



Louisville Metro Air Pollution Control District  
 850 Barret Avenue  
 Louisville, Kentucky 40204-1745



Permit No.: 1-05-C (R1)

Plant ID: 0060

Effective Date: 0/00/2015

Expiration Date: 0/00/2015

Kosmos Cement Company  
 15301 Dixie Highway  
 Louisville, KY 40272

is authorized to install the described process equipment by the Louisville Metro Air Pollution Control District. Authorization is based on information provided with the application submitted by the company and in accordance with applicable regulations and the conditions specified herein.

Process equipment description:

This permit grants a one year extension to the compliance date, from September 9, 2015 to September 9, 2016, for the particulate matter standards and associated monitoring and recordkeeping required by 40 CFR 63 Subpart LLL for the Emission Point E-909 formerly E-97 Clinker Cooler (K-909) and Baghouse C-924 formerly C-35 but does not extend the date for any other equipment. Until September 9, 2016 the Company shall be required to comply with previous MACT requirements. The extension was requested by the Company for construction modifications to be made to Baghouse C-35 (K-924).

Applicable Regulation(s): 2.03, 2.05, 2.16, 5.00, 5.01, 5.02, 5.20, 5.21, 5.22, 5.23, 7.08, 40 CFR Part 63 Subpart LLL, and 40 CFR Part 64

Process reference(s): 156-97-TV

Application No.	68778	Application Received:	1/5/2015
	69077		1/26/2015
	69327		2/10/2015

Permit Writer: Randy Schoenbaechler

Date of Public Comment 4/2/2015

{Manager1}  
 Air Pollution Control Officer  
 {date1}

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

### **General Conditions**

- G1. The owner or operator of the affected facility covered by this permit shall notify the District of any process change, equipment change, material change, or change in method or hours of operation. This requirement is applicable to those changes (except equipment changes) that may have the potential for increasing the emission of air contaminants to a level in excess of the applicable limits or standards specified in this permit or District regulations.
- G2. The owner or operator shall obtain new or revised permits from the District when:  
(See District Regulation 2.16 for Title V sources. See District Regulation 2.17 for FEDOOP sources. See District Regulation 2.03 for other sources.)
- a. The company relocates to a different physical address.
  - b. The ownership of the company is changed.
  - c. The name of the company as shown on the permit is changed.
  - d. Permits are nearing expiration or have expired.
- G3. The owner or operator shall submit a timely application for changes according to G2. For minor sources only, the District does not require application for permit renewal. The District automatically commences the process of permit renewal for minor sources upon expiration. Timely renewal is not always achievable; therefore, the company is hereby authorized to continue operation in compliance with the latest District permit(s) until the District issues the renewed permit(s).
- G4. The owner or operator shall not be authorized to transfer ownership or responsibility of the permit. The District may transfer permits after appropriate notification (Form 100A) has been received and review has been made.
- G5. The owner or operator shall pay the required permit fees within 45 days after issuance of the SOF by the District, unless other arrangements have been proposed and accepted by the District.

- G6. This permit allows operation 8,760 hours per year unless specifically limited elsewhere in this permit.
- G7. The owner or operator shall submit emission inventory reports as required by Regulation 1.06.
- G8. The owner or operator shall timely report abnormal conditions or operational changes, which may cause excess emissions as required by Regulation 1.07.
- G9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.
- G10. If a change in the Responsible Official (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form 100A) to the District within 30 calendar days of the date the RO change occurs.

### Specific Conditions

#### S1. Standards (Regulation 2.03, section 6.1)

##### a. PM/PM<sub>10</sub>

- i. The owner or operator shall not allow PM emissions to exceed 41.17 lb/hr based on actual operating hours in a calendar day for the Clinker Cooler. (Regulation 7.08, section 3.1.2)<sup>1</sup>
- ii. The owner or operator shall not exceed 8064 hours of operation per 12 consecutive month period for the Clinker Cooler to avoid PSD/NSR. (Regulation 2.05)

##### b. Opacity

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

##### c. HAP

40 CFR Part 63 Subpart LLL

- i. **Until September 9, 2016** no owner or operator of a new or existing clinker cooler at a facility which is a major source subject to the provisions of this subpart shall cause to be discharged into the atmosphere from the clinker cooler any gases which contain particulate matter in excess of 0.050 kg per Mg (0.10 lb per ton) of feed (dry basis) to the kiln. (40 CFR 63.1343(d) effective 2/12/2013 and Table 2 included as attachment A)
- ii. **Until September 9, 2016** the owner or operator shall not cause to be discharged any gases from the Clinker Cooler (E-909), which exhibits opacity in excess of ten percent (10%). (40 CFR 63.1343(d) effective 2/12/2013 and Table 2 included as attachment A)
- iii. **Beginning September 9, 2016** the owner or operator shall limit the PM emissions during normal operations to 0.07 lb/ton of clinker and during periods of startup and shutdown all air pollution control devices must be operating as required by the work practices of 40 CFR 63.1348(b)(9). (40 CFR 63.1343(b)(1) effective 2/12/2013)

##### d. TAC

- i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established

---

<sup>1</sup> The Company performed a stack test in June of 2014 demonstrating that the lb/hr emission limit of District Regulation 7.08 cannot be exceeded controlled for the clinker cooler and Baghouse C-924.

by modeling or determined by the District to be *de minimis*. (Regulations 5.00 and 5.21)<sup>2</sup>

- ii. Combined emissions of equipment through stack S-924 of Baghouse C-35 (K-924) shall not exceed the emission rates of the following table based on actual operating hours in a calendar day and calendar year as applicable. (Regulation 5.21 section 4.3)

TAC	limit lb/hr	limit lb/yr	basis
Arsenic	NA	0.351	Modeling
Cadmium	3.000E-04	2.700E-01	<i>Deminimis</i>
Hexavalent Chromium	NA	0.194	Modeling
Trivalent Chromium	1.000E-01	1.095E+02	<i>Deminimis</i>
Nickel	2.100E-03	1.820E+00	<i>Deminimis</i>
Cobalt	NA	0.285	Modeling
Copper	4.000E-02	4.380E+01	<i>Deminimis</i>
Lead	4.000E-02	3.840E+01	<i>Deminimis</i>
Manganese	2.700E-02	2.400E+01	<i>Deminimis</i>
Mercury	1.600E-01	1.440E+02	<i>Deminimis</i>
Beryllium	2.300E-04	2.000E-01	<i>Deminimis</i>
Selenium	1.080E+01	9.600E+03	<i>Deminimis</i>

**S2. Monitoring and Record Keeping** (Regulation 2.03, section 6.1)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM/PM<sub>10</sub>**

- i. The owner or operator shall keep a monthly record of the hours of operation of the Clinker Cooler. The owner or operator shall monthly calculate the hours of operation per 12 consecutive month period.
- ii. See HAP monitoring Specific Condition S2.c which shall be considered CAM for PM by request of the Company.
- iii. If there is any time that the control device is bypassed or not in operation when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:
  - 1) Date;
  - 2) Start time and stop time;

<sup>2</sup> Based on results of the revised EAD received December 17, 2014 the individual and cumulative risk including all new or modified process or process equipment meet EAG pursuant to Regulation 5.21, sections 3.1.1, 3.1.2, 3.1.3, and 3.2. Modeling results show that for EA goals of incidents per million are achieved. All individual process risks or individual TAC are less than the EAG of 1. For industrial property modeling shows results for New/Modified Process of 1.88 which is less than the EAG of 38 and 4.46 for All Processes which is less than the EAG of 75. Residential modeling results for New/Modified processes are shown to be 3.78 which is less than the EAG of 3.8 and for all processes is 6.59 which is less than 7.5.

- 3) Identification of the control device and process equipment;
- 4) PM emissions during the bypass in lb/hr;<sup>3</sup>
- 5) Summary of the cause or reason for each bypass event;
- 6) Corrective action taken to minimize the extent or duration of the bypass event; and
- 7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

**b. Opacity**

The owner or operator shall choose either:

**i. Option 1:**

The owner or operator shall maintain certified COMs (Continuous Opacity Monitoring system) as described in Specific Condition S2.c.i.3)(a) and maintain records as described in Specific Condition S2.c.v.1) and S2.c.v.2)(a) through (b) for Clunker Cooler (E-909) and Baghouse C-924 in order to demonstrate compliance with Specific Condition S1.b.

or

**ii. Option 2:**

- 1) The owner or operator shall conduct a daily visible emissions survey, during normal operation, of the emission point. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- 2) At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.
- 3) The owner or operator shall maintain records, daily, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not

---

<sup>3</sup> The District approves uncontrolled emissions calculations for Baghouse C-924 using stack test results for inlet testing averaged from 3 tests dated 9/21/05, 3/21/06, and 6/28/07 at 10003.3 lb/hr, other calculation methodologies must receive approval from the District.

visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given day, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **HAP**

40 CFR Part 63 Subpart LLL

i. **Until September 9, 2016** - The following **monitoring compliance regulations** are applicable for Clinker Cooler (E-909) and Baghouse C-924<sup>4</sup> (40 CFR 63.1350 effective 12/20/2006)

