

(Adopted December 1, 1978)(Amended March 10, 1995)(Amended December 10, 1999)
(Amended September 3, 2004)(Amended [Date of Rule Adoption])

**PROPOSED AMENDED RULE 1121. ~~CONTROL OF NITROGEN OXIDES-~~
REDUCTION OF NO_x EMISSIONS FROM
RESIDENTIAL TYPE, NATURAL GAS-
FIRED WATER HEATERS**

(a) Purpose

The purpose of this rule is to reduce Oxides of Nitrogen (NO_x) emissions from natural gas-fired Water Heaters as defined in this rule.

(~~a~~b) Applicability

~~This~~The provisions of this rule ~~applies~~are applicable to manufacturers, distributors, retailers, Resellers, and ~~installers~~Installers of natural gas-fired water heaters, with ~~heat input~~a Rated Heat Input Capacity ~~rates~~ less than 75,000 British thermal units (Btu) per hour.

(~~b~~c) Definitions

~~For the purpose of this rule:~~

~~(1) — BTU means British thermal unit or units.~~

~~(2) — DIRECT VENT WATER HEATER means a water heater with air intake and exhaust ducts that use a gravity system to collect air from outside a building for combustion and exhaust combustion byproducts to the outside of a building.~~

(1) COMPLIANCE PORTAL means the dedicated webpage on the South Coast AQMD website for submitting reports, notifications, or any documents to comply with South Coast AQMD rule(s).

(2) EXISTING BUILDING means a building that is not a New Building as defined in this rule. Existing Building includes any structures on the property including, but not limited to, sheds, detached garages, pools, and spas.

(3) HEAT INPUT means the heat of combustion released by fuels burned in a unit based on the higher heating value of fuel. the chemical heat released due to assumed complete combustion of fuel to a Water Heater or Mobile Home Water Heater, using the higher heating value of the fuel. This does not include the enthalpy sensible heat of incoming combustion air.

- (4) HEAT OUTPUT means ~~the product H_e as defined in Section 9.3 of the Protocol.~~ the enthalpy of the working fluid output of the Water Heater or Mobile Home Water Heater.
- (5) INDEPENDENT TESTING LABORATORY means a testing laboratory that meets the requirements of ~~District~~ the South Coast AQMD Rule 304 – Equipment, Materials, and Ambient Air Analyses; subdivision (k) and is approved by the ~~District~~ South Coast AQMD to conduct certification testing under the Protocol.
- ~~(6) MITIGATION FEE is an emission reduction option, in which monies collected by the District from water heater manufacturers are placed in a restricted fund and are used to fund stationary and mobile source emission reduction programs targeted at equivalent NOx emission reductions as to those that would have otherwise occurred and have been approved by the District’s Governing Board.~~
- (6) INSTALL means the action of an Installer to place a Water Heater or Mobile Home Water Heater in a position ready for use.
- (7) INSTALLER means a person to Installs a Water Heater or Mobile Home Water Heater 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.
- (8) MOBILE HOME means a prefabricated structure on a permanently attached chassis.
- ~~(79)~~ MOBILE HOME WATER HEATER means a closed vessel manufactured exclusively for ~~mobile home~~ Mobile Home use ~~in which water is heated by combustion of gaseous fuel and is withdrawn for use~~ that is fired with, or designed to be fired with, natural gas external to the vessel ~~at pressures not exceeding 160 psig~~, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F ~~(99°C)~~.
- (10) 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, and does not have a Water Heater or Mobile Home Water Heater installed prior to the applicable Table 2 compliance dates. New Building comprises any structures on the property including, but not limited to sheds, detached garages, pools, and spas.
- ~~(811)~~ NOx EMISSIONS means the sum of nitric oxide and nitrogen dioxide ~~in the flue gas, emitted, calculated, and collectively~~ expressed as nitrogen dioxide.

