

*Startup* means the time from when a shutdown kiln first begins firing fuel until it begins producing clinker. Startup begins when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. Startup ends when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first.

*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 or Method 18 of appendix A to this part or ASTM D6348-03<sup>1</sup> or a combination of these methods, as appropriate. If measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating the total organic HAP value. The measured result for a

<sup>1</sup> When using ASTM D6348-03, the following conditions must be met:

(1) The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; (2) For ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be determined for each target analyte (see Equation A5.5); (3) For the ASTM D6348-03 test data to be acceptable for a target analyte percent R must be 70 percent  $\geq R \leq 130$  percent; and (4) The percent R value for each compound must be reported in the test report and all field measurements corrected with the calculated percent R value for that compound using the following equation: Reported Result = The measured concentration in the stack divided by the calculated percent R value and then the whole term multiplied by 100.

multiple component analysis (e.g., analytical values for multiple Method 18 fractions) may include a combination of method detection level data and analytical data reported above the method detection level. The owner or operator of an affected source may request the use of other test methods to make this determination under paragraphs 63.7(e)(2)(ii) and (f) of this part.

*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; 78 FR 10037, Feb. 12, 2013]

#### 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 storage piles?

(a) *General.* The provisions in this section apply to each kiln and any alkali bypass associated with that kiln, clinker cooler, raw material dryer, and open clinker storage pile. All D/F, HCl, and total hydrocarbon (THC) emissions limit are on a dry basis. The D/F, HCl, and THC limits for kilns are corrected to 7 percent oxygen. All THC emissions limits are measured as propane. Standards for mercury and THC are based on a rolling 30-day average. If using a CEMS to determine compliance with the HCl standard, this standard is based on a rolling 30-day average. You must ensure appropriate corrections for moisture are made when measuring flow rates used to calculate mercury emissions. The 30-day period means 30 consecutive kiln operating days excluding periods of startup and shutdown. All emissions limits for kilns, clinker coolers, and raw material dryers currently in effect that are superseded by the limits below continue to apply until the compliance date of the

**Environmental Protection Agency**

**§ 63.1343**

limits below, or until the source certifies compliance with the limits below, whichever is earlier.

(b) *Kilns, clinker coolers, raw material dryers, raw mills, and finish mills.* (1) The

emissions limits for these sources are shown in Table 1 below. PM limits for existing kilns also apply to kilns that have undergone a modification as defined in subpart A of part 60 of title 40.

**TABLE 1—EMISSIONS LIMITS FOR KILNS, CLINKER COOLERS, RAW MATERIAL DRYERS, RAW AND FINISH MILLS**

	If your source is a (an):	And the operating mode is:	And if is located at a:	Your emissions limits are:	And the units of the emissions limit are:	The oxygen correction factor is:
1. ....	Existing kiln .....	Normal operation	Major or area source.	PM <sup>1</sup> 0.07 ..... D/F <sup>2</sup> 0.2 ..... Mercury 55 ..... THC <sup>3,4</sup> 24 .....	lb/ton clinker ..... ng/dscm (TEQ) ... lb/MM tons clinker ppmvd .....	NA. 7 percent. NA. 7 percent.
2. ....	Existing kiln .....	Normal operation Startup and shut-down.	Major source .....	HCl 3 .....	ppmvd .....	7 percent.
3. ....	Existing kiln .....			Work practices ... (63.1346(f))	NA .....	NA.
4. ....	New kiln .....	Normal operation	Major or area source.	PM 0.02 ..... D/F <sup>2</sup> 0.2 ..... Mercury 21 ..... THC <sup>3,4</sup> 24 .....	lb/ton clinker ..... ng/dscm (TEQ) ... lb/MM tons clinker ppmvd .....	NA. 7 percent. NA. 7 percent.
5. ....	New kiln .....	Normal operation Startup and shut-down.	Major source .....	HCl 3 .....	ppmvd .....	7 percent.
6. ....	New kiln .....			Work practices ... (63.1346(f))	NA .....	NA.
7. ....	Existing clinker cooler.	Normal operation	Major or area source.	PM 0.07 .....	lb/ton clinker .....	NA.
8. ....	Existing clinker cooler.	Startup and shut-down.	Major or area source.	Work practices ... (63.1348(b)(9))	NA .....	NA.
9. ....	New clinker cooler.	Normal operation	Major or area source.	PM 0.02 .....	lb/ton clinker .....	NA.
10. ..	New clinker cooler.	Startup and shut-down.	Major or area source.	Work practices ... (63.1348(b)(9))	NA .....	NA.
11. ..	Existing or new raw material dryer.	Normal operation	Major or area source.	THC <sup>3,4</sup> 24 .....	ppmvd .....	NA.
12. ..	Existing or new raw material dryer.	Startup and shut-down.	Major or area source.	Work practices ... (63.1348(b)(9))	NA .....	NA.
13. ..	Existing or new raw or finish mill.	All operating modes.	Major source .....	Opacity 10 .....	percent .....	NA.

