

operation and do not include periods of operation during startup or shutdown. For 7-day rolling averages, *operating days* include only days of operation during startup and shutdown and do not include periods of normal operation. Data attributed to an *operating day* includes all valid data obtained during the daily 24-hour period and excludes any measurements made when the kiln was not operating.

*Portland cement plant* means any facility manufacturing portland cement.

*Raw material dryer* means an impact dryer, drum dryer, paddle-equipped rapid dryer, air separator, or other equipment used to reduce the moisture content of feed materials.

*Raw mill* means a ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

*Rolling average* means the average of all one-minute averages over the averaging period.

*Run average* means the average of the one-minute parameter values for a run.

*Sorbent* means activated carbon, lime, or any other type of material injected into kiln exhaust for the purposes of capturing and removing any hazardous air pollutant.

*TEQ* means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

*Total organic HAP* means, for the purposes of this subpart, the sum of the concentrations of compounds of formaldehyde, benzene, toluene, styrene, m-xylene, p-xylene, o-xylene, acetaldehyde, and naphthalene as measured by EPA Test Method 320 of appendix A to this part or ASTM D6348-03. Only the measured concentration of the listed analytes that are present at con-

centrations exceeding one-half the quantitation limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantitation limit of the analytical method, the concentration of those analytes will be assumed to be zero for the purposes of calculating the total organic HAP for this subpart.

*Totally enclosed conveying system transfer point* means a conveying system transfer point that is enclosed on all sides, top, and bottom.

[64 FR 31925, June 14, 1999, as amended at 67 FR 16619, Apr. 5, 2002; 75 FR 55051, Sept. 9, 2010]

#### EMISSION STANDARDS AND OPERATING LIMITS

##### § 63.1342 Standards: General.

Table 1 to this subpart provides cross references to the 40 CFR part 63, subpart A, general provisions, indicating the applicability of the general provisions requirements to subpart LLL.

[71 FR 76549, Dec. 20, 2006]

##### § 63.1343 What standards apply to my kilns, clinker coolers, raw material dryers, and open clinker piles?

(a) *General.* The provisions in this section apply to each kiln and any alkali bypass associated with that kiln, clinker cooler, and raw material dryer. All dioxin D/F, HCl, and total hydrocarbon (THC) emission limits are on a dry basis. The D/F, HCl and THC limits for kilns are corrected to 7 percent oxygen except during periods of startup and shutdown. The raw material dryer THC limits are corrected to 19 percent oxygen except during startup and shutdown. During startup and shutdown no oxygen correction is applied. All (THC) emission limits are measured as propane. Standards for mercury, PM, and THC are based on a 30-day rolling average, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average. The 30-day and 7-day periods mean 30 and 7 consecutive operating days, respectively, where an operating day is any daily 24-hour period during which the kiln operates. Data attributed to an operating day includes all valid data obtained

**§ 63.1343**

**40 CFR Ch. I (7-1-11 Edition)**

during the daily 24-hour period and excludes any measurements made when the kiln was not operating. If using a CEMS to determine compliance with the HCl standard, this standard is based on a 30-day rolling average, except for periods of startup and shutdown, where the standard is based on a 7-day rolling average. You must ensure

appropriate corrections for moisture are made when measuring flowrates used to calculate particulate matter (PM) and mercury emissions.

(b)(1) *Kilns, clinker coolers, raw material dryers, raw mills, and finish mills.* The emission limits for these sources are shown in table 1 below.

TABLE 1—EMISSIONS LIMITS FOR KILNS (ROWS 1–8), CLINKER COOLERS (ROWS 9–12), RAW MATERIAL DRYERS (ROWS 13–15), RAW AND FINISH MILLS (ROW 16)

