ADEQ Arizona Department of Environmental Quality

DRAFT PERMIT

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CLASS I AIR QUALITY PERMIT

PERMIT No. 93430 (As Amended by Significant Permit Revision No. 103263) (As Amended by Significant Permit Revision No. 103263)

PERMITTEE:	**DRAKE CEMENT, LLC**
FACILITY:	**DRAKE CEMENT - DRAKE ROAD SITE**
PLACE ID:	**15847**
DATE ISSUED:	**August 16, 2022 (As Amended on Date Pending)**
EXPIRY DATE:	**August 15, 2027**

SUMMARY

This Class I air quality permit is issued to Drake Cement, LLC, the Permittee, for the continued operation of portland cement plant. The facility is located at 5001 East Drake Road, Paulden, Arizona 86334. This permit renews and supersedes Permit No. 65587.

The facility's potential emission to emit for particulate matter (PM), nitrogen oxides (NO_X), carbon monoxide (CO) and hazardous air pollutants (HAPs) is greater than the major source thresholds. Therefore, this facility is classified as a major source ~~as defined in the~~under Arizona Administrative Code (A.A.C.) R18-2-101(75)~~,~~ and thus, it requires a Class I permit pursuant to A.A.C. R18-302(B)(1)(a).

This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) § 49-426. It contains requirements from Title 18, Chapter 2 of the A.A.C. and Title 40 of the Code of Federal Regulations (CFR). All definitions, terms, and conditions used in this permit conform to those in the A.A.C. R18-2-101 et. seq. (A.A.C.) and Title 40 of the CFR, except as otherwise defined in this permit.

Significant Permit Revision No. 103263

This Significant Permit Revision (SPR) authorizes Drake Cement, LLC, the Permittee, to introduce biomass as a new alternative fuel source to offset coal and pet coke consumption in the cement manufacturing process.

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Table of Contents

ATTACHMENT "A": GENERAL PROVISIONS

I. PERMIT EXPIRATION AND RENEWAL

A. This permit is valid for a period of five (5) years from the date of issuance.
[A.R.S. § 49-426.F, A.A.C. R18-2-306.A.1]

B. The Permittee shall submit an application for renewal of this permit at least six (6) months, but not more than eighteen (18) months, prior to the date of permit expiration.
[A.A.C. R18-2-304.D.2]

II. COMPLIANCE WITH PERMIT CONDITIONS

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona Revised Statutes (A.R.S.) Title 49, Chapter 3, and the air quality rules under Title 18, Chapter 2 of the Arizona Administrative Code. Any permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
[A.A.C. R18-2-306.A.8.a]

B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
[A.A.C. R18-2-306.A.8.b]

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[A.A.C. R18-2-306.A.8.c]

B. The permit shall be reopened and revised under any of the following circumstances:

1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of it terms and conditions has been extended pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five-year permit term;
[A.A.C. R18-2-321.A.1.a]

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the EPA Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit;

[A.A.C. R18-2-321.A.1.b]

3. The Director or the EPA Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; and

[A.A.C. R18-2-321.A.1.c]

4. The Director or the EPA Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

[A.A.C. R18-2-321.A.1.d]

C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under Condition III.B.1 above, affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in Condition III.B.1 above shall not result in a resetting of the five-year permit term.

[A.A.C. R18-2-321.A.2]

IV. POSTING OF PERMIT

A. The Permittee shall post this permit or a certificate of permit issuance at the facility in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

[A.A.C. R18-2-315.A]

1. Current permit number; or

2. Serial number or other equipment identification number (equipment ID number) that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

[A.A.C. R18-2-315.B]

V. FEE PAYMENT

The Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

[A.A.C. R18-2-306.A.9 and -326]

VI. EMISSIONS INVENTORY QUESTIONNAIRE

A. The Permittee shall complete and submit to the Director an emissions inventory questionnaire no later than June 1 of each year.

[A.A.C. R18-2-327.A.1.a]

B. The emissions inventory questionnaire shall be on an electronic or paper form provided by the Director and shall include the information required by A.A.C. R18-2-327.A.3 for the previous calendar year.

[A.A.C. R18-2-327.A.3]

C. The Permittee shall submit to the Director an amendment to an emissions inventory questionnaire, containing the documentation required by A.A.C. R18-2-327.A.3, whenever the Permittee discovers or receives notice, within two years of the original submittal, that incorrect or insufficient information was submitted to the Director by a previous emissions inventory questionnaire. The amendment shall be submitted to the Director within 30 days of discovery or receipt of notice. If the incorrect or insufficient information resulted in an incorrect annual emissions fee, the Director shall require that additional payment be made or shall apply an amount as a credit to a future annual emissions fee. The submittal of an amendment shall not subject the Permittee to an enforcement action or a civil or criminal penalty if the original submittal of incorrect or insufficient information was not due to willful neglect.

[A.A.C. R18-2-327.A.4]

VII. COMPLIANCE CERTIFICATION

A. The Permittee shall submit a compliance certification to the Director semiannually, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

[A.A.C. R18-2-309.2.a]

B. The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

[A.A.C. R18-2-309.2.c.i]

2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period,

[A.A.C. R18-2-309.2c.ii]

3. Status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certifications shall identify each deviation (including any deviations reported pursuant to Condition XI.B of this Attachment) during the period covered by the certification and take it into account for consideration in the compliance certification;

[A.A.C. R18-2-309.2.c.iii]

4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is

required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;

[A.A.C. R18-2-309.2.c.iii]

5. Other facts the Director may require to determine the compliance status of the source.

[A.A.C. R18-2-309.2.c.iv]

C. A copy of all compliance certifications shall also be submitted to the EPA Administrator.

[A.A.C. R18-2-309.2.d]

D. If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above. The progress reports shall contain the information required by A.A.C R18-2-309.5.d.

[A.A.C. R18-2-309.5.d]

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[A.A.C. R18-2-309.3]

IX. INSPECTION AND ENTRY

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

[A.A.C. R18-2-309.4.a]

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

[A.A.C. R18-2-309.4.b]

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

[A.A.C. R18-2-309.4.c]

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

[A.A.C. R18-2-309.4.d]

E. Record any inspection by use of written, electronic, magnetic and photographic media.

[A.A.C. R18-2-309.4.e]

X. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

[40 CFR Part 68]

XI. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01.A, B, and C]

1. Excess emissions shall be reported as follows:

a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

(1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XI.A.1.b below.

(2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XI.A.1.a(1) above.

[A.A.C. R18-2-310.01.A]

b. The report shall contain the following information:

(1) Identity of each stack or other emission point where the excess emissions occurred;

[A.A.C. R18-2-310.01.B.1]

(2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

[A.A.C. R18-2-310.01.B.2]

(3) Time and duration, or expected duration, of the excess emissions;

[A.A.C. R18-2-310.01.B.3]

(4) Identity of the equipment from which the excess emissions emanated;

[A.A.C. R18-2-310.01.B.4]

(5) Nature and cause of such emissions;

[A.A.C. R18-2-310.01.B.5]

(6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions;

[A.A.C. R18-2-310.01.B.6]

(7) Steps that were or are being taken to limit the excess emissions; and

[A.A.C. R18-2-310.01.B.7]

(8) If the excess emissions resulted from startup or malfunction, the report shall contain a list of the steps taken to comply with any permit procedures governing source operation during periods of startup or malfunction.

[A.A.C. R18-2-310.01.B.8]

2. In the case of continuous or recurring excess emissions, the notification requirements shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XI.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the applicable requirement contains a definition of prompt or otherwise specifies a timeframe for reporting deviations, that definition or timeframe shall govern. Where the applicable requirement does not address the timeframe for reporting deviations, the Permittee shall submit reports of deviations according to the following schedule:

1. Notice that complies with Condition XI.A.1 above is prompt for deviations that constitute excess emissions;

[A.A.C. R18-2-306.A.5.b.i]

2. Notice that is submitted within two working days of discovery of the deviation is prompt for deviations of permit conditions identified by Condition I.C.2~~I.B.2~~ of Attachment "B";

[A.A.C. R18-2-306.A.5.b.ii]

3. Except as provided in Conditions XI.B.1 and 2 above, prompt notification of all other types of deviations shall be every 6 months, concurrent with the semi-annual compliance certifications required in Section VII, and can be submitted via myDEQ, the Arizona Department of Environmental Quality's online portal.

[A.A.C. R18-2-306.A.5.b.ii]

~~C. Emergency Provision~~

~~1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly~~

designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[A.A.C. R18-2-306.E.1]

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if Condition XI.C.3 below is met.

[A.A.C. R18-2-306.E.2]

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

[A.A.C. R18-2-306.E.3]

a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

[A.A.C. R18-2-306.E.3.a]

b. The permitted facility was being properly operated at the time of the emergency;

[A.A.C. R18-2-306.E.3.b]

c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

[A.A.C. R18-2-306.E.3.c]

d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

[A.A.C. R18-2-306.E.3.d]

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

[A.A.C. R18-2-306.E.4]

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[A.A.C. R18-2-306.E.5]

D. Compliance Schedule

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

[ARS § 49-426.I.3]

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

1. Applicability

A.A.C. R18-2-310 establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

a. Promulgated pursuant to Sections 111 or 112 of the Act;
[A.A.C. R18-2-310.A.1]

b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;
[A.A.C. R18-2-310.A.2]

c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
[A.A.C. R18-2-310.A.3]

d. Contained in A.A.C. R18-2-715.F; or
[A.A.C. R18-2-310.A.4]

e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.
[A.A.C. R18-2-310.A.5]

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:
[A.A.C. R18-2-310.B]

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;
[A.A.C. R18-2-310.B.1]

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
[A.A.C. R18-2-310.B.2]

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;
[A.A.C. R18-2-310.B.3]

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

[A.A.C. R18-2-310.B.4]

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

[A.A.C. R18-2-310.B.5]

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

[A.A.C. R18-2-310.B.6]

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

[A.A.C. R18-2-310.B.7]

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

[A.A.C. R18-2-310.B.8]

i. All emissions monitoring systems were kept in operation if at all practicable; and

[A.A.C. R18-2-310.B.9]

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

[A.A.C. R18-2-310.B.10]

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XI.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

[A.A.C. R18-2-310.C.1]

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

[A.A.C. R18-2-310.C.1.a]

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life,

personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

[A.A.C. R18-2-310.C.1.b]

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

[A.A.C. R18-2-310.C.1.c]

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

[A.A.C. R18-2-310.C.1.d]

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

[A.A.C. R18-2-310.C.1.e]

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

[A.A.C. R18-2-310.C.1.f]

(7) All emissions monitoring systems were kept in operation if at all practicable; and

[A.A.C. R18-2-310.C.1.g]

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

[A.A.C. R18-2-310.C.1.h]

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XI.E.2 above.

[A.A.C. R18-2-310.C.2]

4. Affirmative Defense for Malfunctions during Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XI.E.2 above.

[A.A.C. R18-2-310.D]

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XI.E.2 or XI.E.3, the Permittee shall demonstrate, through submission of the data and information required by this Condition XI.E and Condition XI.A.1 above, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

~~[A.A.C. R18-2-310.E]~~

XII. RECORDKEEPING REQUIREMENTS

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

[A.A.C. R18-2-306.A.4.a]

1. The date, place as defined in the permit, and time of sampling or measurements;
[A.A.C. R18-2-306.A.4.a.i]

2. The date(s) any analyses were performed;
[A.A.C. R18-2-306.A.4.a.ii]

3. The name of the company or entity that performed the analyses;
[A.A.C. R18-2-306.A.4.a.iii]

4. A description of the analytical techniques or methods used;
[A.A.C. R18-2-306.A.4.a.iv]

5. The results of analyses; and
[A.A.C. R18-2-306.A.4.a.v]

6. The operating conditions as existing at the time of sampling or measurement.
[A.A.C. R18-2-306.A.4.a.vi]

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

[A.A.C. R18-2-306.A.4.b]

XIII. REPORTING REQUIREMENTS

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII above.

[A.A.C. R18-2-306.A.5.a]

B. Excess emission; permit deviation, and emergency reports in accordance with Section XI above.

[A.A.C. R18-2-306.A.5.b]

C. Other reports required by any condition of Attachment "B".

[A.A.C. R18-2-306.A.5.a]

XIV. DUTY TO PROVIDE INFORMATION

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon

request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the EPA Administrator along with a claim of confidentiality.

[A.A.C. R18-2-304.G and -306.A.8.e]

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

[A.A.C. R18-2-304.H]

XV. PERMIT AMENDMENT OR REVISION

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVI below, as follows:

A. Administrative Permit Amendment;

[A.A.C. R18-2-318]

B. Minor Permit Revision; and

[A.A.C. R18-2-319]

C. Significant Permit Revision

[A.A.C. R18-2-320]

The applicability and requirements for such action are defined in the above referenced regulations.

XVI. FACILITY CHANGE WITHOUT A PERMIT REVISION

A. The Permittee may make changes that contravene an express permit term without a permit revision if all of the following apply:

1. The changes are not modifications under any provision of Title I of the Act or under ARS § 49-401.01(24);

[A.A.C. R18-2-317.A.1]

2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;

[A.A.C. R18-2-317.A.2]

3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;

[A.A.C. R18-2-317.A.3]

4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A;

[A.A.C. R18-2-317.A.4]

5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements; and

[A.A.C. R18-2-317.A.5]

6. The changes do not constitute a minor NSR modification.

[A.A.C. R18-2-317.A.6]

B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVI.A, C, and D of this Attachment.

[A.A.C. R18-2-317.B]

C. For each change under Conditions XVI.A and XVI.B above, a written notice by certified mail or hand delivery shall be received by the Director and the EPA Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change, as possible or, if advance notification is not practicable, as soon after the change as possible.

[A.A.C. R18-2-317.D]

D. Each notification shall include:

1. When the proposed change will occur;

[A.A.C. R18-2-317.E.1]

2. A description of the change;

[A.A.C. R18-2-317.E.2]

3. Any change in emissions of regulated air pollutants; and

[A.A.C. R18-2-317.E.3]

4. Any permit term or condition that is no longer applicable as a result of the change.

[A.A.C. R18-2-317.E.7]

E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section XVI.

[A.A.C. R18-2-317.F]

F. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section XVI.

[A.A.C. R18-2-317.G]

G. Notwithstanding any other part of Section XVI, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under Section XVI over the term of the permit, do not satisfy Condition XVI.A above.

[A.A.C. R18-2-317.H]

XVII. TESTING REQUIREMENTS

A. Except as provided in Condition XVII.F below, the Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.
[A.A.C. R18-2-312.A]

B. Operational Conditions during Performance Testing

Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the source. The Permittee shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.
[A.A.C. R18-2-312.C]

C. Performance Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.
[A.A.C. R18-2-312.B]

D. Test Plan

At least two weeks prior to performing a test, the Permittee shall submit a test plan to the Director, which must include the following, in addition to all other applicable requirements, as identified in the Arizona Testing Manual:
[A.A.C. R18-2-312.D]

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:
[A.A.C. R18-2-312.E]

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

[A.A.C. R18-2-306.A.3.c and A.A.C. R18-2-312.F]

G. Report of Final Test Results

A written report of the results of performance tests conducted pursuant to 40 CFR 63, shall be submitted to the Director within 60 days after the test is performed. A written report of the results of all other performance tests shall be submitted within 45 days after the completion of the testing as specified in the Arizona Testing Manual. All performance testing reports shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

[A.A.C. R18-2-312.A and B]

H. Extension of Performance Test Deadline

For performance testing required under Condition XVII.A above, the Permittee may request an extension to a performance test deadline due to a force majeure event as follows:

[A.A.C. R18-2-312.J]

1. If a force majeure event is about to occur, occurs, or has occurred for which the Permittee intends to assert a claim of force majeure, the Permittee shall notify the Director in writing as soon as practicable following the date the Permittee first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline. The notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall be given as soon as practicable.

[A.A.C. R18-2-312.J.1]

2. The Permittee shall provide to the Director a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the Permittee proposes to

conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure event occurs.

[A.A.C. R18-2-312.J.2]

3. The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Director. The Director shall notify the Permittee in writing of approval or disapproval of the request for an extension as soon as practicable.

[A.A.C. R18-2-312.J.3]

4. Until an extension of the performance test deadline has been approved by the Director under Conditions XVII.H.1, 2, and 3 above, the Permittee remains subject to the requirements of Section XVII.

[A.A.C. R18-2-312.J.4]

5. For purposes of this Section XVII, a "force majeure event" means an event that will be or has been caused by circumstances beyond the control of the Permittee, its contractors, or any entity controlled by the Permittee that prevents it from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the Permittee's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the Permittee.

[A.A.C. R18-2-312.J.5]

XVIII. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

[A.A.C. R18-2-306.A.8.d]

XIX. SEVERABILITY CLAUSE

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

[A.A.C. R18-2-306.A.7]

XX. PERMIT SHIELD

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XV.B of this Attachment and any facility changes without a permit revision pursuant to Condition XVI of this Attachment.

[A.A.C. R18-2-317.F, - 320, and -325]

XXI. PROTECTION OF STRATOSPHERIC OZONE

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

[40 CFR Part 82]

XXII. APPLICABILITY OF NSPS/NESHAP GENERAL PROVISIONS

For all equipment subject to a New Source Performance Standard or a National Emission Standard for Hazardous Air Pollutants, the Permittee shall comply with all applicable requirements contained in Subpart A of Title 40, Chapter 60 and Chapter 63 of the Code of Federal Regulations.
[40 CFR Part 60 Subpart A and Part 63 Subpart A]

ATTACHMENT "B": SPECIFIC CONDITIONS

I. FACILITY-WIDE REQUIREMENTS

A. Applicability

This Section applies to the equipment ~~as~~ specified in other Sections of Attachment "B".

~~A.~~B. Opacity

1. Instantaneous Surveys and Six-Minute Observations

a. Instantaneous Surveys

Any instantaneous survey required by this permit shall be determined by either option listed in Conditions ~~I.A.1.a(1)~~ I.B.1.b(1) and (2):

[A.A.C. R18-2-311.b]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within ~~30 minutes~~2 hours.

(2) EPA Reference Method 9 Certified Observer.

[A.A.C. R18-2-306.A.3.c]

b. Six-Minute Observations

Any six-minute observation required by this permit shall be determined by either option listed in Conditions ~~I.A.1.b(1)~~ I.B.1.b(1) and (2):

[A.A.C. R18-2-311.b]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within ~~30 minutes~~2 hours.

(2) EPA Reference Method 9.

c. The Permittee shall have on site or on call a person certified in EPA Reference Method 9 unless all six-minute Method 9 observations required by this permit are conducted as a six-minute Alternative Method ALT-082

(Digital Camera Operating Technique) and all instantaneous visual surveys required by this permit are conducted as an instantaneous ALT-082 camera survey. Any six-minute Method 9 observation required by this permit can be conducted as a six-minute Alternative Method ALT-082 and any instantaneous visual survey required by this permit can be conducted as an instantaneous ALT-082 camera survey.

[A.A.C. R18-2-306.A.3.c]

2. Monitoring, Recordkeeping, and Reporting Requirements

[A.A.C. R18-2-306.A.3.c]

a. At the frequency specified in the following sections of this permit, the Permittee shall conduct an instantaneous survey of visible emissions from both process stack sources, when in operation, and fugitive dust sources.

b. If the visible emissions on an instantaneous basis appears less than or equal to the applicable opacity standard, then the Permittee shall keep a record of the name of the observer, the date on which the instantaneous survey was made, and the results of the instantaneous survey.

c. If the visible emissions on an instantaneous basis appears greater than the applicable opacity standard, then the Permittee shall immediately conduct a six-minute observation of the visible emissions.

(1) If the six-minute observation of the visible emissions is less than or equal to the applicable opacity standard, then the Permittee shall record the name of the observer, the date on which the six-minute observation was made, and the results of the six-minute observation.

(2) If the six-minute observation of the visible emissions is greater than the applicable opacity standard, then the Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to less than or equal to the opacity standard;

(b) Record the name of the observer, the date on which the six-minute observation was made, the results of the six-minute observation, and all corrective action taken; and

(c) Report the event as an excess emission for opacity in accordance with Condition XI.A of Attachment "A".

(d) Conduct another six-minute observation to document the effectiveness of the adjustments or repairs completed.

~~B.~~C. Reporting Requirements

1. The Permittee shall submit reports of all recordkeeping, monitoring activities, and maintenance required in Attachment "B" along with the semiannual compliance certifications required by Condition VII of Attachment "A".
[A.A.C. R18-2-306.A.5.a]

2. Deviations from the following Attachment "B" permit conditions shall be promptly reported in accordance with Condition XI.B.2 of Attachment "A":
[A.A.C. R18-2-306.A.5.b]

a. Conditions II.D.2.a, and II.D.3;

b. Conditions III.C.4.a, III.E.2, III.E.3.a(1), III.E.3.bIII.E.3.b, III.E.4.a, III.F.3.a, III.G.2.a, III.H.2.a, III.I.2.a & b, and III.J.2 & III.J.3.a;

c. Conditions IV.C.8, IV.E.3, and IV.F.1;

d. Condition V.B.2;

e. Conditions VI.B.2, 3, & 5;

f. Conditions VII.B.2, 3, & 4;

g. Condition VIII.C.1;

h. Conditions X.C.2, and X.C.3.a, b, & d;

i. Conditions XI.B.1.b, and XI.C.2; and

j. Conditions XII.B.3 & 4, and XII.B.5.b & XII.B.5.c(1).

~~C.~~D. Nothing in this permit shall alter or affect the following:
[A.A.C. R18-2-325.B]

1. The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the EPA Administrator under that Section;

2. The liability of the facility for any violation of applicable requirements prior to or at the time of permit issuance;

3. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

4. The ability of the EPA Administrator or the Director to obtain information from the facility pursuant to Section 114 of the Act, or any provision of state law; and

5. The authority of the Director to require compliance with new applicable requirements adopted after the permit is issued.

Commented [QM1]: Added.

II. GENERAL NESHAP REQUIREMENTS

A. This Section is applicable to the facilities covered under Sections III and IV of this Attachment.

B. Definitions

1. "Operating day" means any 24-hour period beginning at 12:00 midnight during which the kiln-produces any amount of clinker. For calculating the rolling 30-day average emissions, kiln operating days do not include the hours of operation during startup or shutdown.

[40 CFR 63.1341]

2. Rolling average means the weighted average of all data, meeting QA/QC requirements or otherwise normalized, collected during the applicable averaging period. The period of a rolling average stipulates the frequency of data averaging and reporting. To demonstrate compliance with an operating parameter a 30-day rolling average period requires calculation of a new average value each operating day and shall include the average of all the hourly averages of the specific operating parameter. For demonstration of compliance with an emission limit based on pollutant concentration a 30-day rolling average is comprised of the average of all the hourly average concentrations over the previous 30 operating days. For demonstration of compliance with an emissions limit based on lbs-pollutant per production unit the 30-day rolling average is calculated by summing the hourly mass emissions over the previous 30 operating days, then dividing that sum by the total production during the same period.

[40 CFR 63.1341]

3. The 30-day period means all operating hours within 30 consecutive kiln operating days excluding periods of startup and shutdown.

[40 CFR 63.1343(a)]

C. Operation and Maintenance Requirements

1. Operation and maintenance requirements established in this permit pursuant to Section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

[40 CFR 63.6(e)(1)(iii)]

2. The Permittee shall prepare, for each affected source subject to the provisions of 40 CFR 63 Subpart LLL a written operations and maintenance plan.

[40 CFR 63.1347(a)]

3. The operations and maintenance plan shall include the following information:

[40 CFR 63.1347(a)]

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 under 40 CFR 63 Subpart LLL;

b. Corrective actions to be taken when required by Condition IV.E.3.c;

c. Procedures to be used during an inspection of the components of the combustion system of each kiln and each in-line kiln raw mill located at the facility at least once per year; and.

d. The operation and maintenance plan shall also address periods of startup and shutdown.

4. 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)]

5. *At all times, the Permittee 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 Director 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) and A.A.C. R18-2-331.A.3. b & c]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline~~s~~ and italics]

D. General Monitoring Requirements

1. General requirements for Continuous Monitoring Systems

a. The Permittee shall demonstrate compliance with the monitoring requirements in this Attachment on a continuous basis.

[40 CFR 63.1350(a)(1)]

b. For each existing unit that is equipped with a Continuous Monitoring System (CMS), the Permittee shall maintain the average emissions or the operating parameter values within the operating parameter limits established through performance tests.

[40 CFR 63.1350(a)(3]

c. Any instance where the Permittee fails to comply with the continuous monitoring requirements of this Attachment shall be a violation.

[40 CFR 63.1350(a)(4)]

d. 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), the Permittee 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)]

e. The Permittee shall not use data recorded during monitoring system malfunctions or repairs associated with monitoring system malfunctions 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 Permittee 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)]

2. General Requirements for Parametric Monitoring Requirements

a. *For any operating limit that requires use of CMS, the Permittee shall install*, operate, and maintain *each continuous parameter monitoring system (CPMS) according to the following procedures.*

[40 CFR 63.1350(m)(1) to (4), A.A.C. R18-2-331.A.3.c]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline~~s~~ and italics]

(1) The CMS shall complete a minimum of one cycle of operation for each successive 15-minute period. The Permittee shall have a minimum of four successive cycles of operation to have a valid hour of data.

(2) The Permittee shall conduct all monitoring in continuous operation at all times that the unit is operating.

(3) The Permittee shall determine the 1-hour block average of all recorded readings.

(4) The Permittee shall record the results of each inspection, calibration, and validation check.

b. For an operating limit that requires the use of a pressure measurement device, the Permittee shall:

[40 CFR 63.1350(m)(6)]

(1) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure;

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion;

(3) 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;

(4) Check pressure tap pluggage daily;

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly; and

(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

3. General Requirements for Continuous Flow Rate Monitoring Systems

The Permittee shall install, calibrate, operate and maintain *instruments 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 and that is required to be monitored by a CEMS.*

[40 CFR 63.1350(n), A.A.C. R18-2-331.A.3. c]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline~~s~~ and italics]

a. The Permittee shall 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 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)]

b. The flow rate monitoring system shall 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)]

c. The flow rate monitoring system shall be equipped with a data acquisition and recording system that is capable of recording values over the entire range specified in Condition II.D.3.b above.

