



Air Pollution Control Board

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TO: Workshop Participants and Other Interested Parties

**PROPOSED NEW RULE 69.5.1 – NATURAL GAS-FIRED WATER HEATERS AND
REPEAL OF EXISTING RULE 69.5 – NATURAL GAS-FIRED WATER HEATERS**

On January 16, 2014, the San Diego County Air Pollution Control District (District) conducted a public workshop to receive comments on proposed new Rule 69.5.1 – Natural Gas-Fired Water Heaters. Attached are the workshop report, which includes the District's responses to the comments received, and proposed new Rule 69.5.1.

If you have any questions or comments regarding the proposed rule or the workshop report, please contact Randy Consolacion at (858).586-2752 or Natalie Yates at (858) 586-2756.

A handwritten signature in blue ink that reads 'Robert C. Reider'.

ROBERT C. REIDER, Deputy Director
Air Pollution Control District

RR:RC:jl

Attachments

**AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO**

**PROPOSED NEW RULE 69.5.1 – NATURAL GAS-FIRED WATER HEATERS AND
REPEAL OF EXISTING RULE 69.5 – NATURAL GAS-FIRED WATER HEATERS**

WORKSHOP REPORT

A workshop notice was mailed to manufacturers, distributors and installers of water heaters for use in San Diego County. Notices were also mailed to all Economic Development Corporations and Chambers of Commerce in San Diego County, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties.

The workshop was held on January 16, 2014, and was attended by 7 people. Written comments were also received after the workshop. The workshop comments and District responses are as follows:

1. WORKSHOP COMMENT

Proposed Rule 69.5.1 should include an explicit date, e.g. January 1, 2015, after which water heater manufacturers cannot ship non-compliant equipment for distribution and use in San Diego County. In addition, distributors (wholesalers and retailers) should be allowed a sell-through period of three months after the manufacturer shipment date, e.g. April 1, 2015, to sell their inventory of non-compliant equipment. Contractors should also purge their inventory and have all non-compliant equipment installed by the same date (April 1, 2015). After the sell-through date, any excess inventory can only be sold for use outside of the County.

The aforementioned distribution and sell-through dates are suggested, so that manufacturers can adequately forecast and plan for shipment of non-compliant water heaters that can be sold during the sell-through period.

DISTRICT RESPONSE

The District disagrees. The suggestion to include in the rule a specific shipping deadline for non-compliant equipment is not feasibly enforceable by the District, and therefore cannot be added to the rule as suggested.

Instead, the proposed rule has been revised to take effect 12 months after the rule adoption date. This 12-month period, which is an extension of the 6-month period as originally proposed in the workshopped draft version of the rule, provides additional time and flexibility to adequately plan for the shipment, sale and installation of non-compliant equipment prior to the rule's effective date.

2. WORKSHOP COMMENT

Non-compliant water heaters should be allowed to be stored in San Diego County, if they are to be sold outside the County.

DISTRICT RESPONSE

Proposed Rule 69.5.1 does not preclude the storage of non-compliant water heaters in San Diego County if such units are to be sold for use only outside the County.

3. WRITTEN COMMENT

Proposed Rule 69.5.1 should also apply to larger residential and commercial units with a rated heat capacity of 75,000 Btu/hr to less than 600,000 Btu/hr. This size of equipment is already regulated by other California air districts. In San Diego County, there are approximately more than 100,000 of such units currently installed. Also, because these larger units typically operate more frequently than the smaller residential water heaters, there would be an additional reduction in air pollution.

DISTRICT RESPONSE

The District disagrees. Water heaters subject to the proposed rule (with a heat capacity of less than 75,000 Btu/hr) are typically used at residences. Larger units rated between 75,000 Btu/hr and 600,000 Btu/hr are mostly used in commercial or small industrial installations, and therefore would be more appropriately regulated under a separate rule. In the future, the District will consider the feasibility of regulating water heaters rated between 75,000 and 600,000 Btu/hr.

4. EPA COMMENT

EPA recommends revising an exemption in Subsection (b)(iv), for instantaneous water heaters. For example, San Joaquin Valley APCD Rule 4902 requires that instantaneous water heaters comply with the emission limit of 14 nanograms of NO_x per joule of heat output.