- (12) PARTS PER MILLION BY VOLUME (ppmv) means, for the purpose of this rule, Parts Per Million by Volume of a pollutant at a three percent oxygen correction on a dry basis at Standard Conditions.
- ~~(9) — POWER VENT WATER HEATER means a water heater with a blower installed to assist in the expulsion of exhaust gases.~~
- ~~(10) — POWER DIRECT VENT WATER HEATER means a water heater with an air intake duct outside of a building with a blower installed to assist in the expulsion of exhaust gases.~~
- ~~(11)~~ 13) PROTOCOL means the most recent version of the South Coast Air Quality Management District AQMD Protocol to ensure standardization of compliance certification test procedures, titled: Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers, January 1998.
- ~~(12)~~ 14) RATED HEAT INPUT CAPACITY means the heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different from the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity. the gross Heat Input of the combustion device, as supported by required documentation.
- ~~(13)~~ 15) RECREATIONAL VEHICLE means either a motor home, travel trailer, truck camper, or camping trailer, with or without motive power, designed for human habitation for recreational, emergency, or other occupancy, as defined pursuant to Section 18010 of the California Health and Safety Code. any vehicle used for recreational purposes designed to include a Water Heater and licensed to be driven or moved on the highways of California.
- (16) RESELLER means anyone who sells either retail, wholesale, or on an individual basis any Unit.
- (17) STANDARD CONDITIONS are as defined by Rule 102 – Definition of Terms.
- (18) THERM means 100,000 Btu.
- ~~(14)~~ 19) WATER HEATER means a closed vessel other than a mobile home water heater in which water is heated by combustion of gaseous fuel and is withdrawn for use. Mobile Home Water Heater that is fired with, or designed to be fired with, natural gas external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).

(ed) Requirements

- ~~(1) — Until July 1, 2002, no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired water heaters unless the water heater is certified pursuant to subdivision (d) to a NO_x emission level of less than or equal to:~~
- ~~(A) — 40 nanograms of NO_x (calculated as NO₂) per joule of heat output (93 lb per billion Btu of heat output); or~~
 - ~~(B) — 55 ppmv at 3% O₂, dry (71 lb per billion Btu of heat input).~~
- ~~(2) — On or after July 1, 2002, no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired water heaters unless the water heater is certified pursuant to subdivision (d) to a NO_x emission level of less than or equal to:~~
- ~~(A) — 20 nanograms of NO_x (calculated as NO₂) per joule of heat output (46.5 lb per billion Btu of heat output); or~~
 - ~~(B) — 30 ppmv at 3% O₂, dry (35 lb per billion Btu of heat input); or~~
 - ~~(C) — the emission limit specified in subparagraph (c)(1)(A) or (c)(1)(B) provided the manufacturer of the water heater meets the requirements of subdivision (e).~~
- ~~(3) — On or after January 1, 2006, for water heaters less than or equal to 50 gallon capacity, excluding direct-vent, power-vent and power direct-vent water heaters; on or after January 1, 2007 for water heaters greater than 50 gallon capacity, excluding direct-vent, power-vent and power direct-vent water heaters; and on and after January 1, 2008 for all direct-vent, power-vent, and power direct-vent water heaters; no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired water heaters unless the water heater is certified pursuant to subdivision (d) to a NO_x emission level of less than or equal to:~~
- ~~(A) — 10 nanograms of NO_x (calculated as NO₂) per joule of heat output (23 lb per billion Btu of heat output); or~~
 - ~~(B) — 15 ppmv at 3% O₂, dry (17.5 lb per billion Btu of heat input).~~
- ~~(4) — On and after January 1, 2000, no person shall manufacture for sale, distribute, sell, offer for sale, or install within the South Coast Air Quality Management District any gas-fired mobile home water heaters unless the water heater is certified pursuant to subdivision (d) to a NO_x emission level of less than or equal to:~~
- ~~(A) — 40 nanograms of NO_x (calculated as NO₂) per joule of heat output (93 lb per billion Btu of heat output); or~~