[40 CFR 63.1350(n)(4)]

d. The signal conditioner, wiring, power supply, and data acquisition and recording system for the flow rate monitoring system shall be compatible with the output signal of the flow rate sensors used in the monitoring system.

[40 CFR 63.1350(n)(5)]

e. The flow rate monitoring system shall be designed to complete a minimum of one cycle of operation for each successive 15-minute period.

[40 CFR 63.1350(n)(6)]

f. The flow rate sensor shall have provisions to determine the daily zero and upscale calibration drift (CD) (Refer Sections 3.1 and 8.3 of Performance Specification 2 in Appendix B to 40 CFR Part 60).

[40 CFR 63.1350(n)(7)]

(1) 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).

(2) The absolute value of the difference between the flow monitor response and the reference signal shall be equal to or less than 3 percent of the flow monitor span.

g. The Permittee shall 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 40 CFR Part 60 with the following exceptions:

[40 CFR 63.1350(n)(8)]

(1) The relative accuracy test is to evaluate the flow rate monitoring system alone rather than a continuous emission rate monitoring system.

(2) 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.

h. The Permittee shall verify the accuracy of the flow rate monitoring system at least once per year by repeating the relative accuracy test specified in Condition II.D.3.g above.

[40 CFR 63.1350(n)(9)]

i. The Permittee shall 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)]

4. The Permittee may submit an application to the EPA Administrator for approval of alternate monitoring requirements to demonstrate compliance with the emission standards subject to the provisions of 40 CFR 63.1350(o)(1) through (6).

[40 CFR 63.1350(o)]

5. Development and Submittal of Monitoring Plans

If the Permittee demonstrates compliance with any applicable emissions limit through performance stack testing or other emissions monitoring, the Permittee shall develop a site-specific monitoring plan according to the requirements in 40 CFR 63.1350(p). This requirement also applies if the Permittee petitions the EPA Administrator for alternative monitoring parameters under 4 above and 40 CFR 63.8(f).

[40 CFR 63.1350(p)]

E. Startup and Shutdown Requirements

1. The Permittee shall operate all air pollution control devices including during periods of startup and shutdown.

[40 CFR 63.1348(b)(9)]

2. The Permittee shall keep records as specified in Section II.I during periods of startup and shutdown.

[40 CFR 63.1346(g)(4)]

F. General Performance Testing Requirements

1. Performance tests shall be conducted under such conditions as the Director specifies to the Permittee based on representative performance of the affected source for the period being tested. Upon request, the Permittee shall make available to the Director such records as may be necessary to determine the conditions of performance tests. The Permittee shall make available to the Director prior to testing, if requested, the site-specific test plan to be followed during performance testing.

[40 CFR 63.1349(a) and (e)]

2. Commingled Exhaust Requirements

[40 CFR § 63.1348(a)(7)]

For the coal mill exhaust that is commingled with kiln exhaust in a single stack, the Permittee may demonstrate compliance with the kiln emission limits by either:

a. Performing required emissions monitoring and testing on the commingled coal mill and kiln exhaust, or

[40 CFR 63.1348(a)(7)(i)]

b. Perform required emission monitoring and testing of the kiln exhaust prior to the reintroduction of the coal mill exhaust, and also testing the kiln exhaust diverted to the coal mill. All emissions must be added together for all emission points, and must not exceed the limit per each pollutant as listed in 40 CFR 63.1343(b).

[40 CFR 63.1348(a)(7)(ii)]

3. Performance tests are required at every 30 months for affected sources that are subject to a dioxin, organic HAP or HCl emissions limit except for pollutants where that specific pollutant is monitored using CEMS. Tests for PM shall be repeated every 12 months. Performance tests required every 30 months must be completed no more than 31 calendar months after the previous performance test except where that specific pollutant is monitored using CEMS; performance tests required every 12 months must be completed no more than 13 calendar months after the previous performance test.

[40 CFR 63.1349(c)]

4. Performance test results shall be documented in complete test reports that contain the following information, as well as all other relevant information. The site-specific plan to be followed during performance testing must be made available to the Director prior to testing, if requested.

[40 CFR 63.1349(a)]

a. A brief description of the process and the air pollution control system;

b. Sampling location description(s);

c. A description of sampling and analytical procedures and any modifications to standard procedures;

d. Test results;

e. Quality assurance procedures and results;

f. Records of operating conditions during the performance test, preparation of standards, and calibration procedures;

g. Raw data sheets for field sampling and field and laboratory analyses;

h. Documentation of calculations;

i. All data recorded and used to establish parameters for monitoring; and

j. Any other information required by the performance test method.

5. Changes in Operations

a. If the Permittee plans to undertake a change in operations that may adversely affect compliance with an applicable standard, operating limit, or parametric monitoring value, the Permittee shall conduct a performance test as specified for that standard in this permit.

[40 CFR 63.1348(c)(1)]

b. In preparation for and while conducting a performance test, the Permittee may operate under the planned operational change conditions for a period not to exceed 360 hours, provided that the following conditions are met. The Permittee shall submit temperature and other monitoring data that are recorded during the pretest operations.

[40 CFR 63.1348(c)(2)]

(1) The Permittee shall provide the Director 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. The notice 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, including when the planned operational change period would begin.

(2) The performance test results shall be documented in a test report according to Condition II.F.4 above.

(3) A test plan shall be made available to the Director prior to performance testing, if requested.

(4) The performance test shall be completed within 360 hours after the planned operational change period begins.

6. The Permittee shall submit the following information no later than 60 days following the initial performance test. All reports shall be signed by the responsible official.

[40 CFR 63.1354(b)(11)(i)]

a. The initial performance test data; and

b. The values for the site-specific operating limits or parameters established, as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test.

7. 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 standards under 40 CFR 63 Subpart LLL, the Permittee shall submit the relative accuracy test audit data and performance test data, except opacity data, to EPA by successfully submitting the data electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT). (S*ee* *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*)

[40 CFR 63.1354(b)(11)(i)(C)]

G. Notification Requirements

The Permittee shall comply with the notification requirements in 40 CFR 63.9 as follows:

[40 CFR 63.1353(b)]

1. Initial notifications as required by 40 CFR 63.9(b) through (d);

2. Notification of performance tests, as required by 40 CFR 63.7 and 63.9(e);

3. 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);

4. 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;

5. Notification of compliance status, as required by 40 CFR 63.9(h); and

6. Within 48 hours of an exceedance that triggers retesting to establish compliance and new operating limits, the Permittee shall notify the Director 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 40 CFR 63 Subpart LLL.

H. Reporting Requirements

1. The Permittee shall comply with the reporting requirements specified in 40 CFR 63 subpart A as follows:

[40 CFR 63.1354(b)]

a. As required by 40 CFR 63.10(d)(2), the Permittee shall report the results of performance tests as a part of the notification of compliance status.

[40 CFR 63.1354(b)(1)]

b. As required by 40 CFR 63.10(d)(3), the Permittee shall report the opacity results from tests required by 40 CFR 63 Subpart LLL.

[40 CFR 63.1354(b)(2)]

c. As required by 40 CFR 63.10(d)(4), the Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee 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 Permittee shall submit a summary report semiannually to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*) The Permittee shall use the appropriate electronic report in CEDRI for 40 CFR 63 Subpart LLL. Instead of using the electronic report in CEDRI, the Permittee may submit an alternate electronic file consistent with the extensible markup language (XML) schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*), once the XML schema is available. If the reporting form

specific to 40 CFR 63 Subpart LLL is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to the EPA Administrator at the appropriate address listed in 40 CFR 63.13. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. The reports shall be submitted by the deadline specified in 40 CFR 63 Subpart LLL, regardless of the method in which the reports are submitted. The summary report shall contain the information specified in 40 CFR 63.10(e)(3)(vi). In addition, the summary report shall include:

[40 CFR 63.1354(b)(9)]

(1) All exceedances of maximum control device inlet gas temperature limits specified in Conditions III.F.2.a and III.F.2.b.

[40 CFR 63.1354(b)(9)(i)]

(2) Notification of any failure to calibrate thermocouples and other temperature sensors as required under Condition III.F.3.a(3).

[40 CFR 63.1354(b)(9)(ii)]

(3) Notification of failure to conduct any combustion system component inspections conducted within the reporting period as required under Condition II.C.3.c of this Attachment.

[40 CFR 63.1354(b)(9)(iv)]

(4) Any and all failures to comply with any provision of the operation and maintenance plan developed in accordance with Condition II.C.2.

[40 CFR 63.1354(b)(9)(v)]

(5) For each PM CPMS, HCl, Hg, and THC CEMS, D/F temperature monitoring system, or Hg sorbent trap monitoring system, within 60 days after the reporting periods, the Permittee shall report all of the calculated 30-operating day rolling average values derived from the CPMS, CEMS, CMS, or Hg sorbent trap monitoring systems.

[40 CFR 63.1354(b)(9)(vi)]

(6) 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)(vi)]

(7) Within 60 days after the date of completing each CEMS performance evaluation test as defined in §63.2, the Permittee shall submit relative accuracy test audit (RATA) data to the EPA's CDX by using CEDRI in accordance with II.H.1.g above. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants

listed on the ERT Web site, the Permittee shall submit the results of the performance evaluation to the EPA Administrator at the appropriate address listed in 40 CFR 63.13.

[40 CFR 63.1354(b)(11)(i)(C)]

(8) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report shall 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 63.1354(b)(11)(ii)]

(9) All reports required by 40 CFR 63 Subpart LLL not subject to the requirements in Conditions II.H.1.g and II.H.1.g(7) above must be sent to the EPA Administrator at the appropriate address listed in 40 CFR 63.13. The EPA Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The EPA Administrator retains the right to require submittal of reports subject to Conditions II.H.1.g and II.H.1.g(7) in paper format.

[40 CFR 63.1354(b)(12)]

h. If the total continuous monitoring system downtime for any CEM or any CMS for the reporting period is ten percent or greater of the total operating time for the reporting period, the Permittee shall submit an excess emissions and continuous monitoring system performance report along with the summary report.

[40 CFR 63.1354(b)(10)]

2. For each failure to meet a standard or emission limit caused by a malfunction at an affected source, the Permittee shall report the failure in the semiannual compliance report required in Condition II.H.1.g above. The report shall 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 shall 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 shall also include a description of actions taken by the Permittee during a malfunction of an affected source to minimize emissions in accordance with Condition II.C.5 including actions taken to correct a malfunction.

[40 CFR 63.1354(c)]

I. Recordkeeping rRequirements

1. The Permittee shall maintain files of all information (including all reports and notifications) 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)]

2. The Permittee shall maintain records for each affected source as required by 40 CFR 63.10(b)(2) and (b)(3); and

[40 CFR 63.1355(b)]

a. All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9;

b. All records of applicability determination, including supporting analyses; and

c. If the Permittee has been granted a waiver under 40 CFR 63.8(f)(6), any information demonstrating whether the Permittee is meeting the requirements for a waiver of recordkeeping or reporting requirements.

3. In addition to the recordkeeping requirements in Condition II.I.2 above, the Permittee shall maintain all records required by 40 CFR 63.10(c) for the continuous monitoring systems.

[40 CFR 63.1355(c)]

4. The Permittee 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)]

5. The Permittee 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)]

6. The Permittee shall keep records of actions taken during periods of malfunction to minimize emissions in accordance with Condition II.C.5 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)]

7. For each exceedance from an emissions standard or established operating parameter limit, the Permittee 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)]

J. Permit Shield

Compliance with the ~~requirements~~ Conditions of this Section shall be deemed compliance with 40 CFR 63.1341, 63.1343(a), 63.1346(g), 63.1347(a) & (b), 63.1348(a), (c), (b) & (d), 63.1349(a) (c), & (e), 63.1350(a), 63.1350(m), 63.1350(n), 63.1350(o), 63.1350(p), 63.1353(b), 63.1354(b) & (c), and 63.1355(a) through (h).

[A.A.C. R18-2-325]

III. REQUIREMENTS FOR KILN, CLINKER COOLER, IN-LINE RAW MILL, AND IN-LINE COAL MILL

A. Applicability

This Section is applicable to rotary kiln, clinker cooler and in-line raw mill and in-line coal mill identified in the equipment list of Attachment "C" ~~as applicable to this Section III~~.

B. Fuel Limitation

1. Fuel Limitations

~~[A.A.C. R18-2-306(A)(2)]~~

a. The facility is allowed to burn the following fuels in the Rotary Kiln:

(1) Natural Gas;

[A.A.C. R18-2-306(A)(2)]

(2) Coal; and

[A.A.C. R18-2-306(A)(2)]

(3) Biomass.

Biomass means any organic material not derived from fossil fuels.

[A.A.C. R18-2-306(A)(2)~~,~~ and 18 CFR 292.202(a)]

b. In addition to the above, the Permittee may burn 100% Pet coke. For every increase of 10 percent or more beyond 65 percent, the Permittee shall determine and provide actual average emissions for each pollutant for 30-day periods before and after the increase of pet coke usage to ADEQ.

[A.A.C. R18-2-306(A)(2)]

C. Operational Limitations

1. Cement clinker produced in the Rotary Kiln shall not exceed 726,000 tons per year based on a monthly rolling 12-month sum.

[A.A.C. R18-2-306(A)(2)]

2. *The Rotary Kiln shall not be equipped with an alkali bypass.*

[A.A.C. R18-2-306.01 and R18-2-331(A)(3)(a)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

3. *The Permittee shall not incorporate more than 9,200 tons of filter cake received from semiconductor manufacturing filtration process into the cement process for any consecutive twelve (12) month period.*

[A.A.C. R18-2-306.01 and R18-2-331(A)(3)(a)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

4. Monitoring, Recordkeeping and Reporting Requirements

a. *The Permittee shall calibrate,* maintain, and operate *a monitoring device for measuring and recording the process weights of total kiln feed in the Rotary Kiln. The monitoring device shall have an accuracy of ± 5% over its operating range.*

[40 CFR 63.1350(d)(1)(i) and A.A.C. R18-2-331(A)(3)(c)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

b. The Permittee shall 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. The Permittee shall update this ratio monthly. Note that if this ratio changes at clinker reconciliation, the Permittee shall use the new ratio going forward, but does not have to retroactively change clinker production rates previously estimated.

[40 CFR 63.1350(d)(1)(ii)]

c. The Permittee shall determine, record, and maintain a record of the accuracy of the system of measuring hourly clinker production (or feed mass flow if applicable). During each quarter of source operation, the Permittee shall determine, record, and maintain a record of the ongoing accuracy of the system measuring hourly clinker production (or feed mass flow.

[40 CFR 63.1350(d)(2)]

d. The Permittee shall measure the kiln feed rates and calculate clinker production. The Permittee shall record the hourly feed and clinker production rates.

[40 CFR 63.1350(d)(3)]

e. The Permittee shall maintain records of the amount and type of each fuel being combusted in the kiln.

[A.A.C. R18-2-306(A)(3)(c)]

f. The Permittee shall maintain daily records of the amount of filter cake in units of tons, introduced into the cement kiln.

[A.A.C. R18-2-306(A)(3)(c)]

g. The Permittee shall maintain records documenting the chemical and elemental makeup of semiconductor manufacturing filtration process filter

cake received by the facility in units of parts per million. These records shall include a monthly analysis of fluoride concentration and a quarterly comprehensive laboratory analysis during each month and quarter in which filter cake is received.

[A.A.C. R18-2-306(A)(3)(c)]

D. Startup and Shutdown Requirements

1. During startup the Permittee shall use any one or combination of the following clean fuels: natural gas, synthetic natural gas, propane, distillate oil, synthesis gas (syngas), and ultra-low sulfur diesel (ULSD) until the kiln reaches a temperature of 1200 degrees Fahrenheit.

[40 CFR 63.1346(g)(1)]

2. Combustion of the primary kiln fuels shall commence once the kiln temperature reaches 1200 degrees Fahrenheit.

[40 CFR 63.1346(g)(2)]

3. Particulate control and all remaining devices that control hazardous air pollutants should be operational during startup and shutdown.

[40 CFR 63.1346(g)(3)]

E. Particulate Matter

1. Emission Standards

a. The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain PM_{10} in excess of 0.010 grains per dry standard cubic feet.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not cause or allow to be emitted into the atmosphere from the Cooler Baghouse, BH-10.13, any gases which contain PM_{10} in excess of 0.005 grains per dry standard cubic feet.

[A.A.C. R18-2-406(A)(4)]

c. The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain PM_{10} in excess of 5.967 pounds per hour.

[A.A.C. R18-2-406(A)(5)]

d. The Permittee shall not cause or allow to be emitted into the atmosphere from the Cooler Baghouse, BH-10.13, any gases which contain PM_{10} in excess of 2.223 pounds per hour.

[A.A.C. R18-2-406(A)(5)]

e. The Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln any gases which contain particulate matter (PM) in excess of 0.07 pounds per ton of clinker to the rotary kiln during normal operation.

[40 CFR 63.1343(b)(1)]

f. The Permittee shall not cause or allow to be emitted into the atmosphere from the Clinker Grate Cooler any gases which contain particulate matter (PM) in excess of 0.07 pounds per ton clinker during normal operation.
[40 CFR 63.1343(b)(1)]

g. The Permittee may choose to comply with the alternative particulate matter emission limit for the combined stream of kiln exhaust and coal mill exhaust calculated as per the following equation:
[40 CFR 63.1343(b)(2), Eq. 1]

$$PM_{ALT} = \frac{(0.0060 \times 1.65) \times (Q_k + Q_{cm})}{7000}$$

Where:

PM_{ALT} = Alternative PM Emission limit for commingled sources

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

1.65 = The conversion factor of ton feed per ton clinker

Q_k = The exhaust flow of the kiln (dscf/ton feed)

Q_{cm} = The exhaust flow of the coal mill (dscf/ton feed)

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

2. Air Pollution Control Requirements

a. *At all times when the Rotary Kiln or Raw Mill is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install, maintain and operate Baghouse BH-5.30 in a manner consistent with good air pollution control practice for minimizing PM and PM_{10} emissions.*
[A.A.C. R18-2-406(A)(4) and R18-2-331(A)(3)(b)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

b. *At all times when the Clinker Grate Cooler is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install, maintain and operate Baghouse BH-10.13 in a manner consistent with good air pollution control practice for minimizing PM and PM_{10} emissions.*
[A.A.C. R18-2-406(A)(4) and R18-2-331(A)(3)(b))]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

c. *At all times when the Coal Mill is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install, maintain and operate Baghouse BH-12.18 in a*

manner consistent with good air pollution control practice for minimizing PM and PM_{10} emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-331(A)(3)(b)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

3. Monitoring Requirements

a. Kiln/Clinker Cooler baghouses

(1) *The Permittee shall install, calibrate,* operate and maintain *PM continuous parametric monitoring systems (PM CPMS) on the Kiln/in-line raw mill and Clinker Cooler stacks to demonstrate continuous compliance with the established operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit.*

[40 CFR 63.1349(b)(1)(i), 40 CFR 63.1350(b)(1)(i), A.A.C. R18-2-331.A.3.c]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline~~s~~ and italics]

(a) The PM CPMS shall provide a 4-20 milliamp output or digital signal output and the establishment of its relationship to the manual reference method measurements shall be determined in units of milliamps or the monitors digital equivalent.

(b) The PM CPMS operating range shall be capable of reading PM concentrations from zero to a level equivalent to three times the Permittee's allowable emission limit. If the PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument shall be capable of reading PM concentration from zero to a level equivalent to three times the Permittee's allowable emission limit.

(c) During the performance tests to demonstrate compliance with the PM limits, the Permittee shall record and average all milliamp or digital output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all the PM CPMS output values for three corresponding 2-hour Method 5 or Method 5I test runs).

(2) To determine continuous compliance, the Permittee 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 Permittee 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 (milliamps or the digital equivalent) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. The Permittee shall use

equation 7 in 40 CFR 1349(b)(1)(v) to calculate 30 kiln operating day average.

[40 CFR 63.1349(b)(1)(v), 40 CFR 63.1350(b)(1)(ii)]

(3) For any exceedance of the 30 process operating day PM CPMS average value from the established operating parameter limit, the Permittee shall:

[40 CFR 63.1350(b)(1)(iii)]

(a) Within 48 hours of the exceedance, visually inspect the affected pollution control device (APCD);

(b) 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

(c) 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. The Permittee are not required to conduct additional testing for any exceedances that occur between the time of the original exceedance and the PM emissions compliance test required under this paragraph.

(4) 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 40 CFR 63 Subpart LLL.

[40 CFR 63.1350(b)(1)(iv)]

b. Monitoring and Recordkeeping for the Coal Mill Baghouse BH-12.18:

(1) *The Permittee shall calibrate*, maintain, and operate, *according to the manufacturer's specifications, a device for monitoring and recording the pressure drop across Baghouse BH-12.18.*

[A.A.C. R18-2-331(A)(3)(c) and R18-2-406(A)(4)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

(2) The Permittee shall perform monthly inspections of Baghouse BH-12.18 and the associated pressure drop continuous parameter monitoring system in accordance with the manufacturers' recommended procedures. The Permittee shall take corrective action following the discovery of any abnormal operation or required maintenance of Baghouse BH-12.18 or the associated pressure drop continuous parameter monitoring system as expeditiously as practicable in accordance with good air pollution

control practices for minimizing emissions, but no later than within 24 hours following detection.

[A.A.C. R18-2-406(A)(4)]

(3) If the pressure drop across Baghouse BH-12.18 is outside the range of 0.5 to 6.0 inches of H_2O, the Permittee shall initiate investigation of the control equipment within 24 hours of the occurrence, to identify any need for corrective action. If corrective action is required, the Permittee shall implement such corrective action as soon as practicable in order to avert or minimize possible exceedances of the emission standards in Conditions III.E.1.a. If the pressure drop remains outside of the range for 72 consecutive hours after the first occurrence, the Permittee shall submit a compliance schedule to ~~the Director~~ADEQ in accordance with Condition I.A~~XI.D~~ of Attachment "A".

[A.A.C. R18-2-406(A)(4)]

4. Performance Test Requirements

a. The Permittee shall demonstrate compliance with the emission limits in Conditions III.E.1.e though g by continuous monitoring performance through use of a PM continuous parametric monitoring system (PM CPMS) as follows:

[40 CFR 63.1349(b)(1)]

(1) For the PM CPMS, the Permittee shall establish a site-specific operating limit. If the PM performance test demonstrates PM emission levels to be below 75 percent of the emission limit, the Permittee shall use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from the PM CPMS, and the average PM result of the compliance test to establish the operating limit. If the PM compliance test demonstrates the PM emission levels to be at or above 75 percent of the emission limit, the Permittee shall use the average PM CPMS value recorded during the PM compliance test to establish the operating limit. The Permittee shall use the PM CPMS to demonstrate continuous compliance with the operating limit. The Permittee shall 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)]

(2) The Permittee shall determine the operating limit as specified in Conditions III.E.4.a(3) and III.E.4.a(4) below. If the PM performance test demonstrates the PM emission levels to be below 75 percent of the emission limit the Permittee shall use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from the PM CPMS, and the average PM result of the compliance test to establish the operating limit. If the PM compliance test demonstrates the PM emission

levels to be at or above 75 percent of the emission limit the Permittee shall use the average PM CPMS value recorded during the PM compliance test to establish the operating limit. The Permittee shall verify an existing or establish a new operating limit after each repeated performance test. The Permittee shall 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)]

(3) If the average of the three EPA Reference Method 5 or 5I compliance test runs is below 75 percent of the PM emission limit, the Permittee shall 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 EPA Reference Method 5 or 5I compliance test with the procedures in 40 CFR 63.1349(b)(1)(iii)(A) through (D).

[40 CFR 63.1349(b)(1)(iii)]

(4) If the average of the three PM compliance test runs is at or above 75 percent of the PM emission limit the Permittee shall determine the operating limit by averaging the PM CPMS milliamp output corresponding to the three PM performance test runs that demonstrate compliance with the emission limit using Equation 6 in 40 CFR 63.1349(b)(1)(iv).

[40 CFR 63.1349(b)(1)(iv)]

(5) To determine continuous operating compliance, the Permittee shall 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. Permittee 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 (milliamps) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. The Permittee shall use equation 7 in 40 CFR 1349(b)(1)(v) to calculate 30 kiln operating day average.

[40 CFR 63.1349(b)(1)(v)]

(6) 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, to determine compliance. The Permittee 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)]

(7) 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)]

b. The Permittee shall demonstrate compliance with Conditions III.E.1.a through III.E.1.d using the test methods and procedures in Conditions III.E.4.b(1) through III.E.4.b(6).

(1) The Permittee shall demonstrate compliance with Conditions III.E.1.a and III.E.1.c by conducting two separate performance tests as follows.

(a) One performance test shall be performed under the conditions that exist when the Rotary Kiln, Raw Mill, and Coal Mill all are operating at the highest load or capacity level reasonably expected to occur.
[A.A.C. R-18-306(A)(3)]

(b) One performance test shall be performed under the conditions that exist when the Raw Mill is not operating and the Rotary Kiln and Coal Mill are operating at the highest load or capacity level reasonably expected to occur.
[A.A.C. R-18-306(A)(3)]

(2) The Permittee shall use any of the following test methods to determine the PM_{10} concentration:
[A.A.C. R-18-306(A)(3)]

(a) EPA Reference Method 5 in Appendix A to 40 CFR Part 60 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51;

(b) EPA Reference Method 201 in Appendix M to 40 CFR Part 51 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51;

(c) EPA Reference Method 201a in Appendix M to 40 CFR Part 51 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51; or

(d) EPA Conditional Test Method Number CTM-039.

(3) Each performance test shall consist of three separate runs.
[A.A.C. R-18-306(A)(3)]

(4) Each run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.
[A.A.C. R-18-306(A)(3)]

(5) The average of the three runs shall be used to determine compliance.
[A.A.C. R-18-306(A)(2)]

(6) Suitable methods shall be used to determine the Rotary Kiln feed rate and clinker rate, except for fuels, for each run. Kiln feed and clinker production rates shall be confirmed by a material balance over the production system.
[A.A.C. R-18-306(A)(2)]

(7) The performance tests required by Condition III.E.4.b shall be performed within 3 years of the last conducted performance test.
[A.A.C. R-18-306(A)(3)]

F. Dioxins/Furans Requirements

1. Emission Standards

The Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln any gases, which contain dioxins/furans (D/F) in excess of:
[40 CFR 63.1343(b)(1)]

a. 0.20 nanograms (ng) per dscm (8.7×10^{-11} gr/dscf) (toxicity equivalent (TEQ)), measured on dry basis and corrected to 7% oxygen; or

b. 0.40 ng per dscm (1.7×10^{-10} gr per dscf) (TEQ) measured on dry basis and corrected to 7% oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 400 °F or less.