	If your source is	And the operating mode is:	And if it is located	Your emissions limits are:	And the units of the emissions limit are:	The oxygen correction factor is:
1.	An existing kiln	Normal operation	At a major or area source	PM—0.04 D/F—0.21 Mercury—55 THC—24 <sup>2,3</sup>	lb/ton clinker ng/dscm (TEQ) lb/MM tons clinker ppmv	NA 7 percent NA 7 percent.
2.	An existing kiln	Normal operation	At a major source	HC—3	ppmv	7 percent.
3.	An existing kiln	Startup and shutdown	At a major or area source	PM—0.004 D/F—0.21 Mercury—10 THC—24 <sup>2,3</sup>	gr/dscm ng/dscm (TEQ) ug/dscm ppmv	NA NA NA NA
4.	An existing kiln	Startup and shutdown	At a major source	HC—3 <sup>4</sup>	ppmv	NA
5.	A new kiln	Normal operation	At a major or area source	PM—0.01 D/F—0.21 Mercury—21 THC—24 <sup>2,3</sup>	lb/ton clinker ng/dscm (TEQ) lb/MM tons clinker ppmv	NA 7 percent NA 7 percent.
6.	A new kiln	Normal operation	At a major source	HC—3 <sup>4</sup>	ppmv	7 percent.
7.	A new kiln	Startup or shutdown	At a major or area source	PM—0.0008 D/F—0.21 Mercury—4 THC—24 <sup>2,3</sup>	gr/dscf ng/dscm (TEQ) ug/dscm ppmv	NA NA NA NA
8.	A new kiln	Startup and shutdown	At a major source	HC—3	ppmv	NA
9.	An existing clinker cooler	Normal operation	At a major or area source	PM—0.04	lb/ton clinker	NA
10.	An existing clinker cooler	Startup and shutdown	At a major or area source	PM—0.004	gr/dscf	NA
11.	A new clinker cooler	Normal operation	At a major or area source	PM—0.01	lb/ton clinker	NA
12.	A new clinker cooler	Startup and shutdown	At a major or area source	PM—0.0008	gr/dscf	NA
13.	An existing or new raw material dryer.	Normal operation	At a major or area source	THC—24 <sup>2,3</sup>	ppmv	19 percent.
14.	An existing or new raw material dryer.	Startup and shutdown	At a major or area source	THC—24 <sup>2,3</sup>	ppmv	NA
15.	An existing or new raw material dryer.	All operating modes	At a major source	Opacity—10	percent	NA
16.	An Existing or new raw or finish mill.	All operating modes	At a major source	Opacity—10	percent	NA

<sup>1</sup> If the average temperature at the inlet to the first particulate matter control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less this limit is changed to 0.4 ng/dscm (TEQ).

<sup>2</sup> Measured as propane.

<sup>3</sup> Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 9 ppmvd for total organic HAP. If the source demonstrates compliance with the total organic HAP under the requirements of § 63.1349 then the source's THC limit will be adjusted to equal the average THC emissions measured during the organic HAP compliance test.

<sup>4</sup> If the kiln does not have a HCl CEM, the emissions limit is zero.

§ 63.1343

40 CFR Ch. I (7-1-11 Edition)

(2) When there is an alkali bypass associated with a kiln, the combined PM emissions from the kiln or in-line kiln/raw mill and the alkali bypass stack are subject to the PM emissions limit. Existing kilns that combine the clinker cooler exhaust with the kiln exhaust

for energy efficiency purposes and send the combined exhaust to the PM control device as a single stream may meet an alternative PM emissions limit. This limit is calculated using the equation 1 of this section:

$$PM_{alt} = 0.004 \times 1.65 \times (Q_k + Q_c) / 7000 \quad (\text{Eq. 1})$$

Where:

0.004 is the PM exhaust concentration (gr/dscf) equivalent to 0.04 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.

1.65 is the conversion factor of lb feed per lb clinker

$Q_k$  is the exhaust flow of the kiln (dscf/ton raw feed)

$Q_c$  is the exhaust flow of the clinker cooler (dscf/ton raw feed).

For new kilns that combine kiln exhaust and clinker cooler gas the limit is calculated using the equation 2 of this section:

$$PM_{alt} = 0.0008 \times 1.65 \times ((Q_k + Q_c) / 7000) \quad (\text{Eq. 2})$$

Where:

0.0008 is the PM exhaust concentration (gr/dscf) equivalent to 0.01 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined

1.65 is the conversion factor of lb feed per lb clinker

$Q_k$  is the exhaust flow of the kiln (dscf/ton raw feed)

$Q_c$  is the exhaust flow of the clinker cooler (dscf/ton raw feed).

(c) If clinker material storage and handling activities occur more than 1,000 feet from the facility property-line you must comply with the following:

(1) Utilize a three-sided barrier with roof, provided the open side is covered with a wind fence material of a maximum 20 percent porosity, allowing a removable opening for vehicle access. The removable wind fence for vehicle access may be removed only during minor or routine maintenance activities, the creation or reclamation of outside storage piles, the importation of clinker from outside the facility, and reclamation of plant clean-up materials. The removable opening must be less than 50 percent of the total surface area of the wind fence and the amount

of time must be minimized to the extent feasible.

(2) Contain storage and handling of material that is immediately adjacent to the three-sided barrier within an area next to the structure with a wind fence on at least two sides, with at least a 5-foot freeboard above the top of the storage pile to provide wind sheltering, and completely cover the material with an impervious tarp, revealing only the active disturbed portion during material loading and unloading activities.