- 1) The owner or operator of each Portland cement plant shall prepare for each affected source subject to the provisions of this subpart. a written operations and maintenance plan.<sup>5</sup> The plan shall be submitted to the Administrator for review and approval as part of the application for a part 70 permit and shall include the following information: (40 CFR 63.1350(a) effective 12/20/2006)
  - (a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of 40 CFR 63.1343 through 63.1348; (40 CFR 63.1350(a)(1) effective 12/20/2006)
  - (b) Procedures to be used to periodically monitor affected sources subject to opacity standards under 40 CFR 63.1346 and 63.1348. Such procedures must include the provisions of paragraphs (a)(4)(i) through (a)(4)(iv) of this section of the federal regulation. (40 CFR 63.1350(a)(4) effective 12/20/2006)
    - (i) The owner or operator must conduct a monthly 1-minute visible emissions test of each affected source in accordance with Method 22 of Appendix A to part 60 of this chapter. The test must be conducted while the affected source is in operation. (40 CFR 63.1350(a)(4)(i) effective 12/20/2006)
    - (ii) If no visible emissions are observed in six consecutive monthly tests for any affected source, the owner or operator may decrease the frequency of testing from monthly to semi-annually for that affected source. If visible emissions are observed

---

<sup>4</sup> Emission Point E-909 formerly E-97 Clinker Cooler (K-909) and Baghouse C-924 formerly C-35

<sup>5</sup> The company submitted the current Operations and Maintenance (O&M) Plan on February 25, 2011, and the company is responsible for updating the O&M Plan whenever any changes are made for review and approval by the District.

during any semi-annual test, the owner or operator must resume testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. (40 CFR 63.1350(a)(4)(ii) effective 12/20/2006)

- (iii) If no visible emissions are observed during the semi-annual test for any affected source, the owner or operator may decrease the frequency of testing from semi-annually to annually for that affected source. If visible emissions are observed during any annual test, the owner or operator must resume testing of that affected source on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. (40 CFR 63.1350(a)(4)(iii) effective 12/20/2006)
- (iv) If visible emissions are observed during any Method 22 test, the owner or operator must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter. The Method 9 test must begin within one hour of any observation of visible emissions. (40 CFR 63.1350(a)(4)(iv) effective 12/20/2006)
- (v) The requirement to conduct Method 22 visible emissions monitoring under this paragraph shall not apply to any totally enclosed conveying system transfer point, regardless of the location of the transfer point. "Totally enclosed conveying system transfer point" shall mean a conveying system transfer point that is enclosed on all sides, top, and bottom. The enclosures for these transfer points shall be operated and maintained as total enclosures on a continuing basis in accordance with the facility operations and maintenance plan. (40 CFR 63.1350(a)(4)(v) effective 12/20/2006)
- (vi) If any partially enclosed or unenclosed conveying system transfer point is located in a building, the owner or operator of the portland cement plant shall have the option to conduct a Method 22 visible emissions monitoring test according to the requirements of paragraphs (a)(4)(i) through (iv) of this section of the federal regulation for each such conveying system transfer point located within the building, or for the building itself, according to

paragraph (a)(4)(vii) of this section of the federal regulation. (40 CFR 63.1350(a)(4)(vi) effective 12/20/2006)

- (vii) If visible emissions from a building are monitored, the requirements of paragraphs (a)(4)(i) through (iv) of this section of the federal regulation apply to the monitoring of the building, and you must also test visible emissions from each side, roof and vent of the building for at least 1 minute. The test must be conducted under normal operating conditions. (40 CFR 63.1350(a)(4)(vii) effective 12/20/2006)
- 2) Failure to comply with any provision of the operations and maintenance plan developed in accordance with paragraph (a) of this section of the federal regulation shall be a violation of the standard. (40 CFR 63.1350(b) effective 12/20/2006)
  - 3) The owner or operator of a clinker cooler shall monitor opacity at each point where emissions are vented from the clinker cooler in accordance with paragraphs (d)(1) through (d)(3) of this section of the federal regulation. (40 CFR 63.1350(d) effective 12/20/2006)
    - (a) Except as provided in paragraph (d)(2) of this section of the federal regulation the owner or operator shall calibrate, maintain, and continuously operate a COM located at the outlet of the clinker cooler PM control device to continuously monitor the opacity. The COM shall be installed, maintained, calibrated, and operated as required by subpart A, general provisions of this part, and according to PS-1 of appendix B to part 60 of this chapter. (40 CFR 63.1350(d)(1) effective 12/20/2006)
    - (b) To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard. (40 CFR 63.1350(d)(3) effective 12/20/2006)
  - 4) The owner or operator of an affected source subject to a limitation on opacity under 40 CFR 63.1346 or 40 CFR 63.1348 shall monitor opacity in accordance with the operation and maintenance plan developed in accordance with paragraph (a) of this section of the federal regulation. (40 CFR 63.1350(j) effective 12/20/2006)
  - 5) An owner or operator may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of this subpart, except for emission standards for THC, subject to the

provisions of paragraphs (1)(1) through (1)(6) of this section of the federal regulation. (40 CFR 63.1350(l) effective 12/20/2006)

- (a) The Administrator will not approve averaging periods other than those specified in this section, unless the owner or operator documents, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved during the performance test over any increment of time equivalent to the time required to conduct three runs of the performance test. (40 CFR 63.1350(l)(1) effective 12/20/2006)
- (b) If the application to use an alternate monitoring requirement is approved, the owner or operator must continue to use the original monitoring requirement until approval is received to use another monitoring requirement. (40 CFR 63.1350(l)(2) effective 12/20/2006)
- (c) The owner or operator shall submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (1)(3)(i) through (1)(3)(iii) of this section of the federal regulation: (40 CFR 63.1350(l)(3) effective 12/20/2006)
  - (i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach; (40 CFR 63.1350(l)(3)(i) effective 12/20/2006)
  - (ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated; and (40 CFR 63.1350(l)(3)(ii) effective 12/20/2006)
  - (iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard. (40 CFR 63.1350(l)(3)(iii) effective 12/20/2006)
- (d) The Administrator will notify the owner or operator of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with

the relevant emission standard. Until disapproving any alternate monitoring application, the Administrator will provide: (40 CFR 63.1350(l)(4) effective 12/20/2006)

- (i) Notice of the information and findings upon which the intended disapproval is based; and (40 CFR 63.1350(l)(4)(i) effective 12/20/2006)
  - (ii) Notice of opportunity for the owner or operator to present additional supporting information Until final action is taken on the application. This notice will specify how much additional time is allowed for the owner or operator to provide additional supporting information. (40 CFR 63.1350(l)(4)(ii) effective 12/20/2006)
- (e) The owner or operator is responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves the owner or operator of the responsibility to comply with any provision of this subpart. (40 CFR 63.1350(l)(5) effective 12/20/2006)
- (f) The Administrator may decide at any time, on a case-by-case basis that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart. (40 CFR 63.1350(l)(6) effective 12/20/2006)
- ii. **Beginning September 9, 2016 - Operation and maintenance plan requirements** for the Clinker Cooler (E-909) and Baghouse C-924 ( (40 CFR 63.1347 effective 2/12/2013)
- 1) The owner or operator of each Portland cement plant shall prepare for each affected source subject to the provisions of this subpart, a written operations and maintenance plan. The plan shall be submitted to the Administrator for review and approval as part of the application for a part 70 permit and shall include the following information: (40 CFR 63.1347(a) effective 2/12/2013)
    - (a) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emission limits and operating limits of 40 CFR 63.1343 through 63.1348; Your operations and maintenance plan must address periods of startup and shutdown; (40 CFR 63.1347(a)(1) effective 2/12/2013)

- (b) Corrective actions to be taken when required by 40 CFR 63.1350(f)(3); (40 CFR 63.1347(a)(2) effective 2/12/2013)
  - 2) Failure to comply with any provision of the operations and maintenance plan developed in accordance with this section is a violation of the standard. (40 CFR 63.1347(b) effective 2/12/2013)
- iii. **Beginning September 9, 2016** - **Compliance requirements** for the Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1348 effective 2/12/2013)
  - 1) **Initial Performance Test Requirements**

For an affected source subject to this subpart, the owner or operator shall demonstrate compliance with the emissions standards and operating limits by using the test methods and procedures in 40 CFR 63.1349 and 63.7.

NOTE: The first day of the 30 operating day performance test is the first day after the compliance date following completion of the field testing and data collection that demonstrates that the CPMS or CEMS has satisfied the relevant CPMS performance evaluation or CEMS performance specification (e.g., PS 2, 12A, or 12B) acceptance criteria. The performance test period is complete at the end of the 30th consecutive operating day. See 40 CFR 63.1341 for definition of operating day and 40 CFR 63.1348(b)(1) for the CEMS operating requirements. The source has the option of performing the compliance test earlier than the compliance date if desired. (40 CFR 63.1348(a) effective 2/12/2013)

    - (a) **PM Compliance.**

If the facility is subject to limitations on PM emissions under 40 CFR 63.1343(b), the owner or operator shall demonstrate compliance with the PM emissions standards by using the test methods and procedures in 40 CFR 63.1349(b)(1). (40 CFR 63.1348(a)(1) effective 2/12/2013)
  - 2) **Continuous Monitoring Requirements**

The owner or operator shall demonstrate compliance with the emissions standards and operating limits by using the performance test methods and procedures in 40 CFR 63.1350 and 63.8 for each affected source. (40 CFR 63.1348(b) effective 2/12/2013)

    - (a) **General Requirements**
      - (i) The owner or operator shall monitor and collect data according to 40 CFR 63.1350 and the site-specific monitoring plan required by 40 CFR 63.1350(p). (40 CFR 63.1348(b)(1)(i) effective 2/12/2013)

- (ii) Except for periods of startup and shutdown, monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall operate the monitoring system and collect data at all required intervals at all times the affected source is operating. (40 CFR 63.1348(b)(1)(ii) effective 2/12/2013)
  - (iii) Data recorded during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities may not be used in calculations used to report emissions or operating levels. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. (40 CFR 63.1348(b)(1)(iii) effective 2/12/2013)
- (b) PM Compliance.

