KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

624-03-11
April 26, 2004

Via USPS

Ms. Trina Vielhauer, Bureau Chief
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: ***Suwannee American Cement Company***
FDEP File No. 1210465-004-AC (PSD-FL-259C)
Air Construction Permitting Matters

Dear Trina:

In accordance with recent discussions between your office and the Suwannee American Cement Company (SAC), we are submitting the attached air construction permit application to address three matters. These matters are:

1. A request to extend the expiration date of the present SAC Air Construction Permit (1210465-004-AC) from June 30, 2004 to June 30, 2006,
2. To request approval to proceed with the flyash injection project, and
3. To request a revision in the permit language authorizing the installation of a system to utilize tire-derived fuel.

These matters have been discussed with you and your staff, and the attached information is in accordance with these discussions. The attached application provides the information necessary to support the matters addressed herein.

Also enclosed is a check in the amount of $300.00 payable to the Florida Department of Environmental Protection for processing the application.

If there are any questions regarding the attached information, please do not hesitate to contact me at 352-377-5822 or jkoogler@kooglerassociates.com.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK/lt

cc: Celso Martini, SAC Plant Manager
Joe Horton, SAC Environmental Manager
Chris Kirk
Chuck Yapel

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Suwannee American Cement	
2. Site Name: Branford Cement Plant	
3. Facility Identification Number: 1210465	
4. Facility Location... Street Address or Other Locator: 5117 U.S. Hwy 27 City: Branford County: Suwannee Zip Code: 32008	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☐ Yes ☒ No

Application Contact

1. Application Contact Name: John B. Koogler, Ph.D., P.E.
2. Application Contact Mailing Address... Organization/Firm: Koogler and Associates, Inc. Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Application Contact Telephone Numbers... Telephone: (352) 377 - 5822 ext. Fax: (352) 377 - 7158
4. Application Contact Email Address: jkoogler@kooglerassociates.com

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	4-27-04
2. Project Number(s):	1210465-004-AC 1210465-009-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

[X] Air construction permit.

Air Operation Permit

[ ] Initial Title V air operation permit.
[ ] Title V air operation permit revision.
[ ] Title V air operation permit renewal.
[ ] Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
[ ] Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

[ ] Air construction permit and Title V permit revision, incorporating the proposed project.
[ ] Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

[ ] I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

The purpose of this Air Construction Permit is threefold :

1. Extend the expiration date of Permit 1210465-004-AC (PSD-FL-259C) from June 30, 2004 to June 30, 2006. See letter (Attachment 001) from Suwannee American Cement (SAC) for the request and the rational for the request ;
2. To change the point of introduction of fly-ash (a raw material) from the top of the preheater to a point in the precalciner. This project is described in Attachment 002. This project will require the installation of a small fly-ash dust collector (baghouse) with a Potential to Emit (PTE) of 0.9 tpy (tons per year) of PM. This application includes the information necessary to permit this new Emission Point ; and
3. To change the permit language to authorize the installation of a tire-derived fuel (TDF) feed system that is a hybrid of the direct TDF feed system and the TDF gassifier presently authorized by Permit 1210465-004-AC. Suggested permit language is included in Attachment 003.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
002	Raw material processing operations controlled by Baghouse	AC1F	$250
Permit	Extend expiration date of Permit	ACM1	$ 50

Application Processing Fee

Check one: [X] Attached - Amount: $ 300.00 [ ] Not Applicable

APPLICATION INFORMATION

Application Responsible Official Certification

~~**Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit.**~~ **If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."**

1. Application Responsible Official Name: **Celso A. Martini – Plant Manager**

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

   ☒ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

   ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

   ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

   ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **Suwannee American Cement**
   Street Address: **Post Office Box 410**
   City: **Branford** State: **Florida** Zip Code: **32008**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(386) 935-5000** ext. **2516** Fax: **(386) 935-5080**

5. Application Responsible Official Email Address: celsom@suwanneecement.com

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the ~~Title V~~ source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. ~~Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application~~.

Signature _____ Date _____

APPLICATION INFORMATION

Application Responsible Official Certification NA

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

   ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

   ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

   ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

   ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E.
   Registration Number: 12925
2. Professional Engineer Mailing Address...
   Organization/Firm: Koogler and Associates, Inc.
   Street Address: 4014 NW 13th Street
   City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers...
   Telephone: (352) 377 - 5822 ext. Fax: (352) 377 - 7158
4. Professional Engineer Email Address: jkoogler@kooglerassociates.com
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

4/26/04
Date

(seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 321.4 km North (km) 3315.9 km		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 29/57/45 Longitude (DD/MM/SS) 82/51/03	
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 32	6. Facility SIC(s): 3241
7. Facility Comment : None			

Facility Contact

1. Facility Contact Name: Joe B. Horton, Environmental Manager
2. Facility Contact Mailing Address... Organization/Firm: Suwannee American Cement Street Address: 5117 US Hwy 27 City: Branford State: FL Zip Code: 32008
3. Facility Contact Telephone Numbers: Telephone: (386) 935 - 5039 ext. Fax:(386) 935 - 5080
4. Facility Contact Email Address: jbhorton@suwanneecement.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name: Celso A. Martini – Plant Manager
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Suwannee American Cement Street Address: Post Office Box 410 City: Branford State: FL Zip Code: 32008
3. Facility Primary Responsible Official Telephone Numbers... Telephone: (386) 935 - 5000 ext. 2516 Fax:(386) 935 - 5080
4. Facility Primary Responsible Official Email Address: celsom@suwanneecement.com

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☒ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: Item 6: Presumed Major for HAPs	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM10	A	N
SO_2	A	N
NOx	A	N
CO	A	N
VOC	B	N
DIOX	B	N
H114	B	N

B. EMISSIONS CAPS N/A

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment: NONE

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID:_____ [X] Previously Submitted, Date: (1)
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [X] Attached, Document ID: 002 [X] Previously Submitted, Date: (2)
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID:_____ [X] Previously Submitted, Date: (1)

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID:_____ [X] Not Applicable (existing permitted Facility)
2. Description of Proposed Construction or Modification:
   [X] Attached, Document ID: 002
3. Rule Applicability Analysis:
   ☐ Attached, Document ID: (1)
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: (1) ☐ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID: (1) ☐ Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID:_____ [X] Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID:_____ [X] Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID:_____ ☒ Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID:_____
   ☒ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID: N/A
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☒ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☒ Not Applicable

Additional Requirements Comment

(1) Submitted with original AC application
(2) Diagram of Flyash Injection project attached as 001. Diagram of plant previously submitted with original AC application.

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [1] of [1] [EU-002 : Raw Material Processing]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: Raw Materials Processing Operations controlled by Baghouse.

3. Emissions Unit Identification Number: 002

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	NA	NA	32	[ ] Yes [x] No

9. Package Unit:
Manufacturer: NA Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: None

EMISSIONS UNIT INFORMATION
Section [1] of [1] [EU-002 : Raw Material Processing]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Fabric Filter – Low Temperature on Flyash Silo.

2. Control Device or Method Code(s): 018

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 20 tph (1)
2. Maximum Production Rate: NA
3. Maximum Heat Input Rate: million Btu/hr NA
4. Maximum Incineration Rate: pounds/hr NA tons/day
5. Requested Maximum Operating Schedule: hours/day 24 days/week 7 weeks/year 52 hours/year 8760
6. Operating Capacity/Schedule Comment: Flyash constitutes approximately 8-10 percent of the raw meal feed to the kiln; or 14-18 tons per hour. For design purposes the silo discharge rate is 20 tph. The silo filling rate will be approximately 25-35 tph. NOTE: As shown in Attachment 002, there are two flyash silos; a 980 ton and an 850 ton silo. The two silos will discharge at a common point and emissions from the two silos will be controlled by a single dust collector (baghouse).

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Attachment 002	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Dust collector (baghouse) for two flyash silos.		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA		
5. Discharge Type Code: H	6. Stack Height: 170 feet	7. Exit Diameter: 2.2 feet
8. Exit Temperature: 90°F	9. Actual Volumetric Flow Rate: 2650 acfm	10. Water Vapor: 3 %
11. Maximum Dry Standard Flow Rate: 2468 dscfm	12. Nonstack Emission Point Height: feet NA	
13. Emission Point UTM Coordinates...NA Zone: East (km): North (km):	14. Emission Point Latitude/Longitude...NA Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Dust Collector Specifications : Flow - 2650 acfm - 2468 dscfm Cloth Area - 685 sq. ft Air/Cloth Ratio - 3.87 Number of Bags - 45		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): Industrial Processes, Mineral Products, Cement Manufacturing (Dry Process), Raw Materal Unloading		
2. Source Classification Code (SCC): 3-05-006-07	3. SCC Units: Tons unloaded	
4. Maximum Hourly Rate: 50	5. Maximum Annual Rate: 143,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment: Silo Filling		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Industrial Processes, Mineral Products, Cement Manufacturing (Dry Process), Raw Material Transfer		
2. Source Classification Code (SCC): 3-05-006-12	3. SCC Units: Tons handled	
4. Maximum Hourly Rate: 20	5. Maximum Annual Rate: 143,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment: Silo Discharge Rate		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type): NA		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type): NA		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	**018**	**None**	**EL**
PM10	**018**	**None**	**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control: 99%
3. Potential Emissions: 0.21 lb/hour 0.93 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable):NA to tons/year	
6. Emission Factor: 0.01 gr/dscf Reference: BACT	7. Emissions Method Code: 0
8. Calculation of Emissions: Hourly: 2468 dscfm x 60 min/hr x 0.01 gr/dscf x 1/7000 lb/gr = 0.21 lb/hr Annual: 0.21 lb/hr x 8760 hr/yr x 1/2000 ton/lb = 0.93 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: None	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control: 99%
3. Potential Emissions: 0.18 lb/hour 0.78 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.0085 gr/dscf Reference: BACT	7. Emissions Method Code: 0
8. Calculation of Emissions: Hourly: PM x 0.85 = 0.21 x 0.85= 0.18 lb/hr Annual: PM x 0.85 = 0.93 x 0.85 = 0.78 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: None	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2 (PM)

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.01 gr/dscf	4. Equivalent Allowable Emissions: 0.21 lb/hour 0.93 tons/year
5. Method of Compliance: EPA Method 9	
6. Allowable Emissions Comment (Description of Operating Method): BACT; Rule 62-212.400, F.A.C.	