DISTRICT RESPONSE

The District disagrees. A review of product information from instantaneous water heater manufacturers indicates that the majority of units currently available are rated above 75,000 Btu/hr. Only two manufacturers were found to produce instantaneous water heaters rated below 75,000 Btu/hr (the applicability level of the proposed rule).

Small instantaneous water heaters (rated below 75,000 Btu/hr) are designed primarily to quickly provide hot water supply on demand to a single point of use, such as a water faucet. Unlike storage tank water heaters, small instantaneous water heaters do not have the heating capacity to

provide an adequate supply of hot water to serve multiple points of use at the same time. Due to their limited and infrequent use, and substantially smaller portion of the market compared to larger instantaneous water heaters and storage tank water heaters, any excess emissions that may result by the exemption of small instantaneous water heaters rated less than 75,000 Btu/hr are expected to be minimal.

For these reasons, the instantaneous water heater exemption in proposed Rule 69.5.1 has not been revised. However, in the future, the District will consider the feasibility of regulating large instantaneous water heaters rated above 75,000 Btu/hr.

5. EPA COMMENT

EPA recommends revising Subsection (b)(ii) – Exemption, for water heaters used exclusively for swimming pools and hot tubs. San Joaquin Valley APCD Rule 4902 requires that pool heaters comply with the emission limit of 40 nanograms of NO_x per joule of heat output.

DISTRICT RESPONSE

The District disagrees. A review of product information from pool and hot tub manufacturers indicates that units rated below 75,000 Btu/hr (the applicability level of the proposed rule) are currently not available. However, in the future, the District will consider the feasibility of regulating water heaters for pools and hot tubs.

6. EPA COMMENT

It is recommended to include the full title of the EPA-approved test methods in Section (h)(1) and (h)(2), according to EPA's Guidance Document for Correcting Common VOC & Other Rule Deficiencies (The Little Bluebook).

DISTRICT RESPONSE

The District agrees. Subsections (h)(1) and (h)(2) have been revised as suggested.

7. EPA COMMENT

Section (h) of the proposed rule should contain the statement, "A violation determined by either test method shall constitute a violation of the rule," as recommended in the Little Bluebook.

DISTRICT RESPONSE

The District agrees. Section (h) has been revised as suggested.

8. ARB COMMENTS

ARB reviewed and had no comments on the proposed rule.

RC:RR:jlm
08/07/14

RULE 69.5.1 NATURAL GAS-FIRED WATER HEATERS

(Adopted (*adoption date*), Effective (*126 months after adoption date*))

(a) **APPLICABILITY**

Except as otherwise provided in Section (b), this rule shall apply to any person who manufactures, distributes, sells, offers for sale, or installs, for use in San Diego County, a new water heater operated with natural gas and with a rated heat input capacity of less than 75,000 Btu per hour.

(b) **EXEMPTIONS**

(1) The provisions of this rule shall not apply to:

- (i) Water heaters used in recreational vehicles;
- (ii) Water heaters used exclusively to heat swimming pools and hot tubs;
- (iii) Water heaters using fuels other than natural gas;
- (iv) Instantaneous water heaters;
- (v) Existing or relocated water heaters.

(2) The provisions of Sections (e), (f) and (g) shall not apply to a new water heater used in conjunction with any equipment, product line, system, process line or process that is subject to permit requirements of Rule 10.

(c) **DEFINITIONS**

For the purpose of this rule the following definitions shall apply:

- (1) **“Btu”** means British thermal units.
- (2) **“Existing Water Heater”** means a water heater which was installed and capable of operation before (*rule effective date*).
- (3) **“Heat Output”** means the product obtained by multiplying recovery efficiency, as defined by Section 6.1.3 of the Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix E, by the rated heat input capacity of the water heater.
- (4) **“Installed”** means located onsite at the final destination and capable of operation.
- (5) **“Instantaneous Water Heater”** means a water heater that heats water only when it flows through a heat exchanger.

(6) **“Mobile Home”** means a structure as defined in Section 18007 or 18008 of the California Health and Safety Code.

(7) **“Mobile Home Water Heater”** means a water heater manufactured exclusively for mobile home use.

