lieu of the CPI annual percent increase; and

(B) If the annual Zero-NOx Emission Units sales percentage is greater than the applicable calendar year Zero-NOx Emission Unit sales target specified in Table 3, apply a discount to their annual mitigation fee required pursuant to subparagraph (f)(2)(F) according to Equation 5:

$$\text{Discounted Mitigation Fee} = F - F \times \frac{(P - T)}{(100 - T)}$$

(Eq. 5)

Where:

F = Annual Mitigation Fee pursuant to subparagraph (f)(2)(F)

P = Reported Percent Zero-NOx Emission Units

T = Zero-NOx Emission Unit Sales Target.

(g) Informative Materials, Labeling, Recordkeeping, and Reporting

(1) Informative Materials for Furnaces

(A) Effective [90 days after Date of Rule Adoption], for any Mobile Home Furnace that is for distribution or sale inside of the South Coast AQMD that is using an alternative compliance plan in lieu of meeting the 14 ng/J certification limit, a manufacturer shall distribute or publish Informative Materials that clearly display the following language: “If installed in South Coast AQMD only: This furnace is only allowed to be installed and used for mobile homes; subject to a mitigation fee of \$150 before September 30, 2025, and \$100 thereafter; and only allowed to be installed and used for existing mobile homes or any mobile homes in a Master-Metered Mobile Home Park on and after January 1, 2027.”;

(B) For any Furnace that is for distribution or sale inside of the South Coast AQMD for installation at High-Altitude in a downflow configuration pursuant to paragraph (h)(3) shall distribute or publish Informative Materials that clearly display the following language: “This furnace must be installed only as a replacement in a downflow configuration at or above 4,200 feet above sea level in the South Coast AQMD. Installation of this furnace for new construction, in any other configuration, or at a lower elevation will be a violation of South Coast AQMD Rule 1111.”;

(C) For any Furnace sold under the ZEM Alternative Compliance Option pursuant to paragraph (f)(2) in lieu of complying with paragraph (d)(2), a manufacturer shall distribute or publish Informative Materials that clearly display the following language: “If installed in South Coast AQMD only: This furnace is sold under an alternative compliance option and manufacturer is subject to compliance goals and associated mitigation fee.”; and

(D) A manufacturer may request the use of alternative language in lieu of subparagraph (g)(1)(A), (g)(1)(B), or (g)(1)(C), provided:

(i) The alternative language is similar to the language in subparagraphs (g)(1)(A), (g)(1)(B), or (g)(1)(C); and

(ii) If the alternative language is not approved by the Executive Officer, the manufacturer shall use the language in subparagraphs (g)(1)(A), (g)(1)(B), or (g)(1)(C).

(2) Reporting and Recordkeeping Requirements for ZEM Alternative Compliance Option

The manufacturer of a Furnace supplied or offered for use within the South Coast AQMD in accordance with the ZEM alternative compliance option in paragraph (f)(2) shall:

(A) Submit a report to the Executive Officer, signed by the Responsible Official for the manufacturer pursuant to the schedule in paragraph (f)(2)(G), that includes:

(i) For Zero-NOx Emission Units:

(A) Brand name and model numbers;

(B) For Zero-NOx Emission Units with both outdoor and indoor units, only brand name and model numbers for the outdoor units;

(C) Zero-NOx Emission Unit type described in subparagraph (f)(2)(C); and

(D) Quantity of Zero-NOx Emission Units distributed or sold into or within the South Coast AQMD for the applicable calendar year; and

(ii) For Furnaces:

(A) Brand name and model numbers;

(B) Furnace description; and

(C) Quantity of Furnaces distributed or sold into or within South Coast AQMD for the applicable calendar year that are subject to the ZEM alternative compliance option; and

(B) Maintain records for at least five years, including, but not limited to, the following information and make them available to the Executive Officer upon request:

(i) All information specified by subparagraph (g)(2)(A);

(ii) Serial number of each Furnace and Zero-NOx Emission Units sold;

(iii) Date and number of Furnaces and Zero-NOx Emission Units sold to a distributor; and

(iv) Each distributor's name, address, and phone number.

(3) Labeling and Recordkeeping Requirements for Propane Conversion Kits
If the manufacturer, distributor, Reseller, or Installer of any Furnace elects to comply pursuant to the exemption in paragraph (h)(1):

(A) The shipping carton or the name plate of the Furnace shall clearly display: "This furnace is to be installed for propane firing only. Operating in natural gas mode is in violation of the South Coast AQMD Rule 1111"; and

(B) The manufacturer shall submit a report by March 1st of the following calendar year to the Executive Officer, which includes, but not limited to:

(i) The quantity of propane conversion kits for Furnaces distributed or sold for use into South Coast AQMD for the applicable compliance plan period; and

(ii) The quantity of propane conversion kits for Furnaces distributed or sold for use into the South Coast AQMD during the 12 month period of July 1 to June 30 prior to the applicable compliance date.

