APPENDIX CAM

Compliance Assurance Monitoring Requirements*

(* This CAM Plan is applicable from the Effective Date of this permit until the PM CEMS is installed and certified (the PM CEMS requirements of NESHAP 40 CFR 63 Subpart LLL, as amended in the September 9, 2010 Federal Register, have a final compliance date of September 9, 2013).
(See Justification, Item a. on page 9).)

September 9, 2013

Compliance Assurance Monitoring Requirements

Pursuant to Rule 62-213.440(1)(b)1.a., F.A.C., the CAM plans that are included in this appendix contain the monitoring requirements necessary to satisfy 40 CFR 64. Conditions 1. – 17. are generic conditions applicable to all emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the attached tables, as submitted by the applicant and approved by the Department.

40 CFR 64.6 Approval of Monitoring.

1. The attached CAM plan(s), as submitted by the applicant, is/are approved for the purposes of satisfying the requirements of 40 CFR 64.3.
[40 CFR 64.6(a)]

2. The attached CAM plan(s) include the following information:
(i) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);
(ii) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and
(iii) The performance requirements established to satisfy 40 CFR 64.3(b) or (d), as applicable.
[40 CFR 64.6(c)(1)]

3. The attached CAM plan(s) describe the means by which the owner or operator will define an exceedance of the permitted limits or an excursion from the stated indicator ranges and averaging periods for purposes of responding to (see **CAM Conditions 5. - 14.)** and reporting exceedances or excursions (see **CAM Conditions 15. – 16.**).
[40 CFR 64.6(c)(2)]

4. The permittee is required to conduct the monitoring specified in the attached CAM plan(s) and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - 16.**).
[40 CFR 64.6(c)(3)]

40 CFR 64.7 Operation of Approved Monitoring.

5. Commencement of operation. The owner or operator shall conduct the monitoring required under this appendix upon the effective date of this Title V permit.
[40 CFR 64.7(a)]

6. Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 CFR 64.7(b)]

7. Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 64.7(c)]

8. Response to excursions or exceedances.

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

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

[40 CFR 64.7(d)(1) & (2)]

9. Documentation of need for improved monitoring. If the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 CFR 64.7(e)]

40 CFR 64.8 Quality Improvement Plan (QIP) Requirements.

10. Based on the results of a determination made under **CAM Condition 8.b.,** above, the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with **CAM Condition 4.**, an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may require the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.

[40 CFR 64.8(a)]

11. Elements of a QIP:

a. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.

b. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:

(i) Improved preventive maintenance practices.

(ii) Process operation changes.

(iii) Appropriate improvements to control methods.

(iv) Other steps appropriate to correct control performance.

(v) More frequent or improved monitoring (only in conjunction with one or more steps under **CAM Condition 11.b(i)** through **(iv)**, above).

[40 CFR 64.8(b)]

12. If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the permitting authority if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

[40 CFR 64.8(c)]

13. Following implementation of a QIP, upon any subsequent determination pursuant to **CAM Condition 8.b.**, the permitting authority may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

a. Failed to address the cause of the control device performance problems; or
b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

[40 CFR 64.8(d)]

14. Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

[40 CFR 64.8(e)]

<u>40 CFR 64.9 Reporting And Recordkeeping Requirements.</u>

15. <u>General reporting requirements.</u>

a. Commencing from the effective date of this permit, the owner or operator shall submit monitoring reports semi-annually to the permitting authority in accordance with Rule 62-213.440(1)(b)3.a., F.A.C. **<u>In addition to deviations from any other permit requirement, the semi-annual reports shall also include all instances of deviations from the CAM requirements.</u>**
b. A report for monitoring under this part shall include, at a minimum, the information required under Rule 62-213.440(1)(b)3.a., F.A.C., and the following information, as applicable:
   (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   (iii) A description of the actions taken to implement a QIP during the reporting period as specified in **CAM Conditions 10.** through **14.** Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)]

16. <u>General recordkeeping requirements.</u>

a. The owner or operator shall comply with the recordkeeping requirements specified in Rule 62-213.440(1)(b)2., F.A.C. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to **CAM Conditions 10.** through **14.** and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative

media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

[40 CFR 64.9(b)]

40 CFR 64.10 Savings Provisions.

17. It should be noted that nothing in this appendix shall:

a. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this appendix shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under Title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

b. Restrict or abrogate the authority of the Administrator or the permitting authority to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.

c. Restrict or abrogate the authority of the Administrator or permitting authority to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.

