

PERMIT NO. P- 63401

SUMMARY

This Class I Air Quality Control Renewal Permit is hereby amended by Permit Number 63401 and issued to Drake Cement, LLC, the Permittee, for the continued operation of a portland cement plant located in Paulden, Arizona.

This permit is issued in accordance with Title 49, Chapter 3 of the Arizona Revised Statutes. All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code (A.A.C.) R18-2-101 et. seq., Arizona State Implementation Plan (SIP), Code of Federal Regulations (CFR) Title 40 - Parts 60, 63, and 70 except as otherwise defined in this permit. All terms and conditions in this permit are enforceable by the Administrator of the U.S. Environmental Protection Agency.

The potential emission rates of the following pollutants are greater than major source thresholds: (i) nitrogen oxides, (ii) carbon monoxide, (iii) hydrogen chloride, and (iv) total hazardous air pollutants. Therefore, the facility is classified as a major source as defined in A.A.C. R18-2-101(64), and requires a Class I permit pursuant to A.A.C. R18-302(B)(1)(a).

REVISION DESCRIPTION

This Class I, Title V significant permit revision for Drake Cement, LLC, to authorize the use of petroleum coke (petcoke) as a fuel for the cement kiln. Additionally, this revision authorizes the facility to use filter cake as a non-hazardous secondary material to blend in with the raw materials. All previous revisions and amendments have been incorporated into this permit revision.

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ATTACHMENT “A”: GENERAL PROVISIONS

**Air Quality Control Permit Significant Revision No. 63401 to Operating Permit No. 53336
for
Drake Cement, LLC**

I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

- A.** This permit is valid for a period of five years from the date of issuance.
- B.** The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

- A.** The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or 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.
- 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.

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

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

- 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.
- 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 an application for renewal has been submitted 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.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.
 3. The Director or the 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.
 4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C. Proceedings to reopen and reissue 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 reopenings 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.

IV. POSTING OF PERMIT

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

- A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located 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:
1. Current permit number; or
 2. Serial number or other 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.

V. FEE PAYMENT

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

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

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

- A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

- 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 certifications shall be submitted no later than May 15th and November 15th. The May 15th compliance certification 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 November 15th compliance certification shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;
 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;
 3. The 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 certification shall be based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;
 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;
 5. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and
 6. Other facts the Director may require to determine the compliance status of the source.
- B.** A copy of all compliance certifications shall also be submitted to the EPA Administrator.
- C.** If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

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

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.

IX. INSPECTION AND ENTRY

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

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;
- B.** Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C.** Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D.** Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E.** Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

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

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

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.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

- A.** Excess Emissions Reporting

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

- 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:
 - i. 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 XII.A.1.b below.
 - ii. Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.i. above.
 - b. The report shall contain the following information:
 - i. Identity of each stack or other emission point where the excess emissions occurred;
 - ii. 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;
 - iii. Date, time and duration, or expected duration, of the excess emissions;
 - iv. Identity of the equipment from which the excess emissions emanated;
 - v. Nature and cause of such emissions;
 - vi. 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; and
 - vii. Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this section 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 XII.A.1 above.

B. Permit Deviations Reporting

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

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. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

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

1. An “emergency” means any situation arising from sudden and reasonable 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.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was being properly operated at the time;
 - 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
 - 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.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

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

D. Compliance Schedule

[ARS § 49-426.I.5]

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.

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

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

1. **Applicability**

This rule 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;
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
- d. Contained in A.A.C. R18-2-715.F; or
- e. Included in a permit to meet the requirements of A.A.C. R18-2-406.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. 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;
- 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;

- 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;
- 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;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- 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;
- 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;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in Condition XII.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:
 - i. The excess emissions could not have been prevented through careful and prudent planning and design;
 - ii. 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;

- iii. 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;
- iv. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- v. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- vi. 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;
- vii. All emissions monitoring systems were kept in operation if at all practicable; and
- viii. Contemporaneous records documented the Permittee's actions in response to the excess emissions.

- 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 XII.E.2 above.

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 XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

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

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

1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The name of the company or entity that performed the analyses;
 4. A description of the analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.
- B.** The Permittee shall retain records of all required monitoring data and support information for a period of at least 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.
- C.** All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

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

The Permittee shall submit the following reports:

- A.** Compliance certifications in accordance with Section VII of Attachment "A".
- B.** Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".
- C.** Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

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

- 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 Administrator along with a claim of confidentiality.
- 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.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-318, -319, and -320]

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 XVII, as follows:

- A. Administrative Permit Amendment (A.A.C. R18-2-318);
- B. Minor Permit Revision (A.A.C. R18-2-319); and
- C. Significant Permit Revision (A.A.C. R18-2-320).

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

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

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

- A. The Permittee may make changes at the permitted source 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);
 - 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;
 - 3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;
 - 4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A; and
 - 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.
- 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 XVII.A and XVII.C of this Attachment.
- C. For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the 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.

- D.** Each notification shall include:
1. When the proposed change will occur;
 2. A description of the change;
 3. Any change in emissions of regulated air pollutants; and
 4. Any permit term or condition that is no longer applicable as a result of the change.
- E.** The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section.
- 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.
- G.** Notwithstanding any other part of this Section, 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 this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS

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

- A.** The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.
- B.** Operational Conditions during Testing
- Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.
- C.** 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.
- D.** Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

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:

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.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

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

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

XX. SEVERABILITY CLAUSE

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

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.

XXI. PERMIT SHIELD

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

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 XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE

[40 CFR Part 82]

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

ATTACHMENT “B”: SPECIFIC CONDITIONS

**Air Quality Control Permit Significant Revision No. 63401 to Operating Permit No. 53336
for
Drake Cement, LLC**

I. KILN, CLINKER COOLER, RAW MILL, AND COAL MILL

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Raw Mill (RP-5.16)	164 tons raw meal per hour	Baghouse (BH-5.30)	Main Stack (MS-5.38)
Rotary Kiln (RK-9.1)	Dry process, 83.33 tons clinker per hour	Selective Non-Catalytic Reduction Baghouse (BH-5.30)	Main Stack (MS-5.38)
Clinker Grate Cooler (CGC-10.1)	83.33 tons clinker per hour	Baghouse (BH-10.13)	Cooler Stack (CS-10.16)
Coal Mill (VM-12.9)	14 tons coal per hour	Baghouse (BH-12.18)	Main Stack (MS-5.38)

B. Emission Limits and Standards

1. General

All D/F, HCl, and total hydrocarbon (THC) emissions limit are on a dry basis. The D/F, HCl, and THC limits for kilns are corrected to 7 percent oxygen. All THC emissions limits are measured as propane. Standards for mercury and THC are based on a rolling 30-day average. If using a CEMS to determine compliance with the HCl standard, this standard is based on a rolling 30-day average. The Permittee shall ensure appropriate corrections for moisture are made when measuring flow rates used to calculate mercury emissions. The 30-day period means 30 consecutive kiln operating days excluding periods of startup and shutdown.

[40 CFR § 63.1343(a)]

2. Fuel Limitations

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

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

- a. Natural Gas;
- b. Coal; and
- c. Co-firing of coal and petcoke at a ratio of no more than 65 percent petcoke.

3. Operational Limitations

- a. Cement clinker produced in the Rotary Kiln shall not exceed 83.33 tons per hour based on an hourly rolling 3-hour average.

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

- b. Cement clinker produced in the Rotary Kiln shall not exceed 660,000 tons per year based on a monthly rolling 12-month sum.

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

- c. *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 underline and italics]

- d. Startup and Shutdown Requirements

[40 CFR § 63.1346(g) and § 63.1348(b)(9)]

- i. During periods of startup and shutdown the Permittee shall meet the requirements listed below:

(a) 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 1,200 degrees Fahrenheit.

(b) Combustion of the primary kiln fuel may commence once the kiln temperature reaches 1,200 degrees Fahrenheit.

(c) All air pollution control devices must be turned on and operating prior to combusting any fuel.

(d) the Permittee shall keep records as specified in 40 CFR 63.1355(f) during periods of startup and shutdown.

- e. *The Permittee shall not incorporate more than 9,200 tons of filter cake 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 underline and italics]

4. Particulate Matter Emission Standards

- a. The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain PM₁₀ 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 Stack any gases which contain PM₁₀ 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 PM₁₀ in excess of 5.967 lbs/hr. [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 Stack any gases which contain PM₁₀ in excess of 2.223 lbs/hr. [A.A.C. R18-2-406(A)(5)]
- e. Until September 9, 2015, 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 0.30 lb per ton of feed (dry basis) to the rotary kiln. [40 CFR § 63.1343(c)(1) 2006 rule]
- a. After September 9, 2015, 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 the following equation: [40 CFR § 63.1343(b)(2), Eq. 1]

Equation 1:

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

Where:

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

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

Q_c = The exhaust flow of the clinker cooler (dscf/ton feed)

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

- b. Until September 9, 2015, 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 0.10 lb per ton of feed (dry basis) to the kiln. [40 CFR § 63.1345(a)(1), 2006 rule]

- a. After September 9, 2015, 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 lb per ton clinker during normal operation.

[40 CFR § 63.1343(b)(1)(Table 1 Row 9)]

- b. Until September 9, 2015, the Permittee shall not cause or allow to be emitted into the atmosphere from the Cooler Stack any gases which exhibit opacity greater than 10 percent, based on a 6-minute block average.

[A.A.C. R18-2-331(A)(3)(f), and 40 CFR § 63.1345(a)(2), 2006 Rule]
[Material Permit Conditions are indicated with underline and italics]

- c. The Permittee shall not cause or allow to be emitted into the atmosphere from the Raw Mill any gases which exhibit opacity greater than 10 percent, based on a 6-minute block average.

[A.A.C. R18-2-331(A)(3)(f), R18-2-901(32) 40 CFR § 63.1345, 40 CFR § 63.1343(b)(1)(Table 1 Row 13)]
[Material Permit Conditions are indicated with underline and italics]

- d. Until September 9, 2015, the Permittee shall not cause or allow to be emitted into the atmosphere from the Coal Mill any gases which contain particulate matter (PM) in excess of 0.031 grains per dry standard cubic feet, after which this Condition will no longer apply.

[A.A.C. R18-2-901(32) and 40 CFR § 60.252(a)(1)]

5. Sulfur Dioxide Emission Standard

The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain sulfur dioxide (SO₂) 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 underline and italics]

6. Nitrogen Oxides Emission Standards

- a. 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 lbs per hr based on an hourly rolling 24-hour average.

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

- b. 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 lbs per ton of clinker based on a daily rolling 30-day average.

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

7. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted into the atmosphere from the Main Stack any gases which contain CO in excess of 3.6 lbs per ton of clinker based on an hourly rolling 3-hour average.

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

8. Volatile Organic Compounds

- a. Until September 9, 2015, 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 20 ppmvd as propane, measured in accordance with Condition I.B.1.

[40 CFR § 63.1343(c)(4), 2006 Rule]

- b. After September 9, 2015, 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 as propane, measured in accordance with Condition I.B.1.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1343(b)(1)]

- c. *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 underline and italics]

9. Dioxins/Furans and Mercury Emission Standards and Operating Requirements

- a. The Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln any gases, measured in accordance with Condition I.B.1, which contain dioxins/furans (D/F) in excess of:

[A.A.C. R18-2-1101(B)(50) 40 CFR § 63.1343(b)(1)]

- i. 0.20 nanograms (ng) per dscm (8.7×10^{-11} gr/dscf) (toxicity equivalent (TEQ)) corrected to seven percent oxygen; or
- ii. 0.40 ng per dscm (1.7×10^{-10} gr per dscf) (TEQ) corrected to seven percent 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.

- b. Until September 9, 2016, the Permittee shall not cause or allow to be emitted into the atmosphere from the Rotary Kiln any gases which contain Mercury in excess of 41 µg per dscm measured on a dry basis corrected to 7% oxygen.

[40 CFR § 63.1343(c)(5), 2006 Rule]

- c. After September 9, 2016, 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, measured in accordance with Condition I.B.1.

[40 CFR § 63.1343(b)(1)Table 1 Row 1]

d. The Permittee shall operate the Rotary Kiln and Raw Mill such that:

[A.A.C. R18-2-1101(B)(50) 40 CFR § 63.1346(a)]

i. 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 I.E.8.a 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.

[A.A.C. R18-2-1101(B)(50), 40 CFR § 63.1346(a)(1)]

ii. 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 I.E.8.a 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1346(a)(2)]

10. Ammonia and HCl Emission Standards

a. 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]

b. After September 9, 2016, 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, measured in accordance with Condition I.B.1.

[40 CFR § 63.1343(b)(1)(Table 1 Row 2)]

C. Air Pollution Control Requirements

1. *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. R18-2-331(A)(3)(d), (b), and (e) and R18-2-406(A)(4)]

[Material Permit Conditions are indicated with underline and italics]

2. *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 PM₁₀ emissions.

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

3. 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 PM₁₀ emissions.

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

4. 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 PM₁₀ emissions.

[A.A.C. R18-2-331(A)(3)(d), (b), and (e), R18-2-406(A)(4), R18-2-901(1), and 40 CFR § 60.11(d)]
Material Permit Conditions are indicated with underline and italics.

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)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring and Recordkeeping for Operational Limitations

- 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.

[A.A.C. R18-2-306(A)(3)(c),R18-2-331(A)(3)(c), and 40 CFR § 63.1350(d)(1)(ii)]
[Material Permit Conditions are indicated with underline and italics]

- b. The monitoring device shall have an accuracy of $\pm 5\%$ over its operating range.

[40 CFR § 63.1350(d)(1)(ii)]

- c. The Permittee shall measure 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)]

- d. 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)]

- e. 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)]

- f. 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)]

- g. 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)]

- h. The Permittee shall maintain records documenting the chemical and elemental makeup of each batch of filter cake received by the facility in units of parts per million.

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

2. Emission Monitoring Plan

[40 CFR § 63.1350(p)]

For each emission limit requiring submittal and approval of an emission monitoring plan the Permittee shall develop an emission monitoring plan in accordance with the requirements of 40 CFR 63.1350(p) to the director.

3. Exhaust Gas Flow Rate Monitoring Requirements

[40 CFR § 63.1350(n)]

- 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 CEMS associated with a pollutant subject to a lb/ton of clinker emission limit., 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.

- 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.
- 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 I.D.3.b above.
- 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.
- e. The flow rate monitoring system shall be designed to complete a minimum of one cycle of operation for each successive 15-minute period.
- f. The flow rate sensor shall have provisions to determine the daily zero and upscale calibration drift (CD) (see sections 3.1 and 8.3 of Performance Specification 2 in appendix B of 40 CFR 60 for a discussion of CD).
 - i. The Permittee shall 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).
 - ii. 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 of 40 CFR 60 with the exceptions Conditions Below:
 - i. The relative accuracy test is to evaluate the flow rate monitoring system alone rather than a continuous emission rate monitoring system.
 - ii. The relative accuracy of the flow rate monitoring system shall be no greater than 10 percent of the mean value of the reference method data.
- 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 I.D.3.g above.

- 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).

4. Monitoring and Recordkeeping for Opacity of Visible Emissions

- a. The Permittee shall calibrate, maintain, and operate continuous opacity monitoring systems (COMS) to continuously monitor the opacity of visible emissions from the Cooler Stack.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(50), 40 CFR § 63.1345(a)(2), 2006 rule]
[Material Permit Conditions are indicated with underline and italics]

- b. The Permittee shall calibrate, maintain, and operate continuous opacity monitoring systems (COMS) to continuously monitor the opacity of visible emissions from the Main Stack.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(50), and 40 CFR § 63.1343(b)(1)(Table 1, Row 13)]
[Material Permit Conditions are indicated with underline and italics]

- c. Each COMS required by Condition I.D.4.a and I.D.4.b shall meet the requirements of Performance Specification 1, Specifications and test procedures for opacity continuous emission monitoring systems in stationary sources, in appendix B to 40 CFR Part 60. The COMS shall be installed at the outlet of the PM control device for the raw mill. mill.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(f)(4)(i)]

- d. For each COMS required by Condition I.D.4.a and I.D.4.b, the Permittee shall maintain all records required by 40 CFR § 63.10(c).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(c)]

5. Monitoring and Recordkeeping for SO₂, NO_x, and CO emissions

- a. The Permittee shall calibrate, maintain, and operate continuous emission rate monitoring systems (CERMS) for monitoring and recording the SO₂, NO_x, CO and ammonia emission rates to the atmosphere from the Main Stack.

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

- b. The CERMS required by Condition I.D.5.a shall meet the following requirements:

- i. 40 CFR Part 60, Appendix B, "Performance Specifications"

- (a) The SO₂ and NO_x CERMS shall meet the requirements of Performance Specification 2, *Specifications and test*

procedures for SO₂ 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 SO₂, 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.

ii. 40 CFR Part 60, Appendix F, "Quality Assurance Procedures."

The Permittee shall submit a Quality Assurance/Quality Control Plan to the Director 30 days prior to the instrument start-up including procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, Subpart D (§ 75.30). When approved by the Director, this plan shall be implemented.

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

- 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 I.D.5.a through I.D.5.f, divided by the total clinker production rate over the averaging period, as measured and recorded in accordance with Condition I.D.1.

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

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

- i. All 365-day periods for which the SO₂ emission rate to the atmosphere as determined in accordance with Condition I.D.5 exceeds the emission standard in Condition I.B.5.

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

- ii. All 24-hour periods for which the NO_x emission rate to the atmosphere as determined in accordance with Condition I.D.5 exceeds the emission standard in Condition I.B.6.a.

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

- iii. All 30-day periods for which the NO_x emission rate to the atmosphere as determined in accordance with Condition I.D.5 exceeds the applicable emission standard in Condition I.B.6.b.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(5)]

- iv. All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition I.D.5 exceeds the emission standard in Condition I.B.7.

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

- v. All 365-day periods for which the ammonia emission rate to the atmosphere as determined in accordance with Condition I.D.5 exceeds the emission standard in Condition I.B.10.a.

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

- i. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment “A” of this permit.

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

6. Monitoring and Recordkeeping for VOCs.

- a. *The Permittee shall calibrate, maintain, and operate a continuous emission rate monitoring system (CERMS) 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.*

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-1101(B)(50), and 40 CFR § 63.1350(i)]
[Material Permit Conditions are indicated with underline and italics]

- b. The CERMS required by Condition I.D.6.a shall meet the following requirements:

- i. 40 CFR Part 60, Appendix B, “Performance Specifications”

- (a) The CERMS shall meet the requirements of Performance Specification 8a, Specifications and test procedures for total hydrocarbon continuous monitoring systems in stationary sources.