<sup>1</sup> The initial and subsequent PM performance tests are performed using Method 5 or 5I and consist of three 1-hr tests.  
<sup>2</sup> If the average temperature at the inlet to the first PM control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less this limit is changed to 0.40 ng/dscm (TEQ).  
<sup>3</sup> Measured as propane.  
<sup>4</sup> Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 12 ppmvd for total organic HAP.

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

haust and/or coal mill exhaust with the kiln exhaust and send the combined exhaust to the PM control device as a single stream PM may meet an alternative PM emissions limit. This limit is calculated using Equation 1 of this section:

$$PM_{alt} = (0.0060 \times 1.65) (Q_k + Q_c + Q_{ab} + Q_{cm}) / (7000) \quad (\text{Eq. 1})$$

§ 63.1343

40 CFR Ch. I (7-1-14 Edition)

Where:

PM<sub>alt</sub> = Alternative PM emission limit for commingled sources.

0.006 = The PM exhaust concentration (gr/dscf) equivalent to 0.070 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.

1.65 = The conversion factor of ton feed per ton clinker.

Q<sub>k</sub> = The exhaust flow of the kiln (dscf/ton feed).

Q<sub>c</sub> = The exhaust flow of the clinker cooler (dscf/ton feed).

Q<sub>ab</sub> = The exhaust flow of the alkali bypass (dscf/ton feed).

Q<sub>cm</sub> = The exhaust flow of the coal mill (dscf/ton feed).

7000 = The conversion factor for grains (gr) per lb.

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

$$PM_{alt} = (0.0020 \times 1.65) (Q_k + Q_c + Q_{ab} + Q_{cm}) / (7000) \quad (\text{Eq. 2})$$

Where:

PM<sub>alt</sub> = Alternative PM emission limit for commingled sources.

0.002 = The PM exhaust concentration (gr/dscf) equivalent to 0.020 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.

1.65 = The conversion factor of ton feed per ton clinker.

Q<sub>k</sub> = The exhaust flow of the kiln (dscf/ton feed).

Q<sub>c</sub> = The exhaust flow of the clinker cooler (dscf/ton feed).

Q<sub>ab</sub> = The exhaust flow of the alkali bypass (dscf/ton feed).

Q<sub>cm</sub> = The exhaust flow of the coal mill (dscf/ton feed).

7000 = The conversion factor for gr per lb.

(c) *Open clinker storage pile.* The owner or operator of an open clinker storage pile must prepare, and operate in accordance with, the fugitive dust emissions control measures, described in their operation and maintenance plan (see §63.1347 of this subpart), that is appropriate for the site conditions as specified in paragraphs (c)(1) through (3) of this section. The operation and maintenance plan must also describe the measures that will be used to minimize fugitive dust emissions from piles of clinker, such as accidental spillage, that are not part of open clinker storage piles.

(1) The operation and maintenance plan must identify and describe the location of each current or future open clinker storage pile and the fugitive dust emissions control measures the owner or operator will use to minimize fugitive dust emissions from each open clinker storage pile.

(2) For open clinker storage piles, the operations and maintenance plan must specify that one or more of the following control measures will be used to minimize to the greatest extent practicable fugitive dust from open clinker storage piles: Locating the source inside a partial enclosure, installing and operating a water spray or fogging system, applying appropriate chemical dust suppression agents, use of a wind barrier, compaction, use of tarpaulin or other equally effective cover or use of a vegetative cover. You must select, for inclusion in the operations and maintenance plan, the fugitive dust control measure or measures listed in this paragraph that are most appropriate for site conditions. The plan must also explain how the measure or measures selected are applicable and appropriate for site conditions. In addition, the plan must be revised as needed to reflect any changing conditions at the source.

(3) Temporary piles of clinker that result from accidental spillage or clinker storage cleaning operations must be cleaned up within 3 days.

(d) Emission 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, 2015.

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