Allowable Emissions Allowable Emissions 2 of 2 (PM10)

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.0085 gr/dscf	4. Equivalent Allowable Emissions: 0.18 lb/hour 0.78 tons/year
5. Method of Compliance: EPA Method 9	
6. Allowable Emissions Comment (Description of Operating Method): BACT; Rule 62-212.400, F.A.C.	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE05	2. Basis for Allowable Opacity: [x] Rule [ ] Other
3. Allowable Opacity:5% Normal Conditions: 0 % Exceptional Conditions: 5 % Maximum Period of Excess Opacity Allowed: 0 min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: BACT; Rule 62-212.400, F.A.C.	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:NA	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 001 [ ] Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: NA [ ] Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 001 [ ] Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [ ] Previously Submitted, Date _____
   [x] Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [x] Previously Submitted, Date Unknown
   [ ] Not Applicable

6. Compliance Demonstration Reports/Records
   [ ] Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [ ] Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [ ] To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [x] Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [x] Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications NA

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID:
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Not Applicable

Additional Requirements Comment

None

Attachment 001

Request to Extend Expiration Date of Permit

Suwannee American Cement, LLC
5117 US Hwy. 27
P.O. Box 410
Branford, FL 32008-0410
(386) 935-5000 • Fax (386) 935-5080

April 21, 2004

Ms. Trina Vielhauer
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

Subject: **Suwannee American Cement Company**
Permit 1210465-004-AC (PSD-FL-259C)
Air Construction Permit Extension

Dear Ms. Vielhauer:

Suwannee American Cement Company (SAC) was issued Air Construction Permit 1210465-001-AC (PSD-FL-259) on June 1, 2000. The permit was modified by the Department on January 16, 2003, 1210465-003-AC (PSD-FL-259B). The expiration date for the latest construction permit is June 30, 2004.

Following previous discussions with the Department and in accordance with Condition 6, Section II, *Facility-Wide Specific Conditions*, SAC would like to request an extension of the construction permit through June 30, 2006. This would allow SAC time to further pursue a Tire Fuel Substitution System and avoid expiration of the construction permit. This extension would also allow for time to construct as well as commission such a project. Depending on the complexity of the system selected further information may need to be submitted regarding a testing or commissioning plan.

Please find included a check in the amount of $300 payable to the Florida Department of Environmental Protection for the processing fee for extending the expiration date and the Fly Ash Injection construction permit.

If you should have any questions please feel free to contact me anytime at (386) 935-5039.

Sincerely,

Joe Horton
Suwannee American Cement

Enclosure: Check

cc: Al Linero - FDEP Tallahassee
Chris Kirts - FDEP Jacksonville
Dr. John Koogler – Koogler & Associates

Attachment 002

Engineering Report for Flyash Injection Project

Suwannee American Cement, LLC
5117 US Hwy. 27
P.O. Box 410
Branford, FL 32008-0410
(386) 935-5000 • Fax (386) 935-5080

April 21, 2004

Ms. Trina Vielhauer
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

Subject: **Suwannee American Cement Company**
Permit 1210465-004-AC (PSD-FL-259C)
Fly Ash Injection Project

Dear Ms. Vielhauer:

Please find enclosed additional information regarding the Fly Ash Inject Project.

If you should have any additional question please feel free to contact me at (386) 935-5039.

Sincerely,

Joe Horton
Suwannee American Cement

cc: Al Linero - FDEP Tallahassee
Chris Kirts - FDEP Jacksonville
Dr. John Koogler – Koogler & Associates

FLY ASH INJECTION PROJECT

PROJECT OVERVIEW

Suwannee American Cement (SAC) is considering the installation of a dry fly ash injection system to introduce fly ash directly into the calciner of the kiln system. SAC has observed a similar system at another cement plant in the U. S. and is of the opinion that this project offers an opportunity to further reduce total hydrocarbon (THC)/volatile organic compound (VOC), carbon monoxide (CO), and possibly nitrogen oxides (NO_x) emissions from the plant. It should be noted that this project is not necessary to allow SAC to meet the emission limits for the aforementioned compounds; but is proposed as a pollution reduction project.

The project would consist of a storage bin for dry fly ash and a pneumatic delivery system to transport the fly ash to an injection point in the calciner at the base of the preheater tower. Particulate matter emissions from the storage bin would be controlled by a fabric filter (baghouse) dust collector. No emissions would be associated with the pneumatic delivery system or the injection of the fly ash into the calciner. The estimated cost of this project is around 1.2 million dollars.

PURPOSE

Fly ash is used as a raw material in the clinker manufacturing process and is currently mixed with other raw materials such as limestone, sand, and a source of iron prior to being dried and ground to form kiln feed. The fly ash constitutes approximately 8-10 percent of the material mix and helps to provide the chemical composition of kiln feed required to produce clinker.

The fly ash is a byproduct of coal-fired electric power plants, which can be used in the cement manufacturing process as a source of aluminum. The utilization of fly ash by the cement industry benefits the cement industry as a readily available raw material and reduces the disposal burden on electric utility companies.

In addition to aluminum and other inorganic minerals, fly ash also contains minor amounts of carbonaceous material from the incomplete combustion of coal. As with any carbonaceous material, the material in fly ash will burn completely and efficiently if there is high temperature, turbulent mixing, and sufficient oxygen. These three conditions exist in the calciner where the fly ash will be injected as a result of this proposed project, but not at the top of the preheater tower where the kiln feed is introduced.

By introducing the fly ash into the calciner the chemical components of the fly ash are still introduced in the kiln system and incorporated into the clinker just as if the fly ash was introduced with the kiln feed at the top of the preheater tower. The main advantage of introducing the fly ash directly into the calciner is the avoidance of the volatilization of the carbonaceous material contained in the fly ash with the subsequent formation of THC, VOC, and CO. If formed as intermediate combustion products in the calciner, these

compounds would immediately be combusted and would not be released to the atmosphere. If these same compounds, however, are formed due to gradual heating of the kiln feed in the upper portions of the preheater tower, there are not conditions that will assure the combustion of these compounds and they will be released to the atmosphere.

To summarize the two fly ash feed options, the conventional procedure for handling fly ash is to blend it into the kiln feed and introduce all of the kiln feed at the top of the preheater tower. The second option is to pneumatically feed the fly ash into the calciner at the base of the preheater tower with the remaining ingredients of the kiln feed fed at the top of the preheater tower.

CONVENTIONAL FLY ASH FEED: When the fly ash is incorporated with the kiln feed, the kiln feed is introduced to the kiln system at the top of the preheater tower where the temperature is in the range of 750-800°F. From that point, the kiln feed travels downward through the preheater tower, increasing in temperature until it reaches the calciner where the temperature is approximately 1500 °F. During the progression of the kiln feed down through the preheater, the lower temperatures at the top of the preheater tower first volatilize the carbonaceous material in the fly ash to produce THC and VOC. Some of these products of incomplete combustion are then oxidized to CO. Once the THC, VOC, and CO is formed, it moves with the gas stream which is moving up the preheater tower counter to the kiln feed. These gases eventually pass through the particulate matter control system and are released to the atmosphere. This potential occurs because once the gases are formed, there is not sufficient temperature for the completion of combustion.

FLY ASH INJECTION TO CALCINER: When the fly ash is injected directly into the calciner, it mixes with the kiln feed, which has been introduced at the top of the preheater. The temperature in the calciner as a result of fuel fired to the calciner and the hot off-gases from the cement kiln is in the range of 1500°F. Additionally, there is turbulence and oxygen available, and under these conditions the carbonaceous material in the fly ash is completely combusted along with the fuel fired to the calciner. With the complete combustion of the carbonaceous material, THC, VOC, and CO are not produced, and the emission of these gases to the atmosphere is avoided.

BENEFITS

This projects offers an opportunity to further reduce emissions of THC/VOC, CO and possibly NO_x, although SAC can not presently estimate the precise amount of the reductions in these emissions.

SAC previously operate the kiln system for a limited time with bauxite as a raw material instead of fly ash. Bauxite contains aluminum, another inorganic mineral supplied by fly ash, but has less carbonaceous material. During this period of operation, SAC did observed noticeably lower CO emissions.

SAC has also observed CO being generated from kiln feed in the preheater tower. SAC has the ability to monitor CO for process purposes at several locations including the exit of the calciner and the exit of the preheater tower. It is not uncommon for CO concentrations to be higher at the exit of the preheater tower than at the exit of the calciner; demonstrating the formation of CO from components of kiln feed in the preheater rather than the formation of CO from inefficient fuel combustion in the kiln and calciner. The fraction of the CO (and THC and VOC) formed in preheater tower as a result of carbonaceous material in the fly ash can be eliminated by the proposed fly ash injection project.

While the fly ash injection project is not necessary to allow SAC to achieve the permitted THC, VOC, and CO emission limits, it will result in a reduction in the already low emission rates of these compounds.

Another potential advantage of the fly ash injection system is a reduction in NO_x emissions. With less THC, VOC, and CO present in the exhaust gases from the kiln system, fewer process adjustments will be required to maintain a stable kiln operation. As a result of more stable kiln operating conditions, lower NO_x emissions can be maintained more easily and with more consistency.

