

**RULE 360. BOILERS, WATER HEATERS, AND PROCESS HEATERS (0.075 – 2 MMBtu/hr)**  
~~**EMISSIONS OF OXIDES OF NITROGEN FROM LARGE WATER HEATERS AND SMALL BOILERS.**~~ (Adopted 10/17/2002, revised xx/xx/xxxx)

**A. Applicability**

This rule applies to any person who supplies, sells, offers for sale, installs, modifies, or solicits the installation or modification of any ~~new water heater~~, boiler, water heater, steam generator or process heater for use within the District with a rated heat input capacity greater than or equal to 75,000 Btu ~~ritish thermal units~~ per hour up to and including 2,000,000 Btu ~~ritish thermal units~~ per hour.

**B. Exemptions**

1. The provisions of this rule shall not apply to:

- a. Units used in recreational vehicles,
- b. Units installed in manufactured homes,
- c. Hot water pressure washers, or
- d. Portable water heaters used exclusively for underwater diving operations.

**B.C. Definitions**

See Rule 102, Definitions, for definitions not limited to this rule. -For the purposes of this rule, the following definitions shall apply:

**“Boiler or Steam Generator”** means any external combustion equipment fired with liquid and/or gaseous and/or solid ~~fossil~~ fuel; that is used to produce steam or to heat water. -These terms do not include any unfired waste heat recovery boiler that is used to recover sensible heat from ~~a~~ the exhaust of any combustion ~~equipment~~ device.

**“Btu”** means British thermal unit or units.

**“Heat Output”** means the enthalpy of the working fluid output of the unit.

**“Hot Water Pressure Washer”** means a high-pressure cleaning machine in which the hot water discharge line (spray nozzle) is hand supported and is intended for commercial and industrial applications.

**“Manufactured Home”** means as defined in 42 United States Code Section 5402 and California Health and Safety Code Section 18007.

**“Modify”** means any of the following actions:

1. Replacing a burner or burners on a unit; or
2. Removing a unit from the site of its original installation and installing it at a different location. A unit that is reinstalled within the same stationary source is not modified.

**“Pool Heater”** means a water heater designed to heat a pool, hot tub, or spa.

**“ppm”** means parts per million by volume expressed on a dry gas basis.

**“Process Heater”** means any external combustion equipment fired with liquid and/or gaseous ~~fuel~~ and/or solid fuel which transfers heat from combustion gases to water or process streams. -Process Heater does not include any kiln or oven used for drying, baking, curing, cooking, calcinating or vitrifying or any unfired waste heat recovery heater that is used to recover sensible heat from the exhaust of any combustion equipment. ~~fuel-fired degreasing or metal-finishing equipment.~~

~~“Rated Heat Input Capacity” means the gross heat input specified on the nameplate of the unit or the burner.~~

“Rated Heat Input Capacity” means the heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been physically modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the modified maximum heat input shall be considered as the rated heat input. The new maximum heat input must be certified, in writing, by the manufacturer or installer and engineering calculations supporting the new maximum heat input rating must be submitted to and approved by the District. The District may require the modified maximum heat input capacity to be demonstrated by a fuel meter while operating the unit at maximum capacity.

“Recreational Vehicle” means 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.

**“Unit”** means a ~~water heater,~~ boiler, water heater, steam generator, or process heater.

**“Water Heater”** means a device that heats water at a thermostatically controlled temperature for delivery on demand. -Water is heated by the combustion of either liquid and/or gaseous and/or solid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 pounds per square inch gauge. -The device includes the apparatus by which heat is generated and all controls and equipment necessary to prevent water temperature from exceeding 210°F (99°C).

#### C.D. Requirements – General

~~1. After October 17, 2003, a person shall not supply, sell, offer for sale, install or solicit the installation of any new unit with a rated heat input capacity greater than or equal to 75,000 British thermal units per hour and less than or equal to 400,000 British thermal units per hour in the District that does not meet the following criteria:~~

~~a. Oxides of nitrogen emissions shall not exceed 40 nanograms per joule (93 pounds oxides of nitrogen per billion British thermal unit) of heat output, or 55 parts per million at 3.00 percent stack gas oxygen by volume on a dry basis, and~~

~~b. The unit is certified in accordance with Section D.~~

~~2. After October 17, 2003, a person shall not supply, sell, offer for sale, install or solicit the installation of any new unit with a rated heat input capacity greater than 400,000 British thermal units per hour and less than or equal to 2,000,000 British thermal units per hour in the District that does not meet the following criteria:~~

~~a. Oxides of nitrogen emissions shall not exceed 30 parts per million at 3.00 percent stack gas oxygen by volume on a dry basis and carbon monoxide emissions shall not exceed 400 parts per million at 3.00 percent stack gas oxygen by volume on a dry basis, and~~

~~b. The unit is certified in accordance with Section D.~~

1. Until December 31, 2018, no person shall supply, sell, offer for sale, install or solicit the installation of any unit that was manufactured on or after October 18, 2003 unless it has been certified in accordance with Section E and complies with the emission limits set forth in Table 1 below.