2. Operating Requirements

The Permittee shall operate the Rotary Kiln and Raw Mill such that:
[40 CFR 63.1346(a)]

a. When the Raw Mill is operating, the temperature of the gas at the inlet to Baghouse BH-5.30 shall not exceed the applicable temperature limit, determined in accordance with Condition III.F.4 and established during

the performance test when the Raw Mill was operating. The limit may be exceeded by no more than 10 percent during periods of startup and shutdown.

[40 CFR 63.1346(a)(1)]

b. When the Raw Mill is not operating, the temperature of the gas at the inlet to Baghouse BH-5.30 does not exceed the applicable temperature limit, determined in accordance with Condition III.F.4 and established during the performance test when the Raw Mill was not operating. The limit may be exceeded by no more than 10 percent during periods of startup and shutdown.

[40 CFR 63.1346(a)(2)]

3. Monitoring and Recordkeeping Requirements

a. *The Permittee shall calibrate*, maintain, and operate *a continuous monitor to record the temperature of the exhaust gases from the Rotary Kiln and Raw Mill at the inlet to, or upstream of, Baghouse BH-5.30.*

[A.A.C. R18-2-331(A)(3)(c), and 40 CFR 63.1350(g)(1)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

(1) The recorder response range shall include zero and 1.5 times either of the average temperatures established according to the requirements in Condition III.F.4.

(2) The reference method shall be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Director.

(3) The calibration of all thermocouples and other temperature sensors must be verified at least once every three months.

b. The Permittee shall continuously monitor and record the temperature of the exhaust gases from the kiln, in-line kiln/raw mill at the inlet to, or upstream of, the kiln, and in-line kiln/raw mill baghouses.

[40 CFR 63.1350(g)(2)]

c. The required minimum data collection frequency shall be one minute.

[40 CFR 63.1350(g)(3)]

d. Every hour, the Permittee shall record the calculated rolling three-hour average temperature using the average of 180 successive one-minute average temperatures.

[40 CFR 63.1350(g)(4)]

e. When the operating status of the raw mill of the in-line kiln/raw mill is changed from off to on or from on to off, the calculation of the three-hour rolling average temperature shall begin anew, without considering previous recordings.

[40 CFR 63.1350(g)(5)]

f. For the continuous temperature monitoring system required by Condition III.F.3.a, the Permittee shall maintain all records required by 40 CFR 63.10(c).

[40 CFR 63.1355(c)]

4. Performance Test Requirements

The Permittee shall demonstrate compliance with the emission limits in Condition III.F.1, and the applicable temperature limit in Conditions III.F.2.a or III.F.2.b, using the test methods and procedures in Conditions III.F.4.a through III.F.4.f below.

[40 CFR 63.1349(b)(3) and 40 CFR 63.1346(a)]

a. The Permittee shall demonstrate compliance by conducting two separate performance tests: 1) while the Raw Mill is under normal operating conditions, 2) while the Raw Mill is not operating.

[40 CFR 63.1346(a)(1) and 63.1346(a)(2)]

b. The Permittee shall conduct a performance test using Method 23 of appendix A-7 to part 60 of this chapter.

[40 CFR 63.1349(b)(3)]

c. Each performance test shall consist of three separate runs conducted under representative conditions. The duration of each run shall be at least 3 hours, and the sample volume for each run shall be at least 2.5 dscm (90 dscf).

[40 CFR 63.1349(b)(3)(i)]

d. The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, shall be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) shall be included in the performance test report.

[40 CFR 63.1349(b)(3)(ii)]

e. Hourly average temperatures must be calculated for each run of the performance test.

[40 CFR 63.1349(b)(3)(iii)]

f. The run average temperature shall be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limits required in Conditions III.F.2.a or III.F.2.b

[40 CFR 63.1349(b)(3)(iv)]

G. Volatile Organic Compounds Requirements

1. Emission Standards

a. The Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln and Raw Mill any gases which contain total

hydrocarbon (THC) emissions in excess of 24 ppmvd, measured as propane, corrected to 7 percent oxygen based on a rolling 30-day average.
[40 CFR 63.1343(b)(1)]

b. *The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain total hydrocarbon (THC) emissions in excess of 39.0 tons per year, based on a daily rolling 365-day sum.*

[A.A.C. R18-2-306.01(A) and R18-2-331(A)(3)(a)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

2. Monitoring and Recordkeeping Requirements

a. *The Permittee shall calibrate*, maintain, and operate *a continuous emission monitoring system (CEMS) for monitoring and recording the concentration by volume (dry basis, corrected to 7.0 percent oxygen) and the rate of THC emissions into the atmosphere from the Rotary Kiln and Raw Mill.*

[40 CFR 63.1350(i), 40 CFR 63.1349(b)(4)((i) and A.A.C. R18-2-331(A)(3)(c)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

b. The CEMS required by Condition III.G.2 shall meet the following requirements of Performance Specification 8 or Performance Specification 8A of appendix B to 40 CFR part 60 and comply with all of the requirements for continuous monitoring systems found in the general provisions, 40 CFR 63 subpart A.

[40 CFR 63.1350(i)(1)]

(1) The Permittee shall operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in 40 CFR part 60.

[40 CFR 63.1350(i)(1)]

(2) For THC continuous emission monitoring systems certified under Performance Specification 8A, conduct the relative accuracy test audits required under Procedure 1 in accordance with Performance Specification 8, Sections 8 and 11 using Method 25A in appendix A to 40 CFR part 60 as the reference method; the relative accuracy must meet the criteria of Performance Specification 8, Section 13.2.

[40 CFR 63.1350(i)(1)]

(3) For the purposes of conducting the accuracy and quality assurance evaluations for CEMS, the THC span value (as propane) is 50 ppmvd and the reference method (RM) is Method 25A of appendix A to 40 CFR part 60.

[40 CFR 63.1349(b)(4)(i)]

(4) For the CEMS required by Condition III.G.2, the Permittee shall maintain all records required by 40 CFR 63.10(c).

[40 CFR 63.1355(c)]

3. Compliance Requirements

The Permittee shall demonstrate compliance with Condition III.G by operating the CEMS required under Condition II.D.2.a.

[40 CFR 63.1350(i)]

H. HCl Requirements

1. Emission Standards

The Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln any gases which contain HCl in excess of 3 ppmvd, corrected to 7 percent oxygen, based on a rolling 30-day average.

[40 CFR 63.1343(b)(1)]

2. Monitoring and Recordkeeping Requirements

a. *The Permittee shall* operate, maintain, and *quality assure HCl CEMS to demonstrate compliance with the HCl emission limit in Condition III.H.1.*

[40 CFR 63.1350(l) and A.A.C. R18-2-331(A)(3)(c)]
[Material Permit Conditions Identified ~~with~~ by ~~U~~underlines and ~~I~~italics]

b. The Permittee shall monitor compliance with the HCl emission limit using the CEMS in accordance with Performance Specification 15 (PS 15) of appendix B to 40 CFR part 60, or, upon promulgation, in accordance with any other performance specification for HCl CEMS in appendix B to 40 CFR part 60. The HCl CEMS shall be installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to 40 CFR part 60 except that the Relative Accuracy Test Audit requirements of Procedure 1 shall be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. When promulgated, if the Permittee chooses to install and operate an HCl CEMS in accordance with PS 18 of appendix B to 40 CFR part 60, the Permittee must operate, maintain and quality assure the HCl CEMS using the associated Procedure 6 of appendix F to 40 CFR part 60. For any performance specification that the Permittee uses, the Permittee must use Method 321 of appendix A to 40 CFR part 63 as the reference test method for conducting relative accuracy testing. The span value and calibration requirements below apply to HCl CEMS other than those installed and certified under PS 15.

[40 CFR 63.1350(l)(1)]

(1) The Permittee shall use a measurement span value for any HCl CEMS of 0-10 ppmvw unless the monitor is installed on a kiln without an inline raw mill. Kilns without an inline raw mill may use a higher span value sufficient to quantify all expected emissions concentrations. The HCl CEMS data recorder output range must include the full range of expected HCl concentration values which would include those expected during "mill off" conditions. The corresponding data recorder range shall be

documented in the site-specific monitoring plan and associated records.

[40 CFR 63.1350(l)(1)(i)]

(2) In order to quality assure data measured above the span value, the Permittee shall use one of the three options below:

[40 CFR 63.1350(l)(1)(ii)]

(a) Include a second span that encompasses the HCl emission concentrations expected to be encountered during "mill off" conditions. This second span may be rounded to a multiple of 5 ppm of total HCl. The requirements of the appropriate HCl monitor performance specification shall be followed for this second span with the exception that a RATA with the mill off is not required.

(b) Quality assure any data above the span value by proving instrument linearity beyond the span value established in Condition III.H.2.b(1) using the following procedure. Conduct a weekly "above span linearity" calibration challenge of the monitoring system using a reference gas with a certified value greater than the highest expected hourly concentration or greater than 75 percent of the highest measured hourly concentration. The "above span" reference gas must meet the requirements of the applicable performance specification and must be introduced to the measurement system at the probe. Record and report the results of this procedure as the Permittee would for a daily calibration. The "above span linearity" challenge is successful if the value measured by the HCl CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the HCl CEMS during the above span linearity challenge exceeds 10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new "above span linearity" challenge met before returning the HCl CEMS to service, or data above span from the HCl CEMS must be subject to the quality assurance procedures established in Condition III.H.2.b(2)(d). Any HCl CEMS above span linearity challenge response exceeding ±20 percent of the certified value of the reference gas requires that all above span hourly averages during the week following the above span linearity challenge must be normalized using equation in Condition III.H.2.b(2)(d).

(c) Quality assure any data above the span value established in Condition III.H.2.b(1) using the following procedure. Any time two consecutive one-hour average measured

concentration of HCl exceeds the span value the Permittee must, within 24 hours before or after, introduce a higher, "above span" HCl reference gas standard to the HCl CEMS. The "above span" reference gas must meet the requirements of the applicable performance specification and target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include above span calibrations done before or after the above-span measurement period. Record and report the results of this procedure as the Permittee would for a daily calibration. The "above span" calibration is successful if the value measured by the HCl CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the HCl CEMS is not within 20 percent of the certified value of the reference gas, then the Permittee must normalize the stack gas values measured above span as described in Condition III.H.2.b(2)(d).

(d) In the event that the 'above span' calibration is not successful (i.e., the HCl CEMS measured value is not within 20 percent of the certified value of the reference gas), then the Permittee must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the 'above span' calibration for reporting based on the HCl CEMS response to the reference gas as shown in the equation below:

$$Normalized\ Stack\ Gas\ Result = \left(\frac{Certified\ Reference\ Gas\ Value}{Measured\ Value\ of\ Reference\ Gas}\right) \times Measured\ Stack\ Gas\ Result$$

Only one 'above span' calibration is needed per 24 hour period.

3. Compliance Requirements

a. The Permittee shall demonstrate initial compliance with the emissions standards and operating limits by using the test methods and procedures in 40 CFR 63.1349 and 40 CFR 63.7. 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 CEMS has satisfied the relevant CEMS performance specification acceptance criteria. The performance test period is complete at the end of

the 30th consecutive operating day. The Permittee has the option of performing the compliance test earlier then the compliance date if desired.
[40 CFR 63.1348(a)]

b. The Permittee shall demonstrate continuous compliance with the HCl emission limit in Condition III.H.1 by operating the CEMS required under Condition III.H.2.a.
[40 CFR 63.1348(b)(8) and 63.1349(b)(6)(ii)(A)]

I. Mercury

1. Emission Standards

The Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln and Raw Mill any gases which contain Mercury in excess of 55 lb per MM tons clinker, based on a rolling 30-day average.
[40 CFR 63.1343(b)(1)]

2. Monitoring and Recordkeeping for Mercury Emissions

a. *The Permittee shall calibrate,* install, and operate *a mercury continuous emissions monitoring system (Hg CEMS) in accordance with Performance Specification 12A (PS 12A) of appendix B to 40 CFR part 60.*
[40 CFR 63.1350(k), A.A.C. R18-2-331(A)(3)(c)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

b. *The Permittee shall install, calibrate,* operate and maintain *an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in Condition II.D.3.* The Permittee shall ensure appropriate corrections for moisture are made when measuring flow rates used to calculate mercury emissions.
[40 CFR 63.1343(a), 40 CFR 63.1349(b)(5)(i) & 63.1350(k)(5), and A.A.C. R18-2-331(A)(3)(c)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

c. The emission rate shall be calculated using the following equation:

$$E_{30D} = k\frac{\sum_{i=1}^{n} C_i Q_i}{P}$$

Where:

E_{30D} = 30-day rolling emission rate of mercury, lb/MM tons clinker.

C_i = Concentration of mercury for operating hour i, µg/scm.

Q_i = Volumetric flow rate of effluent gas for operating hour i, where Ci and Qi are on the same basis (either wet or dry), scm/hr.

k = Conversion factor, 1 lb/454,000,000 µg.

n = Number of kiln operating hours in a 30 kiln operating day period.

P = Total runs from the previous 30 days of clinker production during the same time period as the mercury emissions measured, million tons.

[40 CFR 63.1349(b)(5)(ii)]

d. The Permittee shall monitor mercury continuously according to the following Conditions

(1) The Permittee shall use a span value for any Hg CEMS that represents the mercury concentration corresponding to approximately two times the emissions standard and may be rounded up to the nearest multiple of 5 µg/m^3 of total mercury or higher level if necessary to include Hg concentrations which may occur (excluding concentrations during in-line raw "mill off" operation). As specified in PS 12A, Section 6.1.1, the data recorder output range shall include the full range of expected Hg concentration values which would include those expected during "mill off" conditions. Engineering judgments made and calculations used to determine the corresponding span concentration from the emission standard shall be documented in the site-specific monitoring plan as required in accordance with Condition II.D.5 and associated records.

[40 CFR 63.1350(k)(1)]

(2) In order to quality assure data measured above the span value, the Permittee shall use one of the three options in the Conditions III.I.2.d(2)(a) through III.I.2.d(2)(c) below. Where these options are employed while the kiln is operating in a mill-off mode, the "above span" described in Condition III.I.2.d(2)(c) below may substitute for the daily upscale calibration provided the data normalization process in Condition III.I.2.d(2)(c) are not required. If data normalization is required, the normal daily upscale calibration check must be performed to quality assure the operation of the CEMS for that day. In this particular case, adjustments to CEMS normally required by Procedure 5 when a daily upscale does not meet the 5 percent criterion are not required, Condition III.I.2.d(2)(c) data normalization is necessary and a subsequent normal daily calibration check demonstrates the need for such adjustment.

[40 CFR 63.1350(k)(2)]

(a) Include a second span that encompasses the Hg emission concentrations expected to be encountered during "mill off" conditions. This second span may be rounded to a multiple of 5 µg/m^3 of total mercury. The requirements of PS 12A, shall be followed for this second span with the exception that a RATA with the mill off is not required.

(b) Quality assure any data above the span value by proving instrument linearity beyond the span value established in Condition III.I.2.d(2)(a) above using the following

procedure. Conduct a weekly "above span linearity" calibration challenge of the monitoring system using a reference gas with a certified value greater than the highest expected hourly concentration or greater than 75 percent of the highest measured hourly concentration. The "above span" reference gas must meet the requirements of PS 12A, Section 7.1 and must be introduced to the measurement system at the probe. Record and report the results of this procedure as the Permittee would for a daily calibration. The "above span linearity" challenge is successful if the value measured by the Hg CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the Hg CEMS during the above span linearity challenge exceeds ±10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new "above span linearity" challenge met before returning the Hg CEMS to service, or data above span from the Hg CEMS must be subject to the quality assurance procedures established in Condition III.I.2.d(2)(c). In this manner all hourly average values exceeding the span value measured by the Hg CEMS during the week following the above span linearity challenge when the CEMS response exceeds ±20 percent of the certified value of the reference gas must be normalized using Equation in Condition III.I.2.d(2)(c).

(c) The Permittee shall quality assure any data above the span value established in Condition III.I.2.d(1) above using the following procedure. Any time two consecutive one-hour average measured concentrations of Hg exceeds the span value the Permittee must, within 24 hours before or after, introduce a higher, "above span" Hg reference gas standard to the Hg CEMS. The "above span" reference gas must meet the requirements of PS 12A, Section 7.1, must target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include "above span" calibrations done before or after the above span measurement period. Record and report the results of this procedure as the Permittee would for a daily calibration. The "above span" calibration is successful if the value measured by the Hg CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the Hg CEMS exceeds 20 percent of the certified value

of the reference gas, then the Permittee must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the "above span" calibration for reporting based on the Hg CEMS response to the reference gas as shown in equation below. Only one "above span" calibration is needed per 24 hour period.

$$Normalized\ Stack\ Gas\ Result = \left(\frac{Certified\ Reference\ Gas\ Value}{Measured\ Value\ of\ Reference\ Gas}\right) \times Measured\ Stack\ Gas\ Result$$

(3) The Permittee shall operate and maintain each Hg CEMS monitoring system according to the quality assurance requirements in Procedure 5 of appendix F to 40 CFR part 60.
[40 CFR 63.1350(k)(3)]

(4) Relative accuracy testing of mercury monitoring systems under PS 12A, PS 12B, or Procedure 5 shall be conducted at normal operating conditions. The testing must occur with the raw mill on.
[40 CFR 63.1350(k)(4)]

3. Compliance Requirements

The Permittee shall demonstrate compliance with the mercury emission limit in Condition III.I.1 by operating the CEMS required under Condition III.I.2.
[40 CFR 63.1349(b)(5)]

J. Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide and Ammonia

1. Emission Standards

a. Sulfur Dioxide

The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain sulfur dioxide (SO_2) emissions in excess of 21.9 tons per year based on a daily rolling 365-day sum.

[A.A.C. R18-2-306.01(A) and R18-2-331(A)(3)(a)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

b. Nitrogen Oxides

(1) The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain NO_X in excess of 95 pounds per hour based on an hourly rolling 24-hour average.
[A.A.C. R18-2-406(A)(5)]

(2) The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain NO_X in

excess of 1.95 pounds per ton of clinker based on a daily rolling 30-day average.

[A.A.C. R18-2-406(A)(4)]

c. Carbon Monoxide

The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain carbon monoxide (CO) in excess of 3.6 lbs per ton of clinker based on a 30-day rolling average basis.

[A.A.C. R18-2-406(A)(4)]

d. Ammonia

The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain ammonia in excess of 19.8 tons per year, based on a rolling 12-month sum.

[A.A.C. R18-306.A.2]

2. Air Pollution Control Requirements

At all times when the Rotary Kiln is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install, maintain and operate the Selective Non-Catalytic Reduction system in a manner consistent with good air pollution control practice for minimizing NO_X emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-331(A)(3)(b)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

3. Monitoring, Recordkeeping, and Reporting Requirements

a. *The Permittee shall calibrate,* maintain, and operate *continuous emission rate monitoring systems (CERMS) for monitoring and recording the SO_2, NO_X, CO and ammonia emission rates to the atmosphere from the Main Stack.*

[A.A.C. R18-2-306(A)(3)(c) and A.A.C. R18-2-331(A)(3)(c)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

b. The CERMS required by Condition III.J.3.a shall meet the following requirements:

[A.A.C. R18-2-306(A)(4)]

(1) 40 CFR Part 60, Appendix B, "Performance Specifications"

(a) The SO_2 and NO_X CERMS shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in Appendix B to 40 CFR Part 60.

(b) The CO CERMS shall meet the requirements of Performance Specification 4a, Specifications and test procedures for carbon monoxide continuous emission

monitoring systems in stationary sources, in Appendix B to 40 CFR Part 60.

(c) The ammonia CERMS shall be maintained and operated in accordance with performance specifications approved by the Director prior to startup of the Rotary Kiln. The proposed performance specifications shall be substantially equivalent to those set forth in Performance Specification 5 in Appendix B to 40 CFR Part 60.

(d) The SO_2, NO_X, CO and ammonia CERMS shall meet the requirements of Performance Specification 6, *Specifications and test procedures for continuous emission rate monitoring systems in stationary sources*, in Appendix B to 40 CFR Part 60.

(e) As an acceptable alternate to calculating RATA RA following the equations and methodology in PS-2 for SO_2: If the mean Reference Method (RM) value from the average of the RATA runs is less than 3.0 ppm, the RA is acceptable (passes) if the absolute value of the difference between the mean RM value and the mean CEMS value does not exceed 1.0 ppm.

(f) As an acceptable alternate to calculating RATA RA following the equations and methodology in PS-5 (which references PS-2), for ammonia, RATA RA may be calculated in accordance with the procedures and equations specified in "PPS-001: EPA Preliminary Performance Specifications for Ammonia Continuous Emission Monitors (CEMs)", Section 12.2.1, Subsection 12.2.1.4 and Equation 12 which states "The RA of the CEM must be no greater than 35%, when the mean RM values are used in the denominator of Equation 12, or no greater than 20% when the applicable emission standard is used in the denominator of Equation 12."

(g) As an acceptable alternative, pollutants monitored using a FTIR may alternatively meet the requirements of Performance Specification 15.

(2) 40 CFR Part 60, Appendix F, "Quality Assurance Procedures."

The Permittee shall implement the Quality Assurance/Quality Control Plan (including procedures for dealing with data gaps based on the procedures contained in 40 CFR 75) approved by ADEQ.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

d. Each continuous monitoring system shall be installed and operational prior to conducting required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this condition.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

g. For the purposes of demonstrating compliance with emission standards expressed as mass emissions per unit of clinker production, averages shall be calculated as the total emission rate over the averaging period, as measured and recorded in accordance with Conditions III.J.3.a through III.J.3.f, divided by the total clinker production rate over the averaging period, as measured and recorded in accordance with Condition III.C.4.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

h. The following shall be considered periods of excess emissions:

(1) All 365-day periods for which the SO_2 emission rate to the atmosphere as determined in accordance with Condition III.J.3.a exceeds the emission standard in Condition III.J.1.

[A.A.C. R18-2-306(A)(3)]

(2) All 24-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition III.J.3.a exceeds the emission standard in Condition III.J.1.b(1).
[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

(3) All 30-day periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition III.J.3.a exceeds the applicable emission standard in Condition III.J.1.b(2).
[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(5)]

(4) All 30-day periods for which the CO emission rate to the atmosphere as determined in accordance with Condition III.J.3.a exceeds the emission standard in Condition III.J.1.c.
[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

(5) All 365-day periods for which the ammonia emission rate to the atmosphere as determined in accordance with Condition III.J.3.a exceeds the emission standard in Condition III.J.1.d.
[A.A.C. R18-2-306(A)(3)]

i. The Permittee shall report excess emissions and deviations in accordance with Sections XI.A and XI.B, respectively, in Attachment "A" of this permit.
[A.A.C. R18-2-306(A)(5)(b)]

K. Permit Shield

Compliance with the ~~requirements~~ Conditions of this Section shall be deemed compliance with 40 CFR 63.1343(b), 63.1346(a) & (g), 63.1348(a) & (b), 63.1349(b), 63.1350(b), (d), (g), (i), (k), (l) & (m), and 63.1355(c).
[A.A.C. R18-2-325]

IV. REQUIREMENTS FOR FINISH MILLS, STORAGE BINS, BULK LOADING AND UNLOADING SYSTEMS, BIOMASS FEED SYSTEM, AND CONVEYING SYSTEM TRANSFER POINTS SUBJECT TO 40 CFR 63 SUBPART LLL

A. Applicability

This Section is applicable to all facilities other than kiln, in-line raw mill and coal mill, and identified in the equipment list ~~as Subject to this Section IV~~of Attachment "C".

B. Operational Limitations

1. The Permittee shall not cause or allow the amount of material unloaded at the Receiving Hopper for Railroad Cars to exceed 2,000 tons in any calendar day.

[A.A.C. R18-2-306(A)(2)]

2. The Permittee shall not cause or allow the amount of material unloaded, excluding biomass, pozzolan and clinker, at the Receiving Hopper for Trucks or material storage building to exceed 600 tons in any calendar day.

[A.A.C. R18-2-306(A)(2)]

C. Particulate Matter Emission Standards

1. *The Permittee shall not cause or allow to be emitted into the atmosphere from Dust Collectors DC-13.19, DC-13.20, 628.10PF, 628.20PF, 638.10.PF, or DC-13.40 any gases which exhibit opacity greater than 10 percent.*

[40 CFR 63.1345 and A.A.C. R18-2-331(A)(3)(f)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

2. *The Permittee shall not cause or allow to be emitted into the atmosphere from any Storage Bin, Conveying System Transfer Point, Bulk Unloading System, Biomass Feed ~~s~~System, or Bulk Loading System, listed in Condition IV.A, any gases which exhibit opacity greater than 10 percent.*

[40 CFR 63.1345 and A.A.C. R18-2-331(A)(3)(f)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

3. The Permittee shall not cause or allow to be emitted into the atmosphere from any Dust Collector listed in Condition IV.A, with the exception of 322.66.PF03, 327.72.PF01, 622.104.PF01, DC-14.23, DC-14.25, 312.10.BC.01, DC-11.6.4, 622.115PF01, 628.20PF, 628.10PF, 638.10.PF, 328.20.PF01, 322.24.PF01, and dust collectors listed in Condition IV.C.7 any gases which contain particulate matter (PM) in excess of 0.008 gr/dscf.

[A.A.C. R18-2-406(A)(4)]

4. *The Permittee shall not cause or allow to be emitted into the atmosphere from baghouse 628.10PF gases which contain PM_{10} in excess of 1.68 lb/hr.*

[A.A.C. R18-2-331(A)(3)(a) and R18-2-306.01]
[Material Permit Conditions are indicated with underline and italics]

5. *The Permittee shall not cause or allow to be emitted into the atmosphere from baghouse 638.10.PF gases which contain PM_{10} in excess of 2.26 lb/hr.*

[A.A.C. R18-2-331(A)(3)(a) and R18-2-306.01]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

6. The Permittee shall not cause or allow to be emitted into the atmosphere from any Dust Collector gases which contain particulate matter (PM) in excess of the following emission rates, based on a 3-hour average.