If the facility is subject to limitations on PM emissions under 40 CFR 63.1343(b), the owner or operator shall use the monitoring methods and procedures in 40 CFR 63.1350(b) and (d). (40 CFR 63.1348(b)(2) effective 2/12/2013)
- 3) Changes in operations
  - (a) If a change in operations is planned to be undertaken that may adversely affect compliance with an applicable standard, operating limit, or parametric monitoring value under this subpart, the source must conduct a performance test as specified in 40 CFR 63.1349(b). (40 CFR 63.1348(c)(1)) (40 CFR 63.1348(c) effective 2/12/2013)
  - (b) In preparation for and while conducting a performance test required in 40 CFR 63.1349(b), the owner or operator may operate under the planned operational change conditions for a period not to exceed 360 hours, provided that the conditions in (c)(2)(i) through (c)(2)(iv) of this section of

the federal regulation are met. The owner or operator shall submit temperature and other monitoring data that are recorded during the pretest operations. (40 CFR 63.1348(c)(2) effective 2/12/2013)

- (i) The owner or operator shall provide the Administrator written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard under this subpart for any source, or as soon as practicable where 60 days advance notice is not feasible. Notice provided under this paragraph must include a description of the planned change, the emissions standards that may be affected by the change, and a schedule for completion of the performance test required under paragraph (c)(1) of this section of the federal regulation, including when the planned operational change period would begin. (40 CFR 63.1348(c)(2)(i) effective 2/12/2013)
- (ii) The performance test results must be documented in a test report according to 40 CFR 63.1349(a). (40 CFR 63.1348(c)(2)(ii) effective 2/12/2013)
- (iii) A test plan must be made available to the Administrator prior to performance testing, if requested. (40 CFR 63.1348(c)(2)(iii) effective 2/12/2013)
- (iv) The performance test must be completed within 360 hours after the planned operational change period begins. (40 CFR 63.1348(c)(2)(iv) effective 2/12/2013)

4) General duty to minimize emissions

At all times the owner or operator shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (40 CFR 63.1348(d) effective 2/12/2013)

iv. **Beginning September 9, 2016** - Monitoring requirements for the

Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1350 effective 2/12/2013)

- 1) General monitoring requirements: (40 CFR 63.1350(a) effective 2/12/2013)
  - (a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of this section of the federal regulation. (40 CFR 63.1350(a)(1) effective 2/12/2013)
  - (b) All continuous monitoring data for periods of startup and shutdown must be compiled and averaged separately from data gathered during other operating periods. (40 CFR 63.1350(a)(2) effective 2/12/2013)
  - (c) For each existing unit that is equipped with a continuous monitoring system (CMS), maintain the average emissions or the operating parameter values within the operating parameter limits established through performance tests. (40 CFR 63.1350(a)(3) effective 2/12/2013)
  - (d) Any instance where the owner or operator fails to comply with the continuous monitoring requirements of this section of the federal regulation is a violation. (40 CFR 63.1350(a)(4) effective 2/12/2013)
- 2) PM monitoring requirements: (40 CFR 63.1350(b) effective 2/12/2013)
  - (a) A PM continuous parameter monitoring system (CPMS) shall be used to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. The performance test using Method 5 or Method 5I at appendix A-3 to part 60 of this chapter shall be conducted. The PM CPMS to demonstrate continuous compliance with this operating limit shall be used. The owner or operator shall repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test using the procedures in 40 CFR 63.1349(b)(1) (i) through (vi) of this subpart. The owner or operator shall also repeat the test if the owner or operator changes the analytical range of the instrument, or if the owner or operator replaces the instrument itself or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration. (40 CFR 63.1350(b)(1)(i) effective 2/12/2013)

- (b) To determine continuous compliance, the owner or operator shall use the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The owner or operator shall demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamperes) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. (40 CFR 63.1350(b)(1)(ii) effective 2/12/2013)
  - (c) For any exceedance of the 30 process operating day PM CPMS average value from the established operating parameter limit, the owner or operator shall: (40 CFR 63.1350(b)(1)(iii) effective 2/12/2013)
    - (i) Within 48 hours of the exceedance, visually inspect the APCD; (40 CFR 63.1350(b)(1)(iii)(A) effective 2/12/13)
    - (ii) If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and (40 CFR 63.1350(b)(1)(iii)(B) effective 2/12/2013)
    - (iii) Within 30 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the PM CPMS operating limit within 45 days. Additional testing is not required to be conducted for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph. (40 CFR 63.1350(b)(1)(iii)(C) effective 2/12/2013)
  - (d) PM CPMS exceedances leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a presumptive violation of this subpart. (40 CFR 63.1350(b)(1)(iv) effective 2/12/2013)
- 3) Clinker production monitoring requirements:
- In order to determine clinker production, the owner or operator shall: (40 CFR 63.1350(d) effective 2/12/2013)
- (a) Determine hourly clinker production by one of two methods: (40 CFR 63.1350(d)(1) effective 2/12/2013)

- (i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production must be maintained within  $\pm 5$  percent accuracy, or (40 CFR 63.1350(d)(1)(i) effective 2/12/2013)
  - (ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of them amount of feed to the kiln. The system of measuring feed must be maintained within  $\pm 5$  percent accuracy. Calculate the hourly clinker production rate using a kiln-specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. Update this ratio monthly. Note that if this ratio changes at clinker reconciliation, the owner or operator shall use the new ratio going forward, but the owner or operator do not have to retroactively change clinker production rates previously estimated. (40 CFR 63.1350(d)(1)(ii) effective 2/12/2013)
  - (b) Determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable) Until initial use (for new sources) or by the after compliance date of this rule (for existing sources). During each quarter of source operation, the owner or operator shall determine, record, and maintain a record of the ongoing accuracy of the system of measuring hourly clinker production (or feed mass flow). (40 CFR 63.1350(d)(2) effective 2/12/2013)
  - (c) If clinker production is measured directly, record the daily clinker production rates; if the kiln feed rates are measured and clinker production calculated, record the hourly kiln feed and clinker production rates. (40 CFR 63.1350(d)(3) effective 2/12/2013)
  - (d) Develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (p)(4) of this section of the federal regulation. (40 CFR 63.1350(d)(4) effective 2/12/2013)
- 4) Parameter Monitoring Requirements.

If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the procedures in

paragraphs (m)(1) through (4) of this section of the federal regulation by the compliance date specified in 40 CFR 63.1351. You must also meet the applicable specific parameter monitoring requirements in paragraphs 63.1350(m)(5) through (11) that are applicable to you. (40 CFR 63.1350(m) effective 2/12/2013)

- (a) The CMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data. (40 CFR 63.1350(m)(1) effective 2/12/2013)
- (b) You must conduct all monitoring in continuous operation at all times that the unit is operating. (40 CFR 63.1350(m)(2) effective 2/12/2013)
- (c) Determine the 1-hour block average of all recorded readings. (40 CFR 63.1350(m)(3) effective 2/12/2013)
- (d) Record the results of each inspection, calibration, and validation check. (40 CFR 63.1350(m)(4) effective 2/12/2013)
- (e) Liquid flow rate monitoring requirements.  
If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (m)(5)(i) through (iv) of this section of the federal regulation. (40 CFR 63.1350(m)(5) effective 2/12/2013)
  - (i) Locate the flow sensor and other necessary equipment in a position that provides a representative flow. (40 CFR 63.1350(m)(5)(i) effective 2/12/2013)
  - (ii) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate. (40 CFR 63.1350(m)(5)(ii) effective 2/12/2013)
  - (iii) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances. (40 CFR 63.1350(m)(5)(iii) effective 2/12/2013)
  - (iv) Conduct a flow sensor calibration check at least semiannually. (40 CFR 63.1350(m)(5)(iv) effective 2/12/2013)
- (f) Specific pressure monitoring requirements.  
If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (m)(6)(i) through (vi) of this

section of the federal regulation. (40 CFR 63.1350(m)(6) effective 2/12/2013)

- (i) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure. (40 CFR 63.1350(m)(6)(i) effective 2/12/2013)
  - (ii) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion. (40 CFR 63.1350(m)(6)(ii) effective 2/12/2013)
  - (iii) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range. (40 CFR 63.1350(m)(6)(iii) effective 2/12/2013)
  - (iv) Check pressure tap pluggage daily. (40 CFR 63.1350(m)(6)(iv) effective 2/12/2013)
  - (v) Using a manometer, check gauge calibration quarterly and transducer calibration monthly. (40 CFR 63.1350(m)(6)(v) effective 2/12/2013)
  - (vi) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor. (40 CFR 63.1350(m)(6)(vi) effective 2/12/2013)
- (g) Bag leak detection monitoring requirements.

