

R307. Environmental Quality, Air Quality.

R307-316. NO_x Emission Controls for Natural Gas-Fired Boilers greater than 5.0 MMBtu.

R307-316-1. Purpose.

Rule R307-316 establishes maximum emission thresholds for the emissions of oxides of nitrogen (NO_x) for new or modified natural gas-fired boilers with a total rated heat input greater than 5.0 million British Thermal Units per hour (MMBtu/hr).

R307-316-2. Applicability.

Rule R307-316 applies to each boiler that commences construction or modification after the compliance date defined in Section R307-316-6 that:

- (1) is fueled by natural gas;
- (2) has a total rated heat input greater than 5.0 MMBtu/hr;
- (3) is operated in an industrial, institutional, or commercial setting;
- (4) is located in Salt Lake, Utah, Davis, Weber, or Tooele County; and
- (5) is not a temporary boiler.

R307-316-3. Definitions.

As used in this rule:

“Boiler” means boiler as defined in 40 CFR 63.11237, Subpart JJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, which is incorporated by reference in Rule R307-210.

“Burner” means the functional component of a boiler that provides the heat input by combustion of a fossil fuel with air or oxygen. Burners are available either as part of the boiler package from the manufacturer, as stand-alone products for custom installations, or as replacement products.

“Construction” means any physical change or change in the method of operation including fabrication, erection, installation, demolition, or modification of a source which would result in a change in actual emissions.

“Modification” means any planned change in a source that results in a potential increase of emission.

“Natural gas” means:

- (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface of which the principal constituent is methane;
- (2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 63.14);
- (3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (i.e., a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or
- (4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C₃H₈.

“Temporary boiler” means any gaseous or liquid fuel-fired steam generating unit that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least two years, and operates at that facility for at least three months each year.
- (4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

R307-316-4. Requirements.

- (1) Except as provided in Subsection R307-316-4(8), a person that:
 - (a) commences construction, or modification of a boiler;
 - (b) replaces a burner in a boiler; or

(c) replaces 50% or more of the burners in a multi-burner boiler, for a boiler meeting the requirements of Section R307-316-2 shall:

(2) Install a burner that is certified to meet a NO_x emission rate of nine parts per million by volume (ppmv) or less at 3% volume stack gas oxygen on a dry basis averaged over a 24-hour period.

(3) An owner or operator of a boiler subject to Subsection R307-316-4(1) shall operate and maintain the boiler and boiler subsystems, including burner(s), according to the manufacturer's instructions.

(4) A manufacturer of a boiler or boiler burner meeting the requirement of Subsection R307-316-4(2) shall certify the boiler or boiler burner as complying with the emission rate in Subsection R307-316-4(2).

(5) Boilers over 40 MMBtu/hr shall be tested for compliance with the emission limit in Subsection R307-316-4(2) no less than once every three years using EPA Reference Method 7E.

(6) Manufacturer's operational specifications, records, and testing of any control system shall use the applicable EPA Reference Methods of 40 CFR Part 60, the most recent EPA test methods, or EPA-approved state methods, to determine the efficiency of the control device.

(7) The owner or operator must meet the applicable recordkeeping requirements for any control device.

(8) Any person may apply to the director for approval of an alternate method of control. The application must include a demonstration that the proposed alternate produces an equal air quality benefit as required by Subsection R307-316-4(2) or the best achievable level of control available.

R307-316-5. Recordkeeping.

(1) The owner or operator of any unit subject to Rule R307-316 shall:

(a) Retain documentation of the unit's emission rate specifications;

(b) Retain a copy of the manufacturer's recommendations for proper operation and maintenance of units covered by Rule R307-316;

(c) Maintain records showing proper operation and maintenance of units covered by Rule R307-316 following manufacturer's recommendations;

(d) Retain a copy of the manufacturer's certification for any replacement burner;

(e) Retain records of any certification testing as required under Section R307-316-4(5); and

(f) Retain a record of approval of any alternative method of control as outlined in Subsection R307-316-4(8).

(2) Operation and maintenance records shall be retained for five years and shall be made available to the director upon request.

R307-316-6. Compliance Schedule.

The compliance schedule for this rule shall begin on May 1, 2023.

KEY: air pollution, boiler, NO_x, nitrogen oxides

Date of Last Change:

Authorizing, and Implemented or Interpreted Law: 19-2-104