[A.A.C. R18-2-406(A)(5)]

Emission Point ID Number	PM Emission Limit (lbs/hr)
DC-2.5	0.153

Emission Point ID Number	PM Emission Limit (lbs/hr)
DC-2.9	0.411
DC-2.10	0.411
DC-4.18	0.120
DC-4.19	0.439
DC-4.20	0.257
DC-4.23	0.120
DC-4.25	0.120
DC-5.5	0.451
DC-5.22	0.253
DC-6.10	0.268
DC-7.16	0.167
DC-7.23	0.121
DC-11.2	0.201
DC-11.6.1	0.129
DC-11.6.2	0.148
DC-11.11	0.487
DC-11.15	0.421
DC-12.7.2	0.018
DC-12.26	0.102
DC-13.4	0.136
DC-13.19	0.875
DC-13.20	0.875
DC-13.40	1.040
DC-14.10	0.142
DC-14.21	0.360
DC-14.29	0.236

7. The Permittee shall not cause or allow to be emitted into the atmosphere from any of the following dust collectors PM in excess of 0.002 gr/dscf.

[A.A.C. R18-2-306(A)(2)]

a. 632.14PF

b. 632.22PF

c. 637.62PF01

d. 637.60PF01

e. 312.10.PF03

f. 312.60.PF02

g. 312.64.PF04

h. 612.16.PF03

i. 612.38.PF02

j. 612.40.PF04

k. 612.46.PF02

l. 612.46.PF04

m. 617.51.PF01

n. 617.52.PF01

o. 617.53.PF01

p. 617.54.PF01

8. *The Permittee shall not cause or allow to be emitted into the atmosphere from Dust Collector 328.20.PF01 any gases which contain PM in excess of 0.008 gr/dscf.*

[A.A.C. R18-2-331(A)(3)(a) and -306.01.A]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

9. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install,* maintain*, and operate Dust Collector 322.24.PF01 according to the manufacturer's specifications and in a manner consistent with good air pollution control practices for minimizing particulate matter emissions.*

[A.A.C. R18-2-331(A)(3)(d) and (e), and -306.01.A]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

D. Air Pollution Control Requirements

1. *At all times when any Finish Mills, Conveying System Transfer Points, or Bulk Loading Systems are in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the associated Dust Collector(s) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*

[A.A.C. R18-2-306(A)(2) and R18-2-331(A)(3)(e)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

2. *At all times when the Receiving Hoppers for Trucks or Railroad Cars are in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the associated Water*

Dedusting System in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-331(A)(3)(e)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

E. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring and Recordkeeping for Operational Limitations

a. The Permittee shall demonstrate compliance with Conditions IV.B.1 by maintaining daily records of the number of railcars unloaded, and the tonnage of each of the railcars.

[A.A.C. R18-2-306(A)(3)(c)]

b. The Permittee shall demonstrate compliance with Conditions IV.B.2 by maintaining daily records of the number of trucks unloaded, and the tonnage of each of the trucks.

[A.A.C. R18-2-306(A)(3)(c)]

2. Operations and Maintenance Plans

The Permittee shall follow the approved operations and maintenance plans for each affected Finish Mills, Storage Bin, Conveying System Transfer Point, Bulk Unloading System, Biomass Feed system, and Bulk Loading System under this Section.

[40 CFR 63.1347(a)]

3. Opacity Monitoring and Recordkeeping Requirements

The Permittee shall demonstrate continuous compliance using the monitoring methods and procedures in IV.E.3.a and IV.E.3.b based on the maximum 6-minute average opacity exhibited during the performance test period. The Permittee shall initiate corrective actions within one hour of detecting visible emissions above the applicable limit.

[40 CFR 63.1348(b)(3)]

a. Requirements for Finish Mills

(1) The Permittee shall monitor opacity by conducting daily visual emissions observations for Dust Collectors DC-13.19, DC-13.20, 628.10PF, 638.10.PF and DC-13.40 in accordance with the procedures of Method 22 of appendix A–7 of 40 CFR Part 60. The duration of the Method 22 performance test shall be 6 minutes.

[40 CFR 63.1350(f)(2)(i)]

(2) Within 24 hours of the end of the Method 22 performance test in which visible emissions were observed, the owner or operator

shall conduct a follow-up Method 22 performance test of each stack from which visible emissions were observed during the previous Method 22 performance test conducted in accordance with Condition IV.E.3.a(1).

[40 CFR 63.1350(f)(2)(ii)]

(3) If visible emissions are observed during the follow-up Method 22 performance test required by Condition IV.E.3.a(2) from any stack from which visible emissions were observed during the previous Method 22 performance test required by Condition IV.E.3.a(1). The Permittee shall conduct a visual opacity test of each stack from which emissions were observed during the follow-up Method 22 performance test in accordance with Method 9 of appendix A–4 to 40 CFR Part 60. The duration of the Method 9 test shall be 30 minutes.

[40 CFR 63.1350(f)(2)(iii)]

b. Requirements for ~~a~~Affected ~~s~~Sources Other Than Finish Mills

For each affected Storage Bin, Conveying System Transfer Point, Bulk Unloading System, Biomass Feed system, and Bulk Loading System under this Section, the Permittee shall conduct periodic visible emissions observations in accordance with Conditions IV.E.3.b(1) through IV.E.3.b(8) below.

[40 CFR 63.1350(f)]

(1) The Permittee shall operate in accordance with the approved opacity emissions monitoring plan developed in accordance with the requirements in 40 CFR 63.1350(p)(1) through 63.1350(p)(4).

[40 CFR 63.1350(p) and 1350(f)]

(2) The Permittee shall conduct a monthly 10-minute visible emissions test of each affected source in accordance with Method 22 of appendix A–7 of 40 CFR 60. The performance test shall be conducted while the affected source is in operation.

[40 CFR 63.1350(f)(1)(i)]

(3) If no visible emissions are observed in six consecutive monthly tests for any affected source, the Permittee may decrease the frequency of performance testing from monthly to semi-annually for that affected source. If visible emissions are observed during any semi-annual test, the Permittee shall resume performance 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(f)(1)(ii)]

(4) If no visible emissions are observed during the semi-annual test for any affected source, the Permittee may decrease the frequency of performance testing from semi-annually to annually for that affected source. If visible emissions are observed during any annual performance test, the Permittee shall resume performance 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(f)(1)(iii)]

(5) If visible emissions are observed during any Method 22 performance test, of appendix A–7 of 40 CFR 60, The Permittee shall conduct five 6-minute averages of opacity in accordance with Method 9 of appendix A–4 of 40 CFR 60. The Method 9 performance test, of appendix A–4 of 40 CFR 60, shall begin within 1 hour of any observation of visible emissions.

[40 CFR 63.1350(f)(1)(iv)]

(6) The requirement to conduct Method 22 visible emissions monitoring under this Section do 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(f)(1)(v)]

(7) If any partially enclosed or unenclosed conveying system transfer point is located in a building, the Permittee shall have the option to conduct a Method 22 performance test, of appendix A–7 to part 60 of this chapter, according to the requirements of Conditions IV.E.3.b(1) to IV.E.3.b(5) for each such conveying system transfer point located within the building, or for the building itself, according to Condition IV.E.3.b(8) below.

[40 CFR 63.1350(f)(1)(vi)]

(8) If visible emissions from a building are monitored, the requirements of Conditions IV.E.3.b(1) to IV.E.3.b(5) apply to the monitoring of the building, and the Permittee shall also test visible emissions from each side, roof, and vent of the building for at least 10 minutes.

[40 CFR 63.1350(f)(1)(vii)]

c. If visible emissions are observed during any Method 22 visible emissions test, the Permittee shall initiate, within one-hour, the corrective actions specified in the site specific operating and maintenance plan required in Condition IV.E.2.

[40 CFR 63.1350(f)(3)]

d. The Permittee shall report excess emissions and deviations in accordance with Sections XI.A and XI.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

F. Testing Requirements

1. The Permittee shall perform periodic performance tests in accordance with Conditions ~~I.A~~I.B, IV.F.2, and IV.F.3.

[40 CFR 63.7(a)]

2. Test Methods and Procedures for Particulate Matter

a. Except for Dust Collector DC-12.26, the Permittee shall demonstrate compliance with emission standards in Conditions IV.C.3, IV.C.6, and IV.C.8 by conducting performance tests as follows.

[A.A.C. R-18-306(A)(3)]

(1) Performance tests shall be conducted using Method 5 of Appendix A to 40 CFR Part 60.

[A.A.C. R-18-306(A)(3)]

(2) Each performance test shall consist of three separate runs.

[A.A.C. R-18-306(A)(3)]

(3) Each test run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.

[A.A.C. R-18-306(A)(3)]

(4) The average of the three runs shall be used to determine compliance.

[A.A.C. R-18-306(A)(3)]

b. The performance tests required by Condition IV.F.2.a shall be performed within 3 years of the last conducted performance test.

[A.A.C. R-18-306(A)(3)]

c. To demonstrate compliance with Condition IV.C.7, except for Dust Collectors listed in IV.C.7.e through IV.C.7.p, within 60 days of startup of the dust collectors in Conditions IV.C.7, but no more than 120 days after the effective date of the Consent Order Docket No. A-06-23, the Permittee

shall demonstrate initial compliance with Condition IV.C.7 by conducting initial performance tests as follows.

[A.A.C. R-18-306(A)(3)]

(1) Performance tests shall be conducted using Method 5 of Appendix A to 40 CFR Part 60.

[A.A.C. R-18-306(A)(3)]

(2) Each performance test shall consist of three separate runs.

[A.A.C. R-18-306(A)(3)]

(3) Each test run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.

[A.A.C. R-18-306(A)(3)]

(4) The average of the three runs shall be used to determine compliance.

[A.A.C. R-18-306(A)(3)]

d. If the emissions during the initial performance test in Condition IV.F.2.c are equal to or greater than 75 percent of the applicable grain loading of 0.002 gr/dscf, the Permittee shall conduct a subsequent performance test in accordance with Condition IV.F.2.c between 10 and 14 months of the date of the initial performance test. If the emissions during the initial performance test in Condition IV.F.2.c, or in any subsequent performance test, are below 75 percent of the applicable grain loading of 0.002 gr/dscf, no subsequent performance test is required during the permit term.

[A.A.C. R-18-306(A)(3)]

e. To demonstrate continuous compliance during each permit term with Condition IV.C.7, except for Dust Collectors listed in IV.C.7.e through IV.C.7.p, the Permittee shall conduct a performance test during the first year of that permit term in accordance with Condition IV.F.2.c. If the emissions during the performance test are equal to or greater than 75 percent of the applicable grain loading of 0.002 gr/dscf, the Permittee shall conduct a subsequent performance test in accordance with Condition IV.F.2.c between 10 and 14 months of the date of the previous performance test. If the emissions during the previous performance test, or in any subsequent performance test, are below 75 percent of the applicable grain loading of 0.002 gr/dscf, no subsequent performance test is required during the permit term.

[A.A.C. R-18-306(A)(3)]

3. Test Methods and Procedures for PM_{10}

a. The Permittee shall demonstrate compliance with Conditions IV.C.4 using the test methods and procedures in Conditions IV.F.3.a(1) through (5) below.

[A.A.C. R-18-312 and R-18-306(A)(3)(c)]

(1) The Permittee shall demonstrate compliance with Condition IV.C.4 by conducting annual performance tests.

(2) The Permittee shall use any of the following test methods to determine the PM_{10} concentration:

(a) EPA Reference Method 5 in Appendix A to 40 CFR Part 60 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51;

(b) EPA Reference Method 201 in Appendix M to 40 CFR Part 51 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51;

(c) EPA Reference Method 201a in Appendix M to 40 CFR Part 51 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51; or

(d) EPA Conditional Test Method Number CTM-039.

(3) Each performance test shall consist of three separate runs.

(4) Each run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.

(5) The average of the three runs shall be used to determine compliance.

b. The Permittee shall demonstrate compliance with Conditions IV.C.5 using the test methods and procedures in Conditions IV.F.3.b(1) through (8) below.

[A.A.C. R-18-312 and R-18-306(A)(3)(c)]

(1) The Permittee shall demonstrate compliance with Condition IV.C.5 by conducting annual performance tests.

(2) The Permittee shall use any of the following test methods to determine the PM_{10} concentration:

(a) EPA Reference Method 5 in Appendix A to 40 CFR Part 60 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51;

(b) EPA Reference Method 201 in Appendix M to 40 CFR Part 51 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51;

(c) EPA Reference Method 201a in Appendix M to 40 CFR Part 51 in conjunction with EPA Reference Method 202 in Appendix M to 40 CFR Part 51; or

(d) EPA Conditional Test Method Number CTM-039.

(3) Each performance test shall consist of three separate runs.

(4) Each run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.

(5) The average of the three runs shall be used to determine compliance

(6) The Permittee shall perform the test methods and procedures in Conditions IV.F.3.b(1) through (5) above at the Cooler Stack.

(7) If the kiln and associated clinker cooler are operating at the time of the performance test, the Permittee shall perform the test methods and procedures in Conditions IV.F.3.b(1) through (6) above during times of operation of Baghouse 638.10.PF and BH-10.13 simultaneously, and while only Baghouse BH-10.13 is operating.

(a) The Permittee shall operate Baghouse BH-10.13 within 5% of the operating conditions between the performance tests.

(b) The Permittee shall take the difference of the performance test results during times of operation of Baghouse 638.10.PF and BH-10.13 simultaneously and while only Baghouse BH-10.13 is operating to demonstrate compliance with Condition IV.C.5.

(8) If the kiln and associated clinker cooler are not operating at the time of the performance test, the Permittee shall perform the test methods and procedures in Conditions IV.F.3.b(1) through (6) above during times of operation of Baghouse 638.10.PF.

G. Permit Shield

Compliance with the ~~terms~~ Conditions of this Section shall be deemed compliance with 40 CFR 63.1345, 63.1347(a), 63.1348(a) & (b), 63.1349(a) & (b), and 63.1350(f) & (p).
[A.A.C. R18-2-325]

V. COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

A. Applicability

The following dust collectors shall be subject to CAM requirements:
[40 CFR 64.3(a)(1)]

1. Kiln/in-line Raw Mill Baghouse BH-5.30
2. Clinker Cooler Baghouse BH-10.13
3. Finish Mill Separator Baghouse BH 628.10PF
4. Vertical Mill High Efficiency Process Filter Baghouse 638.10.PF
5. Finish Mill Cement Grinding Dust Collector DC-13.19
6. Finish Mill Cement Grinding Dust Collector DC-13.20
7. Finish Mill Cement Grinding Dust Collector DC-13.40

B. CAM Requirements

1. Indicators:
[40 CFR 64.3(a)(1)]

   a. Opacity observation

   b. Pressure drop across each baghouse/dust collector

2. Monitoring Approach:

   a. Visible emissions from each baghouse/dust collector shall be monitored once daily using EPA Reference Method 22.
[40 CFR 64.3(b)(4), A.A.C. R-18-306(A)(3)]

   b. *The Permittee shall calibrate*, operate, and maintain, *according to the manufacturer's specifications, continuous parameter monitoring systems capable of measuring pressure drop across BH-5.30, BH-10.13, BH 628.10PF, 638.10.PF, DC-13.19, DC-13.20, and DC-13.40.*
[40 CFR 64.3(b)(4)(iii), A.A.C. R18-2-306(A)(3)(b) & (c)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

   c. At the time of the performance tests for each source covered under condition V.A, the Permittee shall include procedures to confirm the

appropriateness of indicator ranges for the opacity limits using EPA Reference Method 9 and operating limits for the baghouse/dust collector pressure drop monitoring system for each baghouse/dust collector. The Permittee shall follow the maintenance, monitoring and analysis procedures as set forth in the approved CAM Plan in Attachment "D". Within 60 days after each performance test, the Permittee shall submit a proposal to adjust the indicator ranges.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR 64.6]

d. The Permittee shall continuously monitor and record the pressure drop across BH-5.30, BH-10.13, 628.10PF, 638.10.PF, DC-13.19, DC-13.20, and DC-13.40. The output of the pressure drop continuous parameter monitoring system shall be recorded on circular charts or other permanent format and shall be maintained on site readily available for inspection.

[A.A.C. R18-2-306(A)(3) & (4), and 40 CFR Part 64]

e. The pressure drop monitoring system shall meet the performance criteria, contained in the approved CAM plans in Attachment "D". Any changes to the approved CAM plan shall be submitted to the Director. The Permittee shall follow the current CAM plan until a revised one has been approved.

[A.A.C. R18-2-306(A)(3) & (4), and 40 CFR Part 64]

3. Excursions Determinations

The following shall constitute an excursion event:

[40 CFR 64.6(c)(2)]

a. Any opacity observed in excess of the opacity limit established in the approved CAM plan in Attachment "D" during the visible emission survey shall constitutes an excursion event.

b. Each time the pressure drop across any of BH-5.30, BH-10.13, 628.10PF, 638.10.PF, DC-13.19, DC-13.20, or DC-13.40 falls outside the range established in the approved CAM plan in Attachment "D" shall constitute an excursion.

4. General CAM Requirements

a. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the emission points are operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably

preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 64.7(c)]

b. Response to excursions

(1) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emission point (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown, or malfunction, and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operations to within the indicator range, designated condition, or below applicable emission limitation or standard, as applicable.

[40 CFR 64.7(d)(1)]

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation, and maintenance procedures and records, and inspection of the control device, associated capture system, and process.

[40 CFR 64.7(d)(2)]

(3) If the Permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the Department, and if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 CFR 64.7(e)]

(4) Excursions shall be reported as required by Condition VII.B.4 of Attachment "A" of this permit. The report shall include, at a minimum, the following:

[A.A.C. R18-2-309(2)(c)(iii)]

(a) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursion or exceedances, as applicable, and the corrective actions taken; and

[40 CFR 64.9(a)(2)(i)]

(b) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

[40 CFR 64.9(a)(2)(ii)]

C. Permit Shield

Compliance with the ~~terms~~ Conditions of this Section shall be deemed compliance with 40 CFR 64.

[A.A.C. R18-2-325]

VI. REQUIREMENTS FOR COAL PREPARATION

A. Applicability

This Section is applicable to the coal storage, processing and conveying equipment up to the inline coal mill. The inline coal mill is subject to the requirements under Section II, and all the transfer and conveying and storage systems after the inline coal mill are subject to the requirements in Section III.

B. Particulate Matter and Opacity

1. Emission Limitations and Standards

a. The Permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal that was constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater.

[40 CFR 60.254(a)]

b. The Permittee shall not cause or allow to be emitted into the atmosphere from Dust Collector DC-12.7.1 any gases which contain particulate matter (PM) in excess of 0.008 grains per dry standard cubic feet, based on a 3-hour average.

[A.A.C. R18-2-406(A)(4)]

c. The Permittee shall not cause or allow to be emitted into the atmosphere from Dust Collector DC-12.7.1 any gases which contain particulate matter (PM) in excess of 0.104 lbs per hour, based on a 3-hour average.

[A.A.C. R18-2-406(A)(5)]

2. Air Pollution Control Requirements

a. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.* Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 CFR 60.11(d), A.A.C. R18-2-331.A.3.e]
[Material Permit Condition is indicated by underline and italics]

b. *The Permittee shall operate the air dust collector DC-12.7.1 in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* This condition is not material in the event failure to comply is due to a sudden and unavoidable breakdown of the process or the control equipment, resulted from unavoidable conditions during a startup or shutdown, or resulted from upset of operations.

[40 CFR 60.11(d), A.A.C. R18-2-331.A.3.e and R18-2-331.B]
[Material Permit Condition is indicated by underline and italics]

3. Monitoring and Recordkeeping Requirements

a. The Permittee shall perform monthly inspections of Dust Collector DC-12.7.1, in accordance with the manufacturers' recommended procedures. The Permittee shall take corrective action following the discovery of any abnormal operation or required maintenance of the dust collector as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, but no later than within 24 hours following detection.

[A.A.C. R18-2-406(A)(4)]

b. Periodic Visible Emissions Observations

The Permittee shall conduct periodic visible emissions observations on Dust Collector DC-12.7.1 in accordance with the approved O&M Plan.

[A.A.C. R18-2-306(A)(3)]

4. Compliance Requirements

a. The Permittee shall conduct all performance tests required by 40 CFR 60.8 to demonstrate compliance with the applicable emission standards using the methods identified in Condition VI.B.5.

[40 CFR 60.255(a)]

5. Performance Test Requirements

The Permittee shall determine compliance with Conditions as follows:

a. EPA Reference Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall

be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin. A minimum of three valid test runs are needed to comprise a PM performance test.

[40 CFR 60.257(b)(5)(i)]

b. The performance test shall be performed within 3 years of the last conducted test.

[A.A.C. R-18-312 and R-18-306(A)(3)(c)]

C. Permit Shield

Compliance with the ~~requirements~~ Conditions of this Section shall be deemed compliance with 40 CFR 60.254(a) & (b), 60.255(a) & (b(2), and 60.257(a)(1) through (3).

[A.A.C. R18-2-325]

VII. REQUIREMENTS FOR LIMESTONE PROCESSING PLANT

A. Applicability

This Section is applicable to limestone processing equipment identified in the equipment list ~~as applicable to this Section VII~~in Attachment "C".

B. Emission Limitations and Standards

1. Particulate Matter and Opacity Standards

a. Except as provided in Condition VII.B.1.e, the Permittee shall not cause or allow to be emitted into the atmosphere from any affected emission units, with the exception of the limestone stockpile building (CS-2.2), any stack emissions which contain particulate matter (PM) in excess of 0.008 gr/dscf, based on a 3-hour average.

[A.A.C. R18-2-406(A)(4)]

b. Except as provided in Condition VII.B.1.e, the Permittee shall not cause or allow to be emitted into the atmosphere from any affected emission units, with the exception of the limestone stockpile building (CS-2.2), any stack emissions which contain particulate matter (PM) in excess of 0.022 gr/dscf.

[40 CFR 60.672(a)]

c. *Except as provided in Condition VII.B.1.e, the Permittee shall not cause or allow to be emitted into the atmosphere from any affected emission units, with the exception of the limestone stockpile building (CS-2.2), any stack emissions which exhibit opacity greater than 7 percent, based on a 6-minute average.*

[40 CFR 60.672(a) and A.A.C. R18-2-331(A)(3)(f)]
[Material Permit Condition is indicated by underline and italics]

d. With the exception of the limestone stockpile building (CS-2.2), *the Permittee shall not cause or allow to be emitted into the atmosphere from*

any affected emission units any fugitive emissions which exhibit opacity greater than 10 percent, based on a 6-minute average.

[40 CFR 60.672(b) and A.A.C. R18-2-331(A)(3)(f)]
[Material Permit Condition is indicated by underline and italics]

e. Conditions VII.B.1.a through VII.B.1.d shall not apply to any transfer point that is located within the Limestone Covered Stockpile Building.

[A.A.C. R18-2-406(A)(4)]

f. The Permittee shall not cause or allow to be emitted into the atmosphere from the Limestone Covered Stockpile Building any visible fugitive emissions except when entering or exiting the building for operation and maintenance purposes. The Permittee shall minimize the period when the door is opened for entry or exit to minimize emissions.

[A.A.C. R18-2-406(A)(4)]

g. The Permittee shall not cause or allow to be emitted into the atmosphere from any Dust Collector listed below, gases which contain particulate matter (PM) in excess of the following emission rates, based on a 3-hour average.

[A.A.C. R18-2-406(A)(5)]

Emission Point ID	PM Emission Limit (lbs/hr)
DC-1.6	0.810
DC-1.8	0.153
DC-1.10	0.153
DC-1.11	0.305

2. Air Pollution Control Requirement

At all times when the Impact Primary Crusher or any Belt Conveyors under this Section are in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install, maintain and *operate the associated Dust Collector(s) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*

[A.A.C. R18-2-331(A)(3)(d) and (e) and R18-2-406(A)(4)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

3. Monitoring, Recordkeeping, and Reporting Requirements

a. Monitoring and Recordkeeping for Dust Collectors:

(1) *The Permittee shall calibrate,* maintain, and operate, according to the manufacturer's specifications, *devices for monitoring and recording the pressure drop across each dust collector listed in Condition VII.B.1.g.*

[A.A.C. R18-2-331(A)(3)(c) and R18-2-406(A)(4)]
[Material Permit Conditions are indicated ~~with~~ by underlines and italics]

(2) The Permittee shall perform monthly inspections of each dust collector in Condition VII.B.1.g and the associated pressure drop continuous parameter monitoring systems, in accordance with the manufacturers' recommended procedures. The Permittee shall take corrective action following the discovery of any abnormal operation or required maintenance of any dust collector pressure drop continuous parameter monitoring system as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, but no later than within 24 hours following detection.

[A.A.C. R18-2-406(A)(4)]

(3) If the pressure drop across any dust collector is outside the range of 0.5 to 6.0 inches of H_2O, the Permittee shall initiate investigation of the dust collector within 24 hours of the occurrence, to identify any need for corrective action. If corrective action is required, the Permittee shall implement such corrective action as soon as practicable in order to avert or minimize possible exceedances of the emission standards in Conditions VII.B.1.a, VII.B.1.b and VII.B.1.g. If the pressure drop remains outside of the range for 72 consecutive hours after the first occurrence, the Permittee shall submit a compliance schedule to the Director in accordance with Condition VII.D of Attachment "A."

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall conduct periodic visible emissions observations from the process sources or fugitive dust sources in accordance with the approved O&M Plan.

[A.A.C. R18-2-306(A)(3)(c)]

c. The Permittee shall submit written reports of the results of all performance tests required by Conditions VII.B.4.a and VII.B.4.b.

[A.A.C. R18-2-406(A)(4) and 40 CFR 60.676(f)]

4. Performance Test Requirements

a. The Permittee shall perform periodic performance tests in accordance with Condition VII.B.4.b.

[A.A.C. R18-2-406(A)(4) and 40 CFR 60.8(a)]

b. Test Methods and Procedures for Particulate Matter

(1) The Permittee shall determine compliance with Conditions VII.B.1.a, VII.B.1.b and VII.B.1.g as follows:

(a) EPA Reference Method 5 of Appendix A-3 or EPA Reference Method 17 of Appendix A-6 shall be used to determine the particulate matter concentration. The sample volume shall be at least 60 dscf.