[A.A.C. R18-2-306(A)(3), R18-2-1101(B)(50), and 40 CFR § 63.1350(i)]

- (b) The Permittee is not required to calculate hourly rolling averages in accordance with section 4.9 of Performance Specification 8A.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(i)]

- (c) The CERMS shall meet the requirements of Performance Specification 6, Specifications and test procedures for continuous emission rate monitoring systems in stationary sources.

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

- ii. 40 CFR Part 60, Appendix F, “Quality Assurance Procedures.”

[A.A.C. R18-2-306(A)(3), 40 CFR 63.1349(b)(4), and 40 CFR § 63.1350(i)]

- (a) The Permittee shall submit a Quality Assurance/Quality Control Plan to the Director 30 days prior to the instrument start-up including procedures for dealing with

data gaps based on the procedures contained in 40 CFR Part 75, Subpart D (§ 75.30). When approved by the Director, this plan shall be implemented.

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

- (b) 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 part 60 of this chapter.
- c. The Permittee shall use the THC CEMS to conduct the initial compliance test for the first 30 kiln operating days of kiln operation after the compliance date of the rule.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(4)(ii)]
- d. For the CERMS required by Condition I.D.6.a, the Permittee shall maintain all records required by 40 CFR § 63.10(c).
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(c)]
7. Monitoring and Recordkeeping for Dioxin/Furan Emissions
- 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), R18-2-1101(B)(50), and 40 CFR § 63.1350(g)(1)]
Material Permit Conditions are indicated with underline and italics.
- i. The recorder response range shall include zero and 1.5 times either of the average temperatures established according to the requirements in Condition I.E.8.a.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(g)(1)(i)]
- ii. 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.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(g)(1)(ii)]
- iii. The calibration of all thermocouples and other temperature sensors must be verified at least once every three months.
[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(50), and 40 CFR § 63.1350(g)(1)(iii)]
[Material Permit Conditions are indicated with underline and italics]
- 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.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(g)(2)]

- c. The required minimum data collection frequency shall be one minute.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(g)(3)]
- d. The Permittee shall calculate the rolling three-hour average temperature using the average of 180 successive one-minute average temperatures.
[A.A.C. R18-2-1101(B)(50) and 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.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(g)(5)]
- f. For the continuous temperature monitoring system required by Condition I.D.7.a, the Permittee shall maintain all records required by 40 CFR § 63.10(c).
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(c)]

8. Monitoring and Recordkeeping for Mercury Emissions

a. Applicability:

This Section is not applicable until September 9, 2016.

- b. *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.*

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(50), 40 CFR § 63.1350(k)]
Material Permit Conditions are indicated with underline and italics.

- c. 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/m³ 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 40 CFR 63.1350(p) and associated records.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(k)(1)]

- d. In order to quality assure data measured above the span value, the Permittee shall use one of the two options in the conditions below.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(k)(2)]

- i. 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/m³ 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.

- ii. The Permittee shall quality assure any data above the span value established in Condition I.D.8.c above using the following procedure. Any time two consecutive one-hour average measured concentration of Hg exceeds the span value the Permittee shall, 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 be of a concentration level between 50 and 150 percent of the highest hourly concentration measured during the period of measurements above span, and must be introduced at the probe. Record and report the results of this procedure as you 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 shall 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 19 below:

Equation 19:

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

Only one ‘above span’ calibration is needed per 24 hour period

- e. The Permittee shall operate and maintain each Hg CEMS monitoring system according to the quality assurance requirements in Procedure 5 of appendix F to part 60 of this chapter.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(k)(3)]

- f. Relative accuracy testing of mercury monitoring systems under PS 12A, PS 12B, or Procedure 5 must be conducted at normal operating conditions. If a facility has an inline raw mill, the testing must occur with the raw mill on.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(k)(4)]

9. Monitoring and Recordkeeping for HCL

- a. Applicability

This Section is not applicable until September 9, 2016.

- b. The Permittee shall demonstrate compliance with the HCl emission limit in Condition I.B.9.b by installing a continuous emission monitoring system to continuously monitor HCl emissions (HCl CEMS).

[A.A.C. R18-2-331(A)(3)(c), 40 CFR § 63.1350(l)]

[Material Permit Conditions Identified with Underline and Italics]

- c. 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 part 60 of this chapter, or, upon promulgation, in accordance with any other performance specification for HCl CEMS in appendix B to part 60 of this chapter. The Permittee shall operate, maintain, and quality assure a HCl CEMS installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to part 60 of this chapter except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. If the Permittee installs and operates an HCl CEMS in accordance with any other performance specification for HCl CEMS in appendix B to part 60 of this chapter, the Permittee shall operate, maintain and quality assure the HCl CEMS using the procedure of appendix F to part 60 of this chapter applicable to the performance specification. The Permittee shall use Method 321 of appendix A to part 63 of this chapter as the

reference test method for conducting relative accuracy testing. The span value and calibration requirements in Conditions I.D.9.c.i and I.D.9.c.ii below apply to HCl CEMS other than those installed and certified under PS 15.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(l)(1)]

- i. The Permittee shall use a span value for any HCl CEMS that represents the intended upper limit of the HCl concentration measurement range during normal inline raw “mill on” operation. The span value should be a concentration equivalent to approximately two times the emissions standard and it may be rounded to the nearest multiple of 5 ppm of HCl. 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. 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 in accordance with 40 CFR 63.1350(p) and associated records.
- ii. In order to quality assure data measured above the span value, you must use one of the two options in Conditions I.D.9.c.ii(a) and I.D.9.c.ii(b) below:
 - (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 $\mu\text{g}/\text{m}^3$ 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 established in Condition I.D.9.c.i using the following procedure. Any time the average measured concentration of HCl exceeds or is expected to exceed the span value for greater than two hours you must, within a period 24 hours before or after the ‘above span’ period, 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 be of a concentration level between 50 and 100 percent of the highest hourly concentration measured during the period of measurements above span, and must be introduced at the probe. Record and report the results of this procedure as you 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 shall normalize the stack gas values measured above span as described in Condition I.D.9.c.ii(c) below. If the 'above span' calibration is conducted during the period when measured emissions are above span and there is a failure to collect the required minimum number of data points in an hour due to the calibration duration, then you must determine the emissions average for that missed hour as the average of hourly averages for the hour preceding the missed hour and the hour following the missed hour.

- (c) 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 you 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 Equation 20:

Equation 20:

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

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

10. Monitoring and Recordkeeping for Baghouses BH-5.30 and BH-10.13

- a. The Permittee shall demonstrate compliance with the PM₁₀ emission limits in Condition I.B.4.a through I.B.4.d in accordance with the requirements of 40 CFR Part 64. The Permittee shall maintain and implement the approved Compliance Assurance Monitoring (CAM) Plans for Baghouses BH-5.30 and BH-10.13.

[A.A.C. R18-2-306(A)(3) and (4), 40 CFR Part 64 - CAM and A.A.C. R18-2-406(A)(4)]

- b. After September 9, 2015, the Permittee shall demonstrate initial compliance with the applicable PM emission limits by using the test methods and procedures in Conditions I.D.10.c through I.D.10.g below and the Conditions listed under I.E.7

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1348(a)(1), 63.1350(b), and § 63.1349(b)(1)]

- c. After September 9, 2015, the Permittee shall use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. The Permittee shall conduct the performance test using Method 5 or Method

5I at appendix A-3 to part 60 of this chapter. The Permittee shall use the PM CPMS to demonstrate continuous compliance with this 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 using the procedures in Conditions I.E.7.a.i through I.E.7.a.vi. The Permittee shall also repeat the test if there is a change to the analytical range of the instrument, or if the Permittee replaces the instrument itself or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(b)(1)(i)]

- d. The Permittee shall determine continuous compliance by using 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) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(b)(1)(ii)]

- e. For any exceedance of the 30 process operating day PM CPMS average value from the established operating parameter limit, the Permittee shall:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(b)(1)(iii)]

- i. Within 48 hours of the exceedance, visually inspect the APCD;
- ii. If inspection of the APCD identifies the cause of the exceedance, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and
- iii. Within 30 days of the exceedance or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the PM CPMS operating limit within 45 days. The Permittee is 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.

- f. PM CPMS exceedances leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a presumptive violation of this subpart.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(b)(1)(iv)]

- g. The Permittee shall follow the, maintenance, monitoring and analysis procedures as set forth in the approved CAM Plan for Baghouses BH-

5.30 and BH-10.13.

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

- h. Operation of approved monitoring in accordance with 40 CFR 64.7 shall commence upon startup of the Rotary Kiln, Raw Mill, and Clinker Grate Cooler.

[A.A.C. R18-2-306(A)(3) & (4) 40 CFR part 64 - CAM and R18-2-406(A)(4)]

- i. The Permittee shall calibrate, operate, and maintain, according to the manufacturer's specifications, continuous parameter monitoring systems capable of measuring pressure drop across Baghouses BH-5.30 and BH-10.13.

[A.A.C. R18-2-306(A)(3)(b) & (4) -331(A)(3)(c)40 CFR Part 64 - CAM, and R18-2-406(A)(4)]
[Material Permit Conditions are indicated with underline and italics]

- j. The Permittee shall continuously monitor and record the pressure drop across Baghouses BH-5.30 and BH-10.13. The output of the pressure drop continuous parameter monitoring systems 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), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- k. The pressure drop continuous parameter monitoring systems shall meet the performance criteria contained in the approved CAM plans.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- l. Each time the pressure drop across Baghouse BH-5.30 falls outside the range of 2-8 inches H₂O averaged over a 1-hour period, shall constitute an excursion.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- m. Each instance of visible emissions from the Main Stack with opacity, as determined in accordance with Condition I.D.4.b, in excess of 7 percent opacity averaged over a 1-hour period, shall constitute an excursion.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- n. Each time the pressure drop across Baghouse BH-10.13 falls outside the range of 2-8 inches H₂O averaged over a 1-hour period, shall constitute an excursion.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- o. Each instance of visible emissions from the Cooler Stack with opacity, as determined in accordance with Condition I.D.4.a, in excess of 7 percent opacity averaged over a 1-hour period, shall constitute an excursion.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- p. The Permittee shall take corrective action following each pressure drop or opacity excursion as defined in Conditions I.D.10.1 through I.D.10.o.

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 of an excursion.

[A.A.C. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- q. The Permittee shall perform monthly inspections of Baghouses BH-5.30 and BH-10.13 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 Baghouses BH-5.30 and BH-10.13 or the associated pressure drop continuous parameter monitoring systems 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. R18-2-306(A)(3) & (4), 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

- r. Annual inspections, maintenance, excursions, and corrective action measures for Baghouses BH-5.30 and BH-10.13 and the associated COMS and pressure drop continuous parameter monitoring systems shall be recorded and reported in accordance with Condition XII.B of Attachment "A."

[A.A.C. R18-2-306(A)(3) & (4) 40 CFR Part 64 - CAM, and R18-2-406(A)(4)]

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

- a. The Permittee shall calibrate, maintain, and continuously operate a device for monitoring the temperature of the gas stream at the exit of the Coal Mill.

[A.A.C. R18-2-331(A)(3)(c), R18-2-901(32), and 40 CFR § 60.256(a)]
[Material Permit Conditions are indicated with underline and italics]

- i. The temperature monitoring device is to be certified by the manufacturer to be accurate within ± 3 °F.

[A.A.C. R18-2-901(32), and 40 CFR § 60.256(a)]

- ii. The temperature monitoring device shall be recalibrated annually in accordance with procedures under 40 CFR § 60.13(b).

[A.A.C. R18-2-331(A)(3)(c), A.A.C R18-2-901(32), and 40 CFR § 60.256(b)]
[Material Permit Conditions are indicated with underline and italics]

- b. 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 underline and italics]

- c. 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)]

- d. If the pressure drop across Baghouse BH-12.18 is outside the range of 0.5 to 6.0 inches of H₂O, 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 I.B.4.a and I.B.4.b. 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 XII.D of Attachment "A."

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

12. **Operations and Maintenance Plan**

- a. The Permittee shall maintain the approved operations and maintenance plan required pursuant to 40 CFR 63.1347.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1347(a)]

- b. Failure to comply with any provision of the operations and maintenance plan approved by the Director in accordance with Condition I.D.12.a shall be a violation.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1347(b)]

13. **Recordkeeping, Reporting, and Notification Requirements**

- a. The Permittee shall maintain the following records:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)]

- i. All records as required by 40 CFR § 63.10(b)(2) and (b)(3).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)]

- ii. All documentation supporting initial notifications and notifications of compliance status under 40 CFR § 63.9.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)(1)]

- iii. All records of applicability determination, including supporting

analyses.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)(2)]

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

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)(3)]

- v. The Permittee shall maintain all records required by 40 CFR § 63.10(c)

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(c)]

- vi. The Permittee shall keep annual records of the amount of CKD which is removed from the kiln system and either disposed of as solid waste or otherwise recycled for a beneficial use outside of the kiln system.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(d)]

- vii. The Permittee shall keep records of the daily clinker production rates and kiln feed rates.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(e)]

- viii. The Permittee shall keep records of the occurrence and duration of each startup or shutdown 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..

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(f)]

- ix. 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(g)(1)]

- x. The Permittee shall keep records of actions taken during periods of malfunction to minimize emissions in accordance with I.C.5 including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(g)(2)]

- b. The Permittee shall comply with the reporting requirements specified in

40 CFR § 63.10 as follows:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)]

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

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(1)]

- ii. As required by 40 CFR § 63.10(d)(3), the Permittee shall report the opacity results from tests required by 40 CFR 63.1349.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(2)]

- iii. As required by 40 CFR § 63.10(d)(4), the owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under 40 CFR § 63.6(i) shall submit such reports by the dates specified in the written extension of compliance.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(3)]

- iv. 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(6)]

- v. As required by 40 CFR § 63.10(e)(2), when a COMS is used to determine opacity compliance during any performance test required under 40 CFR § 63.7 and described in 40 CFR § 63.6(d)(6), the Permittee shall report the results of the COMS performance evaluation conducted under 40 CFR § 63.8(e).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(7)]

- vi. As required by 40 CFR § 63.10(e)(3), the Permittee shall submit an excess emissions and continuous monitoring system performance report for any event when the data provided by the continuous monitoring system indicate the source is not in compliance with the applicable emission limitation or operating parameter limit.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(8)]

- vii. The Permittee shall submit a summary report semiannually, along with the compliance certification, which contains the information specified in 40 CFR § 63.10(e)(3)(vi). In addition, the summary report shall include:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)]

- (a) All exceedances of maximum baghouse inlet gas temperature limits specified in Conditions I.B.9.d.i and

I.B.9.d.ii;

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)(i)]

- (b) All failures to calibrate thermocouples and other temperature sensors as required under Condition I.D.7.a.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)(ii)]

- (c) The results of any combustion system component inspections conducted within the reporting period as required under the operation and maintenance plan; and

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)(iv)]

- (d) All failures to comply with any provision of the approved operation and maintenance plan required by Condition I.D.12.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)(v)]

- (e) 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)(vii)]

- viii. If the total continuous monitoring system downtime for any continuous monitoring system for the reporting period is 10 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 required by Condition I.D.13.b.vii.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(10)]

- ix. The semiannual report required by Condition I.D.13.b.vii of this section shall include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report shall also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with Condition I.C.5, including actions taken to correct a malfunction.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(c)]

- c. The Permittee shall comply with the notification requirements in 40 CFR § 63.9 as follows:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)]

- i. Notification of performance tests, as required by 40 CFR § 63.7

and 63.9(e).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(2)]

- ii. 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).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(3)]

- iii. Notification, as required by 40 CFR § 63.9(g), of the date that the CEMS or COMS performance evaluation required by 40 CFR § 63.8(e) is scheduled to begin.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(4)]

- iv. Notification of compliance status, as required by 40 CFR § 63.9(h).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(5)]

- d. The Permittee shall maintain files of all information (including all reports and notifications) required 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(a)]

E. Testing Requirements

- 1. Performance test results shall be documented in complete test reports that contain the information required by Condition I.E.1.a through I.E.1.j below, as well as all other relevant information. As described in 40 CFR 63.7(c)(2)(i), the site-specific plan to be followed during performance testing shall be made available to the Director prior to testing, if requested. For purposes of determining exhaust gas flow rate to the atmosphere from an alkali bypass stack or a coal mill stack, the Permittee shall either install, operate, calibrate and maintain an instrument for continuously measuring and recording the exhaust gas flow rate according to the requirements in Condition I.D.3 or use the maximum design exhaust gas flow rate.

[A.A.C. R18-2-1101(B)(50) and 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.
2. The Permittee shall submit the following information within 60 days following the initial performance test. All reports shall be signed by the facilities manager:
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(d)]
- a. The initial performance test data;
 - b. The values for the site-specific operating limits or parameters established pursuant to Conditions I.E.7, I.E.8, and I.E.11, as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test.
3. As of December 31, 2011 and within 60 days after the date of completing each performance evaluation or test, as defined in 40 CFR 63.2, conducted to demonstrate compliance with this Section, 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) (see http://www.epa.gov/ttn/chief/ert/ert_tool.html/).
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(d)(2)]
4. 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.
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(e)]
5. Commingled Exhaust Requirements
[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1348(a)(7)]

- a. If the coal mill exhaust is commingled with kiln exhaust in a single stack, you may demonstrate compliance with the kiln emission limits by either:
 - i. Performing required emissions monitoring and testing on the commingled coal mill and kiln exhaust, or
 - ii. 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).
6. Performance tests are required at regular intervals for affected sources that are subject to a dioxin, organic HAP or HCl emissions limit and must be repeated every 30 months except for pollutants where that specific pollutant is monitored using CEMS. Tests for PM are repeated every 12 months.

[A.A.C. R18-2-1101(B)(50), 40 CFR § 63.1349(c)]
7. Test Methods and Procedures for Particulate Matter and Opacity of Visible Emissions

- a. The Permittee shall monitor continuous performance through use of a PM continuous parametric monitoring system (PM CPMS) as follows:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)]

- i. For the PM CPMS, the Permittee shall establish a site-specific operating limit. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp equivalent of zero output from the PM CPMS, and the average PM result of the compliance test to establish your operating limit. If the PM compliance test demonstrates the PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)(i)]

- (a) The PM CPMS shall provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.
- (b) The PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to three times your allowable emission limit. If the PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to three times your allowable emission limit.
- (c) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

- ii. The Permittee shall determine the operating limit as specified in Conditions (iii) through (iv) 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)(ii)]

- iii. If the average of the three 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 Method 5 or 5I compliance test with the procedures in Conditions I.E.7.a.iii(a) through I.E.7.a.iii(d) below.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)(iii)]

- (a) Determine your PM CPMS instrument zero output with one of the following procedures.
- (1) Zero point data for in-situ instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.
 - (2) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.
 - (3) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when the process is not operating, but the fans are operating or the source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.
 - (4) If none of the steps in Conditions I.E.7.a.iii(a)(1) through I.E.7.a.iii(a)(3) above are possible, the Permittee shall use a zero output value provided by the manufacturer.