(3) Storage and handling of other active clinker material must be conducted within an area surrounded on three sides by a barrier or wind fences with one side of the wind fence facing the prevailing wind and at least a 5-foot freeboard above the top of the storage pile to provide wind sheltering. The clinker must remain completely covered at all times with an impervious tarp, revealing only the active disturbed portion during material loading and unloading activities. The barrier or wind fence must extend at least 20 feet beyond the active portion of the material at all times.

**Environmental Protection Agency**

**§ 63.1343**

(4) Inactive clinker material may be alternatively stored using a continuous and impervious tarp, covered at all times, provided records are kept demonstrating the inactive status of such stored material.

(d) If clinker material storage and handling activities occur 1,000 feet or less from the facility property-line these activities must be in an enclosed

storage area that meets the emissions limits specified in §63.1345.

(e) Emissions limits in effect prior to September 9, 2010. Any source defined as an existing source in §63.1351, and that was subject to a PM, mercury, THC, D/F, or opacity emissions limit prior to September 9, 2010, must continue to meet the limits shown in Table 2 to this section until September 9, 2013.

TABLE 2—EMISSIONS LIMITS IN EFFECT PRIOR TO SEPTEMBER 9, 2010, FOR KILNS (ROWS 1–4), CLINKER COOLERS (ROW 5), AND RAW MATERIAL DRYERS (ROWS 6–9).

If your source is	and	And if it is located at	Your emissions limits are <sup>1</sup> :	And the units of the emissions limit are:
1. An existing kiln	it commenced construction or reconstruction on or prior to December 2, 2005	A major source	PM—0.3 Opacity—20 D/F—0.2 <sup>2</sup> THC—50 <sup>3,4</sup>	lb/ton feed percent ng/dscm (TEQ) ppmvd
2. An existing kiln	it commenced construction or reconstruction after December 2, 2005	A major source	PM—0.3 Opacity—20 D/F—0.2 <sup>2</sup> THC—20 <sup>3,5</sup>	lb/ton feed percent ng/dscm (TEQ) ppmvd
3. An existing kiln	it commenced construction or reconstruction on or prior to December 2, 2005	An area source	Mercury—41 <sup>6</sup> D/F—0.2 <sup>2</sup> THC—50 <sup>3,4</sup>	ug/dscm ng/dscm (TEQ) ppmvd
4. An existing kiln	it commenced construction or reconstruction after December 2, 2005	An area source	D/F—0.2 <sup>2</sup> THC—20 <sup>3,5</sup> Mercury—41 <sup>6</sup>	ng/dscm (TEQ) ppmvd ug/dscm
5. An existing clinker cooler	NA	A major source	PM—0.1 Opacity—10 THC—50 <sup>3,4</sup>	lb/ton feed percent ppmvd
6. An existing raw material dryer.	it commenced construction or reconstruction on or prior to December 2, 2005	A major source	Opacity—10 THC—50 <sup>3,4</sup>	percent ppmvd
7. An existing raw material dryer.	it commenced construction or reconstruction after December 2, 2005	A major source	Opacity—10 THC—20 <sup>3,5</sup>	percent ppmvd
8. An existing raw material dryer.	it commenced construction or reconstruction on or prior to December 2, 2005	An area source	Opacity—10 THC—50 <sup>3,4</sup>	percent ppmvd
9. An existing raw material dryer.	it commenced construction or reconstruction after December 2, 2005	An area source	THC—20 <sup>3,5</sup>	ppmvd

<sup>1</sup> All emission limits expressed as a concentration basis (ppmvd, ng/dscm) are corrected to seven percent oxygen.  
<sup>2</sup> If the average temperature at the inlet to the first particulate matter control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less, this limit is changed to 0.4 ng/dscm (TEQ).  
<sup>3</sup> Measured as propane.  
<sup>4</sup> Only applies to Greenfield kilns or raw material dryers.  
<sup>5</sup> As an alternative, a source may demonstrate a 98 percent reduction in THC emissions from the exit of the kiln or raw material dryer to discharge to the atmosphere. Inline raw mills are considered to be an integral part of the kiln.  
<sup>6</sup> As an alternative, a source may route the emissions through a packer bed or spray tower wet scrubber with a liquid-to-gas ratio of 30 gallons per 1000 actual cubic feet per minute or more and meet a site-specific emission limit based on the measured performance of the wet scrubber.

[75 FR 55053, Sept. 9, 2010, as amended at 76 FR 2835, Jan. 18, 2011]