- ~~(B) — 55 ppmv at 3% O₂, dry (71 lb per billion Btu of heat input).~~
- ~~(5) — The manufacturer of any water heater manufactured for sale in the district shall clearly display on the shipping carton and the name plate of the water heater:
 - ~~(A) — the model number;~~
 - ~~(B) — the date of manufacture; and~~
 - ~~(C) — the certification status.~~~~
- ~~(6) — Notwithstanding the requirements in paragraph (c)(3), until July 1, 2006, any person may distribute, sell, offer for sale, or install any gas-fired water heaters less than or equal to 50-gallon capacity that are manufactured prior to January 1, 2006 and in compliance with paragraph (c)(2).~~
- ~~(7) — Notwithstanding the requirements in paragraph (c)(3), until July 1, 2007, any person may distribute, sell, offer for sale, or install gas-fired water heaters greater than 50-gallon capacity that are manufactured prior to January 1, 2007 and in compliance with paragraphs (c)(2).~~
- ~~(8) — Notwithstanding the requirements in paragraph (c)(3), until July 1, 2008, any person may distribute, sell, offer for sale, or install gas-fired direct-vent, power-vent, or power direct-vent water heaters that are manufactured prior to January 1, 2008 and in compliance with paragraphs (c)(2).~~
- (1) Prior to the applicable Table 2 compliance date, no person shall manufacture, supply, sell, resell, offer for sale, import, or Install, for use in the South Coast AQMD, any Water Heater or Mobile Home Water Heater unless the Water Heater or Mobile Home Water Heater is certified pursuant to subdivision (e) and does not exceed the NO_x limits Table 1.

Table 1 – NO_x Emission Limits

<u>Equipment</u>	<u>NO_x Emission Limits</u>	
	<u>ng/J*</u>	<u>ppmv</u>
<u>Water Heater</u>	<u>10</u>	<u>15</u>
<u>Mobile Home Water Heater</u>	<u>40</u>	<u>55</u>

* Nanograms per joule (ng/J) of NO_x of Heat Output.

- (2) On and after the applicable Table 2 compliance dates, no person shall manufacture, supply, sell, resell, offer for sale, import, or Install a Water Heater or Mobile Home Water Heater for use in the South Coast AQMD that exceeds the Table 2 NO_x emission limits.

Table 2 – Zero-Emission Limits and Compliance Schedule

<u>Equipment</u>	<u>Building Type</u>	<u>NOx limit (ng/J* or ppmv)</u>	<u>Compliance Date</u>
<u>Water Heater</u>	<u>New</u>	<u>0</u>	<u>January 1, 2026</u>
	<u>Existing</u>	<u>0</u>	<u>January 1, 2027</u>
<u>Mobile Home Water Heater</u>	<u>New</u>	<u>0</u>	<u>January 1, 2026</u>
	<u>Existing</u>	<u>0</u>	<u>January 1, 2030</u>

* Nanograms per joule (ng/J) of NOx of Heat Output.

(~~e~~) Certification

- (1) The manufacturer shall obtain confirmation that each model of ~~water heater~~ Water Heater complies with the applicable requirements of subdivision (~~ed~~) from an ~~independent testing laboratory~~ Independent Testing Laboratory prior to applying for certification for a natural gas Water Heater or Mobile Home Water Heater. This confirmation shall be based upon emission source tests of a randomly selected unit of each model and the Protocol shall be adhered to during the confirmation testing of all ~~water heaters~~ Water Heaters subject to this rule.
- (2) When applying for certification of ~~water heaters~~ Water Heaters, the manufacturer shall submit to the Executive Officer the following:
 - (A) A statement that the model is in compliance with subdivision (~~ed~~), ~~The statement shall be signed and dated~~ and dated by the manufacturer ~~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, trade name; and
 - (iii) Model number, as it appears on the ~~water heater~~ Water Heater rating plate;
 - (C) A description of each model being certified; and
 - (D) A source test report verifying compliance with subdivision (~~ed~~) for each model to be certified. ~~The source test report shall be~~, prepared by the confirming ~~independent testing laboratory~~ Independent Testing Laboratory and ~~shall contain~~ ing all of the elements identified in ~~Section 10 of the Protocol for each unit tested. The source test shall have been conducted no more than ninety days prior to the date of submittal to the Executive Officer.~~
- (3) When applying for certification of ~~water heaters~~ Water Heaters, the manufacturer shall submit the items identified in paragraph (~~e~~)(2) no more than ~~ninety~~ 180 days after the date of the source test identified in subparagraph (~~e~~)(2)(D).