If you elect to use a fabric filter bag leak detection system (BLDS) to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a BLDS as specified in paragraphs (m)(10)(i) through (viii) of this section of the federal regulation. (40 CFR 63.1350(m)(10) effective 2/12/2013)

- (i) You must install and operate a BLDS for each exhaust stack of the fabric filter. (40 CFR 63.1350(m)(10)(i) effective 2/12/2013)
- (ii) Each BLDS must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in EPA-454/R-98-015, September 1997. (40 CFR 63.1350(m)(10)(ii) effective 2/12/2013)

- (iii) The BLDS must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 or fewer milligrams per actual cubic meter. (40 CFR 63.1350(m)(10)(iii) effective 2/12/2013)
- (iv) The BLDS sensor must provide output of relative or absolute PM loadings. (40 CFR 63.1350(m)(10)(iv) effective 2/12/2013)
- (v) The BLDS must be equipped with a device to continuously record the output signal from the sensor. (40 CFR 63.1350(m)(10)(v) effective 2/12/2013)
- (vi) The BLDS must be equipped with an alarm system that will alert an operator automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located such that the alert is detected and recognized easily by an operator. (40 CFR 63.1350(m)(10)(vi) effective 2/12/2013)
- (vii) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a BLDS must be installed in each baghouse compartment or cell. (40 CFR 63.1350(m)(10)(vii) effective 2/12/2013)
- (viii) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors. (40 CFR 63.1350(m)(10)(viii) effective 2/12/2013)
- (h) For each BLDS, the owner or operator must initiate procedures to determine the cause of every alarm within 8 hours of the alarm. The owner or operator must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following: (40 CFR 63.1350(m)(11) effective 2/12/2013)
  - (i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions; (40 CFR 63.1350(m)(11)(i) effective 2/12/2013)
  - (ii) Sealing off defective bags or filter media; (40 CFR 63.1350(m)(11)(ii) effective 2/12/2013)

- (iii) Replacing defective bags or filter media or otherwise repairing the control device; (40 CFR 63.1350(m)(11)(iii) effective 2/12/2013)
- (iv) Sealing off a defective fabric filter compartment; (40 CFR 63.1350(m)(11)(iv) effective 2/12/2013)
- (v) Cleaning the BLDS probe or otherwise repairing the BLDS; or (40 CFR 63.1350(m)(11)(v) effective 2/12/2013)
- (vi) Shutting down the process producing the PM emissions. (40 CFR 63.1350(m)(11)(vi) effective 2/12/2013)

5) Continuous Flow Rate Monitoring System.

You must install, operate, calibrate, and maintain instruments, according to the requirements in paragraphs (n)(1) through (10) of this section of the federal regulation, for continuously measuring and recording the stack gas flow rate to allow determination of the pollutant mass emissions rate to the atmosphere from sources subject to an emissions limitation that has a pounds per ton of clinker unit. (40 CFR 63.1350(n) effective 2/12/2013)

- (a) You must install each sensor of the flow rate monitoring system in a location that provides representative measurement of the exhaust gas flow rate at the sampling location of the mercury or PM CEMS, taking into account the manufacturer's recommendations. The flow rate sensor is that portion of the system that senses the volumetric flow rate and generates an output proportional to that flow rate. (40 CFR 63.1350(n)(1) effective 2/12/2013)
- (b) The flow rate monitoring system must be designed to measure the exhaust flow rate over a range that extends from a value of at least 20 percent less than the lowest expected exhaust flow rate to a value of at least 20 percent greater than the highest expected exhaust flow rate. (40 CFR 63.1350(n)(2) effective 2/12/2013)
- (c) The flow rate monitoring system must be equipped with a data acquisition and recording system that is capable of recording values over the entire range specified in paragraph (n)(1) of this section of the federal regulation. (40 CFR 63.1350(n)(4) effective 2/12/2013)
- (d) The signal conditioner, wiring, power supply, and data acquisition and recording system for the flow rate monitoring system must be compatible with the output signal of the flow rate sensors used in the monitoring system. (40 CFR 63.1350(n)(5) effective 2/12/2013)

- (e) The flow rate monitoring system must be designed to complete a minimum of one cycle of operation for each successive 15-minute period. (40 CFR 63.1350(n)(6) effective 2/12/2013)
- (f) The flow rate sensor must have provisions to determine the daily zero and upscale calibration drift (CD) (see sections 3.1 and 8.3 of Performance Specification 2 in appendix B to Part 60 of this chapter for a discussion of CD). (40 CFR 63.1350(n)(7) effective 2/12/2013)
  - (i) Conduct the CD tests at two reference signal levels, zero (e.g., 0 to 20 percent of span) and upscale (e.g., 50 to 70 percent of span). (40 CFR 63.1350(n)(7)(i) effective 2/12/2013)
  - (ii) The absolute value of the difference between the flow monitor response and the reference signal must be equal to or less than 3 percent of the flow monitor span. (40 CFR 63.1350(n)(7)(ii) effective 2/12/2013)
- (g) You must perform an initial relative accuracy test of the flow rate monitoring system according to Section 8.2 of Performance Specification 6 of appendix B to Part 60 of the chapter with the exceptions in paragraphs (n)(8)(i) and (n)(8)(ii) of this section of the federal regulation. (40 CFR 63.1350(n)(8) effective 2/12/2013)
  - (i) The relative accuracy test is to evaluate the flow rate monitoring system alone rather than a continuous emission rate monitoring system. (40 CFR 63.1350(n)(8)(i) effective 2/12/2013)
  - (ii) The relative accuracy of the flow rate monitoring system shall be no greater than 10 percent of the mean value of the reference method data. (40 CFR 63.1350(n)(8)(ii) effective 2/12/2013)
- (h) You must verify the accuracy of the flow rate monitoring system at least once per year by repeating the relative accuracy test specified in paragraph (n)(8). (40 CFR 63.1350(n)(9) effective 2/12/2013)
- (i) You must operate the flow rate monitoring system and record data during all periods of operation of the affected facility including periods of startup, shutdown, and malfunction, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as

applicable, calibration checks and required zero and span adjustments). (40 CFR 63.1350(n)(10) effective 2/12/2013)

- 6) Development and Submittal (Upon Request) of Monitoring Plans. If you demonstrate compliance with any applicable emissions limit through performance stack testing or other emissions monitoring, you must develop a site-specific monitoring plan according to the requirements in paragraphs (p)(1) through (4) of this section of the federal regulation. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under paragraph (o) of this section of the federal regulation and 40 CFR 63.8(f). If you use a BLDS, you must also meet the requirements specified in paragraph (p)(5) of this section of the federal regulation. (40 CFR 63.1350(p) effective 2/12/2013)
- (a) For each CMS required in this section, you must develop, and submit to the permitting authority for approval upon request, a site-specific monitoring plan that addresses paragraphs (p)(1)(i) through (iii) of this section of the federal regulation. You must submit this site-specific monitoring plan, if requested, at least 30 days Until your initial performance evaluation of your CMS. (40 CFR 63.1350(p)(1) effective 2/12/2013)
- (i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device); (40 CFR 63.1350(p)(1)(i) effective 2/12/2013)
- (ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; (40 CFR 63.1350(p)(1)(ii) effective 2/12/2013) and
- (iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations). (40 CFR 63.1350(p)(1)(iii) effective 2/12/2013)
- (b) In your site-specific monitoring plan, you must also address paragraphs (p)(2)(i) through (iii) of this section of the federal regulation. (40 CFR 63.1350(p)(2) effective 2/12/2013)
- (i) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), and (c)(4)(ii); (40 CFR 63.1350(p)(2)(i) effective 2/12/2013)

- (ii) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); (40 CFR 63.1350(p)(2)(ii) effective 2/12/2013) and
- (iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i). (40 CFR 63.1350(p)(2)(iii) effective 2/12/2013)
- (c) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan. (40 CFR 63.1350(p)(3) effective 2/12/2013)
- (d) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan. (40 CFR 63.1350(p)(4) effective 2/12/2013)
- (e) **BLDS Monitoring Plan.**

Each monitoring plan must describe the items in paragraphs (p)(5)(i) through (v) of this section of the federal regulation. At a minimum, you must retain records related to the site-specific monitoring plan and information discussed in paragraphs (m)(1) through (4), (m)(10) and (11) of this section of the federal regulation for a period of 5 years, with at least the first 2 years on-site; (40 CFR 63.1350(p)(5) effective 2/12/2013)

- (i) Installation of the BLDS; (40 CFR 63.1350(p)(5)(i) effective 2/12/2013)
  - (ii) Initial and periodic adjustment of the BLDS, including how the alarm set-point will be established; (40 CFR 63.1350(p)(5)(ii) effective 2/12/2013)
  - (iii) Operation of the BLDS, including quality assurance procedures; (40 CFR 63.1350(p)(5)(iii) effective 2/12/2013)
  - (iv) How the BLDS will be maintained, including a routine maintenance schedule and spare parts inventory list; (40 CFR 63.1350(p)(5)(iv) effective 2/12/2013)
  - (v) How the BLDS output will be recorded and stored. (40 CFR 63.1350(p)(5)(v) effective 2/12/2013)
- v. **Recordkeeping Requirements** for the Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1355)

1) **Before, During and After September 9, 2016:**

- (a) The owner or operator shall maintain files of all information (including all reports and notifications) required by 40 CFR 63 Subpart LLL recorded in a form suitable and readily available for inspection and review as required by 40 CFR 63.10(b)(1). The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. The files may be maintained on microfilm, on a computer, on floppy disks, on magnetic tape, or on microfiche. (40 CFR 63.1355(a))
- (b) The owner or operator of an affected source shall maintain the following relevant records: (40 CFR 63.10(b)(2) as referenced by (40 CFR 63.1355(b))
  - (i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment); (40 CFR 63.10(b)(2)(i) as referenced by 40 CFR 63.1355(b))
  - (ii) Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)); (40 CFR 63.10(b)(2)(iv) as referenced by 40 CFR 63.1355(b))
  - (iii) All information necessary to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)) when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other after form of recordkeeping, in order to minimize the recordkeeping burden for conforming events); (40 CFR 63.10(b)(2)(v) as referenced by 40 CFR 63.1355(b))