[40 CFR 60.675(b)(1)]

(b) For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 250 °F, to prevent water condensation on the filter.
[40 CFR 60.675(b)(1)]

(2) The Permittee shall determine compliance with Condition VII.B.1.c using EPA Reference Method 9 and the procedures in 40 CFR § 60.11.
[40 CFR 60.675(b)(2)]

(3) The Permittee shall determine compliance with Condition VII.B.1.d as follows:

(a) The Permittee shall use EPA Reference Method 9 of Appendix A-4 and the procedures in 40 CFR 60.11.
[40 CFR 60.675(c)(1)]

(i) The minimum distance between the observer and the emission source during Method 9 tests shall be 4.57 meters (15 feet).
[40 CFR 60.675(c)(1)(i)]

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) shall be followed.
[40 CFR 60.675(c)(1)(ii)]

(b) The duration of the Method 9 observations shall be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limit in Condition VII.B.1.d shall be based on the average of the five 6-minute averages.
[40 CFR 60.675(c)(3)]

(c) If emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:
[40 CFR 60.675(e)(1)]

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
[40 CFR 60.675(e)(1)(i)]

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.
[40 CFR 60.675(e)(1)(ii)]

(4) The Permittee shall determine compliance with Condition VII.B.1.f as follows.

(a) The Permittee shall use EPA Reference Method 22 to determine fugitive emissions.
[40 CFR 60.675(d)]

(b) The performance test shall be conducted while all conveyor belts inside the Limestone Covered Stockpile Building are operating.
[40 CFR 60.675(d)]

(5) The performance tests required by Conditions VII.B.4.b(1) through VII.B.4.b(4) shall be repeated once at least 6 months, but not more than 18 months, prior to the date of permit expiration.
[A.A.C. R-18-306(A)(2)]

5. Permit Shield

Compliance with the ~~terms~~ Conditions of this Section shall be deemed compliance with 40 CFR 60.672(a), 60.672(b), 60.675(b), 60.675(d), 60.675(c), 60.675(e), 60.675(g), 60.676(h), 60.676(i), 40 CFR § 60.676(f).
[A.A.C. R18-2-325]

VIII. REQUIREMENTS FOR OTHER MATERIAL HANDLING ACTIVITIES

A. Applicability

This Section is applicable to the raw material storage, Iron Ore Storage Pile, Aluminum Source Storage Pile and related reclaim operations.

B. Emission Standards

The Permittee shall not cause or allow to be emitted into the atmosphere from any enclosed storage pile or reclaim operation any visible fugitive emissions.
[A.A.C. R18-2-406(A)(4)]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Periodic Visible Emissions Observations

For each affected building or enclosure, the Permittee shall conduct periodic visible emissions observations in accordance with Conditions VIII.C.1.a through VIII.C.1.g.

a. Except as provided in Condition VIII.C.1.e, the Permittee shall conduct a monthly 1-minute visible emissions test of the affected source in

accordance with Method 22 of Appendix A to 40 CFR Part 60. The test shall be conducted while the affected source is in operation.

[A.A.C. R18-2-406(A)(4)]

b. If no visible emissions are observed in six consecutive monthly tests for an affected source, the Permittee may decrease the frequency of testing from monthly to semi-annually for that affected source. If visible emissions are observed during any semi-annual test, the Permittee shall 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.

[A.A.C. R18-2-406(A)(4)]

c. If no visible emissions are observed during the semi-annual test for an affected source, the Permittee 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 Permittee shall 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.

[A.A.C. R18-2-406(A)(4)]

d. If visible emissions are observed during any Method 22 test, the Permittee shall conduct a 6-minute test of opacity in accordance with Method 9 of Appendix A to 40 CFR Part 60. The Method 9 test shall begin within one hour of any observation of visible emissions.

[A.A.C. R18-2-406(A)(4)]

e. 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.

[A.A.C. R18-2-406(A)(4)]

f. If any partially enclosed or unenclosed conveying system transfer point is located in a building, the Permittee shall have the option to conduct a Method 22 visible emissions monitoring test according to the requirements of Conditions VIII.C.1.a through VIII.C.1.d for each such conveying system transfer point located within the building, or for the building itself, according to Condition VIII.C.1.g.

[A.A.C. R18-2-406(A)(4)]

g. If visible emissions from a building are monitored pursuant to Condition VIII.C.1.f, the requirements of Conditions VIII.C.1.a through VIII.C.1.d apply to the monitoring of the building, and the Permittee shall also test visible emissions from each side, roof and vent of the building for at least 1 minute. The test shall be conducted under normal operating conditions.

[A.A.C. R18-2-406(A)(4)]

D. Permit Shield

Compliance with the ~~terms~~ Conditions of this section shall be deemed compliance with A.A.C. R18-2-406(A)(4).

[A.A.C. R-18-325]

IX. REQUIREMENTS FOR EMERGENCY GENERATOR

A. Applicability

This Section is applicable to the e~~E~~mergency g~~G~~enerator listed in the equipment list in Attachment "C".~~-~~

B. Emission Limitations and Standards

1. The Permittee shall design, install, maintain, and operate the Emergency Generator internal combustion engine in such a manner as to ensure the following:

[A.A.C. R-18-406(A)(4)]

a. The internal combustion engine shall be certified by the manufacturer to be compliant with the following non-road engine emission standards, for engines with rated power not less than 130 kilowatts and nor more than 225 kilowatts, as codified at 40 CFR 89.112:

(1) For NO_X plus nonmethane hydrocarbons, the "Tier 3" emission standard of 4.0 grams per kilowatt-hour.

(2) For CO, the "Tier 3" emission standard of 3.5 grams per kilowatt-hour.

(3) For PM, the "Tier 2" emission standard of 0.20 grams per kilowatt-hour.

[A.A.C. R-18-406(A)(4)]

b. The internal combustion engine shall be installed, maintained, and operated in accordance with manufacturer's instructions and recommendations.

[A.A.C. R-18-406(A)(4)]

2. The Permittee shall meet the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR Part 1039, appendix I for all pollutants.

[40 CFR 60.4202(a)(2), and 60.4205(b)]

3. The Permittee shall demonstrate compliance with the emergency generator emissions standards by purchasing an engine certified to the appropriate emission standards. The generator shall be installed and configured according to the manufacturer's specifications.

[40 CFR 60.4211(c)]

C. Operational Requirements

1. *The Permittee shall install a non-resettable hour meter on each compression ignition engine.*

[A.A.C. R18-2-331.A.3.c and 40 CFR 60.4209(a)]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline~~s~~ and italics]

2. The Permittee shall operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. A copy of the instructions or procedures shall be kept onsite and made available to ADEQ upon request.

[40 CFR 60.4211(a)(1)]

3. The Permittee shall only change those engine settings that are permitted by the manufacturer.

[40 CFR 60.4211(a)(2)]

4. The Permittee shall meet the requirements of 40 CFR Part 1068, as applicable.

[40 CFR 60.4211(a)(3)]

5. The Permittee shall operate the emergency engines according to the requirements in Conditions IX.C.5.a through IX.C.5.c. In order for the engines to be considered emergency stationary engine, any operation other than emergency operation, maintenance response, and operation in non-emergency situations for 50 hours per year. If the emergency engine is not operated in accordance with the requirements in Conditions below, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines.

[40 CFR 60.4211(f)]

a. There is no time limit on the use of emergency stationary ICE in emergency situations.

[40 CFR 60.4211(f)(1)]

b. The Permittee may operate the emergency stationary ICE for maintenance checks and readiness testing for a maximum of 100 hours per calendar year provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency engine beyond 100 hours per calendar year.

[40 CFR 60.4211(f)(2)]

c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations.

[40 CFR 60.4211(f)(3)]

D. Fuel Requirements

1. The Permittee shall not cause or allow the fuel usage in the Emergency Generator to exceed 4,533 gallons per year. Compliance with this fuel usage limit shall be determined on a monthly rolling 12-month sum basis and shall exclude fuel burned during periods of emergency situations.

[A.A.C. R18-2-306(A)(2)]

2. The Permittee shall only use diesel fuel in the emergency generator which meets the following requirements:

[40 CFR 60.4207(b)]

a. Sulfur content: 15 ppm maximum; and

b. A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

E. Monitoring, Recordkeeping, and Reporting Requirements

1. The Permittee shall keep records of fuel supplier specifications. The specifications shall contain information regarding the name of fuel supplier, sulfur content, and cetane index or aromatic content in the fuel. These records shall be made available to ADEQ upon request.

[A.A.C. R18-2-306.A.3.c]

2. The Permittee shall maintain monthly records of engine operation in total hours per month and a rolling 12-month total in hours per year. The records shall include the purpose of operation and the duration of time the engine was operated.

[A.A.C. R18-2-306.A.4]

3. The Permittee shall maintain records of the type and quantity of fuel combusted in the Emergency Generator. At the end of each calendar month, the Permittee shall calculate and record the rolling 12-month fuel usage for the Emergency Generator. This value shall be calculated as the sum of the monthly fuel usage for the most recent month and the 11 previous months, and shall be recorded within three calendar days after the end of each calendar month.

[A.A.C. R18-2-306.A.4]

4. The Permittee shall maintain records of the manufacturer's certification of conformity, demonstrating compliance with Condition IX.B.1. These records shall be maintained for the life of the Emergency Generator.

[A.A.C. R18-2-306.A.4]

5. The Permittee shall maintain records of the manufacturer's instructions and recommendations relating to operation and maintenance. These records shall be maintained for the life of the Emergency Generator.

[A.A.C. R18-2-306.A.4]

6. Records of all maintenance performed on the internal combustion engine. These records shall be created and maintained for each calendar day on which maintenance is performed on the Emergency Generator.

[A.A.C. R18-2-306.A.4]

F. Permit Shield

Compliance with the ~~terms~~ Conditions of this section shall be deemed compliance with 40 CFR 60.4202(a)(2), 60.4205.(b), 60.4207(b), 60.4209(a), 60.4211(a), and 60.4211(f).

[A.A.C. R18-2-325]

X. REQUIREMENTS FOR CONCRETE BATCH PLANT

A. Applicability

This Section is applicable to the concrete batch plant equipment identified in the equipment list ~~as applicable to this Section X~~in Attachment "C".

B. Operating Limitations

1. The Permittee shall only operate the concrete batch plant using commercial electric power.

[A.A.C. R18-2-306.A.2]

2. *The Permittee shall not operate the concrete batch plant such that the throughput exceeds 1,310 cubic yards per day.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material ~~p~~Permit ~~c~~Conditions are indicated by underline~~s~~ and italics]

C. Particulate Matter and Opacity

1. Emission Limits/Standards

a. The Permittee shall not cause to be discharged into the atmosphere from any concrete batch plant processes, any plume or effluent which exhibits greater than 20 percent opacity.

[A.A.C. R18-2-702.B]

b. Fugitive dust emissions from the concrete batch plant shall be controlled in accordance with Section XII of this permit.

[A.A.C. R18-2-723]

2. Air Pollution Controls

a. *The Permittee shall install, operate* and maintain *the following air pollution controls on the following emission sources:*

(1) Cement / Fly Ash Silos / Product Delivery System

(a) *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain, and *operate baghouse (BH-CBP-1.1) in a manner consistent with good air pollution control practice.*

[A.A.C. R18-2-306.A.2 and -331.A.3.e]

[Material ~~p~~Permit ~~c~~Conditions are indicated by underline and italics]

(b) *Loading of cement / fly ash storage silos shall be conducted in such a manner that the displaced air does not by-pass the baghouse and is not direct-vented to the atmosphere.*

[A.A.C. R18-2-306.A.2 and -331.A.3.e]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline and italics]

(c) Baghouses shall be maintained in accordance with the following:

[A.A.C. R18-2-306A.2]

(i) Prior to start-up, visual inspections shall be conducted on all venting ducts or lines, fittings (including dust shroud), and the blower;

(ii) Following shut-down, all pressurized systems shall be turned "off";

(iii) All pressure and temperature gauges, flow meters, and other related instruments shall be checked daily to ensure proper functioning; any detected problems shall be corrected as soon as possible;

(iv) All ducts, hoods, framework, and housings shall be checked daily for signs of wear;

(v) The fan motor, bearings, shaking device, reverse-jet blow rings, valves, and dampers shall be lubricated regularly and checked for wear; and

(vi) The Permittee shall maintain records which demonstrate compliance with the activities listed in Conditions X.C.2.a(1)(c)(i) through X.C.2.a(1)(c)(v) above.

(2) Wet Suppression Requirements

[A.A.C. R18-2-306.A.2and -306.A.3.c]

(a) Prior to start-up, the water supply shall be checked, all nozzles shall be inspected, and all associated valves shall be opened;

(b) Following shut-down, all nozzles shall be inspected and all associated valves shall be closed;

(c) The spray system shall be checked daily for performance; and

(d) All nozzles and valves shall be cleaned or replaced as needed.

(3) Water trucks, or the equivalent, shall be operated and maintained in accordance with the following:

[A.A.C. R18-2-306.A.2 and -306.A.3.c]

(a) Prior to start-up, the water supply shall be checked, all nozzles shall be inspected, and all associated valves shall be opened;

(b) Following shut-down, all nozzles shall be inspected and all associated valves shall be closed;

(c) Safety and equipment checks shall be conducted daily; and

(d) Normal vehicle maintenance shall be performed on a regular or "as needed" basis.

(4) The Permittee shall maintain records which demonstrate compliance with the activities listed in Conditions X.C.2.a(2) and X.C.2.a(3) above

b. Haul Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from haul roads and storage piles.

[A.A.C. R18-2-306.A.2 and -331.A.3.d]
[Material ~~p~~Permit ~~c~~Conditions are indicated by underline and italics]

3. Monitoring, Recordkeeping and Reporting Requirements

a. The Permittee shall maintain daily records of the throughput of concrete produced by the batch plant listed in Condition X.A.

[A.A.C. R18-2-306.A.3.c]

b. The Permittee shall conduct a monthly visual survey of visible emissions from the process sources or fugitive dust sources as per the procedure in Condition ~~I.A~~I.B.

[A.A.C. R18-2-306.A.3.c]

c. The Permittee shall maintain logs of all maintenance activities performed on the baghouse. These logs shall include the type of maintenance activity being performed and the duration of each maintenance activity, including the date, starting time, and ending time of the maintenance activities. These logs shall be maintained on-site and shall be readily available to the Department upon request.

[A.A.C. R18-2-306.A.3.c]

d. For each baghouse equipped with a pressure drop measuring device, the Permittee shall monitor and record twice per shift the pressure drop (in inches of H_2O) across the baghouse. The records shall include the dates and times each reading was taken.

[A.A.C. R18-2-306.A.3.c and -331.A.3.b]

D. Permit Shield

Compliance with the ~~c~~Conditions of this Section shall be deemed compliance with A.A.C. R18-2-614, -702.B, and -723.

[A.A.C. R18-2-325]

XI. REQUIREMENTS FOR GASOLINE STORAGE AND DISPENSING

A. Applicability

1. This Section applies to the following:

a. Gasoline Dispensing Facilities (GDFs), Storage tanks listed in Equipment List, Attachment "C", associated equipment components in vapor or liquid gasoline service, pressure/vacuum vents on gasoline storage tanks, and equipment necessary to unload product from cargo tanks into storage tanks at GDFs. The equipment used for the refueling of motor vehicles is not covered.

[40 CFR 63.11111 (a), (b), and 63.11112(a)]

b. Each gasoline cargo tank during the delivery of product to a GDF.

[40 CFR 63.11111(a)]

2. Definition of Monthly Throughput

Monthly throughput means the total volume of gasoline that is loaded into, or dispensed from, all gasoline storage tanks at each GDF during a month. Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.

[40 CFR 63.11132]

3. The equipment associated with this Section is subject to the NESHAP General Provisions, as described in Table 3 to 40 CFR 63, Subpart CCCCCC.

[Table 3 of 40 CFR Subpart 63 Subpart CCCCCC]

B. Operating Limitations

1. GDFs

a. The Permittee shall limit the gasoline monthly throughput to less than 10,000 gallons. Monthly throughput shall be determined according to Condition XI.A.2.

[A.A.C. R18-2-306.A.2]

b. The Permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a cover having a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

[40 CFR 63.11116(a)]

c. The Permittee is not required to submit notifications or reports, but shall have records available within 24 hours of a request by the EPA Administrator or Director to document the gasoline throughput.

[40 CFR 63.11116(b)]

d. If any of the GDFs referenced above becomes subject to additional control measures in 40 CFR 63, Subpart CCCCCC, the Permittee shall comply with the new applicable provisions within 3 years of the GDF unit becoming subject to the control requirements.

[40 CFR 63.11113(c)]

e. Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with Condition XI.B.1.b(3).

[40 CFR 63.11116(d)]

2. Storage Tanks

a. Gasoline storage tank shall be equipped with a submerged filling device, or acceptable equivalent, for control of hydrocarbon emissions.

[A.A.C. R18-2-710.B]

b. All pumps and compressors that handle gasoline shall be equipped with mechanical seals or other equipment of equal efficiency to prevent the release of organic contaminants into the atmosphere.

[A.A.C. R18-2-710.D]

3. Monitoring and ~~r~~Recordkeeping ~~r~~Requirements

a. The Permittee shall, for the gasoline storage tanks, maintain a file of the typical Reid vapor pressure of gasoline stored and of dates of storage. Dates on which the storage vessel is empty shall be shown.

[A.A.C. R18-2-710.E.1]

b. If the gasoline is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent and the true vapor pressure is greater than 470 mm Hg (9.1 psia), the Permittee shall record the average monthly temperature, and true vapor pressure of gasoline at such temperature.

[A.A.C. R18-2-710.E.2.b]

c. The average monthly storage temperature shall be an arithmetic average calculated for each calendar month, or portion thereof, if storage is for less than a month, from bulk liquid storage temperature determined at least once every seven days.

[A.A.C. R18-2-710.E.3]

d. The true vapor pressure shall be determined by the procedures in American Petroleum Institute Bulletin 2517, amended as of February 1980 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the Director requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, the Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available upon request to the Director when typical Reid vapor pressure is used.

[A.A.C. R18-2-710.E.4]

4. Permit Shield

[A.A.C. R18-2-325]

Compliance with the ~~c~~Conditions of this ~~Part~~ Section shall be deemed compliance with 40 CFR 63.11111 (a), (b), 11112 (a), 11113 (c), 11116 (a), (b), (d), 11132, A.A.C. R18-2-710.B, D, and E.

C. Opacity

1. Emission Limitations/Standards

[A.A.C. R18-2-702.B]

The opacity of any plume or effluent from the storage tanks shall not be greater than 20 percent.

2. Monitoring ~~r~~Requirements

The Permittee shall conduct a monthly visual survey of visible emissions from the storage tanks as per the procedure in Condition ~~I.A~~I.B.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

[A.A.C. R18-2-325]

Compliance with the ~~c~~Conditions of this ~~Part~~ Section shall be deemed compliance with A.A.C. R18-2-702.B.

XII. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any non-point source of fugitive dust, including wet drilling & limestone blasting operations, truck loading and unloading operations for primary crusher hopper, cement plant gypsum storage pile & related reclaim operations, cement plant pozzolan storage pile and related material handling operations, biomass storage pile and related material handling operations, quarry gypsum storage pile & related reclaim operations, and paved/unpaved roads at the facility.

B. Particulate Matter and Opacity

Open Areas, Roadways & Streets, Storage Piles, and Material Handling

1. Emission Limitations and Standards

a. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40%.

[A.A.C. R18-2-614]

b. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) For a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, keep dust and other types of air contaminants to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

(2) Keep dust to a minimum from vacant lots or an urban or suburban open area where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means;

[A.A.C. R18-2-604.B]

(3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway or alley is used, repaired, constructed, or reconstructed;

[A.A.C. R18-2-605.A]

(4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits;

[A.A.C. R18-2-605.B]

(5) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust;

[A.A.C. R18-2-606]

(6) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored;

[A.A.C. R18-2-607.A]

(7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents;

[A.A.C. R18-2-607.B]

(8) Any other method as proposed by the Permittee and approved by the Director.

[A.A.C. R18-2-306.A.3.c]

2. Operational Limitations

a. The Permittee shall not cause or allow blasting in the quarry to exceed 1 blast per day nor 60 blasts per year.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the use of any explosive other than Ammonium Nitrate/Fuel Oil mixture in the quarry.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow explosive usage in the quarry to exceed 17.5 tons per blast.

[A.A.C. R18-2-306(A)(2)]

d. The Permittee shall not cause or allow the amount of material transferred to the Cement Plant Gypsum Storage Pile to exceed any of the following rates:

(1) 400 tons in any calendar day; nor

(2) 124,800 tons in any 365-day period.

[A.A.C. R18-2-306(A)(2)]

e. The Permittee shall not cause or allow the amount of material reclaimed from the Cement Gypsum Storage Pile to exceed any of the following rates:

(1) 1,000 tons in any calendar day; nor

(2) 312,000 tons in any 365-day period.

[A.A.C. R18-2-306(A)(2)]

f. The Permittee shall not cause or allow the amount of material transferred to or reclaimed from the Quarry Gypsum Storage Pile to exceed the following rate:

(1) 15,000 tons in any 365-day period.

[A.A.C. R18-2-306(A)(2)]

3. Work Practice Requirements

a. Additional Requirements for Certain Fugitive Dust Sources

(1) The Permittee shall not cause, allow, or permit bulk material to be hauled, either on-site or off-site, except in accordance with Conditions XII.B.3.a(1)(a) through XII.B.3.a(1)(c).

[A.A.C. R18-2-406(A)(4)]

(a) All haul trucks shall be loaded such that the freeboard is not less than three inches.

[A.A.C. R18-2-406(A)(4)]

(b) All haul trucks shall be loaded in such a manner as to prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, or tailgate(s).

[A.A.C. R18-2-406(A)(4)]

(c) No bulk material shall be transported in haul trucks unless the cargo compartment is covered with a tarp or other suitable closure.

[A.A.C. R18-2-406(A)(4)]

(2) The Permittee shall not cause, allow, or permit any empty haul truck to leave the site unless the interior of the cargo compartment has been cleaned or the cargo compartment is covered with a tarp or other suitable closure.

[A.A.C. R18-2-406(A)(4)]

(3) The Permittee shall not cause, allow, or permit any haul truck to leave the site without first utilizing a device that removes from its tires and exterior surfaces mud, dirt, debris, or other accumulation that may cause particulate matter emissions. Acceptable devices include:

[A.A.C. R18-2-406(A)(4)]

(a) Wheel wash system.

(b) Gravel pad at least 30 feet wide, 50 feet long, and 6 inches deep.

(c) Paved roadway at least 20 feet wide and 100 feet long.

(d) Rails, pipes, or grates of sufficient width and length to remove debris effectively.

(4) The Permittee shall operate at all times in conformance with the current Dust Control Plan prepared pursuant to Condition XII.B.5.c(1).

[A.A.C. R18-2-406(A)(4)]

b. Dust Control Procedures for Paved Roads

(1) All paved roads shall be watered and vacuumed on all operating days except when roads are damp due to normal precipitation;

[A.A.C. R18-2-406(A)(4)]

(2) The maximum speed on paved roads shall be restricted to 20 miles per hour.

[A.A.C. R18-2-406(A)(4)]

c. Dust Control Procedures for Unpaved Roads

(1) All unpaved roads subject to vehicle traffic shall be watered on all operating days except when roads are damp due to normal precipitation.

[A.A.C. R18-2-406(A)(4)]

(2) The maximum speed on unpaved roads shall be restricted to 15 miles per hour;

[A.A.C. R18-2-406(A)(4)]

(3) The roadways shall be watered frequently enough to assure compliance;

[A.A.C. R18-2-406(A)(4)]

(4) Berms shall be installed around the areas which are not used by traffic to restrict usage;

[A.A.C. R18-2-406(A)(4)]

(5) Spilled materials shall be removed within eight hours of occurrence. This material shall be collected either manually or by using a vacuum equipped truck.

[A.A.C. R18-2-406(A)(4)]

4. Air Pollution Control Requirements

a. Unpaved Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from unpaved roads and storage piles.

[A.A.C. R18-2-306.A.2 and -331.A.3.d]
[Material Permit Condition is indicated by underline and italics]

b. *At all times when material is being unloaded into the Primary Crusher Hopper, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install,* maintain and *operate the Water Dedusting System in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*

[A.A.C. R18-2-331(A)(3)(d) and (e) and R18-2-406(A)(4)]
[Material Permit Conditions are indicated ~~with~~ by underline~~s~~ and italics]

5. Monitoring, Recordkeeping, and Reporting Requirements

a. The Permittee shall maintain records of the dates on which any of the activities listed in Condition XII.B.1.b above were performed and the control measures that were adopted.

[A.A.C. R18-2-306.A.3.c]

b. Opacity Monitoring Requirements

Each month, the Permittee shall monitor visible emissions from fugitive sources in accordance with Condition ~~I.A~~I.B.

[A.A.C. R18-2-306.A.3.c]

c. Fugitive Dust Control Plan

(1) The Permittee shall comply with the approved Dust Control Plan and any changes to the plan shall be submitted to the Department for its approval. The Permittee shall maintain at all times a copy of the approved plan, readily available for inspection.

[A.A.C. R18-2-306(A)(4)]

(2) The Dust Control Plan shall contain, at a minimum, all of the following information:

(a) Names, address(es), and phone numbers of person(s) responsible for the preparation, maintenance, and implementation of each element of the Dust Control Plan.

[A.A.C. R18-2-306(A)(4)]

(b) Control measures or a combination thereof to be applied to all actual and potential fugitive dust sources, before, after, and while conducting any dust generating operation, including during weekends, after work hours, and on holidays. The control measures specified in the Dust

Control Plan shall address and shall be sufficient to ensure compliance with Conditions XII.B.5.c(2)(a) and XII.B.5.c(2)(b).

[A.A.C. R18-2-306(A)(4)]

(c) A drawing that shows:

[A.A.C. R18-2-306(A)(4)]

(i) Entire project site boundaries;

(ii) Acres to be disturbed with linear dimensions;

(iii) Nearest public roads;

(iv) North arrow; and

(v) Planned exit locations onto paved public roadways.

(d) Dust suppressants to be applied, including product specifications or label instructions for approved usage and other information required by Conditions XII.B.5.c(2)(d) through XII.B.5.c(2)(e).

[A.A.C. R18-2-306(A)(4)]

(i) Method, frequency, and intensity of dust suppressant application.