- (b) Determine the PM CPMS instrument average in milliamps, and the average of the corresponding three PM compliance test runs, using equation 3:

Equation 3:

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

Where:

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

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

n = The number of data points.

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

Equation 4:

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

Where:

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

Y_1 = The three run average lb/ton-clinker PM concentration.

X_1 = The three run average milliamp output from you PM CPMS.

z = The milliamp equivalent of your instrument zero determined from Condition I.E.7.a.iii(a).

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

Equation 5:

$$O_l = z + \left(\frac{0.75L}{R} \right)$$

Where:

O_1 = The operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

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

z = Your instrument zero in milliamps.

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

- iv. 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.

Equation 6:

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

Where:

X_i = The PM CPMS data points for all runs i.

n = The number of data points.

O_h = Your site specific operating limit, in milliamps.

- v. 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. Use Equation 7 to determine the 30 kiln operating day average.

Equation 7:

$$30_{Kiln\ Operating\ Day} = \frac{\sum_{i=1}^n H_{pvi}}{n}$$

Where:

H_{pvi} = The hourly parameter value for hour i.

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

- vi. 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. You need not determine the particulate matter collected in the impingers (“back half”) of the Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the “back half” for other purposes.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)(vi)]

- vii. 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)(vii)]

- viii. The owner or operator of a kiln with an in-line raw mill and subject to limitations on PM emissions shall demonstrate initial compliance by conducting separate performance tests while the raw mill is under normal operating conditions and while the raw mill is not operating.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(1)(ix)]

- b. The Permittee shall demonstrate compliance with Conditions I.B.4.a through I.B.4.d using the test methods and procedures in Conditions I.E.7.b.i through I.E.7.b.vi.

- i. The Permittee shall demonstrate compliance with Conditions I.B.4.a and I.B.4.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-18-406(A)(4) and R-18-406(A)(5)]
- (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-18-406(A)(4) and R-18-406(A)(5)]
- ii. The Permittee shall use any of the following test methods to determine the PM₁₀ 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, included as Attachment "D" to this permit.
[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]
- iii. Each performance test shall consist of three separate runs.
[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]
- iv. Each run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.
[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]
- v. The average of the three runs shall be used to determine compliance.
[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]
- vi. 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-18-406(A)(4) and R-18-406(A)(5)]

- vii. The performance tests required by Condition I.E.7.b shall be performed within 3 years of the last conducted performance test.

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

8. Test Methods and Procedures for Dioxins/Furans Emissions

- a. The Permittee shall demonstrate compliance with the emission limits in Condition I.B.9.a, and the applicable temperature limit in Condition I.B.9.d using the test methods and procedures in Conditions I.E.8.a.i through I.E.8.a.vi below.

[A.A.C. R18-2-1101(B)(50), 40 CFR § 63.1349(b)(3) and 40 CFR § 63.1346(a)]

- i. 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1346(a)(1), and 63.1346(a)(2)]

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

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(3)]

- iii. 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).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(3)(i)]

- iv. 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(3)(ii)]

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

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(3)(iii)]

- vi. 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 Condition I.B.9.d §63.1344(b).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(3)(iv)]

9. Test Methods and Procedures for Total Hydrocarbons Emissions

- a. The Permittee shall demonstrate compliance with Condition I.B.8 using the test methods and procedures in Conditions I.E.9.b through I.E.9.f.

[A.A.C. R18-2-1101(B)(50), 40 CFR § 63.1349(b)(4), and 63.1348(a)(4)]

- b. The Permittee shall install, operate, and maintain a THC continuous emission monitoring device (CEMS) in accordance with Performance Specification 8 in appendix B to 40 CFR 60, and the CEMS requirements in 40 CFR 63 Subpart A.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(50), 40 CFR § 63.1350(i)(1), and 40 CFR § 63.1349(b)(4)(i)]
[Material Permit Conditions Identified with Italics and Underline]

- c. 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 part 60 of this chapter.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(4)(i)]

- d. The initial compliance test shall be based on the first 30 operating days of operation in which the facility operates the CEMS.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(4)(ii)]

- e. The Permittee shall develop an emissions monitoring plan in accordance with Condition 0.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1350(i)]

- f. The Permittee shall install maintain and operate the CEMS required in Condition I.E.9.b above according to the requirements below:

[A.A.C. R18-2-1101(B)(50) 40 CFR § 63.1349(b)(4), 1350(i), and 63.1350(m)]

- i. The CEMS 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.

- ii. The Permittee shall conduct all monitoring in continuous operation at all times that the unit is operating.

- iii. The Permittee shall determine the 1-hour block average of all recorded readings.

- iv. The Permittee shall record the results of each inspection, calibration, and validation check.

10. Test Methods and Procedures for Mercury Emissions

[A.A.C. R18-2-1101(B)(50) 40 CFR § 63.1349(b)(5)]

- a. Applicability:

This Section is not applicable until September 9, 2016.

- b. The Permittee shall demonstrate compliance with the mercury emission limit in Condition I.B.9.c by following the test methods and procedures conditions in the Mercury monitoring Conditions in I.D.8 and Condition I.E.10.b.i below. The initial compliance test shall be based on the first 30 kiln operating days in which the facility operates using a mercury CEMS.

- i. The emission rate shall be calculated using Equation 10 below:
 Equation 10:

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

Where:

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

C_i = Concentration of mercury for operating hour i , $\mu\text{g}/\text{scm}$.

Q_i = Volumetric flow rate of effluent gas for operating hour i , where C_i and Q_i 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 = 30 days of clinker production during the same time period as the mercury emissions measured, million tons.

11. Test Methods and Procedures for HCl Emissions

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(6)]

- a. Applicability:

This Section is not applicable until September 9, 2016.

- b. The Permittee shall demonstrate compliance with the HCl emission limit in Condition I.B.10.b by operating the CEMS required under Condition I.D.9.b

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(6)(ii)(A)]

- c. The initial compliance test must be based on the 30 kiln operating days that occur after the compliance date of this rule in which the affected source operates using a HCl CEMS. Hourly HCl concentration data must be obtained according to 40 CFR §63.1350(l).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1349(b)(6)(ii)(B)]

F. Permit Shield

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

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: 40 CFR § 60.252(a)(1), 60.256(a), 40 CFR Part 64, 40 CFR § 63.1343(c)(1)(2006 Rule), 63.1343(c)(2006 Rule), 63.1343(a), 63.1343(b)(1), 63.1343(b)(2), 63.1343(b), 63.1345(a)(1)(2006 Rule), 63.1345(a)(2)(2006 Rule), 63.1345, 63.1346(a), 63.1346(g), 63.1347(a), 63.1347(b), 63.1348(a), 63.1348(b), 63.1348(d), 63.1349(b), 63.1349(c), 63.1349(d), 63.1349(e), 63.1350(b), 63.1350(d), 63.1350(f)(4), 63.1350(i), 63.1350(g), 63.1350(k), 63.1350(l), 63.1350(m), 63.1350(n), 63.1350(p), 63.1354(b), 63.1354(c), 63.1355(a), 63.1355(b), 63.1355(c), 63.1355(d), 63.1355(e), 63.1355(f), and 63.1355(g).

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II. FINISH MILLS, STORAGE BINS, BULK LOADING AND UNLOADING SYSTEMS, AND CONVEYING SYSTEM TRANSFER POINTS SUBJECT TO 40 CFR 63 SUBPART LLL

A. List of Emission Units and Affected Sources

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Belt Conveyor (BC-5.6) to Bucket Elevator (BE-5.9.1)	Transfer Point, 180 tons per hour	Baghouse (BH-5.30)	BH-5.30
Discharge from Bucket Elevator (BE-5.9.1) to Belt Conveyor (BC-5.9.2)	Transfer Point, 770 tons per hour	Baghouse (BH-5.30)	BH-5.30
Discharge from Belt Conveyor (BC-5.13) to Roller Press (RP-5.16)	Transfer Point, 600 tons per hour	Baghouse (BH-5.30)	BH-5.30
Discharge from Roller Press (RP-5.16) to Bucket Elevator (BE-5.9.1)	Transfer Point, 600 tons per hour	Baghouse (BH-5.30)	BH-5.30
Discharge from Bucket Elevator (BE-13.5.7) to Belt Conveyor (BC-13.5.8)	Transfer Point, 143 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Bucket Elevator (BE-13.13) to Belt Conveyor (BC-13.5.2)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Airslide (AS-13.42) to Screw Conveyor (SC-13.48)	Transfer Point, 143 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge from Screw Conveyor (SC-13.48) to Cement Cooler (CC-13.49)	Transfer Point, 110 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge of Belt Conveyor for Collecting Limestone from Stockpile (BC-2.4)	Transfer Point, 495 tons per hour	Dust Collector (DC-2.5)	DC-2.5
Discharge of Belt Conveyors (BC-2.8 and BC-2.12) to Limestone Silos (RMS-3.1 and RMS-3.3)	Transfer Point, 495 tons per hour	Dust Collector (DC-2.9)	DC-2.9

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge of Belt Conveyors (BC-2.8 and BC-2.13) to Limestone Silos (RMS-3.2) and Iron Ore Silo (RMS-3.4)	Transfer Point, 495 tons per hour	Dust Collector (DC-2.10)	DC-2.10
High Limestone Silo 1 (RMS-3.1)	Storage Bin, 550 tons	n/a	n/a
High Limestone Silo 2 (RMS-3.2)	Storage Bin, 450 tons	n/a	n/a
Low Limestone Silo (RMS-3.3)	Storage Bin, 550 tons	n/a	n/a
Iron Ore Silo (RMS-3.4)	Storage Bin, 510 tons	n/a	n/a
Gypsum Silo (RMS-3.5)	Storage Bin, 450 tons	n/a	n/a
Clinker Silo (RMS-3.6)	Storage Bin, 550 tons	n/a	n/a
Aluminum Source Silo (RMS-3.7)	Storage Bin, 330 tons	n/a	n/a
Raw Coal Silo (RMS-3.8)	Storage Bin, 300 tons	n/a	n/a
Receiving Hopper for Railroad Cars (RHR-4.1)	Bulk Unloading System (250 tons per hour)	Water Dedusting System (WD-4.4)	FE-11
Receiving Hopper for Trucks (RHT-4.5)	Bulk Unloading System (150 tons per hour)	Water Dedusting System (WD-4.6)	FE-12
Discharge of Belt Conveyor under Coal and Iron Ore Stockpile (BC-4.11) to Belt Conveyor (BC-4.15)	Transfer Point, 400 tons per hour	Dust Collector (DC-4.18)	DC-4.18
Discharge of Belt Conveyor (BC-4.15) to Coal Silo (RMS-3.8) and Aluminum Silo (RMS-3.7)	Transfer Point, 400 tons per hour	Dust Collector (DC-4.19)	DC-4.19
Discharge of Reversible Belt Conveyor (BC-4.17) to Coal Silo (RMS-3.8) and Aluminum Silo (RMS-3.7)	Transfer Point, 400 tons per hour	Dust Collector (DC-4.19)	DC-4.19

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/ Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge of Belt Conveyor under Rail Car and Truck Discharge (BC-4.8) to Belt Conveyors (BC-4.9)	Transfer Point, 400 tons per hour	Dust Collector (DC-4.20)	DC-4.20
Vibrating Feeder (VF-4.3) – Railcar Delivery Bin	Vibrating feeder under Railcar receiving	400 tpy	WD-4.4
Vibrating Feeder (VF-4.7) – Truck Delivery Bin	Vibrating feeder under Truck receiving	400 tpy	WD-4.6
Discharge from Weighfeeder for High Limestone (WF-5.1.1) to Belt Conveyor (BC-5.6)	Transfer Point, 150 tons per hour	Dust Collector (DC-5.5)	DC-5.5
Discharge from Weighfeeder for High Limestone (WF-5.1.2) to Belt Conveyor (BC-5.6)	Transfer Point, 60 tons per hour	Dust Collector (DC-5.5)	DC-5.5
Discharge from Weighfeeder for Low Limestone (WF-5.2) to Belt Conveyor (BC-5.6)	Transfer Point, 100 tons per hour	Dust Collector (DC-5.5)	DC-5.5
Discharge from Weighfeeder for Iron Ore (WF-5.3.1) to Belt Conveyor (BC-5.4)	Transfer Point, 10 tons per hour	Dust Collector (DC-5.5)	DC-5.5
Discharge from Weighfeeder for Aluminum Source (WF-5.3.2) to Belt Conveyor (BC-5.4)	Transfer Point, 10 tons per hour	Dust Collector (DC-5.5)	DC-5.5
Discharge from Belt Conveyor for Iron Ore and Aluminum Source (BC-5.4) to Belt Conveyor (BC-5.6)	Transfer Point, 20 tons per hour	Dust Collector (DC-5.5)	DC-5.5
Dedusting Cyclone (C-5.17.1)	Cyclone for Raw Mill Recirculation	Main Baghouse, 5.30	BH-MS-5.38
Dedusting Cyclone (C-5.17.2)	Cyclone for Raw Mill Recirculation	Main Baghouse, 5.30	BH-MS-5.38
Dedusting Cyclone (C-5.17.3)	Cyclone for Raw Mill Recirculation	Main Baghouse, 5.30	BH-MS-5.38
Dedusting Cyclone (C-5.17.4)	Cyclone for Raw Mill Recirculation	Main Baghouse, 5.30	BH-MS-5.38

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge of Screw Conveyor for Raw Meal (SC-5.18.1)	Transfer Point, 90 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Screw Conveyor for Raw Meal (SC-5.18.2)	Transfer Point, 90 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of First Airslide for Raw Meal (SC-5.19)	Transfer Point, 180 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Second Airslide for Raw Meal (SC-5.21)	Transfer Point, 180 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Screw Conveyor under Baghouse (SC-5.31.1)	Transfer Point, 6 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Screw Conveyor under Baghouse (SC-5.31.2)	Transfer Point, 9 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Screw Conveyor which Collects Dust from Baghouse (SC-5.32)	Transfer Point, 18 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Screw Conveyor for Taking Dust to Blending Silo (SC-5.33)	Transfer Point, 18 tons per hour	Dust Collector (DC-5.22)	DC-5.22
Discharge of Bucket Elevator to Blending Silo (BE-6.1)	Transfer Point, 180 tons per hour	Dust Collector (DC-6.10)	DC-6.10
Discharge of Airslide for Raw Meal on Top of Blending Silo (AS-6.2)	Transfer Point, 180 tons per hour	Dust Collector (DC-6.10)	DC-6.10
Discharge of Long Airslide on Top of Blending Silo (AS-6.5.1)	Transfer Point, 45 tons per hour	Dust Collector (DC-6.10)	DC-6.10
Discharge of Long Airslide on Top of Blending Silo (AS-6.5.2)	Transfer Point, 45 tons per hour	Dust Collector (DC-6.10)	DC-6.10
Discharge of Long Airslide on Top of Blending Silo (AS-6.5.3)	Transfer Point, 45 tons per hour	Dust Collector (DC-6.10)	DC-6.10
Discharge of Long Airslide on Top of Blending Silo (AS-6.5.4)	Transfer Point, 45 tons per hour	Dust Collector (DC-6.10)	DC-6.10

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Blending Silo (SI-6.7)	Storage Bin, 9000 tons	n/a	n/a
Discharge of Raised Airslide from Blending Silo (AS-7.4)	Transfer Point, 170 tons per hour	Dust Collector (DC-7.16)	DC-7.16
Metallic Weigh Bin	170 tph	Dust Collector (DC-7.16)	DC-7.16
Fluidization System for Weigh Bin	170 tph	Dust Collector (DC-7.16)	DC-7.16
Discharge of Airslide (AS-7.12)	Transfer Point, 170 tons per hour	Dust Collector (DC-7.16)	DC-7.16
Feed of Bucket Elevator for Feeding Pre-Heater Tower (BE-7.15.1)	Transfer Point, 170 tons per hour	Dust Collector (DC-7.16)	DC-7.16
Feed of Bucket Elevator for Feeding Pre-Heater Tower (BE-7.15.2)	Transfer Point, 170 tons per hour	Dust Collector (DC-7.16)	DC-7.16
Discharge of Airslide (AS-7.17)	Transfer Point, 170 tons per hour	Dust Collector (DC-7.23)	DC-7.23
Discharge of Recirculating Airslide (AS-7.22)	Transfer Point, 170 tons per hour	Dust Collector (DC-7.23)	DC-7.23
Clinker Roll Crusher (CRC-10.3)	Crusher at discharge of Cooler- 83.33 tph	Dust Collector (DC-10.13)	CS-10.16
Discharge of Screw Conveyor for Clinker Dust (SC-10.12)	Transfer Point, 6 tons per hour	Dust Collector (DC-11.2)	DC-11.2
Discharge of Screw Conveyor for Clinker Dust (SC-10.14)	Transfer Point, 6 tons per hour	Baghouse (BH-10.13)	CS-10.16)
Discharge of Clinker Cooler to Hot Pan Conveyor (HPC-11.1)	Transfer Point, 83.33 tons per hour	Dust Collector (DC-11.2)	DC-11.2
Discharge of Hot Pan Conveyor (HPC-11.1) to Storage Dome (CDO-11.3) and Belt Conveyor (BC-11.5)	Transfer Point, 83.33 tons per hour	Dust Collector (DC-11.6.1)	DC-11.6.1
Discharge of Belt Conveyor (BC-11.5) to Emergency Clinker Silo (SI-11.7)	Transfer Point, 83.33 tons per hour	Dust Collector (DC-11.6.2)	DC-11.6.2
Clinker Silo Recirculating Air Bin Vent	Transfer Point, 400 tons per hour	Baghouse (DC-11.6.4)	DC-11.6.4