- (iv) All results of performance tests, and opacity and visible emission observations; (40 CFR 63.10(b)(2)(viii) as referenced by 40 CFR 63.1355(b))
  - (v) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations; (40 CFR 63.10(b)(2)(ix) as referenced by 40 CFR 63.1355(b))
  - (vi) All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9; (40 CFR 63.1355(b)(1))
  - (vii) All records of applicability determination, including supporting analyses; and (40 CFR 63.1355(b)(2))
  - (viii) If the owner or operator has been granted a waiver under 40 CFR 63.8(f)(6), any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements. (40 CFR 63.1355(b)(3))
- (c) The owner or operator of an affected source equipped with a continuous monitoring system shall also maintain all records required by 40 CFR 63.10(c). (40 CFR 63.1355(c))
- 2) **Until September 9, 2016:**
- (a) The owner or operator must keep records of the amount of CKD recycled on an hourly basis. (40 CFR 63.1355(e) effective 12/20/2006)
  - (b) The owner or operator must keep records of all fly ash supplier certifications required by 40 CFR 63.1350(o). (40 CFR 63.1355(f) effective 12/20/2006)
- 3) **Beginning September 9, 2016:**
- (a) The owner or operator shall keep records of the date, time and duration of each startup or shutdown period for any affected source that is subject to a standard during startup or shutdown that differs from the standard applicable at other times, and the quantity of feed and fuel used during the startup or shutdown period. (40 CFR 63.1355(f) effective 2/12/2013)
  - (b) The owner or operator shall keep records of the date, time and duration of each malfunction that causes an affected source to fail to meet an applicable standard; if there was also a monitoring malfunction, the date, time and duration of the monitoring malfunction; the record must list the affected source or equipment, an estimate of the volume of

each regulated pollutant emitted over the standard for which the source failed to meet a standard, and a description of the method used to estimate the emissions. (40 CFR 63.1355(g)(1) effective 2/12/2013)

- (c) The owner or operator shall keep records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1348(d) including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (40 CFR 63.1355(g)(2) effective 2/12/2013)
- (d) For each exceedance from an emissions standard or established operating parameter limit, the owner or operator shall keep records of the date, duration and description of each exceedance and the specific actions taken for each exceedance including inspections, corrective actions and repeat performance tests and the results of those actions. (40 CFR 63.1355(h) effective 2/12/2013)

d. **TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above *de minimis* at the time of the change.
- iii. The owner or operator shall maintain daily records of the hours of operation of the Baghouse C-924.
- iv. The owner or operator shall monthly calculate the hourly (lb/hr) emissions of Cadmium, Trivalent Chromium, Nickel, Copper, Lead, Manganese, Mercury, Beryllium, and Selenium for stack S-924 on average hourly basis for each operating calendar day.
- v. The owner or operator shall monthly calculate the emissions of Arsenic, Cadmium, Hexavalent Chromium, Trivalent Chromium, Nickel, Cobalt and Cobalt compounds, Copper, Lead, Manganese, Mercury, Beryllium, and Selenium for stack S-924 for the previous calendar month (lb/month) and calendar year to date (lb/calendar yr).
- vi. For any period of time when the process equipment controlled by Baghouse C-924 was operating and Baghouse C-924 was not operating, the owner or operator shall maintain the following records:
  - 1) The duration of the control device downtime;
  - 2) The process throughput during the control device downtime;

- 3) The emissions of each TAC (lb/hr and lb/avg. period); and
- 4) Summary information on the cause of the event, corrective action taken, and measures implemented to prevent reoccurrence.

**S3. Reporting** (Regulation 2.03, section 6.1)

The owner or operator shall submit semi-annual compliance reports that include the information in this section. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement. The compliance reports shall be postmarked within 60 days following the end of each reporting period. All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11.

- “Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete”.
- Signature and title of the responsible official of the company.

The compliance reports are due on or Until the following dates of each calendar year:

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 <sup>st</sup> through June 30 <sup>th</sup>	August 29 <sup>th</sup>
July 1 <sup>st</sup> through December 31 <sup>st</sup>	March 1 <sup>st</sup>

**a. PM/PM<sub>10</sub>**

- i. The owner or operator shall report any exceedance of the hours of operation limitation.
- ii. The owner or operator shall report any failure to perform Compliance Assurance Monitoring (CAM).
- iii. The owner or operator shall report the following information regarding PM bypasses in the compliance reports:
  - 1) Number of times the PM vent stream bypasses the control device and is vented to the atmosphere;
  - 2) Duration of each bypass to the atmosphere;
  - 3) Calculated pound per hour PM emissions for each bypass; or
  - 4) A negative declaration if no bypasses occurred.

**b. Opacity**

- i. If the owner or operator complies with the requirements of S2.b by operating and maintain COMs then the owner or operator shall include in the semi-annual report required by District Regulation 2.03 for COMs (Continuous Opacity Monitoring system) the information described in Specific Condition S3.c.ii.2)(b), (e), and (f) for Clinker Cooler (E-909) and Baghouse C-924 in order to demonstrate compliance with Specific Condition S1.b.  
or

- ii. If the owner or operator chooses to comply with the requirement of S2.b by conducting a daily visible emissions survey then the following information shall be included in the report:
  - 1) Emission unit ID number and emission point or stack ID number;
  - 2) The beginning and ending date of the reporting period;
  - 3) The date, time and results of each Method 9 that exceeded the opacity standard; and
  - 4) Description of any corrective action taken.

c. **HAP**

40 CFR Part 63 Subpart LLL

- i. **Before, During and After September 9, 2016 - Notification Requirements** for the Clunker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1353)
  - 1) The notification provisions of 40 CFR part 63, subpart A that apply and those that do not apply to owners and operators of affected sources subject to this subpart are listed in Table 1 of this subpart. If any State requires a notice that contains all of the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section of the federal regulation for that notification. (40 CFR 63.1353(a))
  - 2) Each owner or operator subject to the requirements of this subpart shall comply with the notification requirements in 40 CFR 63.9 as follows: (40 CFR 63.1353(b))
    - (a) Initial notifications as required by 40 CFR 63.9(b) through (d). For the purposes of this subpart, a Title V or 40 CFR part 70 permit application may be used in lieu of the initial notification required under 40 CFR 63.9(b), provided the same information is contained in the permit application as required by 40 CFR 63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA. Permit applications shall be submitted by the same due dates as those specified for the initial notification. (40 CFR 63.1353(b)(1))
    - (b) Notification of performance tests, as required by 40 CFR 63.7 and 63.9(e). (40 CFR 63.1353(b)(2))
    - (c) Notification of opacity and visible emission observations required by 40 CFR 63.1349 in accordance with 40 CFR 63.6(h)(5) and 63.9(f). (40 CFR 63.1353(b)(3))

- (d) Notification, as required by 40 CFR 63.9(g), of the date that the continuous emission monitor performance evaluation required by 40 CFR 63.8(e) is scheduled to begin. (40 CFR 63.1353(b)(4))
  - (e) Notification of compliance status, as required by 40 CFR 63.9(h). (40 CFR 63.1353(b)(5))
  - (f) Within 48 hours of an exceedance that triggers retesting to establish compliance and new operating limits, notify the appropriate permitting agency of the planned performance tests. The notification requirements of 40 CFR 63.7(b) and 63.9(e) do not apply to retesting required for exceedances under this subpart. (40 CFR 63.1353(b)(6))
- ii. **Before, During and After September 9, 2016 except as noted - Reporting requirements** for the Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1354)
- 1) The reporting provisions of subpart A of this part that apply and those that do not apply to owners or operators of affected sources subject to this subpart are listed in Table 1 of this subpart. If any State requires a report that contains all of the information required in a report listed in this section, the owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section of the federal regulation for that report. (40 CFR 63.1354(a))
  - 2) The owner or operator of an affected source shall comply with the reporting requirements specified in 40 CFR 63.10 of the general provisions of this part 63, subpart A as follows: (40 CFR 63.1354(b))
    - (a) As required by 40 CFR 63.10(d)(2), the owner or operator shall report the results of performance tests as part of the notification of compliance status. (40 CFR 63.1354(b)(1))
    - (b) As required by 40 CFR 63.10(d)(3), the owner or operator of an affected source shall report the opacity results from tests required by 40 CFR 63.1349. (40 CFR 63.1354(b)(2))
    - (c) As required by 40 CFR 63.10(d)(4), the owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under 40 CFR 63.6(i) shall submit such reports by the dates specified in the written extension of compliance. (40 CFR 63.1354(b)(3))
    - (d) As required by 40 CFR 63.10(e)(2), the owner or operator shall submit a written report of the results of the performance evaluation for the continuous monitoring system required by 40 CFR 63.8(e). The owner or operator

shall submit the report simultaneously with the results of the performance test. (40 CFR 63.1354(b)(6))