(ii) Type, number, and capacity of dust suppressant application equipment.

(iii) Information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application of dust suppressants.

(e) Specific surface treatment(s) or other control measures utilized to control material trackout and sedimentation where unpaved or access points join paved public roadways.

[A.A.C. R18-2-306(A)(4)]

(3) The Permittee shall maintain records of each instance of operation not consistent with the Dust Control Plan. Each such instance shall be considered a deviation.

[A.A.C. R18-2-306(A)(4)]

d. The Permittee shall maintain daily records of the number of blasts performed in the quarry.

[A.A.C. R18-2-306(A)(2)]

e. The Permittee shall maintain daily records of the quantity and type of explosive used.

[A.A.C. R18-2-306(A)(2)]

f. The Permittee shall maintain daily records of watering and vacuuming performed at all paved roads.

[A.A.C. R18-2-306(A)(3)(c)]

g. The Permittee shall maintain monthly records of maintenance activities conducted on paved roads within the Cement Plant Process Area Boundary.

[A.A.C. R18-2-306(A)(3)(c)]

h. The Permittee shall maintain daily records of watering performed at all unpaved roads.

[A.A.C. R18-2-306(A)(3)(c)]

i. The Permittee shall maintain daily records of the amount of material transferred to and reclaimed from the Cement Plant Gypsum Storage Pile.

[A.A.C. R18-2-306(A)(3)(c)]

j. The Permittee shall maintain daily records of the amount of material transferred to and reclaimed from the Quarry Gypsum Storage Pile.

[A.A.C. R18-2-306(A)(3)(c)]

k. The Permittee shall report excess emissions and deviations in accordance with Sections XI.A and XI.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

C. Permit Shield

Compliance with the Conditions of Section XI shall be deemed compliance with A.A.C. R18-2-604. -605, -606, -607, and -614.

[A.A.C. R18-2-325]

XIII. REQUIREMENTS FOR OTHER PERIODIC ACTIVITIES

This section of the permit presents requirements that are applicable to miscellaneous activities throughout the quarry and plant. This section of the permit does not cover a specific process unit or emission unit.

A. Abrasive Blasting

1. Particulate Matter and Opacity

a. Emission Limitations and Standards

The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

[A.A.C. R18-2-726]

(1) Wet blasting;

(2) Effective enclosures with necessary dust collecting equipment; or

(3) Any other method approved by the Director.

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

2. Monitoring and Recordkeeping Requirement

Each time an abrasive blasting project is conducted, the Permittee shall make a record of the following:

[A.A.C. R18-2-306.A.3.c]

a. The date the project was conducted;

b. The duration of the project; and

c. Type of control measures employed.

B. Use of Paints

1. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C.R18-2-727.A]

(2) The Permittee or their designated contractor shall not either:

[A.A.C.R18-2-727.B]

(a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or

(b) Thin or dilute any architectural coating with a photochemically reactive solvent.

(3) For the purposes of Condition XIII.B.1.a(2), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions (a) through (c) below, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

[A.A.C.R18-2-727.C]

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

(4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described in Condition XIII.B.1.a(3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

b. Monitoring and Recordkeeping Requirements

[A.A.C. R18-2-306.A.3.c]

(1) Each time a spray painting project is conducted, the Permittee shall make a record of the following:

(a) The date the project was conducted;

(b) The duration of the project;

(c) Type of control measures employed;

(d) Safety Data Sheets (SDS) for all paints and solvents used in the project; and

(e) The amount of paint consumed during the project.

(2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition XIII.B.1.b(1).

2. Opacity

a. Emission Limitation/Standard

The Permittee shall not cause, allow or permit visible emissions from painting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation~~/~~ and Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M - ~~(~~National Emissions Standards for Hazardous Air Pollutants - Asbestos~~)~~.

[A.A.C. R18-2-1101.A.12]

2. Monitoring and Recordkeeping Requirements

The Permittee shall keep all required records in a file. The required records shall include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

[A.A.C. R18-2-306.A.3.c]

D. Nonvehicle Air Conditioner Maintenance and/or Services

The Permittee shall comply with all applicable requirements under 40 CFR part 82, subpart F.

[40 CFR 82 Subpart F]

E. Solvent Cleaning / Degreasing / Dipping Operations

The Permittee shall process, store, use, and transport materials including solvents or volatile compounds in such a manner and by such means that they will not evaporate, leak, escape, or be otherwise discharged into the atmosphere so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage, or discharge, the installation and usage of such control methods, devices, or equipment shall be mandatory.

[A.A.C. R18-2-730(F)]

F. Air Pollution

The Permittee shall not cause, allow, or permit gaseous or odorous materials to be emitted from equipment, operations or premises under its control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730(D)]

Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining

property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.
[A.A.C. R18-2-730(G)]

G. Permit Shield

[A.A.C. R18-2-325]

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-1101.A.12, A.A.C.R18-2-702.B.3, A.A.C.R18-2-727, A.A.C. R18-2-702.B.3, -726, A.A.C. R18-2-730(F), -(D), -(G), and 40 CFR 82 Subpart F.

XIV. REQUIREMENTS FOR AMBIENT AIR QUALITY MONITORING

A. General Requirements

1. Only those methods which have been either designated by EPA as reference or equivalent methods or approved by the Director shall be used to monitor ambient air.
[A.A.C. R18-2-215(A)]

2. Quality assurance, monitor siting, and sample probe installation procedures shall be in accordance with procedures described in the Appendices to 40 CFR 58.
[A.A.C. R18-2-215(B)]

3. The Director may approve other procedures upon a finding that the proposed procedures are substantially equivalent or superior to procedures in the Appendices to 40 CFR 58.
[A.A.C. R18-2-215(C)]

4. Unless otherwise specified, interpretation of all ambient air quality standards contained in this Section shall be in accordance with 40 CFR 50.
[A.A.C. R18-2-216]

5. All ambient air quality monitoring shall be conducted in accordance with the regulations and guidance listed below as applicable:
[A.A.C. R18-2-306(A)(2)]

   a. National Primary and Secondary Ambient Air Quality Standards, 40 CFR Part 50 and Appendices;

   b. Ambient Air Quality Surveillance, 40 CFR Part 58 and Appendices;

   c. Quality Assurance Handbook for Air Pollution Measurement Systems: "Volume I: A Field Guide to Environmental Quality Assurance", EPA 600/R-94/038a, April 1994;

   d. Quality Assurance Handbook for Air Pollution Measurement Systems: "Volume II: Ambient Air Quality Monitoring Program", EPA 454/B-08-003, December 2008;

e. Meteorological Monitoring Guidance for Regulatory Modeling Applications, EPA 454/R-99-005, February 2000;

f. Quality Assurance Handbook for Air Pollution Measurement Systems: "Volume IV: Meteorological Measurement Version 2", EPA 454/B-08-002, March 2008.

6. The Permittee shall conduct performance audits of the monitoring equipment in accordance with the requirements pertaining to sampler accuracy as specified in 40 CFR Part 58. The performance audits shall be conducted by a qualified independent auditor at least once every six months for particulate samplers and at least annually for gas analyzers and meteorological equipment.

7. The Permittee shall conduct technical systems audits of its ambient air monitoring program consistent with the applicable sections of the Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, U.S. Environmental Protection Agency. The technical systems audits shall be conducted by a qualified independent auditor under contract to the Permittee at least once in every three (3) years beginning from the issuance of this permit.

8. The Permittee shall participate in technical systems audits or performance audits conducted by the Department. The Department shall provide a minimum of 30 days' notice of a technical system audit and a minimum of 48 hours' notice of a performance audit.

9. All sampling instruments are to follow the EPA Monitoring Schedule. Sample quarters are based on the calendar year, not from when the sampling started. Quarter one is January to March, quarter two is April to June, quarter three is July to September, and fourth quarter is October to December.

10. The procedures and requirements associated with the ambient monitoring network shall be documented via a Quality Assurance Project Plan (QAPP) in accordance with 40 CFR 58 Appendix A. The Permittee shall work with ADEQ in formulating this documentation.

[A.A.C. R18-2-306A.3.c]

B. General Reporting Requirements

1. The Permittee shall submit quarterly report summarizing the monitoring data measurements collected pursuant to this section before the 60th day of the following quarter. An annual report summarizing the quality assurance data for the calendar year shall be submitted before April 1st of the following year.

2. Units must be consistent with the latest promulgated and effective EPA NAAQS and reporting requirements or otherwise approved by ADEQ.

3. Summary statistics must be calculated in accordance with procedures in 40 CFR Part 50 and appendices.

4. Valid data recovery shall meet the EPA minimum data completeness requirement of 75 percent or the percentage specified in the applicable sections of 40 CFR Part 50 and appendices. Valid data are all observations collected for the specific monitoring purpose that have not been deemed invalid. Data collected during precision, audit, flow checks, and during servicing shall not be considered valid for data completeness purposes. For continuous analyzers there must be at least 18 or more valid hourly measurements per day to calculate a valid daily average for those pollutants requiring daily averaging. For filter-based (non-continuous) measurements, data completeness is based on quarterly data recovery.

5. All data submitted to ADEQ shall be reviewed, quality assured, and certified by the Permittee.

6. The sample data shall be submitted to ADEQ in electronic format. The required format is the Air Assessment Ambient Database (AAAD) format. The summary data may be reported electronically in CSV file or spreadsheet format. These data are to be submitted by CD or DVD; submittal of files via e-mail or file transfer protocol (FTP) requires prior approval by ADEQ.

7. AAAD parameter names and flags must be used and will be provided by ADEQ. The Permittee shall work with the ADEQ Assessment Section for approved AAAD format and flags. Adequate supporting information must be provided to enable ADEQ to concur with the flags. In addition to any other reporting requirements specified in the permit, the ADEQ Air Assessment Section must be notified within 30 days of any event that is expected to be or will be used as the basis for a flag requiring EPA concurrence (e.g., a 'natural or an exceptional event').

8. One electronic and one hard copy of the quarterly and annual reports shall be mailed to the Air Assessment Section and the report's cover letter without attachments shall be carbon copied to the Air Compliance Section of the Air Quality Division of the Department.

9. The quarterly reports must include the following information:

   a. Brief discussion of the monitoring effort, including but not limited to the time period being summarized, duration of samples or measurements, significant happenings that occurred, and any changes that occurred throughout the monitoring network over the given time frame.

   b. Data summaries for each monitor or parameter based on EPA data rules.

   c. Any field service activities including any maintenance and repair performed.

   d. Identification of NAAQS exceedances

   e. Data recovery statistics for each monitor or parameter;

   f. CD or DVD containing the AAAD formatted data along with the electronic formatted QC data.

g. Copies (either hard copies or scanned copies included on CD or DVD) of all appropriate supporting documentation, including, but not limited to:

(1) Copies of laboratory reports, if applicable;

(2) Copies of all applicable quality control and field reports (e.g., precision checks, flow checks, calibrations, and audit reports); and

(3) Documentation of problems and corrective actions, and explanations for discrepancies.

10. The annual summary report must include the following information:

a. Discussion of the monitoring effort, including but not limited to the time period being summarized, duration of samples or measurements, significant happenings that occurred, and any changes that occurred throughout the monitoring network over the given time frame, and any planned changes that are expected to occur within the next calendar year.

b. Detailed site and monitor metadata

(1) Site location (elevation in meters; latitude and longitude in degrees, minutes, seconds) and method of determination (map, GPS, etc.).

(2) Street address, if available, or nearest road(s) and direction from site to road.

(3) Site description including name, diagram, and description of surrounding area.

(4) Position of monitoring equipment (ground level, rooftop, tower), distance from obstructions for each monitor, and height of inlet above ground level for each monitor.

(5) Monitor specifics including: monitoring objective, spatial scale, monitor type, analysis method, make and model of monitor, measurement variables and units, sampling duration, unrestricted airflow degrees for monitor inlet, and distance between collocated monitors, if applicable; and

(6) Monitoring schedule/frequency

c. Legible map showing locations of air quality monitoring sites and pertinent facility details.

d. Data summaries for each monitor or parameter based on EPA data rules;

e. Compliance statistics (e.g. most recent three-year design value) based on 40 CFR Part 50 and appendices or ADEQ permit specific metrics;

f. Identification of NAAQS exceedances

g. Data recovery statistics for each monitor or parameter;

h. QA/QC annual summary statistics as calculated in accordance with procedures in 40 CFR Part 58 Appendix A.

i. If any changes to previously submitted data, a discussion of the reason for the changes and a CD or DVD containing the updated AAAD formatted data along with the electronic formatted QC data.

C. The Permittee shall follow the approved Ambient Monitoring Plan to monitor PM_{10}, $PM_{2.5}$, and ambient contributors to nitrogen deposition.

[A.A.C. R18-2-306.B.2]

D. The Permittee shall continue the monitoring activities for at least three years after the start of operations.

[A.A.C. R18-2-306.B.2]

ATTACHMENT "C": EQUIPMENT LIST

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
Department 1 - Primary Crushing and Overland Conveyors from the Limestone Quarry to the Cement Plant							
IPC-1.3	Primary Crusher	495 tph	Thyssen Krupp	Impact crusher P160/150 CR	2-493-20741	2008	VII
WD-1.4	Water Dedusting System	4gpm fog / 16 gpm water	TRC	EPI1000	488.1-25	2009	VII
OC-1.5	First Overland Belt Conveyor	500 tph	Superior Industries	F30X387CFC	U008078	2008	VII
DC-1.6	Dust Collector for Primary Crusher	14,619 acfm	IAC	96TB-BHWT-288	N/A	2009	VII
OC-1.7	Second Overland Belt Conveyor	500 tph	Superior Industries	F36X672CFC	U008079	2008	VII
DC-1.8	Dust Collector for Belt Conveyor Transfer	2,757 acfm	IAC	96TB-BHT-56	N/A	2009	VII
OC-1.9	Third Overland Belt Conveyor	500 tph	Superior Industries	F36X1042CFC	U008080	2008	VII
DC-1.10	Dust Collector for Belt Conveyor Transfer	2,757 acfm	IAC	96TB-BHT-56	N/A	2009	VII
DC-1.11	Dust Collector for Belt Conveyor Transfer	5,515 acfm	IAC	96TB-BHT-110	N/A	2009	VII
BC-2.1	Belt Conveyor with Tripper for Limestone	500 tph	Superior Industries	F-Tripper	U008081	2007	VII
Department 2 - Primary Limestone Covered Storage and Transportation to Raw Material Silos							
CS-2.2	Limestone Storage Building Stockpile	51,000 tons	ARPL	N/A	Fully Enclosed Building	2008	VII

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
PR-2.3	Portal Reclaimer	455 tph	Claudius Peters	GP2 455/37.5	N/A	2008	VII
BC-2.4	Belt Conveyor for Collecting Limestone from Stockpile	500 tph	Superior Industries	F36X656CFC	U008082	2007	IV
DC-2.5	Dust Collector for Belt Conveyor Transfer	2,757 acfm	IAC	96TB-BHT-56	N/A	2009	IV
BC-2.8	Belt Conveyor to Raw Material Silos	500 tph	Superior Industries	F36X376TFC	U008083	2007	IV
DC-2.9	Dust Collector for Belt Conveyor Transfer to Silos	7,418 acfm	IAC	96TB-BHT-144	N/A	2009	IV
DC-2.10	Dust Collector for Belt Conveyor Transfer to Silos	7,418 acfm	IAC	96TB-BHT-144	N/A	2009	IV
BC-2.12	Reversible Conveyor on Top of Raw Material Silo	500 tph	Superior Industries	F36X21CFC	U008084	2008	IV
BC-2.13	Reversible Conveyor on Top of Raw Material Silo	500 tph	Superior Industries	F36X21CFC	U008085	2007	IV
Department 3 - Raw Material, Raw Coal, Clinker and Gypsum Metallic Silos							
RMS-3.1	High Limestone Silo 1	600 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV
RMS-3.2	High Limestone or Other Additive Silo	500 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV
RMS-3.3	Low Limestone/Sandstone Silo	500 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV
RMS-3.4	Iron Ore Silo	626 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV
RMS-3.5	Gypsum Silo	430 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV
RMS-3.6	Clinker Silo	540 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
RMS-3.7	Aluminum Source Silo	410 tons	SYCSA	Field Fabricated Unit	N/A	2009	IV
RMS-3.8	Raw Coal Silo	340 tons	SYCSA	Field Fabricated Unit	N/A	2009	VI
617.51.SS	Low Tonnage Silo 1	2370 cu. ft.	Field Fabricated Unit	Field Fabricated Unit	N/A	2020	IV
617.52.SS	Low Tonnage Silo 2	2370 cu. ft.	Field Fabricated Unit	Field Fabricated Unit	N/A	2020	IV
617.53.SS	High Tonnage Silo 1	2370 cu. ft.	Field Fabricated Unit	Field Fabricated Unit	N/A	2020	IV
617.54.SS	High Tonnage Silo 2	2370 cu. ft.	Field Fabricated Unit	Field Fabricated Unit	N/A	2020	IV
327.72SS	CKD Silo	90 tons	Field Fabricated Unit	Field Fabricated Unit	N/A	2021	IV
Department 4 - RR and Truck Discharge Installation for Raw Coal, Iron Ore, Limestone, Sandstone and Bauxite, Covered Storage for Raw Coal, Iron Ore, Sandstone and Bauxite, Transportation to Raw Material Silos and Alternative Transportation to Primary Limestone Covered Stockpile							
VF-4.3	Vibrating Feeder – Railcar	400 tph	FMC	RF-120B	TT02059	2009	IV
RHR-4.1	Receiving Hopper for Railcars	24' x 12' (approx.)	ARPL	Field Fabricated unit	N/A	2009	IV
WD-4.4	Water Dedusting System-Railcar	3 gpm fog/10 gpm water	TRC	EPI2000	488.1-25	2009	IV
RHT-4.5	Receiving Hopper for Trucks	16'x10' (approx)	ARPL	N/A	N/A	2009	IV
WD-4.6	Water Dedusting System-Trucks	3 gpm fog/10 gpm water	TRC	EPI2000	488.1-25	2009	IV
VF-4.7	Vibrating Feeder	400 tph	TRC	RF-120 B	TT02065	2008	IV
BC-4.8	Belt Conveyor under Rail Car and Truck Discharge	400 tph	Superior Industries	F30X334CFC	U008086	2008	IV
BC-4.9	Belt Conveyor with Tripper for Coal, Iron Ore, etc	400 tph	Superior Industries	F-Tripper	U008087	2008	IV
CS-4.10	Coal, Iron Ore, and Aluminum Additive Building Stockpiles	9500 tons	ARPL	Fully Enclosed Building	N/A	2009	VIII

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
BC-4.11	Belt Conveyor under Coal and Iron Ore Stockpile	400 tph	Superior Industries	F30X387CFC	U008088	2008	IV
VF-4.12.1	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02063	2008	IV
VF-4.12.2	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02062	2008	IV
VF-4.12.3	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02060	2008	IV
WF-4.12.4	Weighfeeder for Coal/Petcoke under Covered Stockpile	70-110 tph	Shenck	DMO	110030354 1-10A	2016	VI
WF-4.12.5	Weighfeeder for Coal/Petcoke under Covered Stockpile	70-110 tph	Shenck	DMO	110030354 1-10B	2016	VI
WF-4.12.6	Weighfeeder for Coal/Petcoke under Covered Stockpile	70-110 tph	Shenck	DMO	110030354 1-10C	2016	VI
BC-4.15	Belt Conveyor to Raw Material Silos	400 tph	Superior Industries	F30X532TFC	U008089	2007	IV
BC-4.17	Reversible Conveyor on Top of Raw Material Silo	400 tph	Superior Industries	F30X22CFC	U008090	2008	IV
DC-4.18	Dust Collector for Belt Conveyor Transfer	2,158 acfm	IAC	96TB-BHT-42	N/A	2009	IV
DC-4.19	Dust Collector for Transfer to Silos	7,925 acfm	IAC	96TB-BHT-156	N/A	2009	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
DC-4.20	Dust Collector for Belt Conveyor Transfer	4,640 acfm	IAC	96TB-BHT-90	N/A	2009	IV
312.10.BC.01	Belt Conveyor to transport additive material to Metallic Silos	400 tph	Superior Industries	TBD	8083	2020	IV
312.10.PF03	Horizontal Pulse Jet Dust Collector	3030 acfm	IAC	TBD	TBD	2020	IV
312.60.BC	Belt Conveyor to transport additive material to bucket elevator	400 tph	Superior Industries	TBD	8083	2020	IV
312.60.PF02	Horizontal Pulse Jet Dust Collector	2410 acfm	IAC	TBD	TBD	2020	IV
312.64.BE	Bucket Elevator feeding the belt conveyor to steel silos	400 tph	MDG	TBD	TBD	2020	IV
312.64.PF04	Horizontal Pulse Jet Dust Collector	2660 acfm	IAC	TBD	TBD	2020	IV
312.66.DG	Two-way Diverter Gate for two belt conveyors	400 tph	DCL	TBD	TBD	2020	IV
612.30.H001	Multi-Purpose Building Indoor Loading Hopper	400 tph	TBD	TBD	TBD	2020	IV
612.30.CH03	Multi-Purpose Building Loading Hopper Chute	400 tph	TBD	TBD	TBD	2020	IV
612.30.BC	Belt Conveyor to transport additive materials to bucket elevator	400 tph	TBD	TBD	TBD	2020	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
612.34.BC	Reversible Belt Conveyor to transport Clinker to belt conveyor 612.38.BC	400 tph	TBD	TBD	TBD	2020	IV
612.16.BC.01	Belt Conveyor to transport additive materials to bucket elevator	400 tph	Superior Industries	TBD	8099	2020	IV
612.16.PF03	Horizontal Pulse Jet Dust Collector	3050 acfm	IAC	TBD	TBD	2020	IV
612.38.BC	Belt Conveyor to transport additive materials to bucket elevator	400 tph	Superior Industries	TBD	8099	2020	IV
612.38.PF02	Horizontal Pulse Jet Dust Collector	2410 acfm	IAC	TBD	TBD	2020	IV
612.40.BE	Bucket Elevator feeding the belt conveyor to steel silos	400 tph	MDG	TBD	TBD	2020	IV
612.40.PF04	Horizontal Pulse Jet Dust Collector	2660 acfm	IAC	TBD	TBD	2020	IV
612.44.DG	Two-way Diverter Gate for two belt conveyors	400 tph	DCL	TBD	TBD	2020	IV
612.46.BC	Belt Conveyor to transport additives, pozzolans, gypsum & clinker to steel silos	400 tph	Superior	TBD	TBD	2020	IV
612.46.PF02	Horizontal Pulse Jet Dust Collector	2410 acfm	IAC	TBD	TBD	2020	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
612.46.PF04	Horizontal Pulse Jet Dust Collector	2410 acfm	IAC	TBD	TBD	2020	IV
612.48.BC	Shuttle Conveyor for transporting clinker, gypsum & pozzolan to steel silos	400 tph	Superior	TBD	TBD	2020	IV
617.51.PF01	Pulse jet silo bin vent dust collector to low tonnage Silo 1	1550 acfm	IAC	TBD	TBD	2020	IV
617.52.PF01	Pulse jet silo bin vent dust collector to low tonnage Silo 1	1550 acfm	IAC	TBD	TBD	2020	IV
617.53.PF01	Pulse jet silo bin vent dust collector to low tonnage Silo 1	1550 acfm	IAC	TBD	TBD	2020	IV
617.54.PF01	Pulse jet silo bin vent dust collector to low tonnage Silo 1	1550 acfm	IAC	TBD	TBD	2020	IV
Department 5 - Raw Material Grinding with Baghouse							
WF-5.1.1	Weighfeeder for High Limestone	110-165 tph	Schenck	DMO	119244-02A	2008	IV
WF-5.1.2	Weighfeeder for High Limestone	110-165 tph	Schenck	DMO	119244-02B	2008	IV
WF-5.2	Weighfeeder for Low Limestone	2-110 tph	Schenck	DMO	119244-03A	2008	IV
WF-5.3.1	Weighfeeder for Iron Ore	1-11 tph	Schenck	DMO	119244-05D	2008	IV
WF-5.3.2	Weighfeeder for Aluminum Source	1-11 tph	Schenck	DMO	119244-05A	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
BC-5.4	Small Belt Conveyor for Iron Ore and Aluminum Source	50 tph	Superior Industries	F30X31CFC	U008094	2008	IV
DC-5.5	Dust Collectors for Weighfeeders	8,135 acfm	IAC	96TB-BHT-156	N/A	2009	IV
BC-5.6	Belt Conveyor to Raw Grinding Building	180 tph	Superior Industries	F30X248TFC	U008095	2007	IV
BE-5.9.1	Bucket Elevator to Raw Mill	770 tph	Sthim	EC2C-1000/330/380	DNI 1034	2007	IV
BC-5.9.2	Belt conveyor to high Eff. Separator	770 tph	Superior Industries	F60X74TFC	U008108	2007	IV
HES-5.11	High-Efficiency Separator	Prod 171 tph/ 770 tph	Polysius	SEPOL HR 16/27	D000212/22195/00009	2008	IV
BC-5.13	Belt Conveyor to Roller Press	600 tph	Superior Industries	F48X63CFC	U008096	2008	IV
RP-5.16	Roller Press Raw Mill	600tph	Polysius	POLYCOM	3F1.PM01	2008 (Construction commenced before June 16, 2008)	IV
BC-5.16.5	Belt Conveyor rejects	17 tph	Superior Industries	F24X	8109	2008	IV
BC-325-18	Belt Conveyor rejects	17 tph	Martin Engineering	N/A	N/A	2010	IV
C-5.17.1	Cyclone	2.8 m	ARPL	Field Fabricated unit	N/A	2009	IV
C-5.17.2	Cyclone	2.8 m	ARPL	Field Fabricated unit	N/A	2009	IV
C-5.17.3	Cyclone	2.8 m	ARPL	Field Fabricated unit	N/A	2009	IV
C-5.17.4	Cyclone	2.8 m	ARPL	Field Fabricated unit	N/A	2009	IV
SC-5.18.1	Screw Conveyor for Raw Meal 322-20-SV-01	190 tph	FMC	FMC_SC	5300-281-A	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
SC-5.18.2	Screw Conveyor for Raw Meal 322-22-SV-01 (reversible)	190 tph	FMC	FMC_SC	5300-282-A	2008	IV
AS-5.21	Second Airslide for Raw Meal	180 tph	Claudius Peters	Closed 200	N/A	2008	IV
DC-5.22	Dust Collector for Raw Grinding System	5,334 acfm	IAC	96TB-BHT-100	N/A	2009	IV
BH-5.30	Baghouse for Raw Mill and Kiln	140,000-195,000 acfm	IAC	6x270TB-BHTM-3C-288:S6	N/A	2009	III
SC-5.31.1	Screw Conveyor under Baghouse328-6A-SV-01	9 tph	IAC	IAC_SC	122-0022	2008	IV
SC-5.31.2	Screw Conveyor under Baghouse328-6B-SV-01	9 tph	IAC	IAC_SC	122-0023	2008	IV
SC-5.32	Screw Conveyor which Collects Dust from Baghouse 322-60-SV-01	18 tph	IAC	IAC_SC	122-0024	2008	IV
SC-5.33	Screw Conveyor for Taking Dust to Blending Silo 322-64-SV-01	18 tph	IAC	IAC_SC	122-0025	2008	IV
MS-5.38	Main Stack	145,000-195,000 acfm	ARPL	Field Fabricated	N/A	2009	III
GAN-5.39A	Gas Analyzer on Main Stack (HCl, CO, CO2, NOx and SO2)	N/A	MKS	2030 CEM	18025425	2015	III

