

RULE 400.4 EMISSIONS OF OXIDES OF NITROGEN FROM WALLBOARD KILNS  
(Adopted 10/22/2013)

A. Applicability

- A.1 This Rule limits emissions of oxides of nitrogen (NOx) from Kilns operated at wallboard production facilities.
- A.2 This Rule shall apply to any new or existing Kiln(s) with a heat input rating of 5 million British Thermal Units (Btu) per hour or more, unless exempt pursuant to Section D of this Rule.
- A.3 Kilns that are subject to the provisions of this Rule shall not be subject to Rule 400.

B. Definitions

Terms applicable to this Rule and not found within this Rule are defined in Rule 101-Definitions

- B.1 WALLBOARD KILN: is a device for drying in the manufacturing process of gypsum wallboard.

C. Requirements

- C.1 Wallboard Kilns shall not emit NOx in excess of the following:
  - C.1.a 30 parts per million by volume (ppmv) or 0.036 pounds per million Btu of heat input when operated on gaseous fuels.
  - C.1.b 40 ppmv or 0.052 pounds per million Btu of heat input when operated on liquid fuels.
  - C.1.c The heat-input weighted average of the limits specified in C.1.a and C.1.b, when operated in combination of gas and liquid fuels.

$$\text{Weighted Average Limit} = \frac{(\text{NOx limit for gaseous fuel} \times G) + (\text{NOx limit for liquid fuel} \times L)}{G + L}$$

Where: G = annual heat input from gaseous fuel  
L = annual heat input from liquid fuel

- C.2 All ppmv emission limits are referenced at dry stack-gas conditions and 3.0% by volume stack-gas oxygen as an hourly average.

D. Exemptions

The provisions of this Rule shall not apply to the following:

- D.1 The emission limits in Sections C.1 and C.2 shall not apply during Startup and Shutdown provided the operator complies with the requirements specified below:
- D.1.a The duration of each start-up shall not exceed two hours.
  - D.1.b The duration of each shutdown shall not exceed 15 minutes.
  - D.1.c Wallboard Kilns shall not emit NO<sub>x</sub> in excess of 60 (sixty) parts per million by volume (ppmv), 3.0% by volume stack-gas oxygen, during any Start-up or Shut-down episode.
  - D.1.d The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during startup or shutdown episodes.
  - D.1.e The Wallboard Kilns subject to this exemption shall be operated in a manner consistent with good practice for minimizing emissions and use best efforts regarding planning, design, and operating procedures to meet the otherwise applicable emission limitation at all times.

E. Monitoring and Recordkeeping Requirements

- E.1 The Owner or Operator of Wallboard Kilns subject to this Rule shall maintain an operating log and shall record actual times and duration of all Startups and Shutdowns, including the type and quantity of each fuel used. In addition, the owner or operator's actions during startup and shutdown periods must be documented by properly signed, contemporaneous operating logs, or other relevant evidence.
- E.2 For the purpose of a compliance determination based on CEMS data, the averaging period to calculate NO<sub>x</sub> emission concentrations shall be one clock hour.

F. Test Methods

- F.1 Compliance with the NO<sub>x</sub> emission limits in Section C shall be determined using United States Environmental Protection Agency (US EPA) Method 7, 7A, 7C, 7E, California Air Resources Board (CARB) Method 100, or any other applicable US EPA approved test method.

G. Source Test Requirements

- G.1 Any required source testing shall be performed at no less than 80% of the power rating. If an Owner or Operator demonstrates to the satisfaction of the APCO that the Equipment cannot operate at these conditions, then emission source testing shall be performed at the highest achievable continuous power rating.
- G.2 Kilns subject to the requirements of Section C shall demonstrate compliance through emission compliance testing not less than once every 12 months. All emission rates shall be based on an hourly average. Frequency of compliance testing may be extended under the following:
  - G.2.a The frequency of compliance testing may be extended to not less than every 36 months for Kilns which operate less than 100 hours per a 12 month period (as demonstrated by operational logs) and which emit less than 5 tons of NO<sub>x</sub> per a 12 month period. This period may be extended if a source can prove that the Kiln(s) has not been operated during the calendar year.
- G.3 Test reports shall include the operational characteristics recommended by the manufacturer to ensure compliance with the applicable emission limits of this Rule and all add-on NO<sub>x</sub> control systems.
- G.4 For the purposes of a compliance determination based on source testing, the NO<sub>x</sub> emission concentrations shall be calculated as an average of three test runs.
- G.5 At least 30 days prior to the scheduled source test date, the Owner or Operator of a unit subject to this Rule shall submit a source test plan to the APCO. At least seven (7) days prior to the source test, the Owner or Operator shall notify the APCO of the exact date and time of the source test. A final source test result shall be submitted to the APCO within 60 days following the actual source test date.

H. Records Retention

- H.1 The Owner or Operator of a Wallboard Kiln(s) subject to this Rule shall maintain all records required by this Rule for a minimum of two (2) calendar years. Title V facilities shall maintain these records for five (5) calendar

years. These records shall be maintained on the premises and made available to the District upon request.