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Clinker Storage Dome (CDO-11.3)	Storage Bin, 50,000 tons	Dust Collector (DC-11.11)	DC-11.11
Emergency Clinker Silo (SI-11.7)	Storage Bin, 13,800 tons	Dust Collector (DC-11.11)	DC-11.11
Discharge from Clinker Storage Dome (CDO-11.3) to Belt Conveyor (BC-11.8)	Transfer Point, 400 tons per hour	Dust Collector (DC-11.11)	DC-11.11
Discharge from Clinker Silo (SI-11.7) to Belt Conveyor (BC-11.8)	Transfer Point, 400 tons per hour	Dust Collector (DC-11.11)	DC-11.11
Discharge from Belt Conveyor under Clinker Dome and Clinker Silo (BC-11.8) to Belt Conveyor (BC-11.10)	Transfer Point, 400 tons per hour	Dust Collector (DC-11.11)	DC-11.11
Covered Stockpile for Gypsum (OS-11.12)	2,000 tons	n/a	n/a
Hopper/grid for Gypsum Loader (HGP-11.13)	10 m ³	n/a	n/a
Discharge of Belt Conveyor (BC-11.10) to Reversible Belt Conveyor (BC-11.14)	Transfer Point, 400 tons per hour	Dust Collector (DC-11.15)	DC-11.15
Discharge of Reversible Belt Conveyor (BC-11.14) to Finish Mill Clinker Silo (RMS-3.6)	Transfer Point, 400 tons per hour	Dust Collector (DC-11.15)	DC-11.15
Discharge of Reversible Belt Conveyor (BC-11.10) to Finish Mill Gypsum Silo (RMS-3.5)	Transfer Point, 400 tons per hour	Dust Collector (DC-11.15)	DC-11.15
Coal Weighfeeder (WF-12.1)	Weighfeeder, 22 tph	Dust Collector (DC-12.7.1)	DC-12.7.1
Discharge of First Belt Conveyor (DC-12.3) to Second Coal Conveyor	Transfer Point, 20 tph	Dust Collector (DC-12.7.1)	DC-12.7.1
Discharge of Second Belt Conveyor (DC-12.4) to Bowl Mill	Transfer Point, 20 tph	Dust Collector (DC-12.7.1)	DC-12.7.1
Cyclone (C-12.14) for Gases to Coal Mill	Cyclone, 1.75 m	Coal Mill Baghouse (BH-12.18)	Main Stack (MS-5.38)

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Coal Mill Baghouse (BH-12.18) to Pneumatic Coal Conveying System	Transfer Point, 20 tons per hour	Dust Collector (DC-12.7.2)	DC-12.7.2
Discharge from Pneumatic Coal Conveying System to Pulverized Coal Silo (SC012.20, PPU-12.22.1, PPU-12.22.2, PCP-12.24)	Transfer Point, 20 tons per hour	Dust Collector (DC-12.26)	DC-12.26
Pulverized Coal Silo with incorporated dust collector (DC-12.26)	Storage Bin, 240 tons	Dust Collector (DC-12.26)	DC-12.26
Coal Prehopper (PH-12.33.1) w/weighfeeder (WF-12.35.1)	Bin 2 – 3 m ³ , feeder 0.7 – 7.0 tons per hour	n/a	n/a
Coal Prehopper (PH-12.33.2) w/weighfeeder (WF-12.35.2)	Bin 2 – 3 m ³ , feeder 0.7 – 7.0 tons per hour	n/a	n/a
Coal Prehopper (PH-12.33.2) w/weighfeeder (WF-12.35.2)	Bin 2 – 3 m ³ , feeder 0.7 – 7.0 tons per hour	n/a	n/a
Discharge from Rotor Weighfeeder (RWF-12.35.1) to Pneumatic Conveying Pipe (PCP-12.37)	Transfer Point, 7.0 metric tons per hour	N/A Enclosed System	N/A
Discharge from Rotor Weighfeeder (RWF-12.35.2) to Pneumatic Conveying Pipe (PCP-12.38)	Transfer Point, 7.0 metric tons per hour	N/A Enclosed System	N/A
Discharge from Pneumatic Conveying Pipe (PCP-12.37) to Calciner (CAL-8.13)	Transfer Point, 7.0 tons per hour	Main Baghouse (BH 3.30)	Main Stack (MS-5.38)
Discharge from Pneumatic Conveying Pipe (PCP-12.38) to Rotary Kiln	Transfer Point, 7.0 tons per hour	Main Baghouse (BH 3.30)	Main Stack (MS-5.38)
Finish Mill Clinker Feed Silo (RMS-3.6)	Storage Bin, 550 tons	n/a	n/a

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Weighfeeder for Clinker (WF-13.1.1) to Belt Conveyor (BC-13.3)	Transfer Point, 143 tons per hour	Dust Collector (DC-13.4)	DC-13.4
Finish Mill Gypsum Feed Silo (RMS-3.5)	Storage Bin, 450 tons	n/a	n/a
Discharge from Weighfeeder for Gypsum (WF-13.1.2) to Small Belt Conveyor (BC-13.2)	Transfer Point, 10 tons per hour	Dust Collector (DC-13.4)	DC-13.4
Finish Mill Limestone Feed Silo (RMS-3.2)	Storage Bin, 450 tons	n/a	n/a
Discharge from Weighfeeder for Limestone (WF-13.1.3) to Small Belt Conveyor (BC-13.2)	Transfer Point, 10 tons per hour	Dust Collector (DC-13.4)	DC-13.4
Discharge from Small Belt Conveyor (BC-13.2) to Belt Conveyor (BC-13.3)	Transfer Point, 50 tons per hour	Dust Collector (DC-13.4)	DC-13.4
Discharge from Belt Conveyor (BC-13.3) to Bucket Elevator (BE-13.5)	Transfer Point, 143 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Bucket Elevator (BE-13.5) to Belt Conveyor (BC-13.6)	Transfer Point, 143 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Belt Conveyor (BC-13.6) to Special Chute (RP-13.9.1)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Special Chute (RP-13.9.1) to Roller Press (RP-13.10)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Roller Press (RP-13.10)	Finish Mill, 517 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Roller Press (RP-13.10) to Special Chute (CH-13.10.2)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Special Chute (CH-13.10.2) to Belt Conveyor (BC-13.12)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Belt Conveyor (BC-13.12) to Bucket Elevator (BE-13.13)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Bucket Elevator (BE-13.13) to Special Chute (CH-13.5.1)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Special Chute (CH-13.5.1) to Belt Conveyor (BC-13.5.2)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge Belt Conveyor (BC-13.5.2 to Separator (HES 13.5.4)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
High-Efficiency Separator (HES-13.5.4)	Finish Mill, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from High-Efficiency Separator (HES-13.5.4) to Belt Conveyor (BC-13.6)	Transfer Point, 578 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Dedusting Cyclone (C-15.1) for Ball Mill Feed, discharge to BC-13.17	2.8 m,	n/a – discharge to HES 13.5.4	n/a
Dedusting Cyclone (C-13.15.2) for Ball Mill Feed, discharge to BC-13.17	2.8 m,	n/a – discharge to HES 13.5.4	n/a
Discharge from Dust Collectors DC-13.19 and DC-13.20 to Screw Conveyor (SC-13.21)	Transfer Point, 17 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Pressurized Screw Conveyor (SC-13.17)	Enclosed pneumatic unit	n/a	n/a
Discharge from Belt Conveyor (BC13.12) to Bypass Hopper (BPH-13.30)	Enclosed pneumatic unit	n/a	n/a

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Screw Conveyor (SC-13.21) to Belt Conveyor (BC-13.41)	Transfer Point, 17 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Belt Conveyor (BC-13.31) to Transfer Chute (CH-13.34)	Transfer Point, 17 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge from Transfer Chute (CH-13.34) to Belt Conveyor (BC-13.12)	Transfer Point, 17 tons per hour	Dust Collectors (DC-13.19 and DC-13.20)	DC-13.19 and DC-13.20
Discharge Dust Collector bin (DC-13.40) to Screw Conveyor SC-13.41	Transfer Point, 10 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Ball Mill (BM-13.39)	Finish Mill, 100 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge from Ball Mill (BM-13.39) to Airslide (AS-13.42)	Transfer Point, 100 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge from Ball Mill Dust Collector (DC-13.40) to Screw Conveyor (SC-13.41)	Transfer Point, 5 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge from Screw Conveyor (SC-13.41) to Airslide (AS-13.42)	Transfer Point, 5 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge from Airslide (AS-13.42) to Bucket Elevator (BE-14.1)	Transfer Point, 143 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge Screw Conveyor (SC-13.48) to Cement Cooler (CC-13.49)	Transfer Point, 143 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge Cement Cooler (CC-13.49) to Bucket Elevator (BE-14.1)	Transfer Point, 143 tons per hour	Dust Collector (DC-13.40)	DC-13.40
Discharge from Bucket Elevator (BE-14.1) to Airslide (AS-14.2)	Transfer Point, 180 tons per hour	Dust Collector (DC-14.10)	DC-14.10
Discharge from Airslide (AS-14.2) to Airslides (AS-14.4.1 through AS-14.4.4)	Transfer Point, 180 tons per hour	Dust Collector (DC-14.10)	DC-14.10

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/ Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Airslides (AS-14.4.1 through AS-14.4.4) to Cement Silo (SI-14.6)	Transfer Points, 50 tons per hour each airslide	Dust Collector (DC-14.10)	DC-14.10
Cement Silo (SI-14.6)	Storage Bin, 10,000 tons	n/a	n/a
Discharge from Cement Silo (SI-14.6) to Airslide (AS-14.13)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.10)	DC-14.10
Discharge from Airslide (AS-14.13) to Bucket Elevator (BE-14.14)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Discharge from Bucket Elevator (BE-14.14) to Airslide (AS-14.15)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Discharge from Airslide (AS-14.15) to Cement Metallic Silo (CMS-14.17.1)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Discharge from Airslide (AS-14.15) to Cement Metallic Silo (CMS-14.17.2)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Cement Metallic Silo (CMS-14.17.1)	Storage Bin, 125 m ³	n/a	n/a
Cement Metallic Silo (CMS-14.17.2)	Storage Bin, 125 m ³	n/a	n/a
Discharge from Cement Metallic Silo (CMS-14.17.1) to Double Mobile Articulated Screw Conveyor (ASC-14.20.1)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Discharge from Cement Metallic Silo (CMS-14.17.2) to Double Mobile Articulated Screw Conveyor (ASC-14.20.2)	Transfer Point, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Double Mobile Articulated Screw Conveyor (ASC-14.20.1)	Bulk Loading, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Double Mobile Articulated Screw Conveyor (ASC-14.20.2)	Bulk Loading, 400 tons per hour	Dust Collector (DC-14.21)	DC-14.21

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Cement Metallic Silo (CMS-14.17.1) to Pneumatic Conveying Pipe (PCP-14.27)	Transfer Point, 165 tons per hour	Dust Collector (DC-14.29)	DC-14.29
Transfer point Emergency Truck Bulk Loading Spout (ETBL-14.23)	Transfer Point, 165 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Transfer Point –Raw Mill Dust Loadout Spout	Transfer Point, 165 tons per hour	Dust Collector (DC-14.21)	DC-14.21
Pneumatic Pump (PPU-14.25) and Conveying Pipe (PCP-14.27) to Railcar Cement Silo	Transfer Point, 165 tons per hour	Dust Collector (DC-14.29)	DC-14.29
Cement Metallic Silo for Train Bulk Loading (CMS-14.28)	Storage Bin, 450 m ³	n/a	n/a
Discharge from Cement Metallic Silo (CMS-14.28) to Loading Head (LBR-14.32)	Transfer Point, 330 tons per hour	Dust Collector (DC-14.29)	DC-14.29
Loading Head for Rail Cars (LBR-14.32)	Bulk Loading, 330 tons per hour	Dust Collector (DC-14.29)	DC-14.29
Pneumatic Pump (PPU-14.25) and Conveying Pipes (PCP-14.27 and PCP-14.28) to one of (4) 2000 ton Cement Metallic Silos (CMS-14.23 to CMS-14.26)	Transfer Point, 182 tons per hour	Dust Collectors DC-14.23 & DC-14.25	DC-14.23 & DC-14.25
Cement Metallic Silos for Truck Bulk Loading (CMS-14.23 to CMS 14.26)	Storage Bin, 2000 tons each	n/a	n/a
Discharge from Cement Metallic Silo (CMS-14.23 to CMS-14.26) to Loading Heads (LBR-14.23 to LBR-14.26)	Transfer Point, 400 tons per hour	Dust Collectors DC-14.23 & DC-14.25	DC-14.23 & DC-14.25
Loading Heads for Cement Truck Bulk Loading (TBL-14.23 to TBL-14.26)	Bulk Loading, 400 tons per hour	Dust Collectors DC-14.23 & DC-14.25	DC-14.23 & DC-14.25

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge of Hot Pan Conveyor (HPC-11.1) to Alternate Off-Spec Belt Conveyor (BC-11.6)	Transfer Point, 83.33 tons per hour	Dust Collector DC-11.6.1	DC-11.6.1
Discharge of Belt Conveyor (BC-11.6) to Off-Spec Clinker Silo (SI-11.8)	Transfer Point, 83.33 tons per hour	Dust Collector DC-11.6.3	DC-11.6.3
Discharge from Off-Spec Clinker Silo (SI-11.8) to Special Chute (CH-11.8.3)	Transfer Point, 400 tons per hour	Dust Collector DC-11.6.3	DC-11.6.3
Discharge from Special Chute (CH-11.8.3) to Belt Conveyor (BC-11.8)	Transfer Point, 400 tons per hour	Dust Collector DC-11.11	DC-11.11
Discharge from Off-Spec Clinker Silo (SI-11.8) to Loading Head (TBL-11.8.1)	Transfer Point, 400 tons per hour	Dust Collector DC-11.6.3	DC-11.6.3
Discharge from Airslide (AS-14.2) to Airslide Diverter Gate (622.100PG) for Ball Mill Recirculation to Separator	Transfer Point, 250 tons per hour	Dust Collector (DC-14.10)	DC-14.10
Discharge from Airslide Diverter Gate (622.100PG) to Airslide 1 (622.105AS)	Transfer Point, 250 tons per hour	Dust Collector (DC-14.10)	DC-14.10
Discharge from Airslide 1 (622.105AS) to Chute (622.110CT) for Separator Recirculation	Transfer Point, 250 tons per hour	Dust Collector (DC-14.10)	DC-14.10
Discharge from Chute (622.110CT) to Airslide 2 (622.115AS)	Transfer Point, 250 tons per hour	Dust Collector (DC-14.10)	DC-14.10
Discharge from Airslide 2 (622.115AS) to High Efficiency Separator (623.20DS)	Transfer Point, 250 tons per hour	Dust Collector (622.115PF01)	622.115PF01

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from High Efficiency Separator (623.20DS) to Airslide 1 (621.20AS) for Recirculation to Ball Mill	Transfer Point, 140 tons per hour	Dust Collector (628.10PF)	628.10PF
Discharge from Airslide 1 (621.20AS) to Flowmeter (621.25FM) for Control of Separator Recirculation	Transfer Point, 100 - 200 tons per hour	Dust Collector (DC-13.19)	DC-13.19
Discharge from Flowmeter (621.25FM) to Airslide 2 (621.30AS)	Transfer Point, 140 tons per hour	Dust Collector (DC-13.19)	DC-13.19
Discharge from Airslide 2 (621.30AS) to Ball Mill (BM-13.39)	Transfer Point, 140 tons per hour	Dust Collector (DC-13.19)	DC-13.19
Discharge from Process Filter Baghouse (628.10PF) to Screw Conveyor 1 (622.120SV) and Screw Conveyor 1A (622.122SV) for Final Product Transport	Transfer Point, 60 tons per hour each	Dust Collector (628.10PF)	628.10PF
Discharge from Screw Conveyor 1 (622.120SV) and Screw Conveyor 1A (622.122SV) to Screw Conveyor 2 (622.125SV)	Transfer Point, 120 tons per hour	Dust Collector (628.10PF)	628.10PF
Discharge from Screw Conveyor 2 (622.125SV) to Belt Bucket Elevator (622.130BE)	Transfer Point, 120 tons per hour	Dust Collector (628.10PF)	628.10PF

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Discharge from Belt Bucket Elevator (622.130BE) to Airslide 1 (622.135AS)	Transfer Point, 120 tons per hour	Dust Collector (628.20PF)	628.20PF
Discharge from Airslide 1 (622.135AS) to Airslide Diverter Gate (622.140PG) for Silo By-pass Product Transport	Transfer Point, 120 tons per hour	Dust Collector (628.20PF)	628.20PF
Discharge from Airslide Diverter Gate (622.140PG) to Airslide 2 (622.145AS) for Silo By-pass to Metallic Silos	Transfer Point, 120 tons per hour	Dust Collector (628.20PF)	628.20PF
Discharge from Airslide 1 (622.135AS) to Cement Silo (SI-14.6)	Transfer Point, 120 tons per hour	Dust Collector (628.20PF)	628.20PF

B. Emission Standards

1. Operational Limitations

a. The Permittee shall not cause or allow the amount of material unloaded at the Receiving Hopper for Railroad Cars to exceed 500 tons in any 3-hour period.

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

b. The Permittee shall not cause or allow the amount of material unloaded at the Receiving Hopper for Trucks or material storage building to exceed 300 tons in any 3-hour period.

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

c. 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 24-hour period.

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

d. The Permittee shall not cause or allow the amount of material unloaded at the Receiving Hopper for Trucks or material storage building to exceed 600 tons in any 24-hour period.

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

2. Particulate Matter Emission Standards

- a. 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, or DC-13.40 any gases which exhibit opacity greater than 10 percent.

[A.A.C. R18-2-331(A)(3)(f) and R18-2-1101(B)(50) 40 CFR § 63.1345]
 Material Permit Conditions are indicated with underline and italics.

- b. The Permittee shall not cause or allow to be emitted into the atmosphere from any Storage Bin, Conveying System Transfer Point, Bulk Unloading System, or Bulk Loading System, listed in Condition II.A, any gases which exhibit opacity greater than 10 percent.

[A.A.C. R18-2-331(A)(3)(f) and R18-2-1101(B)(50) 40 CFR § 63.1345]
 Material Permit Conditions are indicated with underline and italics.

- c. The Permittee shall not cause or allow to be emitted into the atmosphere from any Dust Collector listed in Condition II.A, with the exception of DC-14.23, DC-14.25, DC-11.6.3, DC-11.6.4, 622.115PF01, 628.20PF and 628.10PF, any gases which contain particulate matter (PM) in excess of 0.008 gr/dscf.

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

- d. The Permittee shall not cause or allow to be emitted into the atmosphere from baghouse 628.10PF gases which contain PM₁₀ 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.

- e. 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.

Emission Point ID Number	PM Emission Limit (lbs/hr)
DC-1.11	0.305
DC-2.5	0.153
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

Emission Point ID Number	PM Emission Limit (lbs/hr)
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

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

C. Air Pollution Control Requirements

1. *At all times when any Finish Mills, Conveying System Transfer Points, or Bulk Loading Systems listed in Condition II.A 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. R18-2-331(A)(3)(d) and (e) and R18-2-406(A)(4)]
 Material Permit Conditions are indicated with underline 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. R18-2-331(A)(3)(d) and (e) and R18-2-406(A)(4)]
 Material Permit Conditions are indicated with underline and italics.