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
GAN-5.39C	Primary Gas Analyzer on Main Stack (HCl, CO, CO2, NOx and SO2)	N/A	MKS	2030G	111808720	2022	III
GAN-5.39B	Back-Up Gas Analyzer on Main Stack (HCl, CO, CO2, NOx and SO2)	N/A	MKS	2030 CEM	18043178	2015	III
OXY-5.39A	Primary O2 Analyzer on Main Stack	N/A	CEMTEK	1010	11380	2015	III
OXY-5.39B	Back-Up O2 Analyzer on Main Stack	N/A	CEMTEK	1010	11379	2015	III
FLW-5.39	Gas Flow Rate Monitor on Main Stack	N/A	SICK	FLOWSIC100	14418447	2015	III
CPM-5.40	Continuous Particulate Monitor on Main Stack (PM)	N/A	SICK	Dust Hunter SP100	14328389	2015	III
THCGAN-5.41A	Total Hydrocarbon Gas Analyzer on Main Stack (THC)	N/A	SICK	FIDOR-GMS810	21120007	2021	III
THCGAN-5.41B	Total Hydrocarbon Gas Analyzer on Main Stack (THC)	N/A	SICK	FIDOR-GMS810	20450077	2021	III
MERC-5.42	Mercury Gas Analyzer on Main Stack (THC)	N/A	SICK	MERCEM300Z	N/A	2015	III
322.64.SV01	Reversing Screw Conveyor under Main Baghouse	18 tph	TBD	TBD	TBD	2021	IV
322.66.FH02	Insulated Surge Bin under screw conveyor	5 cu ft	TBD	TBD	TBD	2021	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
322.66.RV	Rotary Feeder from Surge Bin	2 HP	TBD	TBD	TBD	2021	IV
322.66.PF03	Bin Vent Filter for CKD Surge Bin	135 acfm	IAC	36TB-BVI-4:S6	TBD	2021	IV
322.70.BW	Blower for CKD pneumatic transport to CKD Silo	60 HP	TBD	P412RAM	TBD	2021	IV
322.70.PC02	Pneumatic conveying pipe to CKD silo	6 inch	PVC	SCH.40	N/A	2021	IV
328.20.PF01	Pulse Jet Filter Dust Collector	29,400 acfm	CAMCORP	21TR12X315	TBD	2023	IV
328.20.MG01	Flow Gate	36 inch	TBD	TBD	TBD	2023	IV
328.20.RV02	Rotary Valve for Dust Collector Discharge	15 tph	TBD	TBD	TBD	2023	IV
322.24.AS01	Airslide for Dust Collector Discharge	12 inch	TBD	TBD	TBD	2023	IV
322.24.PF01	Insertable Jet Pulse Filter Module	950 acfm	DCL	VMV280	223207701	2023	IV
322.26.BW01	Blower for Airslide	7.5 HP	TBD	TBD	TBD	2023	IV
Department 6 - Blending Silo							
BE-6.1	Bucket Elevator to Blending Silo	163 - 180 tph	Sthim	EB-400/290/360	DNI-1035	2008	IV
AS-6.2	Airslide for Raw Meal on Top of Blending Silo	180 tph	Claudius Peters	Closed 200	N/A	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
PDAS-6.3	Pneumatic Parallel Distribution for Airslides	830 mm diameter	Claudius Peter	Distributor size 830	P016600827	2008	IV
AS-6.5.1	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-6.5.2	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-6.5.3	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-6.5.4	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	N/A	2008	IV
SI-6.7	Blending Silo	7,183 tons	Claudius Peters	Mixing Silo MC-16	N/A	2008	IV
DC-6.10	Dust Collector on Top of Blending Silo	5,632 acfm	IAC	96TB-BHT-110	N/A	2009	IV
632.60.PP	Pneumatic Pump for transporting raw meal to existing blending silo	121 tph	CPA	TBD	TBD	2020	IV
632.60.PC01	Pneumatic Conveying Pipe for raw meal	10 inch	TBD	TBD	TBD	2020	IV
Department 7 - Kiln Feed							
AS-7.4	Raised Airslide from Blending Silo	170 tph	Claudius Peters	Closed 200	N/A	2008	IV
MWB-7.8	Metallic Weighing Bin	33 m3	Claudius Peters	Open 200	N/A	2008	IV
FPD-7.10	Fluidization and Pneumatic Discharge of Bin	170 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-7.12	Airslide	170 tph	Claudius Peters	EB-630/240/440	N/A	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
BE-7.15.1	Bucket Elevator for Feeding Pre-Heater Tower	170 tph	Sthim	EB-630/240/440	DNI 1036	2008	IV
BE-7.15.2	Bucket Elevator for Feeding Pre-Heater Tower	170 tph	Sthim	96TB-BHT-81	DNI 1037	2008	IV
DC-7.16	Dust Collector	3,519 acfm	IAC	Closed 200	N/A	2009	IV
AS-7.17	Airslide	170 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-7.22	Recirculating Airslide	170 tph	Claudius Peters	96TB-BHT-49	N/A	2008	IV
DC-7.23	Dust Collector on Top of PreHeater Tower	2,548 acfm	IAC	Cemento Andino kiln 2&3	N/A	2009	IV
Department 8 - New 6 Stage Pre-Heater with Calciner							
PRE-8.3	Six-Stage Preheater	5.2/5.0 m	FLSmidth	Field Fabricated System	N/A	2008	III
CAL-8.13	Calciner (6.0 m diameter)	83.33 tph	FLSmidth	Field Fabricated System	N/A	2008	III
GAN-8.16	Gas Analyzer for Kiln Inlet (O2, CO, NOx)	N/A	ABB	ULTRAMAT 23 (IR absorbing gases and oxygen)	07-567-02920	2007	III
GAN-8.17	Gas Analyzer for Preheater (O2 and CO)	N/A	ABB	ULTRAMAT 23 (IR absorbing gases and oxygen)	0240063505/1610	2007	III
TAD-8.18	Tertiary Air Duct	2 m diameter	FLSmidth	Field Fabricated System	N/A	2008	III
SNCR-8.19	SNCR Equipment Inc. Pumps, Tanks, etc. for NH3 aqueous solution	4 g/min	Johnson March systems	Field Fabricated System	N/A	2007	III
Department 9 - Rotary Kiln							

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
RK-9.1	Rotary Kiln 12'x143' with 2 supports	83.33 tph	ARPL	Field Fabricated System	N/A	2009 (Construction commenced before June 16, 2008)	III
DEG-9.11	Diesel Emergency Generator	250 kW	Caterpillar	C9	G5A03141	2008	IX
Department 10 - Cooler and Cooler Dedusting							
CGC-10.1	Clinker Cooler	83.33 tph	Claudius Peters	ETA Cooler 646	13760	2008 (Construction commenced before June 16, 2008)	III
CRC-10.3	Cooler Roller Crusher with 3 Rollers	83.33 tph	Claudius Peters	Type RB244-3 EM	98408701	2008	III
SC-10.12	Screw Conveyor for Clinker Dust412-34-SV-01	13 tph	IAC	IAC_SC	122-0028	2008	IV
BH-10.13	Baghouse for Cooler	98,100 acfm	IAC	4x234TB-BHTP-288:S6	N/A	2008	III
SC-10.14	Screw Conveyor for Clinker Dust412-36-SV-01	13 tph	IAC	IAC_SC	122-0029	2008	IV
CS-10.16	Cooler Stack	105,932 acfm	ARPL	Field Fabricated System	N/A	2009	III
FLW-10.18	Gas Flow Rate Monitor on Cooler Stack	N/A	SICK	FLOWSIC100	14418448	2015	III
CPM-10.17	Continuous Particulate Monitor on Cooler Stack (PM)	N/A	SICK	Dust Hunter SP100	14328390	2015	III

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
Department 11 – Clinker Transport to Clinker Dome Covered Storage, Off-Spec Clinker Silo and Emergency Silo Plus Clinker and Gypsum Transport to their Respective Silos that feed the Cement Grinding Department							
HPC-11.1	Hot Pan Conveyor	83.3 tph-198 tph (max)	Sthim	TMC-800/350/250	DNI 1038	2008	IV
DC-11.2	Dust Collector	4,164 acfm	IAC	96TB-BHT-90	N/A	2009	IV
CDO-11.3	Clinker Dome	50,000 short tons	ARPL	Field Fabricated System	N/A	2008	IV
617-92-MR-01	Multi-Purpose Storage Building	35,700 short tons	N/A	Field Fabricated System	N/A	2021	IV
BC-11.5	Reversible Belt Conveyor to Emergency Clinker Silo or Off-Spec Clinker Silo	400 tph	Superior Industries	F30X154TFC	U008097	2008/2014	IV
DC-11.6.1	Dust Collector for Belt Transfer	2,564 acfm	IAC	96TB-BHT-49	N/A	2009	IV
DC-11.6.2	Dust Collector for Emergency Clinker Silo	2,935 acfm	IAC	96TB-BHT-56	N/A	2009	IV
DC-11.6.3	Dust Collector for Off-Spec Clinker Silo	1,000 tons	IAC	N/A	N/A	2015	IV
DC-11.6.4	Bin Vent for Off-Spec Clinker Silo	1,000 tons	IAC	N/A	N/A	2015	IV
SI-11.7	Emergency Clinker Silo	13,800 tons	ARPL	Field Fabricated System	~~NA~~N/A	2008	IV
BC-11.8	Belt Conveyor under Clinker Dome and Clinker Silo	400 tph	Superior Industries	F42X327CFC	U008098	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
BC-11.10	Belt Conveyor for Transporting Clinker and Gypsum to Silos	400 tph	Superior Industries	F30X564TFC	U008099	2008	IV
DC-11.11	Dust Collector for Belt Transfer	8,792 acfm	IAC	96TB-BHT-156	~~NA~~N/A	2009	IV
OS-11.12	Covered Stockpile for Gypsum	2,000 tons	ARPL	Building with roof and partial walls	~~NA~~N/A	2008	XI
HGP-11.13	Hopper with Grid to be Fed by Payloader	10 m3	ARPL	Field Fabricated System	~~NA~~N/A	2008	XI
BC-11.14	Reversible Belt Conveyor for Gypsum and Clinker	400 tph	Superior Industries	F30X22CFC	U008100	2008	IV
DC-11.15	Dust Collector for Clinker and Gypsum Silos	7,592 acfm	IAC	96TB-BHT-144	~~NA~~N/A	2009	IV
SI-11.8	Off-Spec Clinker Silo	1000 tons	IAC	~~NA~~N/A	~~NA~~N/A	2014	IV
CH-11.8.3	Special Chute to transfer clinker to reclaim conveyor	400 tph	IAC	~~NA~~N/A	~~NA~~N/A	2014	IV
TBL-11.8.1	Truck Bulk Loading Spout for Off-Spec Clinker Silo	400 tph	IAC	~~NA~~N/A	~~NA~~N/A	2014	IV
Department 12 - Coal Grinding System with Baghouse, Pulverized Coal Silo and Coal Distribution System, and Biomass Feed System for Kiln and Calciner							
444.01.FH	Feed Hopper	6 tph	TBD	TBD	TBD	2024	IV
444.05.SV	Twin Screw Feeder (Fully Enclosed)	6 tph	TBD	TBD	TBD	2024	IV
444.10.SV	Screw Conveyor Collector (Fully Enclosed)	6 tph	TBD	TBD	TBD	2024	IV
444.10.BS01	Single Idler Screw Scale (Fully Enclosed)	6 tph	TBD	TBD	TBD	2024	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
444.15.RV	Rotary Valve (Fully Enclosed)	6 tph	TBD	TBD	TBD	2024	IV
444.20.SC	Air Compressor	1,900 scfm	TBD	TBD	TBD	2024	IV
444.20.PC01	Pneumatic Conveying Pipe to Calciner	8 inch - 6 tph	TBD	TBD	TBD	2024	IV
444.20.MG02	Motorized Slide Gate	6 tph	TBD	TBD	TBD	2024	IV
WF-12.1	Weighfeeder for Coal	22 stph	Schenck	DMO	119244-7A	2008*	VI
BC-12.3	First Belt Conveyor for Transporting Coal to Mill	20 stph	Superior Industries	F24X98TFC	U008101	2008*	VI
BC-12.4	Second Belt Conveyor for Transporting Coal to Mill	20 stph	Superior Industries	F24X164CFC	U008102	2008*	VI
DC-12.7.1	Dust Collector for Coal Belt Transfer	1,883 acfm	IAC	96TB-BHT-42	~~NA~~N/A	2009*	VI
DC-12.7.2	Dust Collector for Coal Pump	388 acfm	IAC	96TB-BHT-9	~~NA~~N/A	2009	IV
VM-12.9	Vertical-Bowl Mill for Coal	14 tph	Used 743 Raymond Bowl Mill	MP-26298	4010077280	2008 (Construction commenced before June 16, 2008)	III
C-12.14	Cyclone	1.75 m	ARPL	Field Fabricated System	~~NA~~N/A	2008	IV
RV-12.15	Rotary Valve below the Dedusting Cyclone	2 t/h	Meyer	10x10HDxFDR 260339	420D-292	2008	IV
BH-12.18	Baghouse for Coal Mill	20,598 acfm	IAC	1x96TB-BHWT-544:S6	~~NA~~N/A	2009	IV
SC-12.20	Reversing Screw Conveyor for Coal Dust 522-18-sv-01	20 tph	FMC	FMC_SC	5300-283-A	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
SC-12.21	Screw Conveyor	20 tph	~~NA~~N/A	~~NA~~N/A	~~NA~~N/A	2008	IV
S-12.26	Pulverized Coal Silo	240 tons	~~NA~~N/A	~~NA~~N/A	~~NA~~N/A	2008	IV
PPU-12.22.1	Pneumatic Pump for Coal	22 tph	Claudius Peters	X Pump 200	P01.309.88.047	2008	IV
PPU-12.22.2	Pneumatic Pump for Coal	22 tph	Claudius Peters	X Pump 200	P01.309.08.048	2008	IV
PCP-12.24	Pneumatic Conveying Pipe	6 in. diameter	ARPL	Field Fabricated System	~~NA~~N/A	2009	IV
DC-12.26	Pulverized Silo with Dust Collector	1,835 acfm	Thornwestern	Field Fabricated	V02-054	2009	IV
PH-12.33.1	Pre hopper	2-3 m3	Pfister	262518	1817	2008	IV
PH-12.33.2	Pre hopper	2-3 m3	Pfister	262518	1819	2008	IV
PH-12.33.3	Pre hopper	2-3 m3	Pfister	262518	1824	2008	IV
RWF-12.35.1	Rotor Weighfeeder	0.7-7.0 tph	Pfister	DRW 4.10	441-16-RW-1	2008	IV
RWF-12.35.2	Rotor Weighfeeder	0.7-7.0 tph	Pfister	DRW 4.10	441-16-RW-2	2008	IV
RWF-12.35.3	Rotor Weighfeeder	0.7-7.0 tph	Pfister	DRW 4.10	441-16-RW-3	2008	IV
PCP-12.37	Pneumatic Conveying Pipe to Calciner	7 Mt/hr	ARPL	Field Fabricated System	~~NA~~N/A	2009	IV
PCP-12.38	Pneumatic Conveying Pipe to Kiln Hood	7 Mt/hr	ARPL	Field Fabricated System	~~NA~~N/A	2009	IV
Department 13 - Cement Grinding							
621.20AS	Airslide 1 for Separator recirculation line back to the Ball Mill	140 tph	Claudius Peters or equivalent	~~NA~~N/A	~~NA~~N/A	2014	IV
621.25FM	Flowmeter for control of Separator recirculation line back to the Ball Mill	100-200 tph	Hasler or equivalent	~~NA~~N/A	~~NA~~N/A	2014	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
621.30AS	Airslide 2 for Separator recirculation line back to the Ball Mill	140 tph	Claudius Peters or equivalent	~~NA~~N/A	~~NA~~N/A	2014	IV
622.120SV	Screw Conveyor 1 for final product transport	60 tph	Thomas Conveyor Company	FMC or similar	~~NA~~N/A	2014	IV
622.122SV	Screw Conveyor 1A for final product transport	60 tph	Thomas Conveyor Company	FMC or similar	N/A	2014	IV
622.125SV	Screw Conveyor 2 for final product transport	120 tph	Thomas Conveyor Company	FMC or similar	N/A	2014	IV
622.130BE	Belt Bucket Elevator for final product transport to cement silo	250 tph	Sthim or similar	N/A	N/A	2014	IV
622.135AS	Airslide 1 for final product transport	120 tph	Claudius Peters	N/A	N/A	2014	IV
622.140PG	Airslide diverter gate towards silo by-pass (middle of 622.135AS)	120 tph	Claudius Peters	Two-Way Gate M (open-close)	N/A	2014	IV
622.145AS	Airslide 2 for final product transport (by-pass to metallic silos)	120 tph	Claudius Peters	N/A	N/A	2014	IV
622.100PG	Airslide diverter gate for Ball Mill recirculation to Separator	250 tph	Claudius Peters	Two-Way Gate M (open-close)	N/A	2014	IV
622.105AS	Airslide 1 for Ball Mill recirculation to Separator	250 tph	Claudius Peters	N/A	N/A	2014	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
622.110CT	Chute for Ball Mill recirculation to Separator	250 tph	ARPL	N/A	N/A	2014	IV
622.115AS	Airslide 2 for Ball Mill recirculation to Separator	250 tph	Claudius Peters	N/A	N/A	2014	IV
622.115PF01	Pulse Jet Dust Collector for Air Slide Ventilation	400 acfm	Clarcol or similar	N/A	N/A	2014	IV
623.20DS	High Efficiency Separator	250 tph	Sepol	ESV 230 or equivalent	N/A	2014	IV
623.24EM	Sepol Separator Motor	198 HP (145kW)	Squirrel Cage	N/A	N/A	2014	IV
628.10PF	High Efficiency Separator Process Filter Baghouse	105,944 acfm	N/A	N/A	N/A	2014	IV
628.14FH	Fan for High Efficiency Separator	105,944 acfm	TLT-Howden	Venti-Oelde or similar	N/A	2014	IV
628.16EM	Motor for Separator Fan	282 HP (210kW)	Squirrel Cage	N/A	N/A	2014	IV
628.20PF	Jet Pulse Filter 1	3,000 acfm	N/A	N/A	N/A	2014	IV
WF-13.1.1	Weighfeeder for Clinker	15-157 tph	Schenck	DMO	119244.09A	2008	IV
WF-13.1.2	Weighfeeder for Gypsum	0-11 tph	Schenck	DMO	119244.05B	2008	IV
WF-13.1.3	Weighfeeder for Limestone	0-11 tph	Schenck	DMO	119244.05C	2008	IV
BC-13.2	Small Belt Conveyor for Transporting Limestone and Gypsum	50 tph	Superior Industries	F30X25CFC	U008103	2008	IV
BC-13.3	Belt Conveyor to Cement Mill	143 tph	Superior Industries	F30X25CFC	U008104	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
DC-13.4	Dust Collector for Belt Transfer	2,451 acfm	IAC	96TB-BHT-49	N/A	2009	IV
BE-13.5	Feed Bucket Elevator	143 tph	Sthim	EC-400/290/380	DNI 1039	2008	IV
CH-13.5.1	Special chute from Bucket Elevator to BC 13.5.2	580 tph	Field Fabricated Unit	N/A	N/A	2008	IV
BC-13.5.2	Belt Conveyor Recirc to Separator	580 tph	Superior Industries	CFC	U008108	2008	IV
CH-13.5.7	Bucket Elevator Discharge Chute	3 m length	Field Fabricated Unit	N/A	N/A	2008	IV
BC-13.5.8	Belt Conveyor to High Eff. Separator	143 tph	Superior Industries	CFC	U008108	2008	IV
BC-13.6	Belt Conveyor to Roller Press	578 tph	Superior Industries	F48X45CFC	U008105	2008	IV
CH-13.9.1	Metal reject diverter gate	578 tph	PEBCO	1000X660-PA-7005	20272	2008	IV
RP-13.10	Roller Press	578 tph	Polysius	POLYCOM 15/8-5, w/ Bainit GHST 480 System	5f1.PM01	2008	IV
CH-13.10.2	Special Chute of Roller Press	578 tph	ARPL	Field Fabricated - Ladder Type	N/A	2008	IV
HES-13.5.4	High-Efficiency Separator	660 tph	Polysius	SEPOL HR 12/21	D000212/22195/ 00010	2008	IV
BC-13.12	Belt Conveyor under HE Separator	578 tph	Superior Industries	F48X18CFCCFC	U008106	2008	IV
BE-13.13	Recirculating Bucket Elevator	660/838 tph	Sthim		DNI 1040	2008/2016	IV
C-13.15.1	Dedusting Cyclone	2.8m	ARPL	Field Fabricated	N/A	2009	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
C-13.15.2	Dedusting Cyclone	2.8m	ARPL	Field Fabricated	N/A	2009	IV
SC-13.17	Pressurized Screw Conveyor 622-48-SV-01 (reversible)	143 tph	FMC	FMC_SC	5300-284-1	2008	IV
DC-13.19	Dust Collector	18,924 acfm	IAC	96TB-BHWT-384	N/A	2009	IV
DC-13.20	Dust Collector	18,924 acfm	IAC	96TB-BHWT-385	N/A	2009	IV
SC-13.21	Screw Conveyor 622-094-SV-01 (reversible)	5tph	FMC	FMC_SC	5300-285-1	2008	IV
SC-13.41	Screw conveyor 622-52-SV-01	10tph	FMC	FMC_SC	5300-286-1	2008	IV
BPH-13.30	By-Pass Hopper	15 m3	ARPL	Field Fabricated System	N/A	2009	IV
BC-13.31	Small Belt Conveyor	17 tph	Superior Industries	F24X25CFC	U008107	2008	IV
CH-13.34	Transfer Chute	17 t/h	ARPL	Field Fabricated System	N/A	2009	IV
BM-13.39	Ball Mill 14' x 23'9", 2500 hp	100 tph	One Chamber Used Marcy ball Mill	Marcy Ball Mill 12'-6' x 30'-6"	3001/20	Ref. 2007	IV
DC-13.40	Dust Collector for Ball Mill	22,499 acfm	IAC	96TB-BHWT-416	N/A	2009	IV
AS-13.42	Airslide for Transporting Final Cement Product	143 tph	Claudius Peters	Closed 200	N/A	2008	IV
SC-13.48	Screw Conveyor to cement cooler 626-02-SV-01	143tph	FMC	FMC-SC	5300-287-1	2008	IV
CC 13.49	Cement Cooler (Indirect Contact)	110 tph	Polysius	Fines cooler size 3	1165869	2009	IV
631.02.WF	Low Tonnage Weigh Feeder 1	2.0-20.0tph	Schenck	TBD	TBD	2020	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
631.04.WF	Low Tonnage Weigh Feeder 2	2.0-20.0tph	Schenck	TBD	TBD	2020	IV
631.06.WF	High Tonnage Weigh Feeder 1	40-77 tph	Schenck	TBD	TBD	2020	IV
631.08.WF	High Tonnage Weigh Feeder 2	40-77 tph	Schenck	TBD	TBD	2020	IV
632.12.BC	Belt Conveyor to transport material to bucket elevator 632.18.BE	40-135 tph	Superior	TBD	TBD	2020	IV
632.14.PF	Pulse Jet Filter Dust Collector	3900 acfm	IAC	TBD	TBD	2020	IV
632.18.BE	Bucket Elevator feeding the belt conveyor to Vertical Mill	135 tph	MDG	TBD	TBD	2020	IV
632.20.BC	Belt Conveyor for feeding Vertical Mill 635.32.VM	40-145 tph	Superior	TBD	TBD	2020	IV
632.20.MD02	Metal Detector on belt conveyor 632.20.BC	40-145 tph	Eriez	EMS 210A	TBD	2020	IV
632.20.BS05	Belt Scale for 63.20.BC	40-135 tph	Schenck	TBD	TBD	2020	IV
632.20.BS06	Belt Scale for 63.12.BC	40-135 tph	Schenck	TBD	TBD	2020	IV
632.20.MS03	Magnetic Separator on belt conveyor 632.20.BC	40-145 tph	Eriez	TBD	TBD	2020	IV
632.22.PF	Pulse Jet Filter Dust Collector	6,200 acfm	IAC	TBD	TBD	2020	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
632.24.DG	Two-way Diverter Gate for feeding Vertical Mill	145 tph	DCL	TBD	TBD	2020	IV
632.40.SV	Screw Conveyor Module 1 of Vertical Mill Baghouse for final product transport	23-60 tph	IAC	TBD	TBD	2020	IV
632.45.SV	Screw Conveyor Module 2 of Vertical Mill Baghouse for final product transport	23-60 tph	IAC	TBD	TBD	2020	IV
632.41.RV	Rotary Valve from Module 1 screw for final product transport to pump system	23-60 tph	IAC	TBD	TBD	2020	IV
632.42.RV	Rotary Valve from Module 1 screw for final product transport to contrast unloading	23-60 tph	IAC	TBD	TBD	2020	IV
632.48.SV	Collecting Screw Conveyor for contrast weighing system with trucks	46-120 tph	IAC	TBD	TBD	2020	IV
632.49.SV	Screw Conveyor for contrast weighing system with trucks	46-120 tph	Syntron	TBD	TBD	2020	IV
632.50.LS	Loading Spout for contrast final product	34-117 tph	DCL	TBD	TBD	2020	IV
632.52.SV	Collecting Screw Conveyor for final product transport	46-120 tph	Syntron	TBD	TBD	2020	IV
632.52.DG	Two-way diverter gate for feeding vertical mill	120 tph	TBD	TBD	TBD	2020	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
632.70SS	Bypass Bin	168 cu. Ft.	MMI	TBD	TBD	2020	IV
632.72.BC	Bypass Belt Conveyor	17 tph	Superior	TBD	TBD	2020	IV
632.72.MD02	Metal Detector on belt conveyor 632.72.BC	10-20 tph	Eriez	EMS 210A	TBD	2020	IV
632.74.DG	Two-way Diverter Gate for recirculating	28 tph	DCL	TBD	TBD	2020	IV
632.76.BE	Recirculating Bucket Elevator	28 tph	MDG	TBD	TBD	2020	IV
635.32.RV05	Rotary Valve for feeding Vertical Mill	30-160 tph	Loesche	TBD	TBD	2020	IV
635.32.VM	Vertical Mill	30-160 tph	Loesche	LM30.2 CS	TBD	2020	IV
635.32.WI04	Water Injection System	900 l/hr	Loesche	TBD	TBD	2020	IV
635.34.DH	Drag Chain for reject material from Vertical Mill	28 tph	Loesche	TBD	TBD	2020	IV
638.10.PF	High Efficiency Process Filter Baghouse	158,920acfm	IAC	TBD	TBD	2020	IV
327.72.PF01	Bin Vent Filter CKD Silo	1020 acfm	IAC	39PE-BVT-16:S6	TBD	2021	IV
327.102.RV	Rotary Feeder from Surge Bin	2 HP	Schenck	WRRAM10	1100472062-010-1	2022	IV
622.108.BW	Blower for CKD pneumatic transport to	40 HP	TBD	P412-60-6S40	TBD	2021	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
	Separator						
622.104.FH	Feeding Hopper	0.5 – 4 tph	Magnum Systems	TBD	100-1369-0900	2023	IV
622.106.RV	Rotary Feeder from Feed Hopper	0.5 – 4 tph	TBD	TBD	TBD	2023	IV
622.104.PF01	Dedusting Filter	90 cfm	Magnum Systems	B5	TBD	2023	IV
622.108.PC02	Pneumatic conveying pipe to Existing Finish Mill Separator	6 inch	PVC	SCH.40	N/A	2023	IV
622.108.FM.03	Mass Flow Measurement Sensor	N/A	Monitor	QuantiMass Pro	17-8631-113	2023	IV
622.110.PG.01	Pneumatic Slide Gate	N/A	Ornibox	EX Series 10	N/A	2020	IV
Department 14 – Cement Transport to Silo, Cement Silo and Bulk Loading to Trucks and to Rail Cars							
BE-14.1	Bucket Elevator for Feeding Cement Silo	180 tph	Sthim	EB-400/290/400	DNI 1041	2008	IV
AS-14.2	Airslide on top of Cement Silo	180 tph	Claudius Peters	Closed 200	N/A	2008	IV
PDAS-14.3	Pneumatic Parallel Distribution for Airslides	830 mm diameter	Claudius Peters	Distributor size 830	N/A	2008	IV
AS-14.4.1	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-14.4.2	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	N/A	2008	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
AS-14.4.3	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	N/A	2008	IV
AS-14.4.4	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	N/A	2008	IV
SI-14.6	Cement Silo	10,000 tons	Claudius Peters	Silo EC-16	N/A	2008	IV
DC-14.10	Dust Collector on top of Cement Silo	2,988 acfm	IAC	96TB-BHT64	N/A	2008	IV
AS-14.13	Airslide	440 tph	Claudius Peters	Closed 400	N/A	2008	IV
AS-14.13.1	Airslide	440 tph	Claudius Peters	Closed 400	N/A	2011	IV
BE-14.14	Bucket Elevator	400 tph	Sthim	EB-800/330/440	DNI 1042	2008	IV
AS 14.15	Airslide for feed to 2 Metallic Silos	440 tph	Claudius Peters	Closed 400	N/A	2008	IV
CMS-14.17.1	Cement Metallic Silo	125 m3/150 tons (approx.)	SYCSA	Field Fabricated Silo	2009	2008	IV
CMS-14.17.2	Cement Metallic Silo	125 m3/150 tons (approx.)	SYCSA	Field Fabricated Silo	2009	2008	IV
ASC-14.20.1	Double Mobile Articulated Screw Conveyor for Bulk Cement North loading Spouts (x2)	400 tph	DLC	UN800 EV-10-112E12	207115301A-B	2008	IV
ASC-14.20.2	Double Mobile Articulated Screw Conveyor for Bulk Cement South loading Spouts (x2)	400 tph	DLC	UN800 EV-10-112E12	207115301C-D	2008	IV
DC-14.21	Dust Collector for Bulk Loading	8,109 acfm	IAC	96TB-BHT-156	N/A	2009	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
ETBL-14.23	Emergency Truck Bulk Loading Spout	165 Mtph	DLC	UN800 EV-10-112E12	207115301E	2008	IV
SD-14.24	Metallic Silo Side Discharge Raw Mill Dust Load out Spout	165 Mtph	DLC	UN800 EV-10-112E12	207115308	2008	IV
PPU-14.25	Pneumatic Pump for Transporting Cement to Railroad Silo	165 Mtph	Claudius Peters	X Pump 300	P001670	2008	IV
PCP-14.27	Pneumatic Conveying Pipe	12 in diameter	Claudius Peters/ARPL	N/A	N/A	2008	IV
CMS-14.28	Cement Metallic Silo for Train Bulk Loading	398 m3 (approx 585 tons)	SYCSA	N/A	N/A	2009	IV
DC-14.29	Dust Collector for Train/Truck Bulk Loading	6,906 acfm	IAC	96TB-BHT-144	N/A	2009	IV
LBR-14.32	Loading Spout to Bulk Loading of Rail Cars/Trucks	330 Mtph	DLC	UN800 EV-10-112E12	207115301F	2008	IV
PCP-14.28	Pneumatic Conveying Pipe to Cement Metallic Silos	182 tph	IAC	N/A	N/A	2014	IV
CMS-14.23	Cement Metallic Silo	2000 tons	IAC	N/A	N/A	2014	IV
CMS-14.24	Cement Metallic Silo	2000 tons	IAC	N/A	N/A	2014	IV
CMS-14.25	Cement Metallic Silo	2000 tons	IAC	N/A	N/A	2014	IV
CMS-14.26	Cement Metallic Silo	2000 tons	IAC	N/A	N/A	2014	IV
DC-14.23	Dust Collector for CMS-14.23 and CMS-14.24	7308 acfm	IAC	96TB-BVWT-121:S6	N/A	2014	IV
DC-14.25	Dust Collector for CMS-14.25 and CMS-14.26	7308 acfm	IAC	96TB-BVWT-121:S6	N/A	2014	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
TBL-14.23	Truck Bulk Loading Spout for Cement	400 tph	IAC	N/A	N/A	2014	IV
TBL-14.24	Truck Bulk Loading Spout for Cement	400 tph	IAC	N/A	N/A	2014	IV
TBL-14.25	Truck Bulk Loading Spout for Cement	400 tph	IAC	N/A	N/A	2014	IV
TBL-14.26	Truck Bulk Loading Spout for Cement	400 tph	IAC	N/A	N/A	2014	IV
632.54.PP	Pneumatic Pump for transporting cement to new cement silos	31-58 tph	TBD	TBD	TBD	2020	IV
632.54.PC01	Pneumatic Conveying Pipe for cement and pozzolan	10 inch	TBD	TBD	TBD	2020	IV
632.56.DG	Two-way Valve	10 inch	TBD	TBD	TBD	2020	IV
632.56.PC01	Pneumatic Conveying Pipe for cement and pozzolan	10 inch	TBD	TBD	TBD	2020	IV
632.57.DG	Two-way Valve	10 inch	Unicast	TBD	TBD	2020	IV
632.58.DG	Pneumatic Conveying Pipe for cement and pozzolan	10 inch	TBD	TBD	TBD	2020	IV
632.56.PC02	Pneumatic Conveying Pipe for cement and pozzolan	10 inch	TBD	TBD	TBD	2020	IV
632.58.PC	Pneumatic Conveying Pipe for cement and pozzolan	10 inch	TBD	TBD	TBD	2020	IV