- (4) When applying for certification of ~~water heaters~~ Water Heaters for compliance with the emission limit specified in paragraph ~~(e)(2) or (e)(3)~~ (d)(1) or (d)(2), the manufacturer shall submit the information identified in paragraph ~~(e)(2)~~ (d)(2) at least 90 days prior to the effective compliance date specified in either paragraph ~~(e)(2) or (e)(3)~~ (d)(1) or (d)(2), respectively.
- (5) The Executive Officer shall certify a ~~water heater~~ Water Heater model which complies with the provisions of subdivision ~~(e)~~ (d) and of paragraphs ~~(e)(1), (e)(2), and (e)(3)~~ (d)(1), (d)(2), and (d)(3).
- ~~(6) Certification status shall be valid for three years from the date of approval by the Executive Officer. After the third year, recertification shall be required according to the requirements of paragraphs (d)(1) and (d)(2).~~

(f) Alternative Compliance Options

- (1) If a Mobile Home Water Heater requires a short-term replacement due to sudden Mobile Home Water Heater failure after the applicable Table 2 compliance date and an electrical upgrade is required to increase the power supply capacity to operate a Mobile Home Water Heater that complies with Table 2 emission limits, a manufacturer, distributor, retailer, or Installer may elect to offer a Mobile Home Water Heater for rent that complies with Table 1 emission limits for up to six months prior to installing a Mobile Home Water Heater that complies with Table 2 emission limits provided the manufacturer, distributor, retailer, or Installer report the date the temporary Mobile Home Water Heater was rented through the Compliance Portal no later than 72 hours after the date the temporary Mobile Home Water Heater was rented.

(g) Labeling and Reporting

- (1) Pursuant to the labeling schedule in Table 3, any Water Heater or Mobile Home Water Heater that is supplied or offered for sale for use in the South Coast AQMD prior to the applicable Table 2 compliance dates that complies with the Table 1 emission limits, but not the Table 2 emission limits, shall prominently display the statement “If Installed in South Coast AQMD: For Installation and Use in Existing Buildings Only.”

Table 3 – Labeling Schedule

<u>Equipment</u>	<u>Labeling Requirement</u>	
	<u>Start Date</u>	<u>End Date</u>
<u>Water Heater</u>	<u>January 1, 2026</u>	<u>January 1, 2027</u>
<u>Mobile Home Water Heater</u>	<u>January 1, 2026</u>	<u>January 1, 2030</u>

(2) The manufacturer of any Water Heater or Mobile Home Water Heater manufactured for sale in the South Coast AQMD shall clearly display on the shipping carton and the name plate of the water heater:

- (A) Model number;
- (B) Date of manufacture; and
- (C) Certification status.

(3) Annual Reporting Requirement

Effective on and after the Table 2 compliance dates for Existing Buildings, manufacturers of natural gas-fired Unit(s) shall submit a report by March 1st of the following calendar year to the Executive Officer. The report shall include:

- (A) Name of the product manufacturer;
- (B) List of product model(s);
- (C) Number of Units and Rated Heat Input Capacity of each model that was sold into or within the South Coast AQMD; and
- (D) The applicable equipment category in Table 2.