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring and Recordkeeping for Operational Limitations

- a. The Permittee shall demonstrate compliance with Conditions II.B.1.a 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 II.B.1.b 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

- a. The Permittee shall follow the approved operations and maintenance plans for each Finish Mill, Storage Bin, Conveying System Transfer Point, Bulk Unloading System, and Bulk Loading System listed in Condition II.A.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1347(a)]

3. Compliance Assurance Monitoring for Baghouse 628.10PF

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

- a. The Permittee shall follow the, maintenance, monitoring and analysis procedures as set forth in the approved CAM Plan for Baghouse 628.10PF.
- b. Operation of approved monitoring in accordance with 40 CFR 64.7 shall commence upon startup of the High Efficiency Separator (623.20DS).
- c. The Permittee shall, install, calibrate, operate, and maintain, according to the manufacturer's specifications, a continuous parameter system capable of measuring the pressure drop across Baghouse 628.10PF.

[A.A.C. R18-2-331(A)(3)(c), and 40 CFR Part 64 - CAM]

[Material Permit Conditions are indicated with underline and italics]

- d. The Permittee shall continuously monitor and record the pressure drop across Baghouse 628.10PF. 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 - CAM]

- e. The pressure drop monitoring system shall meet the performance criteria, contained in the approved CAM plans. 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 - CAM]

- f. Maintenance, excursions, and corrective action measures for Baghouse 628.10PF and the associated pressure drop monitoring system as identified in the CAM plan shall be recorded and reported in accordance with Condition XIV.A of Attachment "A."

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

4. Monitoring and Recordkeeping for Finish Mill Dust Collectors

- a. The Permittee shall monitor opacity by conducting daily visual emissions observations for Dust Collectors DC-13.19, DC-13.20, 628.10PF, 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. If visible emissions are observed during daily visible emissions observations, the Permittee shall follow the applicable procedures in Condition II.D.4.a.i through II.D.4.a.ii as follows.

[40 CFR § 63.1350(f)(2)(i)]

- i. 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 II.D.4.a.

[40 CFR § 63.1350(f)(2)(ii)]

- ii. If visible emissions are observed during the follow-up Method 22 performance test required by Condition II.D.4.a.i from any stack from which visible emissions were observed during the previous Method 22 performance test required by Condition II.D.4.a. 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. If visible emissions are observed during any Method 22 visible emissions test conducted under Condition II.D.4.a, the Permittee shall initiate, within one-hour, the corrective actions specified in the site operation and maintenance plan as required in 40 CFR 63.1347.

[40 CFR § 63.1350(f)(3)]

- c. *The Permittee may choose to install a BLDS in lieu of conducting the daily visible emissions testing required under Condition II.D.4.a. of this section. If a BLDS is elected in lieu of daily visible emissions observations the Permittee shall calibrate, maintain, and operate Bag Leak Detection Systems for detecting leaks in Dust Collectors DC-13.19, DC-13.20, 628.10PF, and DC-13.40.*

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(50), 40 CFR § 63.1350(m), 40 CFR § 63.1350(f)(4)(ii), 40 CFR § 63.1350(m)(10)]
[Material Permit Conditions are indicated with underline and italics]

- d. If a BLDS is used, the Permittee shall develop and submit to the Department an opacity emissions monitoring plan in accordance with the

requirements in 40 CFR 63.1350(p)(5).

[40 CFR § 63.1350(p)(5) and 1350(f)]

- e. Each Bag Leak Detection System required by Condition II.D.4.c shall meet the requirements of Conditions II.D.4.e.i through II.D.4.e.xiii.

[A.A.C. R18-2-331(A)(3)(c), A.A.C.R18-2-1101(B)(50), 40 CFR § 63.1350(m), and 40 CFR § 63.1350(f)(4)(ii)]

- i. The BLDS 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.
- ii. The Permittee shall conduct all monitoring in continuous operation at all times that the unit is operating.
- iii. The Permittee shall determine the 3-hour block average of all recorded readings.
- iv. The Permittee shall record the results of each inspection, calibration, and validation check.
- v. The Permittee shall install and operate a bag leak detection system for each exhaust stack of the fabric filter.
- vi. Each bag leak detection system shall be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in EPA-454/R-98-015, September 1997.
- vii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 or fewer milligrams per actual cubic meter.
- viii. The bag leak detection system sensor shall provide output of relative or absolute particulate matter loadings.
- ix. The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.
- x. The bag leak detection system shall be equipped with an alarm system that will alert an operator automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm shall be located such that the alert is detected and recognized easily by an operator.
- xi. For positive pressure fabric filter systems that do not duct all

compartments of cells to a common stack, a bag leak detection system shall be installed in each baghouse compartment or cell.

- xii. Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.
- xiii. For each BLDS, the Permittee shall initiate procedures to determine the cause of every alarm within 8 hours of the alarm. The Permittee shall alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:
 - (a) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
 - (b) Sealing off defective bags or filter media;
 - (c) Replacing defective bags or filter media or otherwise repairing the control device;
 - (d) Sealing off a defective fabric filter compartment;
 - (e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or
 - (f) Shutting down the process producing the PM emissions.

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

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

5. Periodic Visible Emissions Observations

For each Storage Bin, Conveying System Transfer Point, Bulk Unloading System, and Bulk Loading System listed in Condition II.A, the Permittee shall conduct periodic visible emissions observations in accordance with Conditions II.D.5.a through II.D.5.i below and the operations and maintenance plan required in condition II.D.2.

[40 CFR § 63.1350(f)]

- a. The Permittee shall develop and submit to the Department an opacity emissions monitoring plan 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)]

- b. 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)]

- c. 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)]

- d. 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)]

- e. 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)]

- f. 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)]

- g. 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 II.D.5.a to II.D.5.e for each such conveying system transfer point located within the building, or for the building itself, according to Condition II.D.5.h below.

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

- h. If visible emissions from a building are monitored, the requirements of Conditions II.D.5.a to II.D.5.e 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)]

- i. If visible emissions are observed during any Method 22 visible emissions test conducted under this Section, The Permittee shall initiate, within one-hour, the corrective actions specified in the site specific operating and maintenance plan provisions in required in Condition II.D.2.

[40 CFR § 63.1350(f)(3)]

6. Recordkeeping, Reporting, and Notification Requirements

- a. The Permittee shall maintain the following records:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)]

- i. All records as required by 40 CFR § 63.10(b)(2) and (b)(3).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)]

- ii. All documentation supporting initial notifications and notifications of compliance status under 40 CFR § 63.9.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)(1)]

- iii. All records of applicability determination, including supporting analyses.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)(2)]

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

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(b)(3)]

- v. The Permittee shall maintain all records required by 40 CFR § 63.10(c)

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(c)]

- vi. 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(g)(1)]

- vii. The Permittee shall keep records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1348(d) including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(g)(2)]

- b. The Permittee shall comply with the reporting requirements specified in 40 CFR § 63.10 as follows:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)]

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

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(1)]

- ii. As required by 40 CFR § 63.10(d)(3), the Permittee shall report the opacity results from tests required by Conditions II.E.4.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(2)]

- i. As required by 40 CFR § 63.10(d)(4), the owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under 40 CFR § 63.6(i) shall submit such reports by the dates specified in the written extension of compliance.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(3)]

- ii. The Permittee shall submit a summary report semiannually, along with the compliance certification, which contains the information specified in 40 CFR § 63.10(e)(3)(vi). In addition, the summary report shall include all failures to comply with any provision of any operation and maintenance plan required by Condition II.D.2.a.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1354(b)(9)]

- c. The Permittee shall comply with the notification requirements in 40 CFR § 63.9 as follows:

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)]

- i. Notification of performance tests, as required by 40 CFR § 63.7 and 63.9(e).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(2)]

- ii. Notification of opacity and visible emission observations required by Condition II.E.4 in accordance with 40 CFR § 63.6(h)(5) and 63.9(f).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(3)]

- iii. Notification of compliance status, as required by 40 CFR §

63.9(h).

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1353(b)(5)]

- d. The Permittee shall maintain files of all information (including all reports and notifications) required 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.

[A.A.C. R18-2-1101(B)(50) and 40 CFR § 63.1355(a)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions II.E.2 through II.E.5. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected source will be operated, but not later than 180 days after initial startup of such affected source.

[A.A.C. R18-2-406(A)(4), A.A.C. R18-2-1101(B)(1), and 40 CFR § 63.7(a)]

2. Performance test results shall be documented in complete test reports that contain the information required by Condition II.E.2.a through II.E.2.j below, as well as all other relevant information. As described in 40 CFR 63.7(c)(2)(i), the site-specific plan to be followed during performance testing shall be made available to the Director prior to testing, if requested.

[A.A.C. R18-2-1101(B)(50) and 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.

3. For each performance test required pursuant to Condition II.E.1, the Permittee shall submit a test plan to the Director in accordance with Condition XVIII.D of Attachment "A."

[A.A.C. R18-2-312(B), A.A.C. R18-2-1101(B)(50), and 40 CFR § 63.1349(a)]

4. Test Methods and Procedures for Opacity of Visible Emissions

a. The Permittee shall demonstrate compliance with the Opacity requirements in Conditions II.B.2.a and II.B.2.b by following the requirements below. The maximum 6-minute average opacity exhibited during the performance test period shall be used to determine whether the Permittee is in initial compliance with the standard. The Permittee shall initiate corrective actions within one hour of detecting visible emissions above the applicable limit.

[A.A.C. R18-2-331(A)(3)(c) and R18-2-1101(B)(50) 40 CFR § 63.1348(a)(3)]

i. The Permittee shall conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60 of this chapter. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the Permittee meets the requirements of conditions II.E.4.a.i(a) and II.E.4.a.i(b) below. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating.

[A.A.C. R18-2-331(A)(3)(c) and R18-2-1101(B)(50) 40 CFR § 63.1349(b)(2)]

(a) There are no individual readings greater than 10 percent opacity;

(b) There are no more than three readings of 10 percent for the first 1-hour period.

5. Test Methods and Procedures for Particulate Matter

a. The Permittee shall demonstrate compliance with Conditions II.B.2.c and II.B.2.e by conducting performance tests as follows.

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

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

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

ii. Each performance test shall consist of three separate runs.

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

iii. Each test run shall be conducted for at least one hour, and the

minimum sample volume shall be 30 dscf.

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

- iv. The average of the three runs shall be used to determine compliance.

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

- b. The performance tests required by Condition II.E.5.a shall be performed within 3 years of the last conducted performance test.

[A.A.C. R-18-406(A)(4) and R-18-406(A)(5)]

6. Test Methods and Procedures for PM₁₀

- a. The Permittee shall demonstrate initial compliance with Conditions II.B.2.d using the test methods and procedures in Conditions II.E.6.a.i through II.E.6.a.vi below.

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

- i. The Permittee shall demonstrate compliance with Condition II.B.2.d by conducting performance tests within 60 days of achieving maximum production on a sustained basis but no later than 180 days after startup of the high efficiency separator.

- ii. The Permittee shall use any of the following test methods to determine the PM₁₀ 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, included as Attachment "D" to this permit.

- iii. Each performance test shall consist of three separate runs.

- iv. Each run shall be conducted for at least one hour, and the minimum sample volume shall be 30 dscf.

- v. The average of the three runs shall be used to determine compliance.

vi. Subsequent performance tests shall be performed annually.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: 40 CFR § 63.1345, 63.1347, 63.1348(a)(3), 63.1349(a), 63.1349(b), 63.1350(f), 63.1350(m), 63.1350(p), 63.1353(b), 63.1354(b), 63.1355(a), 63.1355(b), 63.1355(c), and 63.1355(g).

III. LIMESTONE PROCESSING PLANT

A. List of Emission Units

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Impact Primary Crusher (IPC-1.3)	Limestone Crusher, 495 tons per hour	Water Dedusting (WD-1.4) and Dust Collector (DC-1.6)	DC-1.6
First Overland Belt Conveyor (OC-1.5)	Belt Conveyor, 500 tons per hour	Dust Collector (DC-1.8)	DC-1.8
Second Overland Belt Conveyor (OC-1.7)	Belt Conveyor, 500 tons per hour	Dust Collector (DC-1.10)	DC-1.10
Third Overland Belt Conveyor (OC-1.9)	Belt Conveyor, 500 tons per hour	Dust Collector (DC-1.11)	DC-1.11
Belt Conveyor with Tripper (BC-2.1)	Belt Conveyor, 500 tons per hour	Dust Collector (DC-1.11)	DC-1.11
Limestone Enclosed Stockpile Building (CS-2.2)	Storage Building, 51,000 tons	n/a	n/a

B. Emission Limits/Standards

1. Operating Limitation

The Permittee shall not cause or allow the Impact Primary Crusher or any belt conveyor listed in Condition III.A to operate for more than 3,120 hours in any consecutive 365-day period.

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

2. Particulate Matter Emission Standards

a. Except as provided in Condition III.B.2.e, The Permittee shall not cause or allow to be emitted into the atmosphere from any emission units listed in condition III.A, 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) and R18-2-901(66)]

- b. Except as provided in Condition III.B.2.e, the Permittee shall not cause or allow to be emitted into the atmosphere from any emission units listed in condition III.A, 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.

[A.A.C. R18-2-901(66) 40 CFR § 60.672(a)]

- c. Except as provided in Condition III.B.2.e, the Permittee shall not cause or allow to be emitted into the atmosphere from any emission units listed in condition III.A, 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.

[A.A.C. R18-2-331(A)(3)(f) and R18-2-901(66) 40 CFR § 60.672(a)]

- 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 emission units listed in condition III.A, any fugitive emissions which exhibit opacity greater than 10 percent, based on a 6-minute average.

[A.A.C. R18-2-331(A)(3)(f) and R18-2-901(66) 40 CFR § 60.672(b)]

- e. Conditions III.B.2.a through III.B.2.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.

[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.

Emission Point ID Number	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

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

C. Air Pollution Control Requirements

At all times when the Impact Primary Crusher or any Belt Conveyors listed in Condition III.A 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 underline and italics.

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring and Recordkeeping for Operational Limitation

The Permittee shall maintain daily records of the operating time for the Impact Primary Crusher and for each belt conveyor listed in Condition III.A.

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

2. Monitoring and Recordkeeping for Dust Collectors:

a. *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 III.A.*

[A.A.C. R18-2-331(A)(3)(c) and R18-2-406(A)(4)]

b. The Permittee shall perform monthly inspections of each dust collector listed in Condition III.A, 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)]

c. If the pressure drop across any dust collector is outside the range of 0.5 to 6.0 inches of H₂O, 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 III.B.2.a, II.B.2.c and III.B.2.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 XII.D of Attachment "A."

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

3. Reporting of Performance Test Results

The Permittee shall submit written reports of the results of all performance tests required by Conditions III.E.1 and III.E.2.

[A.A.C. 406(A)(4), R18-2-901(66), and 40 CFR § 60.676(f)]

4. Notifications Required by New Source Performance Standards

a. The requirement under 40 CFR § 60.7(a)(2) for notification of the anticipated date of initial startup of the affected facilities listed in Condition III.A.

[A.A.C. R18-2-901(66) and 40 CFR § 60.676(h)]

b. A notification of the actual date of initial startup of each affected facility listed in Condition III.A shall be submitted to the Director.

[A.A.C. R18-2-901(66) and 40 CFR § 60.676(i)]

c. If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any performance test required by Conditions III.E.1 and III.E.2, the Permittee shall submit a notice to the Director at least 7 days prior to any rescheduled performance test.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(g)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Condition III.E.2.

[A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(1), and 40 CFR 60.8(a)]

2. Test Methods and Procedures for Particulate Matter

a. The Permittee shall determine compliance with Conditions III.B.2.a, III.B.2.g, and III.B.2.g as follows:

i. 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.

[A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(66), and 40 CFR § 60.675(b)(1)]

ii. 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.

[A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(66), and 40 CFR § 60.675(b)(1)]

b. The Permittee shall determine compliance with Condition III.B.2.c using EPA Reference Method 9 and the procedures in 40 CFR § 60.11.

[A.A.C. R18-2-406(A)(4), R18-2-901(66), and 40 CFR § 60.675(b)(2)]

c. The Permittee shall determine compliance with Condition III.B.2.d as follows:

i. Except as provided in Conditions III.E.2.c.iv and III.E.2.c.v, the Permittee shall use EPA Reference Method 9 of Appendix A-4 and the procedures in 40 CFR § 60.11.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(c)(1)]

ii. The minimum distance between the observer and the emission source during Method 9 tests shall be 4.57 meters (15 feet).

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(c)(1)(i)]

iii. 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.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(c)(1)(ii)]

iv. The duration of the Method 9 observations shall be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limit in Condition III.B.2.d shall be based on the average of the five 6-minute averages.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(c)(3)]

(a) There are no individual readings greater than 10 percent opacity; and

[A.A.C. R18-2-901(66) 40 CFR § 60.675(c)(3)(i)]

(b) There are no more than 3 readings of 10 percent for the 1-hour period.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(c)(3)(ii)]

v. 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:

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(e)(1)]

(a) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(e)(1)(i)]

(b) Separate the emissions so that the opacity of emissions from each affected facility can be read.

[A.A.C. R18-2-901(66) and 40 CFR § 60.675(e)(1)(ii)]

- d. The Permittee shall determine compliance with Condition III.B.2.f as follows.
- i. The Permittee shall use EPA Reference Method 22 to determine fugitive emissions.
[A.A.C. R18-2-901(66) and 40 CFR § 60.675(d)]
 - ii. The performance test shall be conducted while all conveyor belts inside the Limestone Covered Stockpile Building are operating.
[A.A.C. R18-2-901(66) and 40 CFR § 60.675(d)]
 - iii. The performance test shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.
[A.A.C. R18-2-901(66) and 40 CFR § 60.675(d)]
- e. The performance tests required by Conditions III.E.2.a through III.E.2.d 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-18-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-901(66), and 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).

IV. OTHER MATERIAL HANDLING ACTIVITIES

A. List of Emission Units

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
First Belt Conveyor for Transporting Coal to Mill (BC-12.3)	Belt Conveyor, 20 tons per hour	Dust Collector (DC-12.7.1)	DC-12.7.1
Second Belt Conveyor for Transporting Coal to Mill (BC-12.4)	Belt Conveyor, 20 tons per hour	Dust Collector (DC-12.7.1)	DC-12.7.1
High-Calcium Limestone Storage Pile (FE1)	Storage Pile, 495 tons per hour	Permanent Total Enclosure (CS-2.2)	FE1
Low-Calcium Limestone Storage Pile (FE2)	Storage Pile, 495 tons per hour	Permanent Total Enclosure (CS-2.2)	FE2

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Coal Storage Pile (FE3)	Storage Pile, 400 tons per hour	Permanent Total Enclosure (CS-4.10)	FE3
Iron Ore Storage Pile (FE4)	Storage Pile, 400 tons per hour	Permanent Total Enclosure (CS-4.10)	FE4
Aluminum Source Storage Pile (FE5)	Storage Pile, 400 tons per hour	Permanent Total Enclosure (CS-4.10)	FE5
Transfer points to Vibrating Feeders Under Stockpiles (VF-4.12.1 through VF-4.12.6)	Transfer Points, 400 tons per hour	Permanent Total Enclosure (CS-4.10, and CS-2.2)	n/a
Front End Loader Dump - Coal Reclaim (FE6)	Reclaim Operation, 250 tons per hour	Permanent Total Enclosure (CS-4.10)	FE6
Front End Loader Dump - Iron Ore Reclaim (FE7)	Reclaim Operation, 250 tons per hour	Permanent Total Enclosure (CS-4.10)	FE7
Front End Loader Dump - Aluminum Reclaim (FE8)	Reclaim Operation, 250 tons per hour	Permanent Total Enclosure (CS-4.10)	FE8
End Dump Transport Truck to Gypsum Storage Pile (FE9)	Storage Pile, 100 tons per hour	n/a	FE9
Front End Loader Dump - Gypsum Reclaim (FE10)	Reclaim Operation, 250 tons per hour	n/a	FE10

B. Emission Limits/Standards

1. Operating Limitations

a. The Permittee shall not cause or allow the amount of material transferred to the Gypsum Storage Pile to exceed any of the following rates:

- i. 300 tons in any 3-hour period;
- ii. 400 tons in any 24-hour period; nor
- iii. 124,800 tons in any 365-day period.