(8) **“New Water Heater”** means a water heater installed, manufactured, or sold on or after (*rule effective date*).

(9) **“Rated Heat Input Capacity”** means the heat input capacity of a water heater, in Btu per hour, as specified by the manufacturer on the nameplate of the water heater.

(10) **“Recreational Vehicle”** means the same as defined in Section 18010 of the California Health and Safety Code.

(11) **“Relocated Water Heater”** means an existing water heater which is moved within San Diego County from one stationary source to another stationary source. A relocated water heater is deemed to maintain the status of an existing water heater at the subsequent stationary source.

(12) **“Stationary Source”** means the same as defined in Rule 2.

(13) **“Water Heater”** means a closed vessel in which water heated by combustion of natural gas is withdrawn for use external to the vessel at pressures not exceeding 160 psig. Water heater consists of the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).

(d) **STANDARDS**

Except as otherwise provided in Section (b), effective (*rule effective date*), no person shall manufacture, distribute, sell, offer for sale, or install, for use within San Diego County:

(1) Any new water heater (not for use in a mobile home) that operates on natural gas and emits more than:

(i) 10 nanograms of nitrogen oxides (calculated as nitrogen dioxide) per joule (23 lbs of nitrogen oxides per billion Btu) of heat output, or

(ii) 15 parts per million by volume nitrogen oxides (calculated as nitrogen dioxide) at 3% oxygen on a dry basis (17.5 lbs per billion Btu of heat input).

(2) Any new mobile home water heater that operates on natural gas and emits more than:

(i) 40 nanograms of nitrogen oxides (calculated as nitrogen dioxide) per joule (93 lbs of nitrogen oxides per billion Btu) of heat output, or

(ii) 55 parts per million by volume nitrogen oxides (calculated as nitrogen dioxide) at 3% oxygen on a dry basis (71 lbs per billion Btu of heat input).

(e) **CERTIFICATION**

(1) A manufacturer of any new water heater to be offered for sale in San Diego County shall submit to the Air Pollution Control Officer a statement certifying that each model of water heater subject to the requirements of Section (d) complies with all other provisions of this rule.

(i) The statement shall be signed, dated, and attest to the accuracy of all information.

(ii) The statement shall be submitted at least 30 days before the new water heater model is offered for sale, sold, or installed within San Diego County.

(iii) The statement shall include:

(A) Brand name,

(B) Model number,

(C) Rated heat input capacity as specified on the nameplate, and

(D) Test results of emissions of nitrogen oxides for each model being certified.

(2) A manufacturer shall submit to the Air Pollution Control Officer a certification statement for any water heater model whose design is changed in any manner which may alter emissions of nitrogen oxides.

(3) Alternatively, to comply with Subsections (e)(1) or (e)(2), a manufacturer may submit to the Air Pollution Control Officer a certification statement for the water heater model as required in the South Coast Air Quality Management District (SCAQMD) Rule 1121, Section (d).

(f) **LABELING**

On the shipping carton and the nameplate of every new water heater to be offered for sale in San Diego County, the manufacturer shall display the model number of the new water heater complying with Section (e) requirements, or alternatively, the most current requirements of the SCAQMD Rule 1121.

(g) **RECORD KEEPING**

A manufacturer shall keep test records for emissions of nitrogen oxides and certification records for as long as the new water heater model is offered for sale or sold within San Diego County, or for three calendar years after manufacture, whichever is longer. Such records shall be provided to the District upon request.

(h) **TEST METHODS**

To determine compliance with Section (d), measurement of emissions of nitrogen oxides shall be conducted in accordance with:

(1) San Diego Air Pollution Control District Test Method 100, Test Procedures for the Determination of Nitrogen Oxides, Carbon Monoxide and Diluent Gases by Continuous Emission Monitoring, as approved by the U.S. Environmental Protection Agency (EPA) in May 1995; or

(2) SCAQMD Test Method 100.1, Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling, as approved by the U.S. EPA in March 1989.

A violation determined by either test method shall constitute a violation of the rule.

(i) **EMISSION TEST REQUIREMENTS**

Emission tests shall be performed in accordance with the procedures and methods outlined in the SCAQMD Protocol: Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers, January 1998.