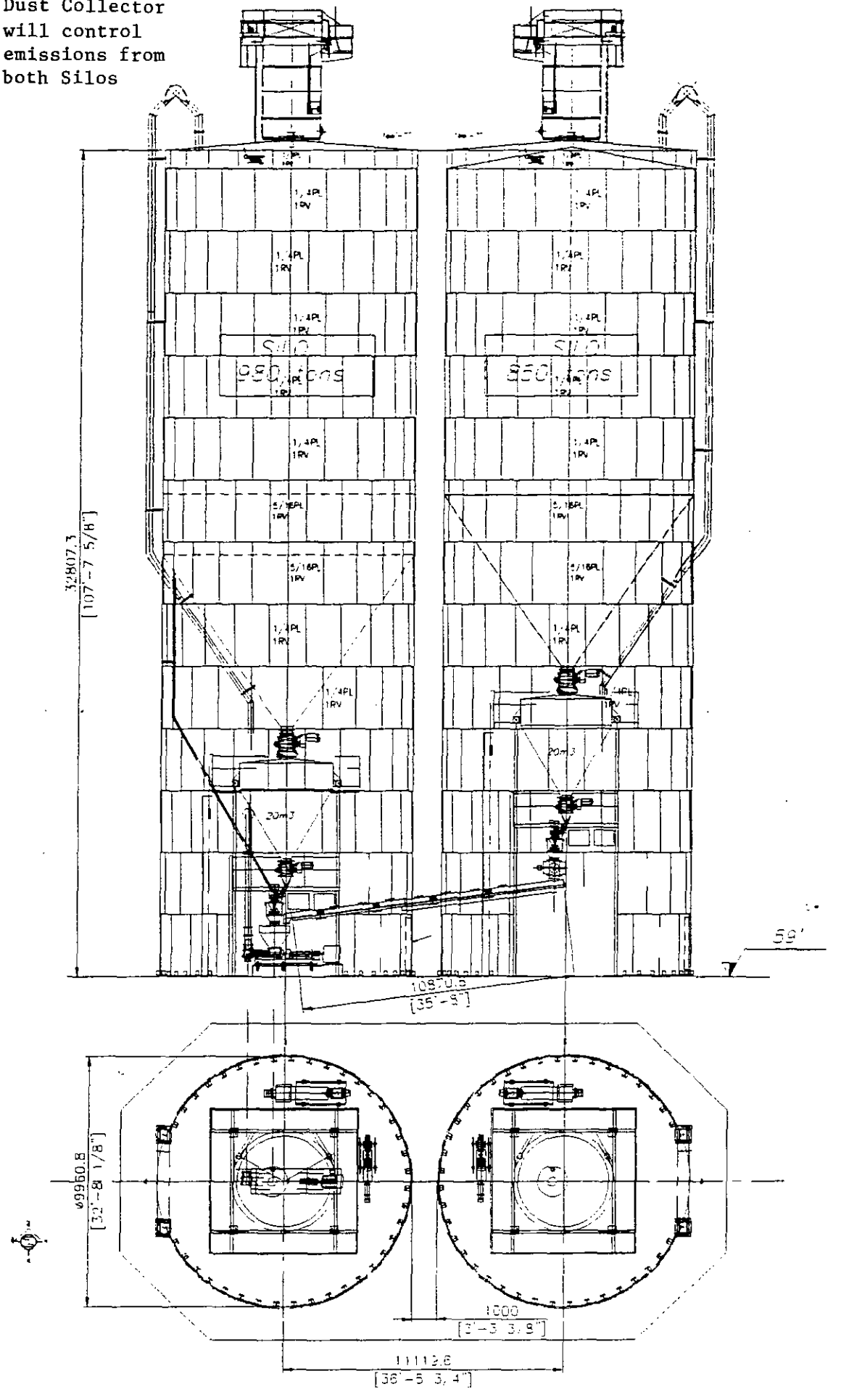
Included in Figure 1 is the estimated cost for the project. Please also find a Drawing for the Fly Ash Project and a drawing for the Fly Ash Dust Collector.

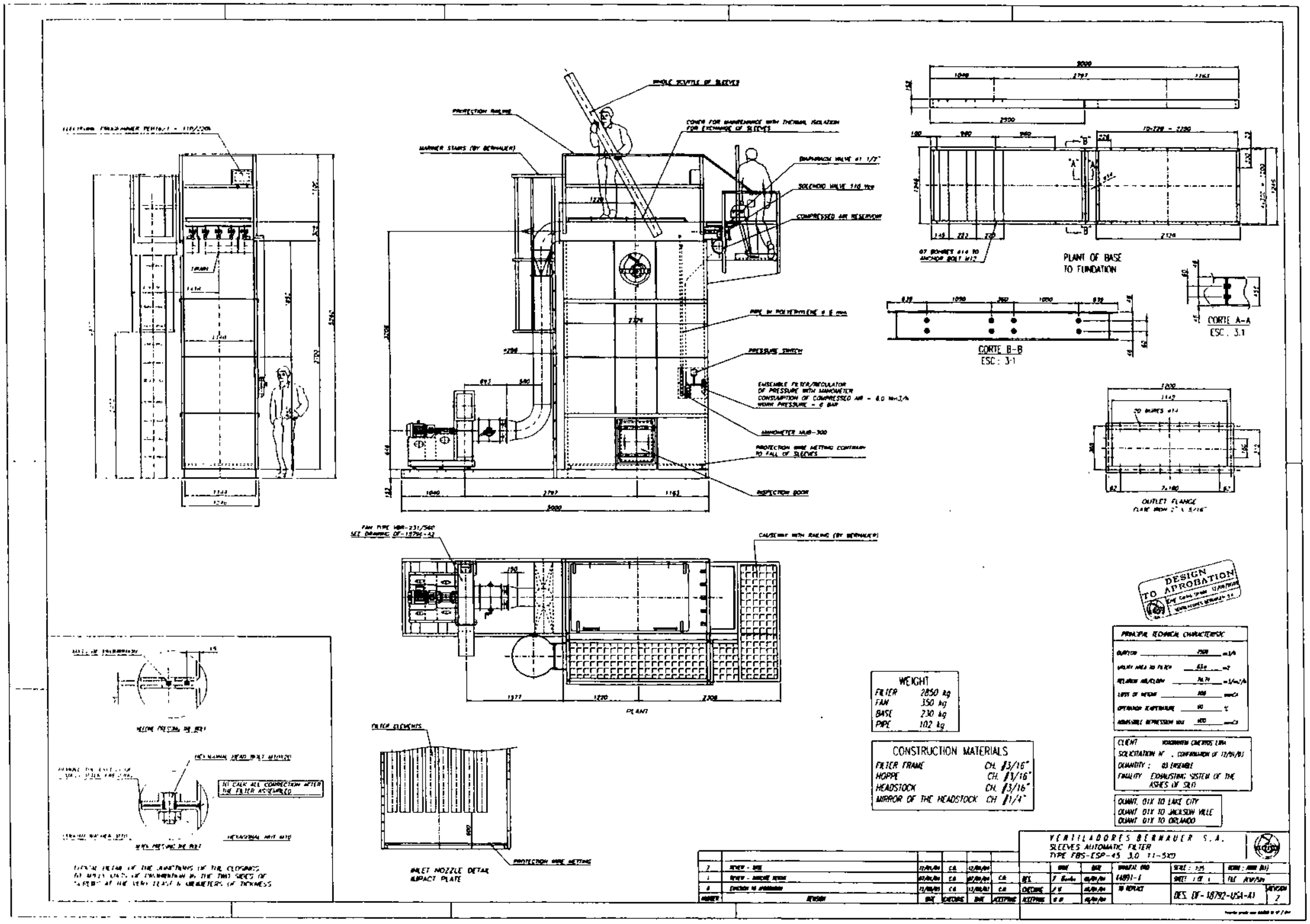
Figure 1: Summery of Cost Estimation
Project: Fly Ash Project - Suwannee **Date: 12/5/2003**

PRELIMINARY ESTIMATION

Plan	Description	Total Cost
		SAC
		US$
M1	M1 - Truck Unloading System	$25,479.00
M2	M2 - Metalic silos	$326,846.81
M3	M3 - Silo Bottom Fluidization System	$19,850.91
M4	M4 - Pneumatic Transport System	$147,743.21
M5	M5 - Platforms and staircases	$49,356.78
M6	M6 - Pulse Jet Filter	$12,306.45
M7	0	$0.00
M8	0	$0.00
E1	E1	$39,895.61
E2	0	$0.00
E3	0	$0.00
E4	0	$0.00
E5	0	$0.00
S1	S1 - Mechanical Services - Brazil	$47,912.49
S3	S3 - Electrical Services- Brazil	$8,196.83
S5	S5 - Civil Services - Brazil	$10,688.67
S2	S2 - Mechanical Services USA	$354,586.49
S4	S4 - Electrical Services - USA	$70,560.00
S6	S6 - Civil Services - USA	$95,828.06
TOTAL		$1,209,251.30

NOTE: A single Dust Collector will control emissions from both Silos





PLANT OF BASE
TO FUNDATION
CORTE B-B
ESC: 3:1
CORTE A-A
ESC. 3:1
OUTLET FLANGE
PLANT
INLET NOZZLE DETAIL
IMPACT PLATE
DESIGN
TO APROBATION
WEIGHT
FILTER 2850 kg
FAN 350 kg
BASE 230 kg
PIPE 102 kg
CONSTRUCTION MATERIALS
FILTER FRAME CH. 3/16"
HOPPE CH. 3/16"
HEADSTOCK CH. 3/16"
MIRROR OF THE HEADSTOCK CH 1/4"
PRINCIPAL TECHNICAL CHARACTERISTIC
CLIENT
QUANTITY : 03 ENSEMBLE
FINALITY EXHAUSTING SISTEM OF THE ASHES OF SILO
QUANT. 01X TO LAKE CITY
QUANT 01X TO JACKSON VILLE
QUANT 01X TO ORLANDO
VENTILADORES BERNAUER S.A.
SLEEVES AUTOMATIC FILTER
TYPE FBS-ESP-45 3,0 11-5X0
DES. DF-18792-USA-A1
2

Attachment 003

Suggested Change in Permit Language Authorizing the Installation of a TDF System

SUGGESTED REVISION TO PERMIT CONDITION

Section III

Subsection B

Operational Requirements

2. **Fuels:** (no change)

   a. Strike the entire Existing Condition 2.a. and replace with:

   Whole tires and/or shredded tires (collectively referred to as Tire Derived Fuel or TDF) may be fired directly into the pyroprocessing system at the transition section between the base of the precalciner and the point where gases exit the kiln. The tire feeder mechanism shall be designed with a double air lock. When TDF is fired entirely in this manner it shall be fired at a rate not to exceed a maximum heat input of ten percent of the total pyroprocessing system heat input, not to exceed 36.4 mmBTU per hour at any time. The remaining 90 percent of the total pyroprocessing heat input shall be derived from firing natural gas, coal, or petroleum coke.

   b. ~~Whole tires and tire derived fuel~~ TDF may be fed...

   c. ~~Tires and tire derived fuel shall be fired in either manner a. or b. above not both at any given time~~. TDF may be fed into a hybrid system consisting of a mechanism to fire TDF directly into the pyroprocessing system as described in Paragraph a. (above) and a companion mechanism that introduces TDF at a point between the kiln inlet and precalciner in a manner that allows the TDF to gasify and burn in suspension at or near the point of introduction. TDF fed into the hybrid system may be fed at a rate not to exceed a maximum heat input of 40 percent of the total pyroprocessing system heat input, not to exceed 145.6 mmBTU per hour at any time. The remaining 60 percent of the total pyroprocessing system heat input shall be derived from firing natural gas, coal, or petroleum coke. The tire feeder mechanisms associated with the hybrid system shall have air locks, and solid byproducts from the

hybrid system shall be introduced directly into the pyroprocessing system.

d. TDF shall be fired in either manner a. or b. or c. above, but not by more than one of the above described methods at any given time.