- (e) As required by 40 CFR 63.10(e)(2), the owner or operator of an affected source using a continuous opacity monitoring system to determine opacity compliance during any performance test required under 40 CFR 63.7 and described in 40 CFR 63.6(d)(6) shall report the results of the continuous opacity monitoring system performance evaluation conducted under 40 CFR 63.8(e). (40 CFR 63.1354(b)(7))
- (f) As required by 40 CFR 63.10(e)(3), the owner or operator of an affected source equipped with a continuous emission monitor shall submit an excess emissions and continuous monitoring system performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit. (40 CFR 63.1354(b)(8))
- (g) The owner or operator shall submit a summary report semiannually which contains the information specified in 40 CFR 63.10(e)(3)(vi). In addition, the summary report shall include: (40 CFR 63.1354(b)(9))
  - (i) All exceedances of maximum control device inlet gas temperature limits specified in 40 CFR 63.1344(a) and (b); (40 CFR 63.1354(b)(9)(i))
  - (ii) All failures to calibrate thermocouples and other temperature sensors as required under 40 CFR 63.1350(f)(7) of this subpart; and (40 CFR 63.1354(b)(9)(ii))
  - (iii) The results of any combustion system component inspections conducted within the reporting period as required under 40 CFR 63.1350(i). (40 CFR 63.1354(b)(9)(iv))
  - (iv) All failures to comply with any provision of the operation and maintenance plan developed in accordance with 40 CFR 63.1350(a). (40 CFR 63.1354(b)(9)(v))
  - (v) **Only Beginning September 9, 2016** for each PM, HCl, Hg, and THC CEMS or Hg sorbent trap monitoring system, within 60 days after the reporting periods, the owner or operator shall submit reports to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed

through the EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). The owner or operator shall use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with the EPA's reporting form output format. For each reporting period, the reports must include all of the calculated 30-operating day rolling average values derived from the CEMS or Hg sorbent trap monitoring systems. (40 CFR 63.1354(b)(9)(vi) effective 2/12/2013)

(vi) **Only Beginning September 9, 2016** in response to each violation of an emissions standard or established operating parameter limit, the date, duration and description of each violation and the specific actions taken for each violation including inspections, corrective actions and repeat performance tests and the results of those actions. (40 CFR 63.1354(b)(9)(vii) effective 2/12/2013)

(h) If the total continuous monitoring system downtime for any CEM or any continuous monitoring system (CMS) for the reporting period is ten percent or greater of the total operating time for the reporting period, the owner or operator shall submit an excess emissions and continuous monitoring system performance report along with the summary report. (40 CFR 63.1354(b)(10))

3) **Only Beginning September 9, 2016** - Reporting a failure to meet a standard due to a malfunction. For each failure to meet a standard or emissions limit caused by a malfunction at an affected source, the owner or operator shall report the failure in the semi-annual compliance report required by 40 CFR 63.1354(b)(9). The report must contain the date, time and duration, and the cause of each event (including unknown cause, if applicable), and a sum of the number of events in the reporting period. The report must list for each event the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the emission limit for which the source failed to meet a standard, and a description of the method used to estimate the emissions. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1348(d), including actions taken to correct a malfunction. (40 CFR 63.1354(c) effective 2/12/2013)

d. **TAC**

i. The owner or operator shall report any exceedance of the limits listed in S1.d.iii.

- ii. The owner or operator shall report the following information regarding TAC By-Pass Activity in the semi-annual compliance reports:
  - 1) Number of times of the by-pass activities;
  - 2) Duration of each by-pass to the atmosphere;
  - 3) Calculated lb/hr TAC emissions for each by-pass;<sup>6</sup>
  - 4) A negative declaration if no by-passes occurred.
- iii. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- iv. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
- v. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months after a change of a raw material as described in Specific Condition S2.d.ii.

S4. **Testing** (Regulation 2.03, section 6.1)

a. **PM/ HAP/40 CFR Part 63 Subpart LLL**

- i. **Until September 9, 2016 - Performance Testing Compliance Regulations** for the Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1349 12/20/2006)
  - 1) The owner or operator of an affected source subject to this subpart shall demonstrate initial<sup>7</sup> compliance with the emission limits of 40 CFR 63.1343 and 40 CFR 40 CFR 63.1345 through 63.1348 using the test methods and procedures in paragraph (b) of this section of the federal regulation and 40 CFR 63.7. Performance test results shall be documented in complete test reports that contain the information required by paragraphs (a)(1) through (a)(10) of this section of the federal regulation, as well as all other relevant information. The plan to be followed during testing shall be made available to the Administrator prior to testing, if requested. (40 CFR 63.1349(a)) effective 12/20/2006)

---

<sup>6</sup> The District approves uncontrolled emissions calculations for Baghouse C-924 using stack test results for inlet testing averaged from 3 tests dated 9/21/05, 3/21/06, and 6/28/07 at 10003.3 lb/hr, other calculation methodologies must receive approval from the District.

<sup>7</sup> Initial compliance testing was conducted for PM on January-February 2001, ongoing compliance testing is required by 40 CFR 63.1349(c) 71 FR 76518, December 20, 2006.

- (a) A brief description of the process and the air pollution control system; (40 CFR 63.1349(a)(1)) effective 12/20/2006)
  - (b) Sampling location description(s); (40 CFR 63.1349(a)(2)) effective 12/20/2006)
  - (c) A description of sampling and analytical procedures and any modifications to standard procedures; (40 CFR 63.1349(a)(3)) effective 12/20/2006)
  - (d) Test results; (40 CFR 63.1349(a)(4)) effective 12/20/2006)
  - (e) Quality assurance procedures and results; (40 CFR 63.1349(a)(5)) effective 12/20/2006)
  - (f) Records of operating conditions during the test, preparation of standards, and calibration procedures; (40 CFR 63.1349(a)(6)) effective 12/20/2006)
  - (g) Raw data sheets for field sampling and field and laboratory analyses; (40 CFR 63.1349(a)(7)) effective 12/20/2006)
  - (h) Documentation of calculations; (40 CFR 63.1349(a)(8)) effective 12/20/2006)
  - (i) All data recorded and used to establish parameters for compliance monitoring; and (40 CFR 63.1349(a)(9)) effective 12/20/2006)
  - (j) Any other information required by the test method. (40 CFR 63.1349(a)(10)) effective 12/20/2006)
- 2) Performance tests to demonstrate initial compliance with this subpart shall be conducted as specified in paragraphs (b)(1) through (b)(4) of this section of the federal regulation. (40 CFR 63.1349(b)) effective 12/20/2006)
- (a) The owner or operator of a clinker cooler subject to limitations on particulate matter emissions shall demonstrate initial compliance by conducting a performance test as specified in paragraphs (b)(1) (i) through (b)(1)(iii) of this section of the federal regulation. The opacity exhibited during the period of the Method 5 of Appendix A to part 60 of this chapter performance tests required by paragraph (b)(1)(i) of this section of the federal regulation shall be determined as required in paragraphs (b)(1)(v) through (vi) of this section of the federal regulation. (40 CFR 63.1349(b)(1)) effective 12/20/2006)
    - (i) Method 5 of appendix A to part 60 of this chapter shall be used to determine PM emissions. Each performance test shall consist of three separate runs

under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with 40 CFR 63.7(e). Each run shall be conducted for at least 1 hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of the three runs shall be used to determine compliance. A determination of the PM collected in the impingers ("back half") of the Method 5 particulate sampling train is not required to demonstrate initial compliance with the PM standards of this subpart. However, this shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes. (ii) Suitable methods shall be used to determine the kiln or inline kiln/raw mill feed rate, except for fuels, for each run. (40 CFR 63.1349(b)(1)(i)) effective 12/20/2006)

- (ii) The emission rate, E, of PM shall be computed for each run using equation 1:

$$E = (C_s Q_{sd})/P$$

Equation 1

Where:

E = emission rate of particulate matter, kg/Mg of kiln feed.

C<sub>s</sub> = concentration of PM, kg/dscm.

Q<sub>sd</sub> = volumetric flow rate of effluent gas, dscm/hr.

P = total kiln feed (dry basis), Mg/hr.

(40 CFR 63.1349(b)(1)(iii)) effective 12/20/2006)

- (iii) Except as provided in paragraph (b)(1)(vi) of this section of the federal regulation the opacity exhibited during the period of the Method 5 performance tests required by paragraph (b)(1)(i) of this section of the federal regulation shall be determined through the use of a continuous opacity monitor (COM). The maximum six-minute average opacity during the three Method 5 test runs shall be determined during each Method 5 test run, and used to demonstrate initial compliance with the applicable opacity limits of 40 CFR 63.1343(b)(2), 40 CFR 63.1343(c)(2), or 40 CFR 63.1345(a)(2). (40 CFR 63.1349(b)(1)(v)) effective 12/20/2006)
- (iv) Each owner or operator of a kiln, in-line kiln/raw mill, or clinker cooler subject to the provisions of this subpart using a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks

may, in lieu of installing the continuous opacity monitoring system required by paragraph (b)(1)(v) of this section of the federal regulation, conduct an opacity test in accordance with Method 9 of appendix A to part 60 of this chapter during each Method 5 performance test required by paragraph (b)(1)(i) of this section of the federal regulation. If the control device exhausts through a monovent, or if the use of a COM in accordance with the installation specifications of Performance Specification 1 (PS-1) of appendix B to part 60 of this chapter is not feasible, a test shall be conducted in accordance with Method 9 of appendix A to part 60 of this chapter during each Method 5 performance test required by paragraph (b)(1)(i) of this section of the federal regulation. The maximum six-minute average opacity shall be determined during the three Method 5 test runs, and used to demonstrate initial compliance with the applicable opacity limits of 40 CFR 63.1343(b)(2), 40 CFR 63.1343(c)(2), or 40 CFR 63.1345(a)(2). (40 CFR 63.1349(b)(1)(vi) effective 12/20/2006)

