

RULE 4313 LIME KILNS (Adopted March 27, 2003)

1.0 Purpose

The purpose of this rule is to limit emissions of nitrogen oxide (NO<sub>x</sub>) compounds from lime kilns.

2.0 Applicability

The requirements of this rule shall apply to the operation of lime kilns.

3.0 Definitions

3.1 Lime Kiln: a unit in which direct heat is used to calcine lime mud, which consists primarily of oxidizing calcium carbonate, into quicklime, which is calcium oxide.

3.2 NO<sub>x</sub> Emissions: the sum of oxides of nitrogen in the flue gas expressed as NO<sub>2</sub>.

4.0 Requirements

4.1 In accordance with the requirement of Section 6.0 the lime kiln shall not discharge into the atmosphere any gases, which contain oxides of nitrogen, expressed as NO<sub>2</sub>, that exceed the limits in Sections 4.1.1 through 4.1.3. The operator shall demonstrate compliance with the applicable emission limits pursuant to Sections 4.2 and 5.3.

4.1.1 0.10 pound per million Btu when burning gaseous fuel;

4.1.2 0.12 pound per million Btu when burning distillate fuel oil;

4.1.3 0.20 pound per million Btu when burning residual fuel oil.

4.2 Emission Monitoring System

4.2.1 The operator shall install and operate an APCO approved Continuous Emissions Monitoring System (CEMS) to demonstrate compliance with the emission limits specified in Section 4.1. An approved CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B Performance Specifications 2 and 3, and Appendix F (Quality Assurance Procedures), and applicable sections of Rule 1080 (Stack Monitoring).

4.2.2 In lieu of complying with the requirements of Section 4.2.1, the operator shall monitor the operating parameters of the lime kiln in accordance with an APCO approved Alternate Emission Monitoring System to insure compliance with the emission limits specified in Section 4.1.

## 5.0 Administrative Requirements

### 5.1 Recordkeeping

5.1.1 The operator shall keep in the facility the records required by Sections 5.1.2 and 5.1.3 for at least five years. The records shall be made available to the APCO for inspection upon request.

5.1.2 The operator shall maintain records of operations in accordance with their Permit to Operate on a daily basis.

5.1.3 The operator shall maintain the following records on a monthly basis:

5.1.3.1 Total hours of operation;

5.1.3.2 Type and quantity of fuel used;

5.1.3.3 Records of NO<sub>x</sub> emissions/emissions rates.

### 5.2 Test Methods

5.2.1 Compliance with the requirements of Section 4.1 shall be determined in accordance with the following source test procedures or their equivalents as approved by the USEPA, ARB, and the APCO:

5.2.1.1 NO<sub>x</sub> emission rate (Heat input basis) – USEPA Method 19.

5.2.1.2 Oxides of Nitrogen – USEPA Method 7E, or ARB Method 100.

5.2.1.3 Stack gas oxygen, carbon dioxide, excess air, and dry molecular weight – USEPA Method 3A or ARB Method 100.

5.2.1.4 Higher heating value (hhv) be certified by a third party fuel supplier or determined by ASTM D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels, ASTM D240 or D4809 for liquid hydrocarbon fuels.

### 5.3 Compliance Determination

- 5.3.1 To demonstrate compliance with the applicable emission limits specified in Section 4.1 the operator shall conduct source testing of the lime kiln at least once every 12 months. Lime kilns that demonstrate compliance with the applicable emission limits in Section 4.1 on two consecutive 12-month source tests may defer the following 12-month source testing requirement for up to 36 months from the date of the last source test. If the result of the 36-month source testing demonstrates that the lime kiln does not meet the applicable emission limits specified in Section 4.1, the source testing frequency shall revert to at least once every 12 months. Failure to comply with the requirements of Section 5.3, or any source test results that exceed the applicable NO<sub>x</sub> emission limits in Sections 4.1 shall constitute a violation of this rule.
- 5.3.2 The operator of a lime kiln which does not operate a CEMS shall monitor the lime kiln's operational characteristics at least on a monthly basis in accordance with the requirements of the APCO approved Alternate Emission Monitoring System to ensure compliance with the applicable emission limits specified in Section 4.1.
- 5.3.3 All emissions measurements shall be averaged over a period of 15 consecutive minutes to demonstrate compliance with the applicable emission limits of this rule. If emissions are measured for more than 15 minutes, any 15-consecutive-minute block average exceeding the applicable emission limits of this rule shall constitute a violation of this rule. Any 15-consecutive-minute block average value recorded by a CEMS or an Alternate Monitoring System, exceeding an applicable emission limit shall constitute a violation of this rule.

### 6.0 Compliance Schedule

Each lime kiln subject to this rule shall comply with the requirements of Section 4.1 by no later than September 27, 2003.

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