Rational:

The TDF feed systems described in proposed Specific Condition 2.a. and 2.b. (above) are currently authorized by the SAC Air Construction Permit. As an alternative to these two systems, SAC recently received a proposal for a proprietary system that combines the introduction of TDF in the transition section between the base of the precalciner and the point where the gases exit the kiln (as described in Specific Condition 2.a.) and the introduction of TDF in the riser duct between the kiln inlet and the precalciner. The TDF fed into the riser duct is fed with a mechanism that suspends the TDF while it gasifies/burns in the riser duct. The fundamentals of this system are shown in Attachment A.

The supplier of the hybrid system states that the system can be used to provide up to 40 percent of the heat input required by the pyroprocessing system.

SAC intends to investigate the hybrid system more thoroughly, and if it appears feasible and meets with Department approval, SAC would like the opportunity to install the hybrid system without reopening the air construction permit to amend permit language to authorize such an installation.

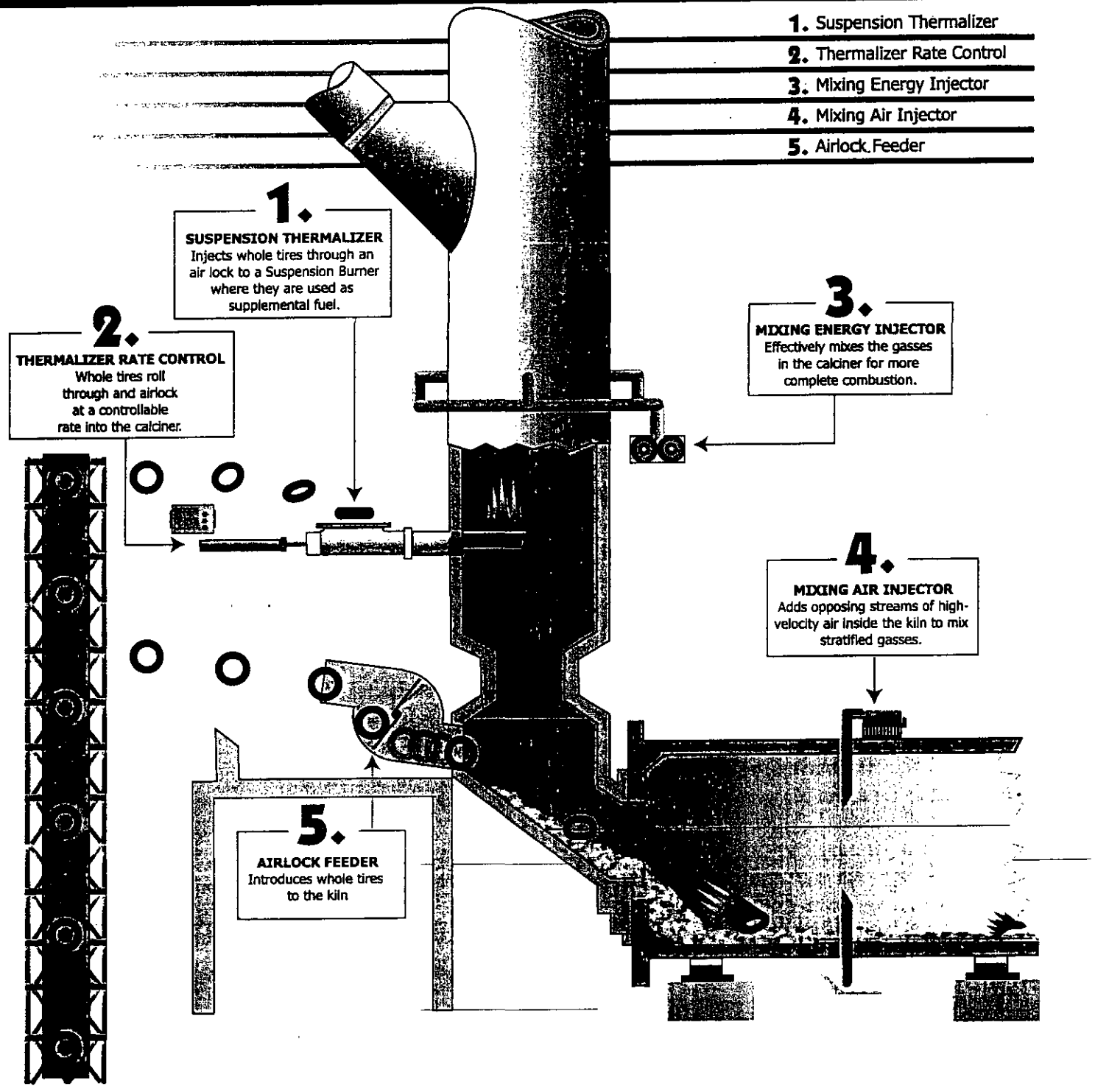
Attachment A

Cadence TDF Feed System

Preheater / Precalciner Technology

SUSPENSION THERMALIZER SYSTEM

- Up To 40% Fuel Substitution Rates -



To see more technologies from the patent portfolio of Cadence contact:

Cadence Environmental Energy
Cadence Park Plaza
Michigan City, IN 46360
Phone: 219.879.0371
Web: www.cadencerecycling.com

Cadence
Environmental Energy

Suwannee American Cement
SAC
Branford, Florida, USA
P.O. Box 410
Branford, Fl 32008

July 28, 2004

Mr. Al Linero
Division of Air Resources
Department of Environmental Protection
2600 Blair Stone Road, MS # 5505
Tallahassee, Florida 32399-2400

SUBJECT: **Construction Permit Application**
Suwannee American Cement – Branford Plant
Facility ID No. 1210465
PSD-FL-259D

Dear Mr. Linero:

In accordance with our previous discussions, Suwannee American Cement hereby submits the attached construction permit application. This application provides additional information regarding certain items covered by the construction permit application submitted on April 26, 2004, and it addresses the following matters:

1. Department of Environmental Protection Construction Permit Application – Long Form, completed by Koogler and Associates.
2. Fly Ash Injection Project Description (additional information re production increase)
3. Request for approval to construct and operate a permanent Hydrated Lime System.
4. Request for revision to clarify permit language in reference to additional means to determine clinker production and remove wheel wash.

Also enclosed is a check in the amount of $350.00 payable to the Florida Department of Environmental Protection for processing the application.

If you have any questions, please feel free to contact me at (386) 935-5039.

Sincerely,

Joe Horton
Suwannee American Cement

CC: Celso Martini – SAC
Dr. John Koogler – Koogler & Associates
C. Kirts, NED
C. Yaeger

Attachment 1

Application for Construction Permit

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions

Identification of Facility

1. Facility Owner/Company Name: Suwannee American Cement	
2. Site Name: Branford Cement Plant	
3. Facility Identification Number: 1210465	
4. Facility Location... Street Address or Other Locator: 5117 U.S. Hwy 27 City: Branford County: Suwannee Zip Code: 32008	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☐ Yes ☒ No

Application Contact

1. Application Contact Name: John B. Koogler, Ph.D., P.E.
2. Application Contact Mailing Address... Organization/Firm: Koogler and Associates, Inc. Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Application Contact Telephone Numbers... Telephone: (352) 377 - 5822 ext. Fax: (352) 377 - 7158
4. Application Contact Email Address: jkoogler@kooglerassociates.com

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	8-6-04
2. Project Number(s):	1210465-011-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

[x] Air construction permit.

Air Operation Permit

[ ] Initial Title V air operation permit.
[ ] Title V air operation permit revision.
[ ] Title V air operation permit renewal.
[ ] Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
[ ] Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

[ ] Air construction permit and Title V permit revision, incorporating the proposed project.
[ ] Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

[ ] I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

The purpose of this air construction permit is threefold :

1. To provide additional information related to the flyash injection project initially addressed in an Air Construction Permit Application dated April 26, 2004. The additional information includes a request for a clinker production rate increase which is a side benefit of flyash injection ;
2. A request for approval to construct and operate a permanent hydrated lime system for supplemental SO_2 control ; and
3. A request to revise two conditions in Permit 1210465-001-AC specifying the requirements for determining clinker production and wheel wash.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
002	Raw material processing operations controlled by Baghouse	AC1F	$250
004	In-line Kiln/Raw Mill controlled by Baghouse	ACM1	$50
005	Clinker Cooler controlled by ESP	ACM1	$50

Application Processing Fee

Check one: [x] Attached - Amount: $ 350.00 [ ] Not Applicable

APPLICATION INFORMATION

Application Responsible Official Certification

~~**Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit.**~~ **If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."**

1. Application Responsible Official Name: **Celso A. Martini – Plant Manager**

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

   ☒ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

   ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

   ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

   ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **Suwannee American Cement**
   Street Address: **Post Office Box 410**
   City: **Branford** State: **Florida** Zip Code: **32008**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(386) 935-5000** ext. **2516** Fax: **(386) 935-5080**

5. Application Responsible Official Email Address: celsom@suwanneecement.com

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the ~~Title V~~ source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. ~~Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application~~.