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

b. The Permittee shall not cause or allow the amount of material reclaimed from the Gypsum Storage Pile to exceed any of the following rates:

- i. 750 tons in any 3-hour period;

- ii. 1,000 tons in any 24-hour period; nor
- iii. 312,000 tons in any 365-day period.

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

2. Particulate Matter Emission Standards

- a. The Permittee shall not cause or allow to be emitted into the atmosphere from any transfer point on any belt conveyor listed in Section IV.A any gases which contain particulate matter (PM) in excess of 0.008 grains per dry standard cubic feet, based on a 3-hour average.
- b. The Permittee shall not cause or allow to be emitted into the atmosphere from any transfer point on any belt conveyor listed in Section IV.A any gases which contain particulate matter (PM) in excess of 0.104 lbs per hour, based on a 3-hour average.
- c. The Permittee shall not cause or allow to be emitted into the atmosphere from any enclosed storage pile or reclaim operation listed in Condition IV.A any visible fugitive emissions.

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

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

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

C. Air Pollution Control Requirements

At all times when any belt conveyor listed in Section IV.A is 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 underline and italics]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring and Recordkeeping for Operational Limitations

The Permittee shall maintain hourly and daily records of the amount of material transferred to and reclaimed from the Gypsum Storage Pile.

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

2. Monitoring and Recordkeeping for Particulate Matter Emission Standards

- a. *The Permittee shall install, maintain, and operate, according to the manufacturer's specifications, a device for monitoring and recording the pressure drop across Dust Collector DC-12.7.1.*

[A.A.C. R18-2-331(A)(3)(c) and R18-2-406(A)(4)]

- b. The Permittee shall perform monthly inspections of Dust Collector DC-12.7.1, 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 the 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)]

- c. If the pressure drop across Dust Collector DC-12.7.1 is outside the range of 0.5 to 6.0 inches of H₂O, 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 IV.B.2.a and IV.B.2.b. 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 XII.D of Attachment "A."

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

- d. Periodic Visible Emissions Observations

For each building or enclosure listed in Condition IV.A, the Permittee shall conduct periodic visible emissions observations in accordance with Conditions IV.D.2.d.i through IV.D.2.d.vii.

- i. Except as provided in Condition IV.D.2.d.v, 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)]

- ii. 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)]

- iii. 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)]

- iv. 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)]

- v. The requirement to conduct Method 22 visible emissions monitoring under this paragraph shall not apply to any totally enclosed conveying system transfer point, regardless of the location of the transfer point. "Totally enclosed conveying system transfer point" shall mean a conveying system transfer point that is enclosed on all sides, top, and bottom. The enclosures for these transfer points shall be operated and maintained as total enclosures on a continuing basis in accordance with the facility operations and maintenance plan.

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

- vi. 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 IV.D.2.d.i through IV.D.2.d.iv for each such conveying system transfer point located within the building, or for the building itself, according to Condition IV.D.2.d.vii.

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

- vii. If visible emissions from a building are monitored pursuant to Condition IV.D.2.d.vi, the requirements of Conditions IV.D.2.d.i through IV.D.2.d.iv 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)]

E. Testing Requirements

1. The Permittee shall perform periodic performance tests in accordance with Condition IV.E.2.

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

2. Test Methods and Procedures for Particulate Matter

- a. The Permittee shall determine compliance with Conditions IV.B.2.a and IV.B.2.b as follows:
 - i. Except as provided in Condition IV.E.2.a.ii, EPA Reference Method 5 shall be used to determine the particulate matter concentration. The sample volume shall be at least 60 dscf.
 [A.A.C. R18-2-406(A)(4)]
 - ii. 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.
 [A.A.C. R18-2-406(A)(4)]
- b. The performance test required by Condition IV.E.2.a shall be performed within 3 years of the last conducted test.
 [A.A.C. R-18-406(A)(4)]

F. Permit Shield

[A.A.C. R-18-325]

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4)

V. EMERGENCY GENERATOR

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Emergency Generator (DEG-9.11)	Reciprocating internal combustion engine, diesel fuel-fired, driving emergency electrical generator, 2500 kW output	Not applicable	DEG-9.11

B. Applicability

This Section is applicable to the emergency generator listed in Condition V.A above.

C. Emission Limits/Standards

- 1. The Permittee shall not cause or allow the operation of the Emergency Generator to exceed the limits listed in Condition V.C.1.a below:

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

- a. 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 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:

i. For NO_x plus nonmethane hydrocarbons, the “Tier 3” emission standard of 4.0 grams per kilowatt-hour.

ii. For CO, the “Tier 3” emission standard of 3.5 grams per kilowatt-hour.

iii. 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)]

3. 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 89.112 and 40 CFR 89.113 for all pollutants.

[40 CFR 60.4202(a)(2), and 60.4205.(b)]

4. 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)]

D. Operational Requirements

1. *The Permittee shall install a non-resettable hour meter on each compression ignition engine prior to startup of the engine.*

[A.A.C. R18-2-331.A.3.c and 40 CFR 60.4209(a)]

[Material permit conditions are indicated by underline 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) and A.A.C. R18-2-306.A.3]
3. The Permittee shall only change those engine settings that are permitted by the manufacturer.
[40 CFR 60.4211(a)]
4. The Permittee shall meet the requirements of 40 CFR parts 89, 94, or 1068, as they apply.
[40 CFR 60.4211(a)]
5. The Permittee shall not operate the compression ignition engines except for emergency purposes, maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine.
[40 CFR 60.4211(e)]
6. The Permittee shall not operate each compression ignition engine for the purposes of maintenance checks and readiness testing for more than 100 hours per year.
[40 CFR 60.4211(e)]
7. The Permittee may petition the Administrator 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 compression ignition engines beyond 100 hours per year. Copies of such records shall be provided to ADEQ upon request.
[40 CFR 60.4211(e)]

E. Fuel Requirements

1. 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.

F. 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 readily available records of the following:
 - a. Records of the type and quantity of fuel combusted in the Emergency Generator.
 - i. Records required by Condition V.C.3.a shall be created and maintained for each calendar day on which fuel is combusted in the Emergency Generator.
 - ii. Records required by Condition V.C.3.a shall indicate the sulfur content of the fuel combusted and the method of determination.
 - iii. 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.
 - b. Records of the manufacturer's certification of conformity, demonstrating compliance with Condition V.B.3.a or V.B.3.b, as applicable. These records shall be maintained for the life of the Emergency Generator.
 - c. 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.
 - d. 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)(3)]

G. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-719(E), 40 CFR 60.4202(a)(2), 60.4205.(b), 60.4207(b), 60.4209(a), 60.4211(a), and 60.4211(e).

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

VI. QUARRY OPERATIONS AND VEHICLE TRAFFIC

A. List of Emission Units

Emission Unit/Affected Source Name (Equipment ID Number)	Emission Unit/Affected Source Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Wet Drilling (DR-1)	Drilling of limestone	n/a	DR-1
Limestone Blasting (BL-1)	Blasting with Ammonium Nitrate/Fuel Oil mixture	n/a	BL-1
Truck Loading with Payloader (QE-1)	495 tons per hour	n/a	QE-1
Truck Unloading (QE-2) into Primary Crusher Hopper	495 tons per hour	Water Dedusting System (WD-1.4)	QE-2
Unpaved roads	Used by Payloader, haul trucks, and water truck	Water application	n/a
Paved roads	Used by plant maintenance trucks, gypsum trucks, and customer cement trucks	Water application and vacuuming	n/a

B. Emission Limits/Standards

1. Operational Limitations

- a. The Permittee shall not cause or allow blasting in the quarry to exceed 1 blast per day nor 48 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 12.5 tons per blast.
[A.A.C. R18-2-306(A)(2)]
- d. The Permittee shall not cause or allow the amount of limestone quarried and processed to exceed 8,123 tons per calendar day nor 1,056,000 tons per 365-day period.
[A.A.C. R18-2-306(A)(2)]

2. Particulate Matter Emission Standards

- a. All roads within the Cement Plant Process Area Boundary shall be paved and shall be maintained in a paved condition.

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

b. Dust Control Procedures for Paved Roads

- i. 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)]

- ii. 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

- i. 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)]

- ii. The maximum speed on unpaved roads shall be restricted to 15 miles per hour;

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

- iii. The roadways shall be watered frequently enough to assure compliance;

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

- iv. Berms shall be installed around the areas which are not used by traffic to restrict usage;

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

- v. 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)]

C. Air Pollution Control Requirements

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 underline and italics]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring and Recordkeeping for Operational Limitations

- a. The Permittee shall maintain daily records of the number of blasts performed in the quarry.

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

- b. The Permittee shall maintain daily records of the quantity and type of explosive used.

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

- c. The Permittee shall maintain daily records of the amount of limestone quarried.

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

2. Recordkeeping for Particulate Matter Emission Standards

- a. The Permittee shall maintain daily records of watering and vacuuming performed at all paved roads.

- b. The Permittee shall maintain monthly records of maintenance activities conducted on paved roads within the Cement Plant Process Area Boundary.

- c. The Permittee shall maintain daily records of watering performed at all unpaved roads.

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

E. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-602, A.A.C. R18-2-604, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, A.A.C. R18-2-612, and A.A.C. R18-2-804.

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

VII. MISCELLANEOUS SOURCES

A. List of Emission Units

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.

B. Emission Limits and Standards

1. Requirements for All Fugitive Dust Sources

- a. General

- i. As used in Conditions VII.B.1.a through VII.B.1.c, all terms shall have the meaning given in A.A.C. R18-2-101.
- ii. Conditions VII.B.1.b and VII.B.1.c shall apply only to fugitive dust sources.
[A.A.C. R18-2-601]
- iii. For the purposes of Condition VII.B.1.a.ii, fugitive dust sources are sources of air contaminants which, due to lack of an identifiable emission point or plume, cannot be considered point sources.
[A.A.C. R18-2-601]
- iv. In applying the criterion in Condition VII.B.1.a.iii, such items as air-curtain destructors, heater-planers, and conveyor transfer points shall be considered to have identifiable plumes.
[A.A.C. R18-2-601]

b. Visible Emissions

The Permittee shall not cause, allow or permit visible emissions from fugitive dust sources in excess of 40 percent opacity measured in accordance with the Arizona Testing Manual, Reference Method 9. Open fires permitted under Condition VII.B.2 are exempt from this requirement.

[A.A.C. R18-2-612]

c. Work Practice Requirements

The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

- i. Use approved dust suppressants, adhesive soil stabilizer, paving, covering, detouring, or wetting agents on, or bar access to open areas during construction operations, repair operations, demolition activities, clearing operations, and leveling operations, or when any earth is moved or excavated.
[A.A.C. R18-2-604(A)]
- ii. Use approved dust suppressants, adhesive soil stabilizer, or paving on, or bar access to driveways, parking areas, and vacant lots where motor vehicular activity occurs.
[A.A.C. R18-2-604(B)]
- iii. Use approved dust suppressants, temporary paving, detouring or wetting agents when a roadway is repaired, constructed, or reconstructed.
[A.A.C. R18-2-605(A)]

- iv. Use dust suppressants, spray bars, hoods, wetting agents, or cover the load adequately when transporting material likely to give rise to airborne dust.

[A.A.C. R18-2-605(B) and R18-2-606]

- v. Use spray bars, hoods, wetting agents, dust suppressants, or cover when crushing, handling, or conveying material that is likely to give rise to airborne dust.

[A.A.C. R18-2-606]

- vi. Adequately cover, or use wetting agents, chemical stabilization, or dust suppressants when stacking, piling, or otherwise storing organic or inorganic dust producing material.

[A.A.C. R18-2-607(A)]

- vii. Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material and with the use of spray bars and wetting agents.

[A.A.C. R18-2-607(B)]

2. Additional Requirements for Certain Fugitive Dust Sources

- a. The Permittee shall not cause, allow, or permit bulk material to be hauled, either on-site or off-site, except in accordance with Conditions VII.B.2.a.i through VII.B.2.a.iii.

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

- i. All haul trucks shall be loaded such that the freeboard is not less than three inches.

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

- ii. 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)]

- iii. 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)]

- b. 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)]

- c. 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:

- i. Wheel wash system.
- ii. Gravel pad at least 30 feet wide, 50 feet long, and 6 inches deep.
- iii. Paved roadway at least 20 feet wide and 100 feet long.
- iv. Rails, pipes, or grates of sufficient width and length to remove debris effectively.

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

- d. The Permittee shall operate at all times in conformance with the current Dust Control Plan prepared pursuant to Condition VII.C.1.a.

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

3. Point Sources

a. General

- i. As used in Conditions VII.B.3.a through VII.B.3.e through VII.B.4.e, all terms shall have the meaning given in A.A.C. R18-2-101 and R18-2-701.

- ii. Conditions VII.B.3.b through VII.B.3.e shall apply only to sources that are all of the following:

[A.A.C. R18-2-702(A)]

- (a) Existing sources;

[A.A.C. R18-2-702(A)(1)]

- (b) Point sources. For the purposes of this condition, “point source” means a source of air contaminants that has an identifiable plume or emissions point; and

[A.A.C. R18-2-702(A)(2)]

- (c) Stationary sources.

[A.A.C. R18-2-702(A)(3)]

b. Visible Emissions

The Permittee shall not cause, allow, or permit visible emissions in excess of 20 percent opacity as determined by Reference Method 9 in appendix A to 40 CFR part 60.

[A.A.C. R18-2-406(A)(4), R18-2-702(B)]

c. Abrasive Blasting

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, but are not limited to, wet blasting and the use of effective enclosures with necessary dust collecting equipment.

[A.A.C. R18-2-726]

d. Spray Painting Operations

While performing spray painting operations the Permittee shall comply with the following requirements:

- i. 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)]

- ii. The Permittee shall not employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes.

[A.A.C. R18-2-727(B), R18-2-727(B)(1)]

- iii. The Permittee shall not thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727(B), R18-2-727(B)(2)]

- iv. For the purposes of Conditions VII.B.3.d.ii and VII.B.3.d.iii, 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 VII.B.4.d(iv)(a) through VII.B.4.d(iv)(c), 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 cycle-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: five percent.

[A.A.C. R18-2-727(C)(1)]

- (b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent.

[A.A.C. R18-2-727(C)(2)]

- (c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C. R18-2-727(C)(3)]

- v. 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 or organic compounds described in Conditions VII.B.3.d.iv(a) through VII.B.3.d.iv(c), 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)]

- 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

- i. 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)]

- ii. 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)]

- 4. Mobile Sources

- a. General

- i. The requirements of Conditions VII.B.4.b and VII.B.4.c are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles,

agricultural vehicles, or are agricultural equipment used in normal farm operations.

[A.A.C. R18-2-801]

- ii. The requirements of Conditions VII.B.4.b and VII.B.4.c shall not apply to portable sources.

[A.A.C. R18-2-801]

b. Off-road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers and other construction and mining machinery not normally driven on a completed public roadway.

[A.A.C. R18-2-802]

c. Roadway and Site Cleaning Machinery

- i. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804(A)]

- ii. The Permittee shall not cause, allow, or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

[A.A.C. R18-2-804(B)]

5. Demolition/Renovation

The Permittee shall comply with all applicable requirements of 40 CFR part 61, subpart M.

[A.A.C. R18-2-1101(A)(8) 40 CFR 61 subpart M by ref.]

6. Nonvehicle Air Conditioner Maintenance and/or Services

The Permittee shall comply with all applicable requirements of 40 CFR part 82, subpart F.

[40 CFR 82 subpart F]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Fugitive Dust Control Plan

- a. 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)]

- b. The Dust Control Plan shall contain, at a minimum, all of the following information:

- i. 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)]

- ii. 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 VII.C.1.b.i and VII.C.1.b.ii.

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

- iii. A drawing that shows:

- (a) Entire project site boundaries;
- (b) Acres to be disturbed with linear dimensions;
- (c) Nearest public roads;
- (d) North arrow; and
- (e) Planned exit locations onto paved public roadways.

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

- iv. Dust suppressants to be applied, including product specifications or label instructions for approved usage and other information required by Conditions VII.C.1.b.iv through VII.C.1.b.v.

- (a) Method, frequency, and intensity of dust suppressant application.
- (b) Type, number, and capacity of dust suppressant application equipment.

- (c) Information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application of dust suppressants.

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

- v. 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)]

- c. The Permittee shall maintain records of each instance of operation not consistent with the Dust Control Plan. Each such instance shall be considered a period of excess emissions.

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

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

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

2. Abrasive Blasting

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- a. The date the project conducted;
- b. The duration of the project; and
- c. Type of control measures employed.

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

3. Spray Painting Operations

- a. Except as provided in Condition VII.C.3.b, each time a spray painting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- i. The date the project was conducted;
- ii. The duration of the project;
- iii. Type of control measures employed; and
- iv. Material Safety Data Sheets for all paints and solvents used in the project.

- b. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of part a. above.

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

4. Mobile Sources

The Permittee shall keep a record of all emissions-related maintenance activities performed on all mobile sources subject to Condition VII.B.4.

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

5. Demolition/Renovation

The Permittee shall comply with all applicable monitoring, recordkeeping, and reporting requirements of 40 CFR part 61, subpart M.

[A.A.C. R18-2-1101(A)(8) 40 CFR 61 subpart M by ref.]

6. Nonvehicle Air Conditioner Maintenance and/or Services

The Permittee shall comply with all applicable monitoring, recordkeeping, and reporting requirements of 40 CFR part 82, subpart F.

[40 CFR 82 subpart F]

D. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-601, R18-2-602, R18-2-604, R18-2-605, R18-2-606, R18-2-607, R18-2-612, R18-2-702(A), R18-2-702(B), R18-2-726, R18-2-727, R18-2-730(D), R18-2-730(F), R18-2-730(G), R18-2-730(H), R18-2-801, R18-2-802, R18-2-804.