(4) New and Existing Building Labeling Requirements

For any Furnace , except Mobile Home Furnace, that is supplied or offered for sale for use in the South Coast AQMD, and that is not electing to comply with paragraph (f)(2) for ZEM alternative compliance option during the period of January 1, 2027 to January 1, 2029, the manufacturer of the Furnace shall clearly display on the shipping container, or the name plate of the Furnace, the following:

(A) The statement: "If Installed in South Coast AQMD: 1) After January 1, 2027, this furnace shall not be sold for installation in new buildings; and 2) After January 1, 2029, not compliant for use and installation in South Coast AQMD.";

(B) A manufacturer may use alternative language in lieu of subparagraph (g)(4)(A), provided:

(i) The alternative language is similar to the language in subparagraph (g)(4)(A); and

(ii) If the alternative language is not approved by the Executive Officer, the manufacturer shall use the language in subparagraph (g)(4)(A).

- (5) The manufacturer of any Furnace manufactured for sale in the South Coast AQMD shall clearly display on the shipping container and the name plate of the Furnace:
 - (A) Model number;
 - (B) Rated Heat Input Capacity;
 - (C) Applicable NOx emission limit in Table 1; and
 - (D) Date of manufacture or date code.
- (6) Any non-certified Furnace shipped to a location in the South Coast AQMD for distribution or sale outside of the South Coast AQMD shall have a label on the shipping container identifying the Furnace as not certified for use in the South Coast AQMD.

~~(f) Enforcement~~

~~The Executive Officer may periodically conduct such tests as are deemed necessary to ensure compliance with subdivisions (c), (d), and (e).~~

(gh) Exemptions

- ~~(1) The provisions of this rule shall not apply to furnaces installed in mobile homes before October 1, 2012.~~
- ~~(2) For furnaces manufactured, purchased, and delivered to the South Coast AQMD prior to the applicable compliance date in Table 1, any person may, until 300 days after the applicable compliance date, sell, offer for sale, or install such a furnace in the South Coast AQMD, so long as the furnace meets the requirements of paragraph (c)(3) and subdivisions (d) and (e).~~
- ~~(3) 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 South Coast AQMD at the mitigation fee specified in subparagraph (c)(5)(A), provided:
 - ~~(A) An application for exemption is submitted to the Executive Officer prior to April 2, 2018;~~
 - ~~(B) The total quantity of furnaces in application(s) by any one manufacturer does not exceed 15 percent of furnaces distributed and sold in the previous compliance plan period;~~
 - ~~(C) Those furnaces are sold no later than their mitigation fee option end dates specified in Table 2; and~~~~

- ~~(D) — The following documents and information are provided to the Executive Officer, including but not limited to:
 - ~~(i) — contractual agreement for the units sold or to be sold in the South Coast AQMD;~~
 - ~~(ii) — quantity, model number, and serial number of the subject units;~~
 - ~~(iii) — contract execution date; and~~
 - ~~(iv) — name(s) of the contractor (s).~~~~
- ~~(E) — Failure to comply with the requirements specified in subparagraphs (g)(3)(A) through (g)(3)(D) shall result in the requirement to paying or retroactively paying the corresponding mitigation fee specified in paragraph (c)(5) within 30 days upon notification from the Executive Officer.~~

(41) The manufacturer of any ~~natural gas furnace~~ Furnace that is not certified to meet the 14 ng/J of NOx emission limit and is to be installed with a propane conversion kit for propane firing only in the South Coast AQMD, is exempt from subdivisions ~~(e)(d)~~ and ~~(d)(e)~~, provided the manufacturer complies with the labeling and reporting requirements in paragraph (g)(3).∴

- ~~(A) — Effective June 1, 2018, the shipping carton or 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 the South Coast AQMD Rule 1111."~~
- ~~(B) — The following documents and information shall be provided to the Executive Officer, accompanying the compliance plan report specified in subparagraphs (c)(5)(E), (c)(5)(F), and (c)(5)(G), including but not limited to:
 - ~~(i) — The quantity of propane conversion kits for furnaces actually distributed or sold into South Coast AQMD for the applicable compliance plan period;~~
 - ~~(ii) — The quantity of propane conversion kits for furnaces distributed or sold into the South Coast AQMD during the 12-month period of July 1 to June 30 prior to the applicable compliance date; and~~
 - ~~(iii) — Photographic evidence of the required language set forth in subparagraph (g)(4)(A) as it appears on the carton or unit, including all versions utilized by the manufacturer, for~~~~

~~approval by the Executive Officer. 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 or unit.~~

~~(C) The manufacturer of this type of unit which has been installed in the South Coast AQMD without meeting above requirements shall be in violation of South Coast AQMD Rule 1111.~~

(2) Paragraph (d)(2) shall not apply to the following Furnaces:

(A) Mobile Home Furnaces in compliance with paragraph (d)(1) for installation in Existing Buildings;

(B) Mobile Home Furnaces in compliance with paragraph (d)(1) for installation or use in New Buildings or Existing Buildings located in Master-Metered Mobile Home Parks; and

(C) Furnaces in compliance with paragraph (d)(1) that will be installed or used in New Buildings with building permit issued prior to [Date of Adoption] by the appropriate enforcement agency.