- (b) The owner or operator of any affected source subject to limitations on opacity under this subpart that is not subject to paragraph (b)(1) of this section of the federal regulation shall demonstrate initial compliance with the affected source opacity limit by conducting a test in accordance with Method 9 of appendix A to part 60 of this chapter. The performance test shall be conducted under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with 40 CFR 63.7(e). The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) through (ii) of this section of the federal regulation apply: (40 CFR 63.1349(b)(2)) effective 12/20/2006
  - (i) There are no individual readings greater than 10 percent opacity; (40 CFR 63.1349(b)(2)(i)) effective 12/20/2006)

- (ii) There are no more than three readings of 10 percent for the first 1-hour period. (40 CFR 63.1349(b)(2)(ii) effective 12/20/2006)
- 3) Except as provided in paragraph (e) of this section of the federal regulation performance tests required under paragraphs (b) (1) and (b)(2) of this section of the federal regulation shall be repeated every five years except that the owner or operator of a kiln, in-line kiln/raw mill or clinker cooler is not required to repeat the initial performance test of opacity for the kiln, in-line kiln/raw mill or clinker cooler. (40 CFR 63.1349(b)(3)) effective 12/20/2006)
- 4) If a source plans to undertake a change in operations that may adversely affect compliance with an applicable PM standard under 40 CFR 63.1343 the source must conduct a performance test as specified in paragraph (b)(1) of this section of the federal regulation. (40 CFR 63.1349(e)(2)) effective 12/20/2006)
- 5) In preparation for and while conducting a performance test required in paragraph (e)(1) of this section of the federal regulation. A source may operate under the planned operational change conditions for a period not to exceed 360 hours, provided that the conditions in paragraphs (e)(3)(i) through (iv) of this section of the federal regulation are met. The source shall submit temperature and other monitoring data that are recorded during the pretest operations. (40 CFR 63.1349(e)(3)) effective 12/20/2006)
  - (a) The source must provide the Administrator written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard under this subpart or as soon as practicable where 60 days advance notice is not feasible. Notice provided under this paragraph shall include a description of the planned change the emissions standards that may be affected by the change and a schedule for completion of the performance test required under paragraph (e)(1) of this section of the federal regulation including when the planned operational change period would begin. (40 CFR 63.1349(e)(3)(i)) effective 12/20/2006)
  - (b) The performance test results must be documented in a test report according to paragraph (a) of this section of the federal regulation. (40 CFR 63.1349(e)(3)(ii) effective 12/20/2006)
  - (c) A test plan must be made available to the Administrator prior to testing if requested. (40 CFR 63.1349(e)(3)(iii)) effective 12/20/2006)

- (d) The performance test must be conducted and it must be completed within 360 hours after the planned operational change period begins. (40 CFR 63.1349(e)(3)(iv)) effective 12/20/2006)
- ii. **Beginning September 9, 2016 - Performance testing requirements** for the Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1349(a) and (b) effective 2/12/2013) unless otherwise noted
- 1) You must document performance test results in complete test reports that contain the information required by paragraphs (a)(1) through (10) of this section of the federal regulation (a-j of this permit), as well as all other relevant information. As described in 40 CFR 63.7(c)(2)(i), you must make available to the Administrator prior to testing, if requested, the site-specific test plan to be followed during performance testing. For purposes of determining exhaust gas flow rate to the atmosphere from an alkali bypass stack or a coal mill stack, you must either install, operate, calibrate and maintain an instrument for continuously measuring and recording the exhaust gas flow rate according to the requirements in paragraphs 40 CFR 63.1350(n)(1) through (10) of this subpart or use the maximum design exhaust gas flow rate. (40 CFR 63.1349(a) effective 2/12/2013)
    - (a) A brief description of the process and the air pollution control system; (40 CFR 63.1349(a)(1) effective 2/12/2013)
    - (b) Sampling location description(s); (40 CFR 63.1349(a)(2) effective 2/12/2013)
    - (c) A description of sampling and analytical procedures and any modifications to standard procedures; (40 CFR 63.1349(a)(3) effective 2/12/2013)
    - (d) Test results; (40 CFR 63.1349(a)(4) effective 2/12/2013)
    - (e) Quality assurance procedures and results; (40 CFR 63.1349(a)(5) effective 2/12/2013)
    - (f) Records of operating conditions during the performance test, preparation of standards, and calibration procedures; (40 CFR 63.1349(a)(6) effective 2/12/2013)
    - (g) Raw data sheets for field sampling and field and laboratory analyses; (40 CFR 63.1349(a)(7) effective 2/12/2013)
    - (h) Documentation of calculations; (40 CFR 63.1349(a)(8) effective 2/12/13)
    - (i) All data recorded and used to establish parameters for monitoring; (40 CFR 63.1349(a)(9) effective 2/12/2013) and

- (j) Any other information required by the performance test method. (40 CFR 63.1349(a)(10) effective 2/12/2013)

2) PM emissions tests.

The owner or operator of a kiln subject to limitations on PM emissions shall demonstrate initial compliance by conducting a performance test using Method 5 or Method 5I at appendix A-3 to part 60 of this chapter. You must also monitor continuous performance through use of a PM continuous parametric monitoring system (PM CPMS). (40 CFR 63.1349(b)(1) effective 2/12/2013)

- (a) For your PM CPMS, you will establish a site-specific operating limit. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You will use the PM CPMS to demonstrate continuous compliance with your operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test. (40 CFR 63.1349(b)(1)(i) effective 2/12/2013)

- (i) Your PM CPMS must provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamperes. (40 CFR 63.1349(b)(1)(i)(A) effective 2/12/2013)

- (ii) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to three times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to three times your allowable emission limit. (40 CFR 63.1349(b)(1)(i)(B) effective 2/12/2013)

- (iii) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average

all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs). (40 CFR 63.1349(b)(1)(i)(C) effective 2/12/2013)

- (b) Determine your operating limit as specified in paragraphs (b)(1)(iii) through (iv) of this section of the federal regulation. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test at least annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test. (40 CFR 63.1349(b)(1)(ii) effective 2/12/2013)
- (c) If the average of your three Method 5 or 5I compliance test runs is below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or 5I compliance test with the procedures in (a)(1)(iii)(A) through (D) of this section of the federal regulation. (40 CFR 63.1349(b)(1)(iii) effective 2/12/2013)
  - (i) Determine your PM CPMS instrument zero output with one of the following procedures. (40 CFR 63.1349(b)(1)(iii)(A) effective 2/12/2013)
    - (A) Zero point data for in-situ instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench. (40 CFR 63.1349(b)(1)(iii)(A)(1) effective 2/12/2013)
    - (B) Zero point data for extractive instruments

should be obtained by removing the extractive probe from the stack and drawing in clean ambient air. (40 CFR 63.1349(b)(1)(iii)(A)(2) effective 2/12/2013)

- (C) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept. (40 CFR 63.1349(b)(1)(iii)(A)(3) effective 2/12/2013)
- (D) If none of the steps in paragraphs (a)(1)(iii)(A)(1) through (3) of this section of the federal regulation are possible, you must use a zero output value provided by the manufacturer. (40 CFR 63.1349(b)(1)(iii)(A)(4) effective 2/12/2013)
- (ii) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 3.

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n X_1, \quad \bar{y} = \frac{1}{n} \sum_{i=1}^n Y_1$$

Equation 3

Where:

$X_1$  = The PM CPMS data points for the three runs constituting the performance test.

$Y_1$  = The PM concentration value for the three runs constituting the performance test.

$n$  = The number of data points.

(40 CFR 63.1349(b)(1)(iii)(B) effective 2/12/2013)

- (iii) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run PM compliance test average, determine a relationship of lb/ton-clinker per milliamp with Equation 4.

$$R = \frac{Y_1}{(X_1 - z)}$$

Equation 4

Where:

R = The relative lb/ton-clinker per milliamp for your PM CPMS.

Y<sub>1</sub> = The three run average lb/ton-clinker PM concentration.X<sub>1</sub> = The three run average milliamp output from you PM CPMS.

z = The milliamp equivalent of your instrument zero determined from (b)(1)(iii)(A).

(40 CFR 63.1349(b)(1)(iii)(C) effective 2/12/2013)

- (iv) Determine your source specific 30-day rolling average operating limit using the lb/ton-clinker per milliamp value from Equation 4 in Equation 5, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.

$$O_1 = z + (0.75(L))/R$$

Equation 5

Where:

O<sub>1</sub> = The operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

L = Your source emission limit expressed in lb/ton clinker.

z = Your instrument zero in milliamps, determined from (1)(i).

R = The relative lb/ton-clinker per milliamp for your PM CPMS, from Equation 4.

(40 CFR 63.1349(b)(1)(iii)(D) effective 2/12/2013)

- (d) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using Equation 6.

$$O_h = \frac{1}{n} \sum_{i=1}^n X_1$$

Equation 6

Where:

X<sub>1</sub> = The PM CPMS data points for all runs i.

n = The number of data points.

O<sub>h</sub> = Your site specific operating limit, in milliamps.