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

VIII. 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(A)]

5. The evaluation of air quality data in terms of procedure, methodology, and concept is to be consistent with methods described in A.A.C. R18-2, Appendix 10, "Evaluation of Air Quality Data".

[A.A.C. R18-2-216(B)]

6. 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)E]

- 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; and
- 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

7. 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.

8. 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.

9. 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 systems audit and a minimum of 48 hours notice of a performance audit.

10. 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.
11. 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:
 - i. Copies of laboratory reports, if applicable;
 - ii. Copies of all applicable quality control and field reports (e.g., precision checks, flow checks, calibrations, and audit reports); and
 - iii. 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

- i. Site location (elevation in meters; latitude and longitude in degrees, minutes, seconds) and method of determination (map, GPS, etc.).
 - ii. Street address, if available, or nearest road(s) and direction from site to road.
 - iii. Site description including name, diagram, and description of surrounding area.
 - iv. Position of monitoring equipment (ground level, rooftop, tower), distance from obstructions for each monitor, and height of inlet above ground level for each monitor.
 - v. 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
 - vi. 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 PM₁₀, 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]

IX. CONCRETE BATCH PLANT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure (Control Device ID Number)	Emission Point ID Number
Concrete Batch Plant (CBP-1.1)	140 Cubic Yards per Hour	Baghouse (BH-CBP-1.1)	BH-CBP-1.1
Cement Silo (CS-1.1)	Delivery of Cement to Silo, 550 bbl, 13 TPH	Baghouse (BH-CBP-1.1)	BH-CBP-1.1
Fly Ash Silo (FAS-1.1)	Delivery of Flyash or Cement Supplement to Silo, 450 bbl, 2 TPH	Baghouse (BH-CBP-1.1) or Dedicated Dust Collector (Future Installation)	Baghouse (BH-CBP-1.1) or Dedicated Dust Collector (Future Installation)
Aggregate Delivery to Ground Storage	Delivery of Aggregate to Storage Pile	Water Application	AD-1
Sand Delivery to Ground Storage	Delivery of Sand to Storage Pile	Water Application	SD-1
Aggregate Transfer to Conveyor	Aggregate Transfer to Conveyor	Water Application	ATP-1
Sand Transfer to Conveyor	Sand Transfer to Conveyor	Water Application	STP-1
Aggregate Transfer to Elevated Storage	Aggregate Transfer to Elevated Storage	Water Application	ATP-2
Sand Transfer to Elevated Storage	Sand Transfer to Elevated Storage	Water Application	STP-2
Weigh Hopper Loading	Loading of Aggregate and Sand to Weigh Hopper	Water Application	WH-1
Truck Mix Loading	Loading Finish Product in Ready Mix Trucks	Baghouse (BH-CBP-1.1)	BH-CBP-1.1
Unpaved Roads	N/A	Water Application	N/A
Storage Piles	Aggregate, Sand, and Pozzolan Piles	Water Application	N/A

B. Operating Limitations

- The Permittee shall only operate the concrete batch plant using commercial electric power.

[A.A.C. R18-2-306.A.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 permit conditions are indicated by underline 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 Condition VII of this attachment.

[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:

i. 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 permit 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 permit conditions are indicated by underline and italics]

- (c) Baghouses shall be maintained in accordance with the following:

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

- (1) Prior to start-up, visual inspections shall be conducted on all venting ducts or lines, fittings (including dust shroud), and the blower;
- (2) Following shut-down, all pressurized systems shall be turned "off";

- (3) 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;
- (4) All ducts, hoods, framework, and housings shall be checked daily for signs of wear;
- (5) The fan motor, bearings, shaking device, reverse-jet blow rings, valves, and dampers shall be lubricated regularly and checked for wear; and
- (6) The Permittee shall maintain records which demonstrate compliance with the activities listed in Conditions IX.C.2.a.i(c)(1) through IX.C.2.a.i(c)(5) above.

ii. Wet Suppression Requirements for Applicable Emissions Units in Condition IX.A

[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) The spray system shall be checked daily for performance; and
- (d) All nozzles and valves shall be cleaned or replaced as needed.

iii. 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.
- iv. The Permittee shall maintain records which demonstrate compliance with the activities listed in Conditions IX.C.2.a.iii and IX.C.2.a.iv above
- b. Haul Roads and Storage Piles
 - i. 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 permit conditions are indicated by underline and italics]

D. Monitoring, Recordkeeping and Reporting Requirements

- 1. The Permittee shall maintain daily records of the throughput of concrete produced by the batch plant listed in Condition XI.A.

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

- 2. Opacity

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

- a. A certified Method 9 observer shall conduct a monthly visual survey of visible emissions from the process sources or fugitive dust sources as per the following procedure:

- i. If the observer, during the visual survey, does not see visible emissions that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the survey.

- ii. If the observer sees a visible emission from the process source that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the visible emission. If the six-minute opacity of the visible emission is less than or equal to the applicable opacity standard, the observer shall make a record of the date and time of the observation, name of the observer, and the results of the Method 9 observation.

- iii. If the six-minute opacity of the visible emission exceeds the applicable opacity standard, then the Permittee shall adjust or repair the controls or equipment to reduce opacity to below the applicable standard. The Permittee shall keep record of the date and time of the observation, name of the observer, the results of the Method 9 observation, and records of any corrective action taken. The Permittee shall report this as an excess emission

under Condition XI.A of Attachment “A”. A certified Method 9 observer shall conduct a monthly survey of visible emissions from all process equipment and fugitive dust sources. The Permittee shall keep a record of the name of the observer, the date and location on which the observation was made, and the results of the observation.

3. 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]

4. 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 H₂O) 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]

E. Permit Shield

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

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-614, -702.B, and -723

ATTACHMENT “C”: EQUIPMENT LIST

**Air Quality Control Permit No. 53336
for
Drake Cement, LLC**

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
<i>Department 1 - Primary Crushing and Overland Conveyors from the Limestone Quarry to the Cement Plant</i>						
IPC-1.3	Primary Crusher	495 tph	Thyssen Krupp	Impact crusher P160/150 CR	2-493-20741	2008
WD-1.4	Water Dedusting System	4gpm fog / 16 gpm water	TRC	EPI1000	488.1-25	2009
OC-1.5	First Overland Belt Conveyor	500 tph	Superior Industries	F30X387CFC	U008078	2008
DC-1.6	Dust Collector for Primary Crusher	14,619 acfm	IAC	96TB-BHWT-288	NA	2009
OC-1.7	Second Overland Belt Conveyor	500 tph	Superior Industries	F36X672CFC	U008079	2008
DC-1.8	Dust Collector for Belt Conveyor Transfer	2,757 acfm	IAC	96TB-BHT-56	NA	2009
OC-1.9	Third Overland Belt Conveyor	500 tph	Superior Industries	F36X1042CFC	U008080	2008
DC-1.10	Dust Collector for Belt Conveyor Transfer	2,757 acfm	IAC	96TB-BHT-56	NA	2009
DC-1.11	Dust Collector for Belt Conveyor Transfer	5,515 acfm	IAC	96TB-BHT-110	NA	2009
BC-2.1	Belt Conveyor with Tripper for Limestone	500 tph	Superior Industries	F-Tripper	U008081	2007
<i>Department 2 - Primary Limestone Covered Storage and Transportation to Raw Material Silos</i>						
CS-2.2	Limestone Storage Building Stockpile	51,000 tons	ARPL	NA	Fully Enclosed Building	2008
BC-2.4	Belt Conveyor for Collecting Limestone from Stockpile	500 tph	Superior Industries	F36X656CFC	U008082	2007

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
DC-2.1	Dust Collector for Interior of Limestone Storage Building	5,000 acfm	NA	Not required to abate dust		NA
DC-2.2	Dust Collector for Interior of Limestone Storage Building	5,000 acfm	NA	Not required to abate dust		NA
DC-2.3	Dust Collector for Interior of Limestone Storage Building	5,000 acfm	NA	Not required to abate dust		NA
DC-2.4	Dust Collector for Interior of Limestone Storage Building	5,000 acfm	NA	Not required to abate dust		NA
DC-2.5	Dust Collector for Belt Conveyor Transfer	2,757 acfm	IAC	96TB-BHT-56	NA	2009
BC-2.8	Belt Conveyor to Raw Material Silos	500 tph	Superior Industries	F36X376TFC	U008083	2007
DC-2.9	Dust Collector for Belt Conveyor Transfer to Silos	7,418 acfm	IAC	96TB-BHT-144	NA	2009
DC-2.10	Dust Collector for Belt Conveyor Transfer to Silos	7,418 acfm	IAC	96TB-BHT-144	NA	2009
BC-2.12	Reversible Conveyor on Top of Raw Material Silo	500 tph	Superior Industries	F36X21CFC	U008084	2008
BC-2.13	Reversible Conveyor on Top of Raw Material Silo	500 tph	Superior Industries	F36X21CFC	U008085	2007
<i>Department 3 - Raw Material, Raw Coal, Clinker and Gypsum Metallic Silos</i>						
RMS-3.1	High Limestone Silo 1	600 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.2	High Limestone or Other Additive Silo	500 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.3	Low Limestone/Sandstone Silo	500 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.4	Iron Ore Silo	626 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.5	Gypsum Silo	430 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.6	Clinker Silo	540 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.7	Aluminum Source Silo	410 tons	SYCSA	Field Fabricated Unit		2009
RMS-3.8	Raw Coal Silo	340 tons	SYCSA	Field Fabricated Unit		2009
<i>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</i>						

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
VF-4.3	Vibrating Feeder – Railcar	400 tph	FMC	RF-120B	TT02059	2009
RHR-4.1	Receiving Hopper for Railcars	24' x 12' (approx.)	ARPL	Field Fabricated unit		2009
WD-4.4	Water Dedusting System-Railcar	3 gpm fog/10 gpm water	TRC	EPI2000	488.1-25	2009
RHT-4.5	Receiving Hopper for Trucks	16'x10' (approx)	ARPL	NA	NA	2009
WD-4.6	Water Dedusting System-Trucks	3 gpm fog/10 gpm water	TRC	EPI2000	488.1-25	2009
VF-4.7	Vibrating Feeder	400 tph	TRC	RF-120 B	TT02065	2008
BC-4.8	Belt Conveyor under Rail Car and Truck Discharge	400 tph	Superior Industries	F30X334CFC	U008086	2008
BC-4.9	Belt Conveyor with Tripper for Coal, Iron Ore, etc	400 tph	Superior Industries	F-Tripper	U008087	2008
CS-4.10	Coal, Iron Ore, and Aluminum Additive Building Stockpiles	9500 tons	ARPL	Fully Enclosed Building		2009
BC-4.11	Belt Conveyor under Coal and Iron Ore Stockpile	400 tph	Superior Industries	F30X387CFC	U008088	2008
VF-4.12.1	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02063	2008
VF-4.12.2	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02062	2008
VF-4.12.3	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02060	2008
VF-4.12.4	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02064	2008
VF-4.12.5	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02061	2008
VF-4.12.6	Vibrating Feeder under Covered Stockpile	400 tph	FMC	RF-120 B	TT02066	2008
BC-4.15	Belt Conveyor to Raw Material Silos	400 tph	Superior Industries	F30X532TFC	U008089	2007
BC-4.17	Reversible Conveyor on Top of Raw Material Silo	400 tph	Superior Industries	F30X22CFC	U008090	2008

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
DC-4.18	Dust Collector for Belt Conveyor Transfer	2,158 acfm	IAC	96TB-BHT-42	NA	2009
DC-4.19	Dust Collector for Transfer to Silos	7,925 acfm	IAC	96TB-BHT-156	NA	2009
DC-4.20	Dust Collector for Belt Conveyor Transfer	4,640 acfm	IAC	96TB-BHT-90	NA	2009
DC-4.23	Dust Collector for Interior of Additives Building	5,000 acfm	NA	Not required to abate dust		NA
DC-4.24	Dust Collector for Interior of Additives Building	5,000 acfm	NA	Not required to abate dust		NA
DC-4.25	Dust Collector for Interior of Additives Building	5,000 acfm	NA	Not required to abate dust		NA
<i>Department 5 - Raw Material Grinding with Baghouse</i>						
WF-5.1.1	Weighfeeder for High Limestone	110-160 tph	Schneck	DMO	119244-02A	2008
WF-5.1.2	Weighfeeder for High Limestone	2-60 tph	Schneck	DMO	119244-02B	2008
WF-5.2	Weighfeeder for Low Limestone	2-60 tph	Schneck	DMO	119244-03A	2008
WF-5.3.1	Weighfeeder for Iron Ore	1-11 tph	Schneck	DMO	119244-05D	2008
WF-5.3.2	Weighfeeder for Aluminum Source	1-11 tph	Schneck	DMO	119244-05A	2008
BC-5.4	Small Belt Conveyor for Iron Ore and Aluminum Source	50 tph	Superior Industries	F30X31CFC	U008094	2008
DC-5.5	Dust Collectors for Weighfeeders	8,135 acfm	IAC	96TB-BHT-156	NA	2009
BC-5.6	Belt Conveyor to Raw Grinding Building	180 tph	Superior Industries	F30X248TFC	U008095	2007
BE 5.9.1	Bucket Elevator to Raw Mill	770 tph	Sthim	EC2C-1000/330/380	DNI 1034	2007
BE 5.9.2	Belt conveyor to high Eff. Separator	770 tph	Superior Industries	F60X74TFC	U008108	2007
HES-5.11	High-Efficiency Separator	Prod 171 tph/ tp 770 tph	Polysius	SEPOL HR 16/27	D000212/22195/00009	2008
BC-5.13	Belt Conveyor to Roller Press	600 tph	Superior Industries	F48X63CFC	U008096	2008
RP-5.16	Roller Press Raw Mill	600tph	Polysius	POLYCOM	3F1.PM01	2008
C-5.17.1	Cyclone	2.8 m	ARPL	Field Fabricated unit		2009
C-5.17.2	Cyclone	2.8 m	ARPL	Field Fabricated unit		2009

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
C-5.17.3	Cyclone	2.8 m	ARPL	Field Fabricated unit		2009
C-5.17.4	Cyclone	2.8 m	ARPL	Field Fabricated unit		2009
SC-5.18.1	Screw Conveyor for Raw Meal 322-20-SV-01	190 tph	FMC	FMC_SC	5300-281-A	2008
SC-5.18.2	Screw Conveyor for Raw Meal 322-22-SV-01	190 tph	FMC	FMC_SC	5300-282-A	2008
AS-5.19	First Airslide for Raw Meal	180 tph	Claudius Peters	Closed 200	NA	2008
AS-5.21	Second Airslide for Raw Meal	180 tph	Claudius Peters	Closed 200	NA	2008
DC-5.22	Dust Collector for Raw Grinding System	5,334 acfm	IAC	96TB-BHT-100	NA	2009
BH-5.30	Baghouse for Raw Mill and Kiln	140,000-195,000 acfm	IAC	6x270TB-BHTM-3C-288:S6	NA	2009
SC-5.31.1	Screw Conveyor under Baghouse328-6A-SV-01	9 tph	IAC	IAC_SC	122-0022	2008
SC-5.31.2	Screw Conveyor under Baghouse328-6B-SV-01	9 tph	IAC	IAC_SC	122-0023	2008
SC-5.32	Screw Conveyor which Collects Dust from Baghouse 322-60-SV-01	18 tph	IAC	IAC_SC	122-0024	2008
SC-5.33	Screw Conveyor for Taking Dust to Blending Silo 322-64-SV-01	18 tph	IAC	IAC_SC	122-0025	2008
MS-5.38	Main Stack	145,000-195,000 acfm	ARPL	Field Fabricated		2009
GAN-5.39	Gas Analyzer on Main Stack (O2, CO, NOx and SO2)	NA	ABB	ULTRAMAT 23 (IR absorbing gases and Oxygen)	8052926	2008
CPM-5.40	Continuous Particulate Monitor on Main Stack (PM and PM10)	NA	ABB	DSK280MA	1204032	2008
THCGAN-5.41	Total Hydrocarbon Gas Analyzer on Main Stack (THC)	NA	ABB	FIDAMAT 5E	NA	2008
<i>Department 6 - Blending Silo</i>						

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
BE-6.1	Bucket Elevator to Blending Silo	163 - 180 tph	Sthim	EB-400/290/360	DNI-1035	2008
AS-6.2	Airslide for Raw Meal on Top of Blending Silo	180 tph	Claudius Peters	Closed 200	NA	2008
PDAS-6.3	Pneumatic Parallel Distribution for Airslides	830 mm diameter	Claudius Peter	Distributor size 830	P016600827	2008
AS-6.5.1	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	NA	2008
AS-6.5.2	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	NA	2008
AS-6.5.3	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	NA	2008
AS-6.5.4	Long Airslide on Top of Blending Silo	45 tph	Claudius Peters	Closed 200	NA	2008
SI-6.7	Blending Silo	7,183 tons	Claudius Peters	Mixing Silo MC-16	NA	2008
DC-6.10	Dust Collector on Top of Blending Silo	5,632 acfm	IAC	96TB-BHT-110	NA	2009
<i>Department 7 - Kiln Feed</i>						
AS-7.4	Raised Airslide from Blending Silo	170 tph	Claudius Peters	Closed 200	NA	2008
MWB-7.8	Metallic Weighing Bin	33 m3	Claudius Peters	Open 200	NA	2008
FPD-7.10	Fluidization and Pneumatic Discharge of Bin	170 tph	Claudius Peters	Closed 200	NA	2008
AS-7.12	Airslide	170 tph	Claudius Peters	EB-630/240/440	NA	2008
BE-7.15.1	Bucket Elevator for Feeding Pre-Heater Tower	170 tph	Sthim	EB-630/240/440	DNI 1036	2008
BE-7.15.2	Bucket Elevator for Feeding Pre-Heater Tower	170 tph	Sthim	96TB-BHT-81	DNI 1037	2008
DC-7.16	Dust Collector	3,519 acfm	IAC	Closed 200	NA	2009
AS-7.17	Airslide	170 tph	Claudius Peters	Closed 200	NA	2008
AS-7.22	Recirculating Airslide	170 tph	Claudius Peters	96TB-BHT-49	NA	2008
DC-7.23	Dust Collector on Top of PreHeater Tower	2,548 acfm	IAC	Cemento Andino kiln 2&3	NA	2009
<i>Department 8 - New 6 Stage Pre-Heater with Calciner</i>						
PRE-8.3	Six-Stage Preheater	5.2/5.0 m	FLSmith	Field Fabricated System		2008
CAL-8.13	Calciner (6.0 m diameter)	83.33 tph	FLSmith	Field Fabricated System		2008