Signature 3-2-04
Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E.
   Registration Number: 12925
2. Professional Engineer Mailing Address...
   Organization/Firm: Koogler and Associates, Inc.
   Street Address: 4014 NW 13th Street
   City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers...
   Telephone: (352) 377 - 5822 ext. Fax: (352) 377 - 7158
4. Professional Engineer Email Address: jkoogler@kooglerassociates.com
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here [X], if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature 8/2/04 Date

(seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 321.4 km North (km) 3315.9 km		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 29/57/45 Longitude (DD/MM/SS) 82/51/03	
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 32	6. Facility SIC(s): 3241
7. Facility Comment : None			

Facility Contact

1. Facility Contact Name: Joe B. Horton, Environmental Manager
2. Facility Contact Mailing Address... Organization/Firm: Suwannee American Cement Street Address: 5117 US Hwy 27 City: Branford State: FL Zip Code: 32008
3. Facility Contact Telephone Numbers: Telephone: (386) 935 - 5039 ext. Fax:(386) 935 - 5080
4. Facility Contact Email Address: jbhorton@suwanneecement.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name: Celso A. Martini – Plant Manager
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Suwannee American Cement Street Address: Post Office Box 410 City: Branford State: FL Zip Code: 32008
3. Facility Primary Responsible Official Telephone Numbers... Telephone: (386) 935 - 5000 ext. 2516 Fax:(386) 935 - 5080
4. Facility Primary Responsible Official Email Address: celsom@suwanneecement.com

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☒ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: **Item 6: Presumed Major for HAPs**	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM10	A	N
SO_2	A	N
NOx	A	N
CO	A	N
VOC	B	N
DIOX	B	N
H114	B	N

B. EMISSIONS CAPS N/A

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:
NONE

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID:_____ [x] Previously Submitted, Date: (1)
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 001-003 ☐ Previously Submitted, Date:_____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID:_____ [x] Previously Submitted, Date: (1)

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID:_____ [x] Not Applicable (existing permitted Facility)
2. Description of Proposed Construction or Modification:
   [x] Attached, Document ID: 001-003
3. Rule Applicability Analysis:
   ☐ Attached, Document ID: (1)
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: (1) ☐ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID: (1) ☐ Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID:_____ [x] Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID:_____ [x] Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID:_____ [x] Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID:_____ [x] Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID:_____ [x] Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:_____ [x] Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID:_____ [x] Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID:_____
   [x] Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID: N/A
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   [x] Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ [x] Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ [x] Not Applicable

Additional Requirements Comment

(1) Submitted with original AC application
(2) Supporting information for the following requests are in Attachments :
   1. Hydrated Lime Project – 001
   2. Flyash Injection Project – 002
   3. Clinker Rate Determination - 003

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: Raw Materials Processing Operations controlled by Baghouse.

3. Emissions Unit Identification Number: 002

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	NA	2/03	32	[ ] Yes [x] No

9. Package Unit:
Manufacturer: NA Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: None

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Fabric Filter – Low Temperature on Lime Silo.

2. Control Device or Method Code(s): 018

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 30 tph	
2. Maximum Production Rate: NA	
3. Maximum Heat Input Rate: million Btu/hr NA	
4. Maximum Incineration Rate: pounds/hr NA tons/day	
5. Requested Maximum Operating Schedule: hours/day 24 weeks/year 52	 days/week 7 hours/year 8760

6. Operating Capacity/Schedule Comment:

Hydrated lime will be introduced with preheater feed at the top of the preheater, as necessary to control SO_2 (See Attachment 001). The lime will be fed pneumatically from a 40 ton capacity silo to the preheater at a rate of up to approximately one percent of the preheater feed rate; or about 20-25 tons per hour. For design purposes, the silo discharge rate is 30 tph. The silo filling rate will be approximately 50 tph.

NOTE: As shown in Attachment 001, there is one 40 ton silo. The emissions from the silo will be controlled by a dust collector (baghouse).

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Attachment 001	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Dust collector (baghouse) for 40-ton lime silo.		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA		
5. Discharge Type Code: H	6. Stack Height: 45 feet	7. Exit Diameter: 2.2 feet
8. Exit Temperature: 90°F	9. Actual Volumetric Flow Rate: 2650 acfm	10. Water Vapor: 3 %
11. Maximum Dry Standard Flow Rate: 2468 dscfm	12. Nonstack Emission Point Height: feet NA	
13. Emission Point UTM Coordinates...NA Zone: East (km): North (km):	14. Emission Point Latitude/Longitude...NA Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Dust Collector Specifications : Flow - 2650 acfm - 2468 dscfm Cloth Area - 685 sq. ft Air/Cloth Ratio - 3.87 Number of Bags - 45		

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): Industrial Processes, Mineral Products, Cement Manufacturing (Dry Process), Raw Material Unloading		
2. Source Classification Code (SCC): 3-05-006-07	3. SCC Units: Tons unloaded	
4. Maximum Hourly Rate: 50	5. Maximum Annual Rate: 100,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment: Silo Filling		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Industrial Processes, Mineral Products, Cement Manufacturing (Dry Process), Raw Material Transfer		
2. Source Classification Code (SCC): 3-05-006-12	3. SCC Units: Tons handled	
4. Maximum Hourly Rate: 30	5. Maximum Annual Rate: 100,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment: Silo Discharge Rate		

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	**018**	**None**	**EL**
PM10	**018**	**None**	**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control: 99%
3. Potential Emissions: 0.21 lb/hour 0.93 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.01 gr/dscf Reference: BACT	7. Emissions Method Code: 0
8. Calculation of Emissions: Hourly: 2468 dscfm x 60 min/hr x 0.01 gr/dscf x 1/7000 lb/gr = 0.21 lb/hr Annual: 0.21 lb/hr x 8760 hr/yr x 1/2000 ton/lb = 0.93 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: None	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control: 99%
3. Potential Emissions: 0.18 lb/hour 0.78 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable):NA to tons/year	
6. Emission Factor: 0.0085 gr/dscf Reference: BACT	7. Emissions Method Code: 0
8. Calculation of Emissions: Hourly: PM x 0.85 = 0.21 x 0.85= 0.18 lb/hr Annual: PM x 0.85 = 0.93 x 0.85 = 0.78 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: None	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2 (PM)

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.01 gr/dscf	4. Equivalent Allowable Emissions: 0.21 lb/hour 0.93 tons/year
5. Method of Compliance: EPA Method 9	
6. Allowable Emissions Comment (Description of Operating Method): BACT; Rule 62-212.400, F.A.C.	

Allowable Emissions Allowable Emissions 2 of 2 (PM10)

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.0085 gr/dscf	4. Equivalent Allowable Emissions: 0.18 lb/hour 0.78 tons/year
5. Method of Compliance: EPA Method 9	
6. Allowable Emissions Comment (Description of Operating Method): BACT; Rule 62-212.400, F.A.C.	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE05	2. Basis for Allowable Opacity: [x] Rule [ ] Other
3. Allowable Opacity:5% Normal Conditions: 0 % Exceptional Conditions: 5 % Maximum Period of Excess Opacity Allowed: 0 min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: BACT; Rule 62-212.400, F.A.C.	

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:NA	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 001 [ ] Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: NA [ ] Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 001 [ ] Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [ ] Previously Submitted, Date _____
   [x] Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [x] Previously Submitted, Date Unknown
   [ ] Not Applicable

6. Compliance Demonstration Reports/Records
   [ ] Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [ ] Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [ ] To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [x] Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [x] Not Applicable

EMISSIONS UNIT INFORMATION
Section [1] of [3] [EU-002 : Raw Material Processing]

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ [x] Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ [x] Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ [x] Not Applicable

Additional Requirements for Title V Air Operation Permit Applications NA

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID:
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID:_____
      ☐ Previously Submitted, Date:_____
   ☐ Not Applicable

Additional Requirements Comment

None

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: Kiln/Raw Mill; EU-004

3. Emissions Unit Identification Number: 002

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	NA	2/03	32	[ ] Yes [x] No

9. Package Unit:
Manufacturer: NA Model Number:

10. Generator Nameplate Rating: MW NA

11. Emissions Unit Comment: This emission unit covers the pyroprocessing system from the raw mill (including auxillary air heater) to the point of clinker discharge from the kiln.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Fabric Filter – High Temperature Kiln/Raw Mill Baghouse.

2. Control Device or Method Code(s): 016

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 4920 ton/day feed
2. Maximum Production Rate: 2772 ton/day clinker
3. Maximum Heat Input Rate: 458 mmBTU/hr
4. Maximum Incineration Rate: pounds/hr NA tons/day
5. Requested Maximum Operating Schedule: hours/day 24 days/week 7 weeks/year 52 hours/year 8760
6. Operating Capacity/Schedule Comment: Kiln/Raw Mill will operate up to 8760 hours/yr with an annual production factor of approximately 0.92.

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Attachment 002	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Baghouse discharge for Kiln/Raw Mill – E-21 Stack		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA		
5. Discharge Type Code: V	6. Stack Height: feet 315	7. Exit Diameter: feet 9.42
8. Exit Temperature: °F 230/375	9. Actual Volumetric Flow Rate: acfm 189,500/207,000	10. Water Vapor: % 15/11
11. Maximum Dry Standard Flow Rate: dscfm 123,250/116,500	12. Nonstack Emission Point Height: feet NA	
13. Emission Point UTM Coordinates...NA Zone: East (km): North (km):	14. Emission Point Latitude/Longitude...NA Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: 3. Existing Kiln/Raw Mill Baghouse 8-11. Compound Operation (90+%)/Direct Operation (10-%)		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 6

1. Segment Description (Process/Fuel Type): Mineral Products: Cement Mfg: Dry Process: Preheater/Precalciner Kiln		
2. Source Classification Code (SCC): 3-05-006-23	3. SCC Units: Ton Feed	
4. Maximum Rate: 4920 tpd	5. Maximum Annual Rate: 1,644,469 tpy	6. Estimated Annual Activity Factor: 0.92
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment: Preheater/Precalciner Feed at a nominal rate of 205 tph		

Segment Description and Rate: Segment 2 of 6

1. Segment Description (Process/Fuel Type): Mineral Products: Cement Mfg: Dry Process: Preheater/Precalciner Kiln		
2. Source Classification Code (SCC): 3-05-006-23	3. SCC Units: Ton clinker	
4. Maximum Rate: 2772 tpd	5. Maximum Annual Rate: 923,450	6. Estimated Annual Activity Factor: 0.92
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 3.96
10. Segment Comment: Clinker Production		

EMISSIONS UNIT INFORMATION
Section [2] of [3] [Kiln/Raw Mill – EU-004]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 6