**Table 1: Emission Limits Effective On or After 10/18/2003 Until 12/31/2018**

<u>Type and Size of Unit</u>	<u>NOx Emission Limit</u>	<u>CO Emission Limit</u>
<u>All units:</u> <u>75,000 - 400,000 Btu/hr</u>	<u>55 ppm at 3% O<sub>2</sub></u> <u>or 40 ng/J of heat output</u>	<u>N/A</u>
<u>All units:</u> <u>&gt; 400,000 - 2,000,000 Btu/hr</u>	<u>30 ppm at 3% O<sub>2</sub></u>	<u>400 ppm at 3% O<sub>2</sub></u>

2. On or after January 1, 2019, no person shall supply, sell, offer for sale, install, modify, or solicit the installation or modification of any unit unless it has been certified in accordance with Section E and complies with the emission limits set forth in Table 2 below.

**Table 2: Emission Limits Effective On or After 1/1/2019**

<u>Type and Size of Unit</u>	<u>NOx Emission Limit</u>		<u>CO Emission Limit</u>
	<u>Natural Gas</u>	<u>All other fuels</u>	
<u>Pool heaters:</u> <u>75,000 - 400,000 Btu/hr</u>	<u>55 ppm at 3% O<sub>2</sub></u> <u>or 40 ng/J of heat output</u>	<u>55 ppm at 3% O<sub>2</sub></u>	<u>N/A</u>
<u>All units, except pool heaters:</u> <u>75,000 - 400,000 Btu/hr</u>	<u>20 ppm at 3% O<sub>2</sub></u> <u>or 14 ng/J of heat output</u>	<u>55 ppm at 3% O<sub>2</sub></u>	<u>N/A</u>
<u>All units:</u> <u>&gt;400,000 - 2,000,000 Btu/hr</u>	<u>20 ppm at 3% O<sub>2</sub></u> <u>or 14 ng/J of heat output</u>	<u>30 ppm at 3% O<sub>2</sub></u>	<u>400 ppm at 3% O<sub>2</sub></u>

**D.E. Requirements – Compliance Certification**

1. Every unit subject to the emission limits in Section D ~~offered for sale within the District~~ shall be certified by the Control Officer. ~~On or before the applicable compliance date specified in Section D.C.1 or D.C.2, and thereafter at least 30 days prior to the date of proposed sale,~~ installation, or modification within the District, the manufacturer shall submit a compliance report for each new or modified unit by model. Certification shall be valid for three (3) years from the date of written approval by the Control Officer.
- a. For each model certified, the manufacturer shall obtain from an independent testing laboratory a certification source test verifying compliance with the emission limits in Section D.C. -Source tests shall be conducted on a randomly selected unit no more than 90 days prior to the date of proposed sale, installation, or modification of the model in the District. ~~Tests shall be conducted and reports shall be prepared according to Attachment A~~ Section G of this rule.
- a.b. The compliance report shall contain the following information:
- 1) General Information
    - a) Name and address of the manufacturer,
    - b) Brand name,
    - c) Model number, as it appears on the permanent nameplate,
    - d) Fuel type that the unit is fired with, and

~~Ⓧ~~e) Description of the model being certified, including burner type and rated heat input capacity.

- 2) A report on the source test specified in Section ~~Ⓓ~~E.1.a, and
- 3) A signed and dated statement attesting, under penalty of perjury, to the accuracy of all statements and information in the compliance report.

2. In lieu of the requirements of Section E.1, equipment models certified by the South Coast Air Quality Management District in accordance with the requirements of South Coast Air Quality Management District Rule 1146.2, as amended May 5, 2006, may be considered certified for sale or installation in Santa Barbara County.

#### **E.F. Requirements – Identification of Compliant Units**

The manufacturer shall display both the model number and the certification status, as determined in Section ~~E~~D of this rule, of an applicable unit on the permanent nameplate. -If the permanent nameplate is obscured by packaging, the model number and certification status shall also appear on the packaging.

#### **G. Test Methods**

1. Natural gas-fired water heaters and boilers shall be tested in accordance with the South Coast Air Quality Management District Protocol: *Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers*, as amended January 1998.

2. All other units shall be tested in accordance with the test methods below:

- a. Oxides of Nitrogen – CARB Method 100 or EPA Method 7E.
- b. Carbon Monoxide – CARB Method 100 or EPA Method 10.
- c. Stack Gas Oxygen – CARB Method 100 or EPA Method 3A.

All emission determinations shall be made while the unit is operating according to the manufacturer's recommendations. Tests shall be conducted while the unit is operating at a firing rate that is as close as physically possible to the unit's recommended heat input capacity. Tests shall consist of three 15-minute sampling periods. Results shall be averaged over the three test periods.

#### **F.H. Enforcement**

The Control Officer may periodically inspect distributors, retailers, and installers of ~~water heaters~~units located in the District and require such tests as are deemed necessary to ensure compliance with the provisions of this rule.

- ~~1. Oxides of nitrogen emissions are measured as nitrogen dioxide using Air Resources Board Method 100. Field emission tests shall be conducted on units fired at maximum rated capacity, or as near thereto as practicable.~~

#### **Attachment A Certification Source Tests**

~~Certification source tests, as specified in Subsection D.1, shall be conducted according to “Nitrogen Oxides Emissions Compliance Testing for Natural Gas Fired Water Heaters and Small Boilers,” Protocol, South Coast Air Quality Management District, Source Testing and Engineering Branch, Applied Science and Technology.~~