~~(e) Mitigation Fee~~

~~Any manufacturer that elects to submit a mitigation fee to the District to meet the Nox emission level established under subparagraph (c)(2)(C) shall:~~

- ~~(1) submit a Mitigation Fee Plan to the Executive Officer 180 days prior to complying with the provisions of paragraph (c)(2), where the Mitigation Fee Plan includes:~~
 - ~~(A) the name of the manufacturer;~~
 - ~~(B) the compliance period that the mitigation fee covers shall not exceed a 12-month time period; and~~
 - ~~(C) the number of water heaters sold over the compliance period, which shall be based on sales records or invoices of water heaters in a similar model and size that were sold in the district over the past 12 months.~~
- ~~(2) receive written verification from the Executive Officer that the Mitigation Fee Plan was approved prior to complying with the provisions of paragraph (c)(2);~~

~~(3) — on and after January 1, 2005, pay a mitigation fee at the beginning of the compliance period in the amount of \$3.00 per water heater sold as specified in subparagraph (e)(1)(C), over the time period the mitigation fee covers as specified in subparagraph (e)(1)(B); and before January 1, 2005, pay a mitigation fee in the amount of \$5,400 per ton of NO_x multiplied by the amount of NO_x emission reductions needed as specified in Equation 1;~~

Equation 1:

$$MF = \$5,400/ton \times \left[\frac{t \times n \times 190 \text{therms/yr} \times (93 - 46.5 \text{lbs/billionBtu} - \text{output}) \times 0.76}{2000 \times 10,000} \right]$$

where:

MF = Mitigation fee, Dollars

t = Time period that mitigation fee covers as specified in subparagraph (f)(1)(C)

n = Number of water heaters sold as specified in subparagraph (f)(1)(D)

~~(4) — label water heaters identified in the Mitigation Fee Plan;~~

~~(5) — maintain records and report sales of water heaters covered by the Mitigation Fee Plan and if the number of water heaters originally estimated exceed the number of water heaters identified in subparagraph (e)(1)(C), the water heater manufacturer shall update the Mitigation Fee Plan within 60 days after the end of the compliance period. Make these records available to the Executive Officer upon request, for a period of at least three years after the end of the compliance period.~~

(f) — Enforcement

~~The Executive Officer may periodically inspect distributors, retailers, and installers of water heaters located in the District and conduct such tests as are deemed necessary to insure compliance with subdivision (e).~~

(gh) Exemptions

(1) The provisions of this rule shall not apply to: [Water Heaters used in Recreational Vehicles.](#)

(2) This rule does not apply to units subject to [Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters.](#)

- ~~(1) — Water heaters with a rated heat input capacity of 75,000 Btu per hour or greater.~~
- ~~(2) — Water heaters used in recreational vehicles.~~

~~(h) — Final Progress Report~~

~~On or before April 1, 2007, any person that manufacturers direct-vent, power-vent or power direct-vent water heaters for sale within the South Coast Air Basin shall submit to the Executive Officer a final progress report that shall include:~~

- ~~(1) — Identification of efforts that have been made to reach commercialization of direct-vent, power-vent, and power direct-vent water heaters that meet the NO_x emission level specified under paragraph (c)(3);~~
- ~~(2) — A description of the technologies used to meet the NO_x emission level for direct-vent, power-vent, and power direct-vent water heaters specified under paragraph (c)(3); and~~
- ~~(3) — Complete documentation for at least three laboratory test results each for direct-vent, power-vent, and power direct-vent water heaters developed to meet the NO_x emission level specified under paragraph (c)(3) that shall include the emissions rate measured by an independent testing laboratory using the SCAQMD protocol specified under paragraph (b)(11) or other protocol approved in advance by the Executive Officer.~~

~~(i) — Program Administration~~

~~On and after September 3, 2004, the Executive Officer is authorized to use up to 5% of the mitigation fee funds collected in any given year for program administration.~~