1. Segment Description (Process/Fuel Type): In-Process Fuel Use: Bituminous Coal: Cement Kiln		
2. Source Classification Code (SCC): 3-90-002-01	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 18.3 tph	5. Maximum Annual Rate: 160,483 tpy	6. Estimated Annual Activity Factor: 0.92
7. Maximum % Sulfur: 1.5%	8. Maximum % Ash: 10.0%	9. Million Btu per SCC Unit: 25 mmBTU/ton
10. Segment Comment: Coal as primary fuel at 12,520 BTU/lb		

Segment Description and Rate: Segment 4 of 6

1. Segment Description (Process/Fuel Type): In-Process Fuel Use: Coke: Cement Kiln		
2. Source Classification Code (SCC): 3-90-008-99	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 16.4 tph	5. Maximum Annual Rate: 143,664 tpy	6. Estimated Annual Activity Factor: 0.92
7. Maximum % Sulfur: 5%	8. Maximum % Ash: <1%	9. Million Btu per SCC Unit: 28 mmBTU/ton
10. Segment Comment: Petcoke at 14,000 BTU/lb		

EMISSIONS UNIT INFORMATION
Section [2] of [3] [Kiln/Raw Mill – EU-004]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 5 of 6

1. Segment Description (Process/Fuel Type): In-Process Fuel Use: Natural Gas: Cement Kiln		
2. Source Classification Code (SCC): 3-90-006-02	3. SCC Units: Million Cubic Feet Burned	
4. Maximum Hourly Rate: 0.44 mm/hr	5. Maximum Annual Rate: 3821 mm/yr	6. Estimated Annual Activity Factor: 0.92
7. Maximum % Sulfur: Nil	8. Maximum % Ash: Nil	9. Million Btu per SCC Unit: 1050
10. Segment Comment: Natural Gas at 1050 mmBTU/cu. ft.		

Segment Description and Rate: Segment 6 of 6

1. Segment Description (Process/Fuel Type): In-Process Fuel Use: Solid Waste: General		
2. Source Classification Code (SCC): 3-90-012-99	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 1.9 tph	5. Maximum Annual Rate: 16,717 tpy	6. Estimated Annual Activity Factor: 0.092
7. Maximum % Sulfur: 1.5%	8. Maximum % Ash: 20%	9. Million Btu per SCC Unit: 24 mmBTU/ton
10. Segment Comment: Whole Tire Derived Fuel (WTDF) at 12,000 BTU/lb and 10% (45.8 mmBTU/hr) of system heat input.		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	**016**	**None**	**EL**
PM10	**016**	**None**	**EL**
SO_2			**EL**
NOx			**EL**
CO			**EL**
VOC			**EL**
DIOX			**EL**
H106			**NS**
HAPS			**NS**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control: 99+%
3. Potential Emissions: 23.1 lb/hour 92.9 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.113 lb/ton feed, or 0.200 lb/ton Clinker, equivalent rates Reference: BACT (proposed)	7. Emissions Method Code: 0
8. Calculation of Emissions: 205 tph feed x 0.113 lb/ton = 23.1 lb/hr 115.5 tph clinker x 0.200 lb/ton = 23.1 lb/hr 923,450 tpy clinker x 0.2000 lb/ton/2000 = 92.9 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: NSPS and NESHAP limits are both 0.3 lb PM per ton of feed. SAC requests that the unitized emission rate be expressed as 0.200 lb/PM/ton clinker ; a rate equivalent to the feed rate limit of 0.113 lb/PM/ton feed.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control: 99+%
3. Potential Emissions: 19.7 lb/hour 78.9 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.096 lb/ton feed, or 0.171 lb/ton clinker, equivalent rates Reference: BACT (proposed)	7. Emissions Method Code: 0
8. Calculation of Emissions: 205 tph feed x 0.096 lb/ton = 19.7 lb/hr 115.5 tph clinker x 0.171 lb/ton = 19.7 lb/hr 923,450 tpy clinker x 0.171 lb/ton/2000 = 78.9 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: SAC requests that the unitized emission rate be expressed as 0.171 lb PM10/ton clinker ; a rate equivalent to the feed rate limit of 0.096 lb PM10/ton feed.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO_2	2. Total Percent Efficiency of Control: 99+%
3. Potential Emissions: 28.4 lb/hour 113.6 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.246 lb/ton Clinker Reference: BACT (proposed)	7. Emissions Method Code: 0
8. Calculation of Emissions: 115.5 tph Clinker x 0.246 lb/ton = 28.4 lb/hr 923,450 tpy Clinker x 0.246 lb/ton/2000 = 113.6 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: NA	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NOx**	2. Total Percent Efficiency of Control:
3. Potential Emissions: 335.0/300.3 lb/hour 1200.5 tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 2.9 lb/ton Clinker, 24-hr avg. 2.6 lb/ton Clinker, 30-day avg. Reference:	7. Emissions Method Code: 0

8. Calculation of Emissions:

115.5 tph Clinker x 2.9 lb/ton = 335.0 lb/hr, 24-hr avg.

115.5 tph Clinker x 2.6 lb/ton = 300.3 lb/hr, 30-day avg.

923,450 tpy Clinker x 2.6 lb/ton/2000 = 1200.5 tpy

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
SAC requests a 30-day NOx limit of 2.9 lb/ton Clinker (335.0 lb/hr and 1339.0 tpy) during the first calendar year after startup of the Flyash Injection System.

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: 377.7 lb/hour 1509.8 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 3.27 lb/ton Clinker Reference: BACT (proposed)	7. Emissions Method Code: 0
8. Calculation of Emissions: 115.5 tph Clinker x 3.27 lb/ton = 377.7 lb/hr 923,450 tpy Clinker x 3.27 lb/ton/2000 = 1509.8 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: NA	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: 13.9 lb/hour 55.4 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.12 lb/ton Clinker Reference: BACT (proposed)	7. Emissions Method Code: 0
8. Calculation of Emissions: 115.5 tpy Clinker x 0.12 lb/ton = 13.9 lb/hr 923,450 tpy Clinker x 0.12 lb/ton/2000 = 55.4 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: SAC requests an equivalent VOC limit of 14.9 ppmvd VOC (as propane) @ 7% O_2. This limit will be consistent with the units of the NESHAP VOC limit.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **DIOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.8E-07 lb/hour 7.7E-07 tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.4/0.2 ng/dscm @ 7% O_2 (1) Reference: NESHAP	7. Emissions Method Code: 0
8. Calculation of Emissions: 117,175 dscfm (avg @ 7% O_2) x 1/35.31 m^3/ft^3 x 60 min/hr x 0.4 ng/dscm x 1/454 E-09 lb/ng = 1.8E-07 lb/hr x 8760/2000 = 7.7E-07 tpy	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: 0.4 ng/dscm when kiln baghouse inlet temperature is <400EF, and 0.2 ng/dscm when kiln baghouse inlet temperature is ∃400EF.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 7; PM

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.200 lb/ton clinker	4. Equivalent Allowable Emissions: 23.1 lb/hour 92.9 tons/year
5. Method of Compliance: EPA Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Emission limit more stringent than NSPS and NESHAP	

Allowable Emissions Allowable Emissions 2 of 7; PM10

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.171 lb/ton clinker	4. Equivalent Allowable Emissions: 19.7 lb/hour 78.9 tons/year
5. Method of Compliance: EPA Method 5, with all PM assumed to be PM10	
6. Allowable Emissions Comment (Description of Operating Method):	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 3 of 7; SO_2

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.246 lb/ton Clinker	4. Equivalent Allowable Emissions: 28.4 lb/hour 113.6 tons/year
5. Method of Compliance: SO_2 CEMS	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions 4 of 7; NOx

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: 1 yr following startup of flyash system
3. Allowable Emissions and Units: 2.9 (24-hr, avg)/2.6 (30-day, avg) lb/ton Clinker	4. Equivalent Allowable Emissions: 335.0/300.3 lb/hour 1200.5 tons/year
5. Method of Compliance: NOx CEMS	
6. Allowable Emissions Comment (Description of Operating Method): Hourly: 335.0 lb/hr, 24-hr avg and 300.3 lb/hr, 30-day avg Annual: 1200.5 tpy, except during first year following startup of flyash injection system when NOx = 1339 tpy	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 5 of 7; CO

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 3.27 lb/ton Clinker	4. Equivalent Allowable Emissions: 377.7 lb/hour 1509.8 tons/year
5. Method of Compliance: EPA Method 10	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions 6 of 7; VOC

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.12 lb/ton Clinker	4. Equivalent Allowable Emissions: 13.9 lb/hour 55.4 tons/year
5. Method of Compliance: THC CEMS	
6. Allowable Emissions Comment (Description of Operating Method): SAC requests an equivalent VOC limit of 14.9 ppmvd VOC (as propane) @ 7% O_2. NESHAP limit is 50 ppmvd THC @ 7% O_2.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 7 of 7; DIOX

1. Basis for Allowable Emissions Code: NESHAP	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.4/0.2 ng/dscm @ 7% O_2	4. Equivalent Allowable Emissions: 1.8E-07 lb/hour 7.7E-07tons/year
5. Method of Compliance: EPA Method 23	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION
Section [2] of [3] [Kiln/Raw Mill – EU-004]

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [x] Rule-BACT [ ] Other
3. Allowable Opacity: 10% Normal Conditions: 0 % Exceptional Conditions: 10 % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: COM	
5. Visible Emissions Comment: NESHAP and NSPS limit is 20%	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 6; VE

1. Parameter Code: VE	2. Pollutant(s): NA
3. CMS Requirement:	[X] Rule-BACT [ ] Other
4. Monitor Information... Manufacturer: SICK Model Number: 0MD41-M321	Serial Number:
5. Installation Date: 2/03	6. Performance Specification Test Date: 7/03
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 2 of 6; SO_2

1. Parameter Code: EM	2. Pollutant(s): SO_2
3. CMS Requirement:	[X] rule-BACT [ ] Other
4. Monitor Information... Manufacturer: SICK Model Number: GM31	Serial Number: 8040-8003
5. Installation Date: 2/03	6. Performance Specification Test Date: 7/03
7. Continuous Monitor Comment: $SO_2/NO/NO_2$ Gas Analyzer	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 3 of 6; NOx