~~(5) Condensing or non-condensing furnaces that are certified to meet the 40 ng/J NOx limit and are installed at or above 4,200 feet above sea level are exempt from paragraph (c)(4), if that unit is installed on or before March 31, 2022.~~

(36) Effective April 1, 2022, downflow furnaces Downflow Furnace rated less than 175,000 BTU per hour in heat input capacity ~~and condensing or non-condensing furnaces with rated heat input at or greater than 100,000 BTU per hour, either of which~~ are installed at elevations at or above 4,200 feet above sea level High Altitude as a replacement for an existing ~~furnace~~ Furnaces are exempt from paragraphs ~~(e)(4)(d)(1) and (d)(2)~~, provided ~~that:~~

(A) The ~~downflow furnace~~ Downflow Furnaces ~~are~~ is certified to meet the 40 ng/J NOx limit, ~~is replacing an existing furnace~~ Furnace; ~~and the shipping carton or name plate of the furnace clearly displays: "This furnace must be installed only as a replacement in a downflow configuration at or above 4,200 feet above sea level in the South Coast AQMD. Installation of this furnace for new construction, in any other configuration, or at a lower elevation will be a violation of South Coast AQMD Rule 1111."~~; ~~or~~

(B) Manufacturers of the Downflow Furnaces comply with paragraph (g)(1)(B) for Informative Material requirement. ~~The condensing or~~

~~non-condensing furnace rated at or greater than 100,000 BTU per hour in heat input capacity is certified to meet 40 ng/J NO_x limit, is replacing an existing furnace, and the shipping carton or name plate of the furnace clearly displays: "This furnace must be installed only as a replacement at or above 4,200 feet above sea level in the South Coast AQMD. Installation of this furnace for new construction or at a lower elevation will be a violation of South Coast AQMD Rule 1111."~~

~~(7) — Effective April 1, 2022 and until September 30, 2022, a manufacturer, distributor, or installer that manufactures, supplies, sells, offers for sale, or installs a natural gas furnace certified to meet 40 ng/J of NO_x that is installed and operated as part of a dual fuel system at or above 4,200 feet above sea level in the South Coast AQMD, shall only install such a unit that:~~

~~(A) — Is designed by the manufacturer with a system switchover point between heat pump and furnace at the external temperature of 32°F with a nonadjustable system that would prevent any person from changing the external ambient switchover temperature of 32°F;~~

~~(B) — Includes installation of an external temperature sensor which acts as the sole method to determine switchover point;~~

~~(C) — For systems equipped with condensing, noncondensing, or mobile home furnaces, includes communicating technology between the heat pump and furnace installed at the point of manufacture to prevent system operation without a heat pump and requires operations of only the heat pump at and above the switchover temperature outlined in (g)(7)(A); and~~

~~(D) — The shipping carton or the name plate of the furnace clearly displays: "This furnace must be installed only in a dual fuel configuration with an electric heat pump. Installation of this furnace without a heat pump in a dual fuel configuration will be a violation of South Coast AQMD Rule 1111."~~

~~(8) — The manufacturer of any furnace that elects to use the exemption in paragraph (g)(4), (g)(5), (g)(6), or (g)(7) shall record the following information and shall make this information available upon request to the Executive Officer:~~

~~(A) — Sales date to distributor;~~

- ~~(B) — Distributor’s name and full contact information (address and phone number);~~
- ~~(C) — Model number of the furnace and heat pump (if applicable); and~~
- ~~(D) — Serial number of the furnace and heat pump (if applicable).~~
- ~~(9) — The distributor that elects to use the exemption in paragraph (g)(4), (g)(5), (g)(6), or (g)(7) shall record the following information and shall make this information available upon request to the Executive Officer:
 - ~~(A) — Sales date to installer;~~
 - ~~(B) — Installer’s name and full contact information (address and phone number);~~
 - ~~(C) — Model number of the furnace and heat pump (if applicable); and~~
 - ~~(D) — Serial number of the furnace and heat pump (if applicable).~~~~
- ~~(10) — The installer that elects to use the exemption in paragraph (g)(4), (g)(5), (g)(6), or (g)(7) shall record the following information and shall make this information available upon request to the Executive Officer:
 - ~~(A) — Installation date;~~
 - ~~(B) — Address of furnace installation;~~
 - ~~(C) — Model number of the furnace and heat pump (if applicable); and~~
 - ~~(D) — Serial number of the furnace and heat pump (if applicable).~~~~