[40 CFR 64.10]

American Cement Company, LLC

Emissions Unit No. 003

Pyroprocessing System
with Baghouse Emission Control Device
(Baghouse/Emission Point ID E-19)

Table 1. Monitoring Approach

	Indicator 1.	Indicator 2.
Indicator	Pressure drop across baghouse.	Change in duct opacity
Measurement Approach	The pressure drop across the baghouse is measured with a Magnahelic or Photohelic gauge.	Continuous opacity monitoring system (COMS).
Indicator Range	An excursion is defined as any daily pressure drop reading outside of the range of 4 to 7 inches of water (other than startup and shutdown periods). Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as any five (5) consecutive 6-minute averaging periods of opacity above 5%, or any sudden and sustained step-change (increase) in opacity as documented by the trend of the consecutive 6-minute averages (other than startup and shutdown periods). Excursions trigger an inspection, corrective action, and a reporting requirement.
I. Performance Criteria		
A. Data Representativeness	The differential pressure measurements are made at the baghouse. Based on available data and manufacturer's specification, under normal operation, the pressure drop range is between 4 to 7 inches of water.	Based on available data under normal operation, opacity varies with load and operating conditions. Variability is typically a gradual increase or decrease, with occasional sudden spikes and dips. Sustained opacity above the 5% level, or a sudden and sustained step increase in opacity, could indicate a failure in one or more of the baghouse compartments.
B. Verification of Operational Status	N/A	The COMS is integrated into the Data Acquisition System (DAS) for all plant processes and environmental recordkeeping. The COMS system is audited annually.
C. QA/QC Practices and Criteria	The differential pressure transmitter is calibrated according to the manufacturer's specification. Recorded data will be reviewed by the Environmental Manager.	Operate COMS according to 40 CFR Part 60 Appendix B, Performance Specification 1 and general provisions 60.13. These specify daily "zero" and "span" checks as well as periodic audits.
D. Monitoring Frequency	Baghouse pressure drop is monitored and recorded daily.	Opacity is monitored continuously. 6-minute averages are stored in the Data Acquisition System (DAS) for the purpose of demonstrating compliance with the 10% opacity limitation.

	Indicator 1.	**Indicator 2.**
E. Data Collection Procedures	Baghouse pressure drop will be recorded daily from the Magnahelic or Photohelic gauge.	The COMS collects data that are reduced to 6-minute averages. Consecutive 6-minute averages are tracked through the DAS, and CEMS software.
F. Averaging Period	Daily.	See indicator range above.

Justification

a. Emission Unit and CAM Applicability Background

Emission Unit (EU) No. 003 is designated as the Pyroprocessing System. It includes the kiln, preheater/calciner, raw mill, air heater, and clinker cooler. Particulate matter (PM/PM_{10}) emissions from the pyroprocessing system are controlled by a high temperature main baghouse with a design exhaust airflow rate of 409,650 acfm. The baghouse exhausts to a 12.8 diameter main stack with a stack height of 349 feet. This stack is equipped with a continuous opacity monitoring system (COMS).

The Pyroprocessing System has a PM/PM_{10} emission limitation and potential PM/PM_{10} emissions from this emission unit prior to the baghouse control device are greater than 100 tons/year. Therefore, at the time of issuance of this permit, the requirements of 40 CFR 64 – Compliance Assurance monitoring apply to this baghouse PM/PM_{10} emission control device until September 9, 2013. (That is the final compliance date for the PM continuous emissions monitoring system (CEMS) requirements of NESHAP 40 CFR 63 Subpart LLL (63.1350(b), as amended in the September 9, 2010 Federal Register.) In accordance with the provisions of 40 CFR 64.2(b)(vi) (Applicability – Exemptions),with the PM CEMS certified and in service on this emission unit as the PM compliance method, CAM will no longer be applicable to this baghouse PM control device.

b. Rationale for selection of Performance Indicators

Pressure drop was selected as a performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate matter and visible emissions standards. Any increase or decrease in pressure drop, approaching the limits of the stated range, indicates reduced performance of a particulate matter control device, therefore the pressure drop is used as a performance indicator.

When the baghouse is operating properly, there will not be any visible emissions from the exhaust. An increase in monitored opacity indicates reduced performance of the particulate matter control device, therefore opacity as monitored by the continuous opacity monitoring system (COMS) is used as a secondary performance indicator, as required by 40 CFR 64.3(d) Compliance Assurance Monitoring - Monitoring Design Criteria - *Special design criteria for the use of continuous emission, opacity or predictive monitoring systems*).

c. Rationale for Selection of Indicator Level

1. Primary Indicator – Pressure Drop Across Baghouse
   Operation of the baghouse with pressure drops within the selected indicator range, which is based on baghouse manufacturer's specification of the optimal operating pressure ranges, will generally result in no visible emissions. An increase or decrease in pressure drop outside the selected range can result in visible emissions, indicative of an increase in particulate emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

   The selected (Quality Improvement Plan (QIP) threshold for pressure drop is nine (9) excursions in a 6-month reporting period (this is 5% of the total pressure drop observations). If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented in accordance with 40 CFR 64.8.

2. Secondary Indicator – Continuous Opacity Monitoring System (COMS)
   The opacity limit for this emissions unit is 10% opacity. Based on operating experience normal operation of the emissions unit will result in visible emissions of 5% or less as measured by the COMS

on the emission unit exhaust stack. A sudden and/or sustained increase in opacity, as measured by the COMS, could indicate a failure in one or more of the baghouse compartments. The selected indicator

range (other than startup or shutdown periods) is therefore set at COMS readings of above 5% opacity for five (5) consecutive 6-minute averages, or any sudden and sustained step change (increase) in opacity as documented by the trend of the consecutive 6-minute averages. All excursions will be documented and reported.