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement:	[x] Rule-BACT [ ] Other
4. Monitor Information... Manufacturer: SICK Model Number: GM31	Serial Number: 8040-8003
5. Installation Date: 2/03	6. Performance Specification Test Date: 7/03
7. Continuous Monitor Comment: SO_2/NO/NOx Gas Analyzer	

Continuous Monitoring System: Continuous Monitor 4 of 6; THC/VOC

1. Parameter Code: EM	2. Pollutant(s): THC
3. CMS Requirement:	[x] Rule-BACT [ ] Other
4. Monitor Information... Manufacturer: SICK Model Number: EuroFID-3010	Serial Number: 005266-0300
5. Installation Date: 2/03	6. Performance Specification Test Date: 7/03
7. Continuous Monitor Comment: Required by NESHAP and BACT	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 5 of 6; TEMP

1. Parameter Code: TEMP	2. Pollutant(s): NA
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor 6 of 6; FLOW

1. Parameter Code: FLOW	2. Pollutant(s): NA
3. CMS Requirement:	☒ Rule-BACT ☐ Other
4. Monitor Information... Manufacturer: SICK Model Number: FLOWSIC - 100	Serial Number:
5. Installation Date: 2/03	6. Performance Specification Test Date: 7/03
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION
Section [2] of [3] [Kiln/Raw Mill – EU-004]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 002 [ ] Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: __ [x] Previously Submitted, Date Unknown

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [x] Previously Submitted, Date Unknown

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [ ] Previously Submitted, Date _____
   [x] Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [x] Previously Submitted, Date Unknown
   [ ] Not Applicable

6. Compliance Demonstration Reports/Records
   [ ] Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [x] Previously Submitted, Date: 8/03
   Test Date(s)/Pollutant(s) Tested: 7-8/03
   _____
   [ ] To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   [ ] Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
☐ Attached, Document ID: _____ ☒ Not Applicable

EMISSIONS UNIT INFORMATION
Section [2] of [3] [Kiln/Raw Mill – EU-004]

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☐ Attached, Document ID: _____ ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications NA

1. Identification of Applicable Requirements ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading) ☐ Attached, Document ID: _____ ☐ Not Applicable

5. Acid Rain Part Application **NA, Continued**

- ☐ Certificate of Representation (EPA Form No. 7610-1)
  - ☐ Copy Attached, Document ID:_
- ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Not Applicable

Additional Requirements Comment

None

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: Clinker Cooler; EU-005

3. Emissions Unit Identification Number: 002

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	NA	2/03	32	[ ] Yes [x] No

9. Package Unit:
Manufacturer: NA Model Number:

10. Generator Nameplate Rating: MW NA

11. Emissions Unit Comment: This permit application addresses only a change in the clinker throughput rate (from 105 tph to 115.5. tph, 24-hr avg) and a change in PM/PM10 emission factors (lb/ton) so there will be no increase in mass emission rates (lb/hr and tpy).

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: Clinker Cooler electrostatic precipitator (ESP).
2. Control Device or Method Code(s): 010

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 2772 tons per day	
2. Maximum Production Rate: NA	
3. Maximum Heat Input Rate: NA	
4. Maximum Incineration Rate: pounds/hr NA tons/day	
5. Requested Maximum Operating Schedule: hours/day 24 weeks/year 52	 days/week 7 hours/year 8760
6. Operating Capacity/Schedule Comment: Annual clinker production is limited to 923,450 tons per year.	

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: K-15	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Clinker Cooler ESP stack (K-15) – Emission Unit 005		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA		
5. Discharge Type Code: V	6. Stack Height: 115 feet	7. Exit Diameter: 11.0 feet
8. Exit Temperature: 440°F	9. Actual Volumetric Flow Rate: 124,500 acfm	10. Water Vapor: 12 %
11. Maximum Dry Standard Flow Rate: 64,300 dscfm	12. Nonstack Emission Point Height: feet NA	
13. Emission Point UTM Coordinates...NA Zone: East (km): North (km):	14. Emission Point Latitude/Longitude...NA Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: None		

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): Mineral Products: Cement Mfg: Dry Process: Clinker Cooler		
2. Source Classification Code (SCC): 3-05-006-14	3. SCC Units: Tons Clinker	
4. Maximum Rate: 2772 tpd	5. Maximum Annual Rate: 923,450 tpy	6. Estimated Annual Activity Factor: 0.92
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment: None		

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	**010**	**NA**	**EL**
PM10	**010**	**NA**	**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control: 99+%
3. Potential Emissions: 12.5 lb/hour 49.9 tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable):NA to tons/year	
6. Emission Factor: 0.061 lb/ton feed, or 0.108 lb/ton clinker; equivalent rates Reference: BACT (proposed)	7. Emissions Method Code: 0

8. Calculation of Emissions:

205 tph feed x 0.061 lb/ton = 12.5 lb/hr

115.5 tph clinker x 0.108 lb/ton = 12.5 lb/hr

923,450 tpy clinker x 0.108 lb/ton/2000 = 49.9 tpy

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
NSPS and NESHAP limits are both 0.1 lb PM per ton of feed. SAC requests that the unitized emission rate be expressed as 0.108 lb/PM/ton clinker; a rate equivalent to the feed rate limit of 0.061 lb/PM/ton feed.

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control: 99+%
3. Potential Emissions: 10.7 lb/hour tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.052 lb/ton feed, or 0.093 lb/ton clinker; equivalent rates Reference: BACT (proposed)	7. Emissions Method Code: 0

8. Calculation of Emissions:

205 tph feed x 0.052 lb/ton = 10.7 lb/hr

115.5 tph clinker x 0.093 lb/ton = 10.7 lb/hr

923,450 tpy clinker x 0.093 lb/ton/2000 = 42.9 tpy

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
SAC requests that the unitized emission rate be expressed as 0.093 lb PM10/ton clinker; a rate equivalent to the feed rate limit of 0.052 lb PM10/ton feed.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2; PM

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.108 lb/ton clinker	4. Equivalent Allowable Emissions: 12.5 lb/hour 49.9 tons/year
5. Method of Compliance: EPA Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Emission limit more stringent than NSPS and NESHAP	

Allowable Emissions Allowable Emissions 2 of 2; PM10

1. Basis for Allowable Emissions Code: BACT	2. Future Effective Date of Allowable Emissions: NA
3. Allowable Emissions and Units: 0.093 lb/ton clinker	4. Equivalent Allowable Emissions: 10.7 lb/hour 42.9 tons/year
5. Method of Compliance: EPA Method 5, with all PM assumed to be PM10	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [x] Rule-BACT [ ] Other
3. Allowable Opacity: 10% Normal Conditions: 0 % Exceptional Conditions: 10 % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: COM	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 1

1. Parameter Code: VE	2. Pollutant(s): NA
3. CMS Requirement:	[X] Rule-BACT [ ] Other
4. Monitor Information... Manufacturer: SICK Model Number: 0MD41-M321	Serial Number:
5. Installation Date: 2/03	6. Performance Specification Test Date: 7/03
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: 003 [ ] Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: __ [x] Previously Submitted, Date Unknown

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [x] Previously Submitted, Date Unknown

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [ ] Previously Submitted, Date _____
   [x] Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [ ] Attached, Document ID: _____ [x] Previously Submitted, Date Unknown
   [ ] Not Applicable

6. Compliance Demonstration Reports/Records

☐ Attached, Document ID: _____

Test Date(s)/Pollutant(s) Tested: _____

_____

☒ Previously Submitted, Date: 8/03

Test Date(s)/Pollutant(s) Tested: 7-8/03

_____

☐ To be Submitted, Date (if known): _____

Test Date(s)/Pollutant(s) Tested: _____

_____

☐ Not Applicable

Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute

☐ Attached, Document ID: _____ ☒ Not Applicable

EMISSIONS UNIT INFORMATION
Section [3] of [3] [Clinker Cooler – EU-005]

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☐ Attached, Document ID: _____ [x] Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☐ Attached, Document ID: _____ [x] Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ [x] Not Applicable

Additional Requirements for Title V Air Operation Permit Applications NA

1. Identification of Applicable Requirements ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading) ☐ Attached, Document ID: _____ ☐ Not Applicable

5. Acid Rain Part Application **NA, Continued**

- ☐ Certificate of Representation (EPA Form No. 7610-1)
  - ☐ Copy Attached, Document ID:_
- ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
  - ☐ Attached, Document ID:_____
  - ☐ Previously Submitted, Date:_____
- ☐ Not Applicable

Additional Requirements Comment

None

Attachments:

001 – Hydrated Lime

002 – Flyash Injection

003 – Clinker Production

Attachment 2
Fly Ash Project Description

FLY ASH INJECTION PROJECT

PROJECT OVERVIEW

Suwannee American Cement (SAC) requested permission to construct and operate a dry fly ash injection system to introduce fly ash directly into the calciner of the kiln system on April 26, 2004. The following additional information is provided herein on the production increase that will result as an additional benefit of this project.

PRODUCTION INCREASE INFORMATION

The installation of the Fly Ash Injection project will create additional production capacity in the kiln system, which in turn will result in an increase in production. This is exclusively due to the fact that approximately 10% of the current kiln feed (the fly ash component) will be introduced directly into the calciner instead of through the preheater tower.

Currently the blended and dried kiln feed is fed through the feed system to the top of the preheater tower. This kiln feed is made up of approximately 10% fly ash, 3% sand, 2% iron and 85% limestone on a dry weight basis. The kiln feed travels from the top of the preheater tower down through the 4-stage preheater tower undergoing further drying and eventually partial calcination in the bottom cyclone and calciner. The Fly Ash Injection Project will remove this 10% fly ash from the kiln feed and introduce this material directly into the calciner, thereby bypassing the entire preheater tower.

Fly ash, being a residual of coal combustion, does not need to travel through the preheater tower for drying and partial calcination. Fly ash only needs to be added prior to the sintering zone for its mineral composition to be incorporated into the final product, clinker. By introducing the fly ash directly into the calciner, the fly ash will bypass the preheater feed delivery system, preheater cyclones, and calciner; as a result, these systems will have additional capacity for the other preheater feed materials.