(40 CFR 63.1349(b)(1)(iv) effective 2/12/2013)

- (e) To determine continuous operating compliance, you must record the PM CPMS output data for all periods when the process is operating, and use all the PM CPMS data for

calculations when the source is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 7 to determine the 30 kiln operating day average.

$$30\text{kiln operating day average} = \frac{\sum_{i=1}^n Hp v_i}{n}$$

Equation 7

Where:

$Hp v_i$  = The hourly parameter value for hour i.

n = The number of valid hourly parameter values collected over 30 kiln operating days.

(40 CFR 63.1349(b)(1)(v) effective 2/12/2013)

- (f) For each performance test, conduct at least three separate test runs under the conditions that exist when the affected source is operating at the highest load or capacity level reasonably expected to occur. Conduct each test run to collect a minimum sample volume of 2 dscm for determining compliance with a new source limit and 1 dscm for determining compliance with an existing source limit. Calculate the average of the results from three consecutive runs, including applicable sources as required by (D)(viii), to determine compliance. You need not determine the particulate matter collected in the impingers (“back half”) of the Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the “back half” for other purposes. (40 CFR 63.1349(b)(1)(vi) effective 2/12/2013)
- (g) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. (40 CFR 63.1349(b)(1)(vii) effective 2/12/2013)

iii. **Beginning September 9, 2016** - Performance Test Frequency for the

Clinker Cooler (E-909) and Baghouse C-924 tests for PM are repeated every 12 months. (40 CFR 63.1349(c) effective 2/12/2013)

iv. **Beginning September 9, 2016 - Performance Test Reporting Requirements** for the Clinker Cooler (E-909) and Baghouse C-924 (40 CFR 63.1349(d) effective 2/12/2013)

1) You must submit the information specified in paragraphs (d)(1) and (2) of this section of the federal regulation no later than 60 days following the initial performance test. All reports must be signed by a responsible official. (40 CFR 63.1349(d)(1) effective 2/12/2013)

(a) The initial performance test data as recorded under paragraph (b) of this section of the federal regulation. (40 CFR 63.1349(d)(1)(i) effective 2/12/2013)

(b) The values for the site-specific operating limits or parameters established pursuant to paragraphs (b)(1), (3), (6), and (7) of this section of the federal regulation, as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test. (40 CFR 63.1349(d)(1)(ii) effective 2/12/2013)

2) As of December 31, 2011 and within 60 days after the date of completing each performance evaluation or test, as defined in 40 CFR 63.2, conducted to demonstrate compliance with any standard covered by this subpart, you must submit the relative accuracy test audit data and performance test data, except opacity data, to the EPA by successfully submitting the data electronically to the EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see [http://www.epa.gov/ttn/chief/ert/ert\\_tool.html/](http://www.epa.gov/ttn/chief/ert/ert_tool.html/)). (40 CFR 63.1349(d)(2) effective 2/12/2013)

v. **Beginning September 9, 2016 – Conditions of performance tests** for the Clinker Cooler (E-909) and Baghouse C-924

Conduct performance tests under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests. (40 CFR 63.1349(e) effective 2/12/2013)

vi. **Applicability and performance test dates.** (40 CFR 63.7(a))

Except as provided in paragraph (a)(4) of this section, if required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of paragraph (c)(3)(ii)(B) of this section apply, the owner or operator of the

affected source must perform such tests within 180 days of the compliance date for such source. (40 CFR 63.7(a)(2))

vii. **Notification of performance test. (40 CFR 63.7(b))**

- 1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review and approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test. (40 CFR 63.7(b)(1))
- 2) In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in paragraph (b)(1) of this section due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act. (40 CFR 63.7(b)(2))

viii. **Approval of site-specific test plan. (40 CFR 63.7(c)(3))**

- 1) The Administrator will notify the owner or operator of approval or intention to deny approval of the site-specific test plan (if review of the site-specific test plan is requested) within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under paragraph (c)(3)(i)(B) of this section. Before disapproving any site-specific test plan, the Administrator will notify the applicant of the Administrator's intention to disapprove the plan together with— (40 CFR 63.7(c)(3)(i))
  - (a) Notice of the information and findings on which the intended disapproval is based; and (40 CFR 63.7(c)(3)(i)(A))
  - (b) Notice of opportunity for the owner or operator to present, within 30 calendar days after he/she is notified of the intended disapproval, additional information to the Administrator before final action on the plan. (40 CFR 63.7(c)(3)(i)(B))
- 2) In the event that the Administrator fails to approve or disapprove the site-specific test plan within the time period specified in

paragraph (c)(3)(i) of this section, the following conditions shall apply: (40 CFR 63.7(c)(3)(ii))

- (a) If the owner or operator intends to demonstrate compliance using the test method(s) specified in the relevant standard or with only minor changes to those tests methods (see paragraph (e)(2)(i) of this section), the owner or operator must conduct the performance test within the time specified in this section using the specified method(s); (40 CFR 63.7(c)(3)(ii)(A))
  - (b) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or after the alternative method is approved (see paragraph (f) of this section). However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval 45 days after submission of the site-specific test plan or request to use an alternative method. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative. (40 CFR 63.7(c)(3)(ii)(B))
- 3) Neither the submission of a site-specific test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall— (40 CFR 63.7(c)(3)(iii))
- (a) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or (40 CFR 63.7(c)(3)(iii)(A))
  - (b) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act. (40 CFR 63.7(c)(3)(iii)(B))

ix. **District requirements:**

- 1) The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.
  - (a) The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.
  - (b) The owner or operator shall perform an EPA Reference Method performance test on the **inlet and outlet** of the control device or emission point.
  - (c) The owner or operator shall submit written compliance test plans (protocol) for the performance test. They shall include the EPA test methods that will be used compliance testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a Protocol Checklist for Performance Test for the information to be submitted in the protocol.
  - (d) The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the onsite testing.
  - (e) The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.
- 2) The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of completion of the performance test.

### Comments

1. The extension was requested by the Company for modifications under operational flexibility to be made safely including installation of two (2) new fabric filter compartments and one (1) new inlet plenum to K-924 heat exchanger bundles. The previous issuance of this construction permit was to lower the first three compartments and split the last compartment (#7) in half with half the airflow (48,000 acfm) going through each new section.
2. Construction permit fees are based on the construction fee for Title V source (\$2,542.40), subject to a MACT (\$1,016.96), and EA Demo with Tier 4 Modeling (\$1,525.44). The total construction fees are \$5,084.80.

### Protocol Checklist for a Performance Test

A completed protocol should include the following information:

- 1. Facility name, location, and ID #;
- 2. Responsible Official and environmental contact names;
- 3. Permit numbers which are requiring the test to be conducted;
- 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- 5. Alternative test methods or description of modifications to the test methods to be used;
- 6. Purpose of the test including equipment, and pollutant to be tested; the purpose may be described in the permit which requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- 7. Tentative test dates (these may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation);
- 8. Maximum rated production capacity of the system;
- 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate based on limits);
- 10. Method to be used for determining rate of production during the performance test;
- 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- 12. Description of normal operation cycles;
- 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- 14. Process flow diagram;
- 15. List the type and manufacturer of the control equipment if any;
- 16. List the control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test; note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- 17. How quality assurance and accuracy of the data will be maintained, including;
  - Sample identification and chain-of-custody procedures;
  - Are audit samples required for this test Method (EPA contact number for audit samples 919-541-1062) if yes then please make samples available to the District for observation during the stack test;
  - Audit sample provider;
  - Number of audit samples to be used:
- 18. Pipe, duct, stack, or flue diameter to be tested;
- 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
  - Method 1 if stack is >12"
  - Method 1a if stack is between 4" and 12"
  - Alternate method of determination for <4"
  - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
- 21. The Stack Test Review fee shall be submitted with each stack test protocol.

Attachment A

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 .....	lb/ton feed
			Opacity—20 .....	percent
			D/F—0.2 <sup>2</sup> .....	ng/dscm (TEQ)
			THC—50 <sup>3,4</sup> .....	ppmvd.
2. An existing kiln .....	it commenced construction or reconstruction after December 2, 2005 .....	A major source .....	PM—0.3 .....	lb/ton feed
			Opacity—20 .....	percent
			D/F—0.2 <sup>2</sup> .....	ng/dscm (TEQ)
			THC—20 <sup>3,5</sup> .....	ppmvd
			Mercury—41 <sup>6</sup> .....	ug/dscm.
3. An existing kiln .....	it commenced construction or reconstruction on or prior to December 2, 2005 .....	An area source .....	D/F—0.2 <sup>2</sup> .....	ng/dscm (TEQ)
			THC—50 <sup>3,4</sup> .....	ppmvd.
4. An existing kiln .....	it commenced construction or reconstruction after December 2, 2005 .....	An area source .....	D/F—0.2 <sup>2</sup> .....	ng/dscm (TEQ)
			THC—20 <sup>3,5</sup> .....	ppmvd
			Mercury—41 <sup>6</sup> .....	ug/dscm.
5. An existing clinker cooler	NA .....	A major source .....	PM—0.1 .....	lb/ton feed
			Opacity—10 .....	percent.
6. An existing raw material dryer.	it commenced construction or reconstruction on or prior to December 2, 2005 .....	A major source .....	THC—50 <sup>3,4</sup> .....	ppmvd
			Opacity—10 .....	percent.
7. An existing raw material dryer.	it commenced construction or reconstruction after December 2, 2005 .....	A major source .....	THC—20 <sup>3,5</sup> .....	ppmvd
			Opacity—10 .....	percent.
8. An existing raw material dryer.	it commenced construction or reconstruction on or prior to December 2, 2005 .....	An area source .....	THC—50 <sup>3,4</sup> .....	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. In-line 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]