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
GAN-8.16	Gas Analyzer for Kiln Inlet (O2, CO, NOx)	NA	ABB	ULTRAMAT 23 (IR absorbing gases and oxygen)	07-567-02920	2007
GAN-8.17	Gas Analyzer for Preheater (O2 and CO)	NA	ABB	ULTRAMAT 23 (IR absorbing gases and oxygen)	0240063505/1610	2007
TAD-8.18	Tertiary Air Duct	2 m diameter	FLSmidth	Field Fabricated System		2008
SNCR-8.19	SNCR Equipment Inc. Pumps, Tanks, etc. for NH3 aqueous solution	4 g/min	Johnson March systems	Field Fabricated System		2007
<i>Department 9 - Rotary Kiln</i>						
RK-9.1	Rotary Kiln 12'x143' with 2 supports	83.33 tph	ARPL	Field Fabricated System		2009
DEG-9.11	Diesel Emergency Generator	250 kW	Caterpillar	C9	G5A03141	2008
<i>Department 10 - Cooler and Cooler Dedusting</i>						
CGC-10.1	Clinker Cooler	83.33 tph	Claudius Peters	ETA Cooler 646	13760	2008
CRC-10.3	Cooler Roller Crusher with 3 Rollers	83.33 tph	Claudius Peters	Type RB244-3 EM	98408701	2008
SC-10.12	Screw Conveyor for Clinker Dust412-34-SV-01	13 tph	IAC	IAC_SC	122-0028	2008
BH-10.13	Baghouse for Cooler	98,100 acfm	IAC	4x234TB-BHTP-288:S6	NA	2008
SC-10.14	Screw Conveyor for Clinker Dust412-36-SV-01	13 tph	IAC	IAC_SC	122-0029	2008
CS-10.16	Cooler Stack	105,932 acfm	ARPL	Field Fabricated System		2009
CPM-10.17	Continuous Particulate Monitor on Cooler Stack (PM and PM10)	NA	TBD	TBD	TBD	Required 2013
<i>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</i>						

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
HPC-11.1	Hot Pan Conveyor	83.3 tph-198 tph (max)	Sthim	TMC-800/350/250	DNI 1038	2008
DC-11.2	Dust Collector	4,164 acfm	IAC	96TB-BHT-90	NA	2009
CDO-11.3	Clinker Dome	50,000 short tons	ARPL	Field Fabricated System		2008
BC-11.5	Belt Conveyor to Emergency Clinker Silo	400 tph	Superior Industries	F30X154TFC	U008097	2008
DC-11.6.1	Dust Collector for Belt Transfer	2,564 acfm	IAC	96TB-BHT-49	NA	2009
DC-11.6.2	Dust Collector for Emergency Clinker Silo	2,935 acfm	IAC	96TB-BHT-56	NA	2009
SI-11.7	Emergency Clinker Silo	13,800 tons	ARPL	Field Fabricated System		2008
BC-11.8	Belt Conveyor under Clinker Dome and Clinker Silo	400 tph	Superior Industries	F42X327CFC	U008098	2008
BC-11.10	Belt Conveyor for Transporting Clinker and Gypsum to Silos	400 tph	Superior Industries	F30X564TFC	U008099	2008
DC-11.11	Dust Collector for Belt Transfer	8,792 acfm	IAC	96TB-BHT-156	NA	2009
OS-11.12	Covered Stockpile for Gypsum	2,000 tons	ARPL	Building with roof and partial walls		2008
HGP-11.13	Hopper with Grid to be Fed by Payloader	10 m3	ARPL	Field Fabricated System		2008
BC-11.14	Reversible Belt Conveyor for Gypsum and Clinker	400 tph	Superior Industries	F30X22CFC	U008100	2008
DC-11.15	Dust Collector for Clinker and Gypsum Silos	7,592 acfm	IAC	96TB-BHT-144	NA	2009
SI-11.8	Off-Spec Clinker Silo	1000 tons	IAC	TBD	TBD	2014
BC-11.6	136' Belt Conveyor to transfer clinker to Off-Spec Clinker Silo	83.33 tph	IAC	TBD	TBD	2014
CH-11.8.3	Special Chute to transfer clinker to reclaim conveyor	400 tph	IAC	TBD	TBD	2014
TBL-11.8.1	Truck Bulk Loading Spout for Off-Spec Clinker Silo	400 tph	IAC	TBD	TBD	2014
<i>Department 12 - Coal Grinding System with Baghouse, Pulverized Coal Silo and Coal Distribution System for Kiln and Calciner</i>						
WF-12.1	Weighfeeder for Coal	22 stph	Schneck	DMO	119244-7A	2008

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
BC-12.3	First Belt Conveyor for Transporting Coal to Mill	20 stph	Superior Industries	F24X98TFC	U008101	2008
BC-12.4	Second Belt Conveyor for Transporting Coal to Mill	20 stph	Superior Industries	F24X164CFC	U008102	2008
DC-12.7.1	Dust Collector for Coal Belt Transfer	1,883 acfm	IAC	96TB-BHT-42	NA	2009
DC-12.7.2	Dust Collector for Coal Pump	388 acfm	IAC	96TB-BHT-9	NA	2009
VM-12.9	Vertical-Bowl Mill for Coal	14 tph	Used 743 Raymond Bowl Mill	MP-26298	4010077280	Ref. 2008
C-12.14	Cyclone	1.75 m	ARPL	Field Fabricated System		2008
RV-12.15	Rotary Valve below the Dedusting Cyclone	2 t/h	Meyer	10x10HDxFDR 260339	420D-292	2008
BH-12.18	Baghouse for Coal Mill	20,598 acfm	IAC	1x96TB-BHWT- 544:S6	NA	2009
SC-12.20	Reversing Screw Conveyor for Coal Dust 522-18-sv-01	20 tph	FMC	FMC_SC	5300-283-A	2008
PPU-12.22.1	Pneumatic Pump for Coal	22 tph	Claudius Peters	X Pump 200	P01.309.88.047	2008
PPU-12.22.2	Pneumatic Pump for Coal	22 tph	Claudius Peters	X Pump 200	P01.309.08.048	2008
PCP-12.24	Pneumatic Conveying Pipe	6 in. diameter	ARPL	Field Fabricated System		2009
DC-12.26	Pulverized Silo with Dust Collector	1,835 acfm	Thornwestern	Field Fabricated	V02-054	2009
PH-12.33.1	Pre hopper	2-3 m3	Pfister	262518	1817	2008
PH-12.33.2	Pre hopper	2-3 m3	Pfister	262518	1819	2008
PH-12.33.3	Pre hopper	2-3 m3	Pfister	262518	1824	2008
RWF-12.35.1	Rotor Weighfeeder	0.7-7.0 tph	Pfister	DRW 4.10	441-16-RW-1	2008
RWF-12.35.2	Rotor Weighfeeder	0.7-7.0 tph	Pfister	DRW 4.10	441-16-RW-2	2008
RWF-12.35.3	Rotor Weighfeeder	0.7-7.0 tph	Pfister	DRW 4.10	441-16-RW-3	2008
PCP-12.37	Pneumatic Conveying Pipe to Calciner	7 Mt/hr	ARPL	Field Fabricated System		2009
PCP-12.38	Pneumatic Conveying Pipe to Kiln Hood	7 Mt/hr	ARPL	Field Fabricated System		2009
<i>Department 13 - Cement Grinding</i>						
621.20AS	Airslide 1 for Separator recirculation line back to the Ball Mill	140 tph	Claudius Peters or equivalent	TBD	TBD	2014

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
621.25FM	Flowmeter for control of Separator recirculation line back to the Ball Mill	100-200 tph	Hasler or equivalent	TBD	TBD	2014
621.30AS	Airslide 2 for Separator recirculation line back to the Ball Mill	140 tph	Claudius Peters or equivalent	TBD	TBD	2014
622.120SV	Screw Conveyor 1 for final product transport	60 tph	Thomas Conveyor Company	FMC or similar	TBD	2014
622.122SV	Screw Conveyor 1A for final product transport	60 tph	Thomas Conveyor Company	FMC or similar	TBD	2014
622.125SV	Screw Conveyor 2 for final product transport	120 tph	Thomas Conveyor Company	FMC or similar	TBD	2014
622.130BE	Belt Bucket Elevator for final product transport to cement silo	250 tph	Sthim or similar	TBD	TBD	2014
622.135AS	Airslide 1 for final product transport	120 tph	Claudius Peters	TBD	TBD	2014
622.140PG	Airslide diverter gate towards silo by-pass (middle of 622.135AS)	120 tph	Claudius Peters	Two-Way Gate M (open-close)	TBD	2014
622.145AS	Airslide 2 for final product transport (by-pass to metallic silos)	120 tph	Claudius Peters	TBD	TBD	2014
622.100PG	Airslide diverter gate for Ball Mill recirculation to Separator	250 tph	Claudius Peters	Two-Way Gate M (open-close)	TBD	2014
622.105AS	Airslide 1 for Ball Mill recirculation to Separator	250 tph	Claudius Peters	TBD	TBD	2014
622.110CT	Chute for Ball Mill recirculation to Separator	250 tph	ARPL	TBD	TBD	2014
622.115AS	Airslide 2 for Ball Mill recirculation to Separator	250 tph	Claudius Peters	TBD	TBD	2014
622.115PF01	Pulse Jet Dust Collector for Air Slide Ventilation	400 acfm	Clarcol or similar	TBD	TBD	2014
623.20DS	High Efficiency Separator	250 tph	Sepol	ESV 230 or equivalent	TBD	2014

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
623.24EM	Sepol Separator Motor	198 HP (145kW)	Squirrel Cage	TBD	TBD	2014
628.10PF	High Efficiency Separator Process Filter Baghouse	105,944 acfm	TBD	TBD	TBD	2014
628.14FH	Fan for High Efficiency Separator	105,944 acfm	TLT-Howden	Venti-Oelde or similar	TBD	2014
628.16EM	Motor for Separator Fan	282 HP (210kW)	Squirrel Cage	TBD	TBD	2014
628.20PF	Jet Pulse Filter 1	3,000 acfm	TBD	TBD	TBD	2014
WF-13.1.1	Weighfeeder for Clinker	15-157 tph	Schneck	DMO	119244.09A	2008
WF-13.1.2	Weighfeeder for Gypsum	0-11 tph	Schneck	DMO	119244.05B	2008
WF-13.1.3	Weighfeeder for Limestone	0-11 tph	Schneck	DMO	119244.05C	2008
BC-13.2	Small Belt Conveyor for Transporting Limestone and Gypsum	50 tph	Superior Industries	F30X25CFC	U008103	2008
BC-13.3	Belt Conveyor to Cement Mill	143 tph	Superior Industries	F30X25CFC	U008104	2008
DC-13.4	Dust Collector for Belt Transfer	2,451 acfm	IAC	96TB-BHT-49	NA	2009
BE-13.5	Feed Bucket Elevator	143 tph	Sthim	EC-400/290/380	DNI 1039	2008
CH-13.5.1	Special chute from Bucket Elevator to BC 13.5.2	580 tph	Field Fabricated Unit			2008
BC-13.5.2	Belt Conveyor Recirc to Separator	580 tph	Superior Industries	CFC	U008108	2008
CH-13.5.7	Bucket Elevator Discharge Chute	3 m length	Field Fabricated Unit			2008
BC-13.5.8	Belt Conveyor to High Eff. Separator	143 tph	Superior Industries	CFC	U008108	2008
BC-13.6	Belt Conveyor to Roller Press	578 tph	Superior Industries	F48X45CFC	U008105	2008
CH-13.9.1	Metal reject diverter gate	578 tph	PEBCO	1000X660-PA-7005	20272	2008
RP-13.10	Roller Press	578 tph	Polysius	POLYCOM 15/8-5, w/ Bainit GHST 480 System	5f1.PM01	2008
CH-13.10.2	Special Chute of Roller Press	578 tph	ARPL	Field Fabricated - Ladder Type		2008
SE-13.5.4	High-Efficiency Separator	660 tph	Polysius	SEPOL HR 12/21	D000212/22195/00010	2008
BC-13.12	Belt Conveyor under HE Separator	578 tph	Superior Industries	F48X18CFCCFC	U008106	2008

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
BE-13.13	Recirculating Bucket Elevator	660 tph	Sthim		DNI 1040	2008
C 13.15.1	Dedusting Cyclone	2.8m	ARPL	Field Fabricated		2009
C 13.15.2	Dedusting Cyclone	2.8m	ARPL	Field Fabricated		2009
SC 13.17	Pressurized Screw Conveyor 622-48-SV-01	143 tph	FMC	FMC_SC	5300-284-1	2008
DC-13.19	Dust Collector	18,924 acfm	IAC	96TB-BHWT-384	NA	2009
DC-13.20	Dust Collector	18,924 acfm	IAC	96TB-BHWT-385	NA	2009
SC-13.21	Screw Conveyor 622-094-SV-01	5tph	FMC	FMC_SC	5300-285-1	2008
SC-13.41	Screw conveyor 622-52-SV-01	10tph	FMC	FMC_SC	5300-286-1	2008
BPH-13.30	By-Pass Hopper	15 m3	ARPL	Field Fabricated System		2009
BC-13.31	Small Belt Conveyor	17 tph	Superior Industries	F24X25CFC	U008107	2008
CH-13.34	Transfer Chute	17 t/h	ARPL	Field Fabricated System		2009
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
DC-13.40	Dust Collector for Ball Mill	22,499 acfm	IAC	96TB-BHWT-416	NA	2009
AS-13.42	Airslide for Transporting Final Cement Product	143 tph	Claudius Peters	Closed 200	NA	2008
BBD-13.44	Broken Bag Detection System for Dust Collector DC-13.19	NA	Auburn Systems	TRIBOGUARD II 4002	TKB 0408	2008
BBD-13.45	Broken Bag Detection System for Dust Collector DC-13.20	NA	Auburn Systems	TRIBOGAURD II 4002	HKB 0508	2008
BBD-13.46	Broken Bag Detection System for Dust Collector DC-13.40	NA	Auburn Systems	TRIBOGAURD II 4002	HKB 0408	2008
SC-13.48	Screw Conveyor to cement cooler 626-02-SV-01	143tph	FMC	FMC-SC	5300-287-1	2008

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
CC 13.49	Cement Cooler (Indirect Contact)	110 tph	Polysius	Fines cooler size 3	1165869	2009
<i>Department 14 – Cement Transport to Silo, Cement Silo and Bulk Loading to Trucks and to Rail Cars</i>						
BE-14.1	Bucket Elevator for Feeding Cement Silo	180 tph	Sthim	EB-400/290/400	DNI 1041	2008
AS-14.2	Airslide on top of Cement Silo	180 tph	Claudius Peters	Closed 200	NA	2008
PDAS-14.3	Pneumatic Parallel Distribution for Airslides	830 mm diameter	Claudius Peters	Distributor size 830	NA	2008
AS-14.4.1	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	NA	2008
AS-14.4.2	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	NA	2008
AS-14.4.3	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	NA	2008
AS-14.4.4	Airslide on top of Cement Silo	50 tph	Claudius Peters	Closed 200	NA	2008
SI-14.6	Cement Silo	10,000 tons	Claudius Peters	Silo EC-16	NA	2008
DC-14.10	Dust Collector on top of Cement Silo	2,988 acfm	IAC	96TB-BHT64	NA	2008
AS-14.13	Airslide	440 tph	Claudius Peters	Closed 400	NA	2008
BE-14.14	Bucket Elevator	400 tph	Sthim	EB-800/330/440	DNI 1042	2008
AS 14.15	Airslide for feed to 2 Metallic Silos	440 tph	Claudius Peters	Closed 400	NA	2008
CMS-14.17.1	Cement Metallic Silo	125 m3/150 tons (approx.)	SYCSA	Field Fabricated Silo		2009
CMS-14.17.2	Cement Metallic Silo	125 m3/150 tons (approx.)	SYCSA	Field Fabricated Silo		2009
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
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
DC-14.21	Dust Collector for Bulk Loading	8,109 acfm	IAC	96TB-BHT-156	NA	2009
ETBL-14.23	Emergency Truck Bulk Loading Spout	165 MtpH	DLC	UN800 EV-10-112E12	207115301E	2008

Equipment ID	Equipment Description	Capacity	Make	Model Number	Serial Number	Date of Manufacture
SD-14.24	Metallic Silo Side Discharge Raw Mill Dust Load out Spout	165 MtpH	DLC	UN800 EV-10-112E12	207115308	2008
PPU-14.25	Pneumatic Pump for Transporting Cement to Railroad Silo	165 MtpH	Claudius Peters	X Pump 300	P001670	2008
PCP-14.27	Pneumatic Conveying Pipe	12 in diameter	Claudius Peters/ARPL	NA	NA	2008
CMS-14.28	Cement Metallic Silo for Train Bulk Loading	398 m3 (approx 585 tons)	SYCSA	NA	NA	2009
DC-14.29	Dust Collector for Train Bulk Loading	6,906 acfm	IAC	96TB-BHT-144	NA	2009
LBR-14.32	Loading Spout to Bulk Loading of Rail Cars	330 MtpH	DLC	UN800 EV-10-112E12	207115301F	2008
PCP-14.28	Pneumatic Conveying Pipe to Cement Metallic Silos	182 tph	IAC	TBD	TBD	2014
CMS-14.23	Cement Metallic Silo	2000 tons	IAC	TBD	TBD	2014
CMS-14.24	Cement Metallic Silo	2000 tons	IAC	TBD	TBD	2014
CMS-14.25	Cement Metallic Silo	2000 tons	IAC	TBD	TBD	2014
CMS-14.26	Cement Metallic Silo	2000 tons	IAC	TBD	TBD	2014
TBL-14.23	Truck Bulk Loading Spout for Cement	400 tph	IAC	TBD	TBD	2014
TBL-14.24	Truck Bulk Loading Spout for Cement	400 tph	IAC	TBD	TBD	2014
TBL-14.25	Truck Bulk Loading Spout for Cement	400 tph	IAC	TBD	TBD	2014
TBL-14.26	Truck Bulk Loading Spout for Cement	400 tph	IAC	TBD	TBD	2014
<i>Department 15 – Concrete Batch Plant</i>						
CBP-1.1	Concrete Batch Plant	140 Cubic Yards/Hr	Vince Hagen	THE10250B	CBP 840404	06/16/1984
CS-1.1	Cement Silo	550 bbl	Vince Hagen	THE10250B	CS 840404	06/16/1984
FAS-1.1	Fly Ash Silo	450 bbl	Vince Hagen	THE10250B	FC 840404	06/16/1984
BH-CBP-1.1	Baghouse for Batch Plant	N/A	MFG Sales Company Inc.	RA140-SAT	FC 840404	N/A
DC-CBP-1.1	Dust Collector for Flyash Silo	530 CFM	TBS	TBD	TBD	N/A