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Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
637.60.SS	New Metallic Silo 3B	1962 tons	IAC	TBD	TBD	2020	IV
637.62.SS	New Metallic Silo 3A	1962 tons	IAC	TBD	TBD	2020	IV
637.60.PF01	Bin Vent Dust Collector	4,870 acfm	IAC	TBD	TBD	2020	IV
637.62.PF01	Bin Vent Dust Collector	4,870 acfm	IAC	TBD	TBD	2020	IV
722.10.AS	Fluidization System New Metallic Cement Silo 3B	400 tph	TBD	TBD	TBD	2020	IV
722.12.AS	Airslide Flow Control to New metallic cement Silo 3B	400 tph	TBD	TBD	TBD	2020	IV
722.20.AS	Fluidization System New Metallic Cement Silo 3A	400 tph	TBD	TBD	TBD	2020	IV
722.22.AS	Airslide Flow Control to New metallic cement Silo 3A	400 tph	TBD	TBD	TBD	2020	IV
722.14.LS	Loading Spout to new metallic silo 3B	400 tph	TBD	TBD	TBD	2020	IV
722.24.LS	Loading Spout to new metallic silo 3B	400 tph	TBD	TBD	TBD	2020	IV
632.54.PP	Pneumatic Pump for transporting cement to new cement silos	31-58 tph	TBD	TBD	TBD	2020	IV
632.54.PC01	Pneumatic Conveying Pipe for cement and pozzolan	10 inch	TBD	TBD	TBD	2020	IV

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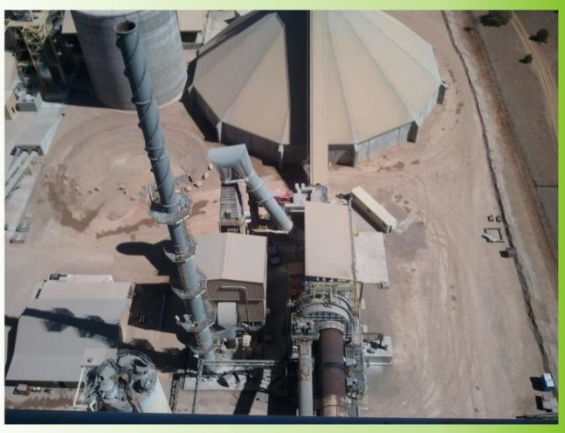
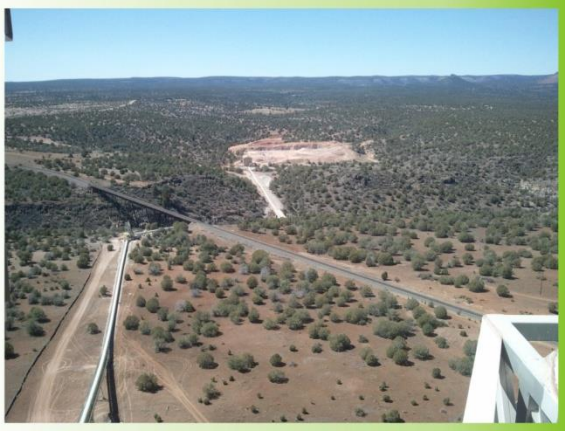
Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture	Applicable Section
Department 15 – Concrete Batch Plant							
CBP-1.1	Concrete Batch Plant	140 Cubic Yards/Hr	Vince Hagen	THE10250B	CBP 840404	6/16/1984	X
CS-1.1	Cement Silo	550 bbl	Vince Hagen	THE10250B	CS 840404	6/16/1984	X
FAS-1.1	Fly Ash Silo	450 bbl	Vince Hagen	THE10250B	FC 840404	6/16/1984	X
BH-CBP-1.1	Baghouse for Batch Plant	N/A	MFG Sales Company Inc.	RA140-SAT	FC 840404	N/A	X
DC-CBP-1.1	Dust Collector for Flyash Silo	530 CFM	N/A	N/A	N/A	N/A	X
Miscellaneous							
812-90-TA-01	Plant - White Skid Gasoline AST	1,000 Gal.	Tyco Enterprises	N/A	N/A	2008	XI
812-90-TA-02	Plant - Blue Skid Gasoline AST	1,000 Gal.	Advanced-Pacific Tank Mfg., Inc.	N/A	N/A	2013	XI

*Construction of coal processing equipment commenced on April 21, 2008

ATTACHMENT "D": COMPLIANCE ASSURANCE MONITORING (CAM) PLAN





Compliance Assurance Monitoring (CAM) Plan

Prepared For:

Drake Cement, LLC
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Paulden, Arizona 86334

Updated August 2022

Prepared By:

28150 N. Alma School Pkwy.
Scottsdale, AZ 85262

TABLE OF CONTENTS

1.0 INTRODUCTION

Drake Cement, L.L.C. owns and operates a Portland cement manufacturing facility located near Paulden, AZ. Limestone is mined in a quarry located just west of the cement plant site. Mined limestone is crushed and conveyed via overland conveyors to the cement plant where it is stored prior to the production of Portland cement. Various additives and fuel sources used in the manufacturing process, including coal, iron ore and other materials are brought to the site by rail cars or trucks and stored in the Additive Storage Building. The Drake cement production process involves pyroprocessing using a dry process to form clinker. This process consists of a rotary kiln, six-stage pre-heater and low NO_X pre-calciner, clinker cooler and grinding mills for raw material, coal, and finished products.

As part of the existing permit Drake Cement is required to demonstrate a reasonable assurance of compliance with applicable PM_{10} emission limitations through the development and implementation of a Compliance Assurance Monitoring (CAM) Plan for four process baghouses which control emissions from the plant. The general purpose of this CAM Plan is to outline the site specific indicators and ranges, as well as outline the performance criteria and justification of monitoring parameters that will be used to determine reasonable assurance of compliance during ongoing operations. As such, Drake Cement has developed this site specific CAM Plan for the following sources:

- BH-5.30 – Main Baghouse
- BH-10.13 – Clinker Cooler Baghouse
- 628.10PF – Finish Mill Separator Baghouse
- 638.10PF – Vertical Mill Baghouse
- DC-13.19 – Finish Mill Dust Collector
- DC-13.20 – Finish Mill Dust Collector
- DC-13.40 – Finish Mill Dust Collector

Emissions generated from the kiln, coal mill, and raw mill exhaust to a common main stack (MS-5.30). Baghouse BH-5.30 controls emissions from these sources prior to exhausting into the main stack. The clinker cooler and clinker roll crusher are controlled by BH-10.13, which exhausts emissions to the clinker cooler stack. The finish mill separator emissions are controlled by the separator baghouse 628.10PF which provides both emission control and final product transfer. Fine material within the separator, which is not rejected and returned to the ball mill, is immersed in the separating airflow and transferred into the separator baghouse (628.10PF). Final product is then captured in the baghouse filters, removed, and conveyed from the baghouse hopper by a system of screw conveyors into a bucket elevator and delivered to finish cement silos for final product storage. The vertical mill emissions are controlled by a dedicated process jet pulse walk-in plenum process filter (638.10PF) which will collect all the dry and fine grinded product. Final product is conveyed from the vertical mill baghouse hopper using a 4-screw conveyor system which feeds a pneumatic pump to convey the material to two

new final product metallic silos or the Railroad Metallic silo. The finish mill grinding process is controlled by three process filters, DC-13.19, DC-13.20 and DC-13.40. These filters work in conjunction to sweep, capture and/or collect finished cement from the grinding process. Screw conveyors then convey the finished cement collected by these process filters to storage silos for sale and distribution.

The CAM Plan provides the following elements to comply with 40 CFR Part 64.4 Submittal Requirements. Site specific indicators and ranges for each CAM source are outlined in Section 2.0. Performance criteria and justification of the parameters outlined in the plan are addressed in Sections 3.0 and 4.0 of this plan. The criteria were developed based on existing knowledge of plant systems as well as discussions with the manufacturer and the agency. Parameters covered under this CAM plan were developed as a tool to monitor continued compliance with existing PM_{10} emission limitations, but do not necessarily indicate a violation or emission exceedance has occurred, but rather indicate further investigation and potential corrective actions may be required to minimize the risk of exceeding a permit limit. In addition, Drake has developed and implemented operations, maintenance, quality assurance and quality control procedures to be followed to ensure effective operation of applicable CAM monitoring equipment. These procedures are covered under the existing O&M Plans and Emissions Monitoring Plan for the Drake Cement Plant. The parameters and indicator ranges covered herein will only be modified through an agency approved update to this CAM Plan.

2.0 INDICATORS AND RANGES

The following indicators and ranges have been developed for each source subject to CAM requirements under the existing Drake Cement Air Permit.

CAM Source	Indicator No. 1		Indicator No. 2	
	Monitoring Device	Range	Monitoring Device	Range
BH-5.30	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average
BH-10.30	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average
628.10PF	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average
638.10PF	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average

DC-13.19	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average
DC-13.20	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average
DC-13.40	Continuous Pressure Drop Monitor	Maintain between 2 – 8 inches of water 1-hr average. CAM excursion if outside range for > 1-hour	Daily Visible Emissions Observations Method 22/Follow up Method 9 if applicable	Any visible emissions. investigate, corrective actions. CAM excursion if >7% Opacity 30-minute average

Investigation and Corrective Actions

Anytime one of the indicators outlined above falls outside the designated range, Drake operations and maintenance personnel shall respond and take corrective actions if necessary to restore the air pollution control device within the designated ranges. Corrective action to restore the baghouse(s) to normal operation shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and in all cases shall be initiated within 24 hours following detection. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore the baghouse to normal operation ranges. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range. Investigation and if applicable corrective actions should be performed in accordance with the facility O&M plan.

Recordkeeping and Reporting

Any instances where the pressure drop falls outside of the designated range for greater than 1 hour or opacity exceeds 7% over a 30-minute average using EPA Reference Method 9 shall be documented along with the date and time of the occurrence, when investigation and corrective

actions were initiated, and a description of any corrective actions taken to restore the baghouse(s) within range. Information collected, including the duration and cause of each incident and the corrective action required to resolve the incident, shall be documented and submitted as part of the semi-annual compliance certification. If during the compliance reporting period, there are no occurrences outside of the indicator ranges outlined in this plan, a statement as such shall be included in the compliance certification.

3.0 INSTALLATION AND PERFORMANCE CRITERIA

This section offers a general description of the installation and performance criteria for applicable monitoring equipment covered under this CAM Plan. Additional details are also provided in the Drake Cement O&M Plans, Emissions Monitoring Plan and individual manufacturer manuals for each monitoring device covered under this section.

3.1 INSTALLATION

The following section discusses the installation of applicable installed pressure drop monitoring devices.

3.1.1 Pressure Drop Monitoring Devices

The pressure drop is measured by a continuous pressure drop monitoring systems. These units are mounted to effectively monitor the pressure drop across the baghouses during operation.

3.2 PERFORMANCE AND EQUIPMENT SPECIFICATIONS

The following sections describe the performance and equipment specifications of installed pressure drop monitoring devices.

3.2.1 Pressure Drop

The pressure drop is measured by a continuous pressure drop monitoring system which monitors the pressure drop across the baghouses. The system is installed with the following components and system specifications:

- Continuous Pressure Drop Monitoring
  - ✓ Sensing and recording the pressure drop across the bank of filter bags;
  - ✓ Triggering high or low differential pressure alarms; and,
  - ✓ Data as 1-minute averages collected in plant data historian.
- Magnehelic Gauge
  - ✓ To verify pressure drop across the dust collector.

The information collected from the analyzer is sent to the DCS and DAHS where it is recorded and stored.

3.3 DATA ACQUISITION AND HANDLING SYSTEM (DAHS)

The DAHS is an automated data acquisition and management system comprised of the PLC, data historian software that resides on the plant network server, and a compliance data management package that is accessed through the plant network server. This system performs several functions:

- Provides real-time monitoring information for the Plant Operator and EH&S review;
- Generates reports of current and historic data; and
- Provides a history of system alarms and corrective measures.

Control room operators have access to the data and alarm status on a single screen view that is communicated from the DAHS. Should the applicable CAM monitoring parameters approach the pressure drop range on a 1-hour average, an alarm sounds and appears on the console screen. This allows the operator to view the cause of the reading, and if necessary, initiate corrective actions before a performance indicator limit is approached.

As needed, permit compliance data can be viewed and printed from the DAHS screens that are accessible on the Drake network server. Current status may also be viewed in the Drake control room, and at the desktop terminals of Plant Operators and the EH&S staff. Data is archived on a not less than a weekly basis during routine back-up of files on the Drake network server.

3.4 PERFORMANCE EVALUATION PROCEDURES AND ACCEPTANCE CRITERIA

The following sections detail the performance evaluation procedures and acceptance criteria used for each affected pressure drop monitoring device installed to ensure the accuracy of the data collected.

3.4.1 Pressure Drop

The local readout for the continuous pressure drop system may be read visually from platforms adjacent to the baghouse. As a quality control check on the continuous monitor readings maintained in the DCS, the magnehelic gauge values are to be read manually and recorded not less frequently than weekly, during routine inspections. The pressure drop data will be examined for trends and otherwise reviewed to detect potential maintenance issues, and to act to avoid an unforeseen excess emission event due to significant malfunction. In addition, these pressure drop monitoring devices will be calibrated quarterly to ensure the quality of the data recorded for compliance.

Compressed air supply pressure is sensed by a standard analog pressure gauge, mounted at the baghouse access walkway. It is read locally and not continuously recorded.

4.0 JUSTIFICATION OF PROPOSED MONITORING ELEMENTS

The following describes the justification for the monitoring indicators to be used for this CAM plan.

4.1 Differential Pressure Drop

The performance of a baghouse can be reliably inferred from the consistency of the differential pressure measured between the inlet plenum, and the outlet side to the bag support sheet. Bags which are in contact throughout the array, with satisfactory cleaning by air pulse or other methods will have a relatively consistent pressure differential over a long period of operation once bag surfaces are conditioned. To greatly reduce the likelihood that this limit will be approached Drake will implement warning alarms in the DAHS that notify operators if the pressure drop over a 1-hour averaging period drops below 2 inches of water or above 8 inches of water.

In general baghouses are designed to operate at a relatively consistent range under normal operating conditions. A sudden change or significant increase or decrease in baghouse pressure drop across the chambers or increase or decrease outside of normal operating ranges can be indicative of potential problems that could lead to increases in PM_{10} emissions. Monitoring pressure drop provides a means of detecting a change in operation that could lead to an increase in emissions. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, the bags are becoming blinded or other potential issues. A decrease in pressure drop or extremely low pressure drop may indicate tears, broken or loose bags. CAM pressure drop indicator ranges are selected based on recommendations from the manufacture, past operating pressure drop ranges, and past performance testing confirming compliance with emissions limitations within the prescribed pressure drop ranges.

Pressure drop and rationale as an indicator was selected as appropriate means of providing a reasonable assurance of compliance with emissions from fabric filter baghouses based on the EPA Technical Guidance Document: Compliance Assurance Monitoring Revised Draft prepared by Research Triangle Park August 1998.

During subsequent performance testing, the range of pressure drop will be monitored and assessed for representativeness. This will allow Drake to verify the numerical compliance indicator ranges for pressure drop identified in this plan which could change based on specific configuration, bag filter selection, air to cloth ratio and bag cleaning mechanisms. Currently with the existing baghouses and information from the manufacturer the effective operation range is expected to remain between 2-8 inches of water. Any modification which may change the effective range will be justified based on performance test and manufacturer data and this CAM plan will be modified to reflect the revised monitoring ranges.

4.2 Daily Visible Emissions Monitoring

The daily visible emissions monitoring indicator is deemed sufficient for providing a reasonable assurance of compliance for the air pollution control devices under this plan. As such, Drake personnel will perform a 6-minute daily Method 22 visible emission observation on baghouses as follows:

- ✓ Monitor opacity by conducting daily visual emissions observations in accordance with the procedures of Method 22 of appendix A–7 of 40 CFR Part 60**.** The duration of the Method 22 performance test must be 6 minutes. If visible emissions are observed during daily visible emissions observations, Drake will follow the applicable procedures as follows:

    - ➢ If visible emissions are observed during any Method 22 visible emissions test conducted above, Drake staff must initiate, within one-hour, the corrective actions specified in the site operation and maintenance plan as required in 40 CFR 63.1347.
    - ➢ Within 24 hours of the end of the Method 22 performance test in which visible emissions were observed, Drake staff must conduct a follow up Method 22 performance test of each stack from which visible emissions were observed during the previous Method 22 performance test**.**
    - ➢ If visible emissions are observed during the follow-up Method 22 performance test required above, Drake staff will conduct a performance test in accordance with Method 9 of appendix A–4 to 40 CFR Part 60. The duration of the Method 9 test must be 30 minutes.

To ensure effective operation of air pollution control devices and maintain compliance with emission limits Drake will investigate and perform applicable corrective actions if any visible emissions are noted in accordance with the procedures outlined above. The opacity indicator was selected based on past performance tests and opacity monitoring showing compliance with emission limits below the selected indicator range. Based on the federal standard and information available 7% was determined to be an appropriate indicator to provide reasonable assurance of compliance with emission limits for each source. If a Method 9 observation results in opacity exceeding the 7% excursion threshold, Drake will take additional corrective actions to reduce opacity below 7% following the procedures outlined in Section 2.0.

Visible emissions monitoring and rationale as an indicator was selected as appropriate means of providing a reasonable assurance of compliance with PM_{10} emissions from fabric filter baghouses based on the EPA Technical Guidance Document: Compliance Assurance Monitoring Revised Draft prepared by Research Triangle Park August 1998.

During subsequent performance testing for each source covered under this plan, opacity will be determined using EPA Reference Method 9 and assessed for representativeness with the current indicator range. Any modification which may change the effective opacity indicator for a source will be justified based on the performance tests and this CAM plan will be modified to reflect the revised indicator ranges.