

## **51.0 STANDARDS FOR CEMENT KILNS**

### **51.1 Applicability**

A. The requirements of this rule apply only to kilns process rates of at least the following:

1. Long dry kilns ----- 12 tons per hour (TPH);
2. Long wet kilns-----10 TPH;
3. Preheater kilns-----16 TPH; and
4. Precalciner and preheater/precalciner kilns ----- 22 TPH.

### **51.2 Definitions**

A. For the purpose of this rule, the following definitions apply:

1. “Clinker” shall mean the product of a Portland cement kiln from which finished cement is manufactured by milling or grinding.
2. “Long dry kiln” shall mean a kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is dry.
3. “Long wet kiln” shall mean a kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is a slurry.
4. “Low-NOX burners” shall mean combustion equipment designed to reduce flame turbulence, delay fuel/air mixing, and establish fuel rich zones for initial combustion.
5. “Malfunction” shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part, or in whole, by poor maintenance or careless operation are not malfunctions.

6. "Mid-kiln system firing" shall mean the secondary firing in kiln systems by injecting fuel at an intermediate point in the kiln system using specially designed fuel injection mechanisms for the purpose of decreasing NOX emissions through:
  - a. Burning part of the fuel at lower temperature; and
  - b. Reducing conditions at the fuel injection point that may destroy some of the NOX upstream in the kiln burning zone.
7. "Portland cement" shall mean a hydraulic cement produced by pulverizing clinker consisting essentially of hydraulic calcium silicates, usually containing one or more of the forms of calcium sulfate as an interground addition.
8. "Portland cement kiln" shall mean a system, including any solid, gaseous or liquid fuel combustion equipment, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.
9. "Precalciner kiln" shall mean a kiln system where the feed to the kiln is preheated in cyclone chambers and utilize a second burner to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln which forms clinker.
10. "Preheater kiln" shall mean a kiln system where the feed to the kiln is preheated in cyclone chambers prior to final fusion in a kiln which forms clinker.

### 51.3 Operating Requirements

- A. After May 31, 2004, no owner or operator of any portland cement kiln subject to this rule shall operate the kiln during May 1 through September 30 unless the kiln has installed and operates during May 1 through September 30 with at least one of the following:
  1. Low-NOx burners;
  2. Mid-kiln system firing;
  3. Alternate control techniques approved by the Director and the EPA as achieving at least the same emissions decreases as with low-NOx burners or mid-kiln system firing; or
  4. Reasonably available control technology approved by the Director and EPA.

- B. Any owner or operator subject to the requirements of subparagraph (A) of this paragraph shall comply with the requirements as follows:
1. By May 31, 2004, submit to the Director the identification number and type of each unit subject to this section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with paragraph (A) of this section.
  2. By October 31, 2004, submit to the Director a report documenting for that kiln the total NOx emissions from May 31, 2004, through September 30, 2004, and beginning in 2005 submit by October 31 of each year to the Director a report documenting NOx emissions from May 1 through September 30 of that year.
- C. By May 31, 2004, the owner or operator of a kiln subject to this rule shall submit to the Director a demonstration of compliance with the requirements of paragraph A. If compliance is being achieved by use of prescribed equipment, for example low-NOx burners or mid-kiln system firing, the demonstration of compliance shall be a written certification to the Director that this equipment is installed and is in use. If compliance is being achieved by use of alternative control techniques approved by the Director and the EPA, demonstration of compliance shall be as specified by the Director and EPA. In the case of compliance proposed to be achieved by use of alternative control techniques, a plan for compliance demonstration shall be submitted to the Director by May 31, 2003. Upon receipt the Director shall immediately forward a copy of the plan to the EPA. By November 1, 2003, the Director shall specify in writing to the owner or operator of the kiln how compliance shall be demonstrated, this specification consistent with methods and requirements specified by the EPA following its review of the submitted plan.
- D. By December 31 of each year, beginning in 2004, the owner or operator of a kiln subject to this rule shall submit to the Director a written compliance certification that compliance with the requirements of Paragraph A has been maintained during the five month period May 1 through September 30, except for 2004 when compliance is to be maintained from May 31 through September 30. The methods for determining that this compliance has been maintained shall be specified on the major source operating permit issued for the facility at which the kiln is operated.

#### 51.4 Record Keeping

- A. Beginning May 31, 2004, the owner or operator of a kiln subject to this rule shall maintain records from May 31 through September 30 of that year and in subsequent years for May 1 through September 30, that include the data as follows:
1. The date, time and duration of any startup, shutdown, or malfunction in the

operation of any of the cement kilns or the emissions monitoring equipment or of any scheduled maintenance activity that affects NOx emissions or emissions monitoring.

2. The results of any compliance testing.
3. Other data required by permit to be maintained.

B. The records listed in subparagraph A of this subsection shall be retained for a minimum of 2 years following the calendar year for which they are made and shall be made available to the Director for review on request.

#### 51.5 Exceptions

A. The requirements of this rule shall not apply during periods of operation as follows:

1. Periods of scheduled maintenance that affect NOx emissions.
2. Periods of malfunctions, startups, and shutdowns. These periods are subject to the requirements of Section 34.0 of these regulations.

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