

ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

**RULE 1121 -- CONTROL OF NITROGEN OXIDES FROM RESIDENTIAL TYPE,
NATURAL GAS-FIRED WATER HEATERS**

(Adopted: 12/01/78; Amended: 03/10/95)

(a) **Applicability**

This rule applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters, with heat input rates less than 75,000 Btu per hour.

(b) **Definitions**

For the purpose of this rule:

- (1) BTU means British thermal unit or units.
- (2) EXECUTIVE OFFICER means the South Coast Air Quality Management District Executive Officer or designee.
- (3) HEAT OUTPUT means the product H_O as defined in Section 9.3 of the Protocol.
- (4) INDEPENDENT TESTING LABORATORY means a testing laboratory that meets the requirements of District Rule 304, subdivision (k) and is approved by the District to conduct certification testing under the Protocol.
- (5) MOBILE HOME WATER HEATER means a closed vessel manufactured exclusively for mobile home use in which water is heated by combustion of gaseous fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary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).
- (6) NO_x EMISSIONS means the sum of nitric oxide and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide.
- (7) PROTOCOL means South Coast Air Quality Management District Protocol: *Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers*, January 1995.

- (8) 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 than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.
- (9) 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a closed vessel other than a mobile home water heater in which water is heated by combustion of gaseous fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary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).

(c) Requirements

A person shall not distribute, sell, offer for sale, or install within the South Coast Air Quality Management District:

- (1) Gas-fired water heaters that:
 - (A) Emit nitrogen oxides in excess of 40 nanograms of NO_x (calculated as NO₂) per joule (93 lb per billion Btu) of heat output; or
 - (B) Are not certified in accordance with subparagraph (d).
- (2) Gas-fired mobile home water heaters that:
 - (A) Emit nitrogen oxides in excess of 50 nanograms of NO_x (calculated as NO₂) per joule (116 lb per billion Btu) of heat output; or
 - (B) Are not certified in accordance with subparagraph (d).

(d) Certification

- (1) The manufacturer shall obtain confirmation that each model of water heater complies with the applicable requirements of subdivision (c) from an independent testing laboratory prior to applying for certification. This confirmation shall be based upon emission tests of a randomly selected unit of each model and the Protocol shall be adhered to during the confirmation testing of all water heaters subject to this rule.
- (2) When applying for certification of water heaters, the manufacturer shall submit to the Executive Officer the following:

- (A) A statement that the model is in compliance with subdivision (c). The statement shall be signed and dated, and shall attest to the accuracy of all statements;
 - (B) General Information
 - (i) Name and address of manufacturer,
 - (ii) Brand name, and
 - (iii) Model number, as it appears on the water heater rating plate;
 - (C) A description of each model being certified; and
 - (D) A source test report verifying compliance with subdivision (c) for each model to be certified. The source test report shall be prepared by the confirming independent testing laboratory and shall contain 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, the manufacturer shall submit the items identified in paragraph (d)(2) no more than ninety days after the date of the source test identified in subparagraph (d)(2)(D).
 - (4) The Executive Officer shall certify a water heater model which complies with the provisions of subdivision (c) and of paragraphs (d)(1), (d)(2), and (d)(3).
 - (5) 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).
 - (6) The provisions of paragraph (d)(5) shall not apply to any water heater model which is included in a NO_x validation program approved by the Executive Officer. In order to be considered for approval by the Executive Officer, a NO_x validation program must, at a minimum, meet the following criteria:
 - (A) The program shall be administered by an entity which has no financial interest in any of the manufacturers participating in the program, or in any parent company or any subsidiary thereof;
 - (B) The program shall be administered in association with an efficiency verification program recognized by an agency of the Federal government; and
 - (C) The Protocol shall be adhered to for all NO_x emission testing associated with the program and such testing shall be conducted by an independent testing laboratory.

(e) Identification of Complying Heaters

The manufacturer shall display the model number of the water heater complying with subdivision (c) on the shipping carton and rating plate. The manufacturer shall also display the certification status on the shipping carton and on the water heater.

(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 (c).

(g) Exemptions

The provisions of this rule shall not apply to:

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

(h) Compliance Schedule

- (1) The provisions of District Rule 1121 as adopted December 1, 1978 shall remain in effect through June 30, 1995.
- (2) The provisions of this revision of Rule 1121 shall become effective July 1, 1995.
- (3) The certification of one third of each manufacturer's models certified prior to July 1, 1995 shall expire on each of the following dates: July 1, 1996, July 1, 1997, and July 1, 1998.
- (4) Each manufacturer of currently certified models of water heaters shall submit a compliance plan to the Executive Officer no later than December 31, 1995. The compliance plan shall identify by model number the specific water heater models to have their certification expire in each of the three years identified in paragraph (h)(3). The certification of any water heater model certified prior to July 1, 1995 which is not specifically identified in a compliance plan shall expire July 1, 1996.

[SIP: Approved 11/1/96, 61 FR 56470, 40 CFR 52.220(c)(220)(i)(C)(1); Approved 9/28/81, 46 FR 47451, 40 CFR 52.220(c)(67)(i)(B)]