SAC desires to continue feeding the currently-permitted limit of 178 tons of preheater feed materials through the existing feed delivery system and preheater tower (as well as introducing the additional 10% fly ash directly into the calciner). This will require the changing of the existing preheater feed limit to an overall system limit. The preheater tower and riser duct portion of the calciner will continue to see current rates of 178 tons of preheater feed and only the rotary kiln will see the combined effect of the addition of the fly ash. This combined effect would result in approximately 10 tons of additional clinker production capacity due to the 10% fly ash being injected directly into the calciner and bypassing the previously-described portions of the preheater/precalciner. In a modern preheater/precalciner plant (like SAC's facility), air flow restrictions either as

result of limited cyclone capacity or fan capacity typically limit production. The introduction of the fly ash into the calciner bypasses these areas and is why the increase in capacity is realized. The rotary kiln and clinker cooler are typically not a limiting factor for production capacity, and at the SAC plant this equipment can handle the additional 10% of clinker production realized from this project.

BENEFITS

The environmental benefits listed in the April 26 application include the following:

- Reduction in CO and THC emissions due to the fraction formed in preheater tower as a result of carbonaceous material in the fly ash being eliminated.
- Greater ability to control NOx emissions since CO/THC from fly ash in the preheater feed is now eliminated and reducing conditions at the precalciner can be created under more favorable conditions.
- More stable kiln operations due to the decrease in CO/THC generation in upper cyclones of the preheater.
- Increased flexibility in acceptance of varying types and quality of fly ash while still maintaining permitted emission limits.

The project also will result in increased thermal efficiency. The fly ash does not need to be added as wet component to the raw mill feed, thus injecting it directly into the calciner eliminates the unnecessary drying and grinding it presently undergoes in the Raw Mill. Fly ash can now be added as a dry substance (the form it occurs in after collection in the generating sources particulate control device). Similarly, due to its inherent fineness, fly ash does not need to undergo additional grinding with other raw materials. Fly ash also does not need to undergo the thermal heat exchange of the preheater process since it is a byproduct of coal combustion resulting in even more thermal efficiency of clinker production.

With the increase in production and efficiency as described above, the incremental increase in production will be less then the incremental increase in emissions. This will result in overall greater efficiency in mass emissions per ton of clinker. With preheater/precalciner kiln systems, as more production is achieved via greater efficiency the incremental change in emissions decreases until reaching some optimum emission efficiency. This is due to the fact that an inherent amount of thermal energy (fuel) is required in a given preheater/precalciner kiln system to produce quality clinker due to the thermally driven chemical reaction of the formation of clinker. This required baseline thermal load generates most of the emissions, especially for SAC since very small amounts of sulfur and organic materials are present in raw materials. As a kiln system finds way to increase the production beyond this point, the overall efficiency of emissions (expressed as pounds of emission per ton of clinker) will decrease.

Accordingly, the Fly Ash Injection Project will decrease the emissions per pound of clinker. Because of this increased emission efficiency, SAC proposes to keep its existing mass emission limits per time essentially the same(expressed both in pounds per hour and tons per year mass emission limits) but to lower all emission limits that are expressed in terms of pound per ton of clinker or preheater feed.

This increased efficiency allows SAC to produce more clinker with no significant increase in mass emissions. Indeed, SAC believes that this project actually will allow the further decrease in annual allowable NO_x emissions beyond current permitted limits. SAC proposes that, using the suggested thirty-day operating average, it can reduce the emissions of NOx as expressed in pounds per ton of clinker from 2.9 down to 2.6. This effectively reduces annual allowable emissions of NOx by 17 tons.

PERMIT MODIFICATIONS

The completion of the Fly Ash Injection Project will require some permit modifications to more accurately reflect the kiln system. In particular, the following areas will need to be reexamined:

- Fuel requirement will need to be updated to reflect the additional heat capacity needed to address the additional kiln feed. SAC proposes to change the heat input limits from 364 to 458 million Btu per hour (mmBtu/hr).

- Process Rate Limitations will need to be updated to reflect the new capacities as described above. The Fly Ash Injection project allows for the same 178 tons of dry preheater feed to be fed through the kiln system with the additional fly ash feed to be fed through the new Fly Ash Injection Project. Given the ability to injection of the fly ash into the calciner will allow fly ash with greater percentages of volatile fraction to the mineral fraction to be used. This requires more then the current 10% by dry mass feed rate to equal the 10% mineral composition need from the fly ash to produce clinker. For this reason a new limit of 205 tons of dried preheater feed and fly ash is required to insure that 115.5 tons of clinker can be produced. This in turn equals a yearly production total of dry preheater feed of 1,644,469 tons. This also will affect clinker production. SAC currently uses a LOI factor of 0.5899 based on ASTM test methods and process calculations. Using this factor, the calculated increase in clinker production from the Fly Ash Project would result in a new hourly production limit of 115.5 tons and a new yearly production limit of 923,450 tons of clinker.

- Means by which to calculate Process Rate Limitations. The separation of the fly ash from the preheater feed will now require SAC to combine the two inputs (preheater feed and fly ash) to determine the total kiln feed. The addition of the Fly Ash Injection Project will change the existing LOI for the dry preheater feed, and a LOI factor for Fly Ash will need to be developed. SAC proposes to develop and

update LOI factors on a quarterly basis using industry-proven test methods with corrections for dust return and other factors. This allows SAC greater accuracy as LOI factors may change based on variance in raw materials.

- The means by which clinker production is determined needs to be clarified as a result of the addition of fly ash directly into the calciner. The preheater feed and the fly ash should be evaluated with separate LOI factors and summed together to determine the total clinker production. The equation should be as follows:

  (Mass Input Preheater Feed * Preheater Feed LOI) + (Mass Input Fly Ash * Fly Ash LOI) = Mass Output Clinker

- Emission Limits for the Kiln System need to be corrected for the pound per ton clinker limits, since clinker production will now increase. The annual mass emission limits (expressed as annual and pound per hour limits) will remain essentially the same, but limits related to production will be lowered. However, NOx Limits will be lowered on an annual basis by the implementation of a thirty-day, pound per ton limit. Since annual emission limits remain essentially the same or lower, no Prevention of Significant Deterioration (PSD) impacts can occur. In addition, the VOC limit should be converted to a part per million volume dry (ppmvd) basis to accurately correlate with the already existing NESHAP limit. The following table demonstrates the new adjusted emission limits.

Emissions from emissions unit 004, the in-line kiln/raw mill, shall not exceed the following limits for the following pollutants: [Emissions from the natural gas fired air heater are included in the limits below]

POLLUTANT	EMISSION LIMIT		AVERAGING TIME	BASIS
PM	~~0.13~~ 0.113 lb/ton of dry preheater feed	23.1 lb/hour	3 hours 3	BACT
PM10	~~0.11~~ 0.096 lb/ton of dry preheater feed	19.6 lb/hour	3 hours 3	BACT
SO2	~~0.27~~ 0.246 lb/ton of clinker	28.4 lb/hour	3 hours 4	BACT
NOX	2.9 lb/ton of clinker 1	304.5 lb/hour 1	24 hours 4	BACT
	2.6 lb/ton clinker		30 days 4	BACT
CO	~~3.6~~ 3.27 lb/ton of clinker	378.0 lb/hour	3 hours 5	BACT
VOC	~~0.12 lb/ton of clinker 2~~	~~12.6 lb/hour 2~~	30 days 6	BACT
	14.91 ppmvd VOC @7% O2 2			
	50.4 tons per year		Annual 6	BACT

- Additionally a twelve months period will be needed after completion of the Fly Ash Project for optimization of the project before SAC can achieve the reductions in NO_x pound per ton of clinker limits. With the introduction of the new system many operational factors such as fuel to feed ratios, fuel location ratios, burner adjustments, temperature profiles, raw material feed ratios for quality, etc will need to be evaluated with new set points established before optimization of emissions can occur. SAC requests that during the first operational year of the Fly Ash Project, 2.8 pounds of NO_x per ton of clinker be established as the 30-day limit until optimization of the project is completed. This would require the following permit changes:

[Note: These emission limits, along with annual production limits, effectively limit annual emissions to: PM, ~~92.8~~ 92.9; PM_{10}, ~~78.4~~ ~~78.9~~; SO_2, ~~113.4~~ 113.6; NOx, ~~1217.5~~ 1200.5; CO, ~~1511.1~~ 1509.8; and VOC, 50.4 tons per year. First year NOx emissions are effectively limited to ~~1595.4 tons per year~~ and 1339.0 during two years of preconstruction, construction and optimization of Fly Ash Project. NOx emissions are estimated assuming that two startups as specified occur per year, each resulting in maximum allowable excess emissions. Mercury introduced into the pyroprocessing system is limited pursuant to specific condition 13 of this subsection of this permit; annual emissions of mercury are effectively limited by this condition to 97 pounds per year.]

- The low clinker production operating scenarios that allow SAC to exclude emissions from the pound per ton clinker limits due to low clinker production will need to be reevaluated for the new clinker production. This would insure the effectiveness and the intent of the low production operations mode.

CONCLUSION

With the addition of the Fly Ash Project SAC can increase the production of clinker without a significant increase in mass emissions to the environment. SAC even predicts the ability to reduce NO_x emissions after optimization of the project. SAC also can increase the thermal efficiency of its clinker production with this project. In addition, SAC gains more flexibility in the quality of fly ash used in the process which continues to recycle and utilize material that otherwise would be disposed of in a land fill.

Hydrated Lime System Information

HYDRATED LIME SYSTEM

OVERVIEW

Suwannee American Cement (SAC) requests authorization to install a permanent hydrated lime system for the control of SO_2 emissions. Under most circumstances, there are virtually no SO_2 emissions from the plant. This project will include features that will further reduce any SO_2 emissions and will provide additional assurances that any emissions will be well below the applicable emission limits.

The system will consist of a storage bin for hydrated lime and a pneumatic delivery system to transport the lime to the top of the preheater of the tower to be introduced with the kiln feed. Particulate matter emissions from the storage bin will be controlled by a fabric filter baghouse. No emissions will be associated with the pneumatic delivery system or the introduction of the lime into the kiln system.

BENEFITS

SAC BELIEVES THAT THIS SYSTEM WILL FURTHER REDUCE AND ALMOST COMPLETELY ELIMINATE SO_2 EMISSIONS.

DESCRIPTION

Hydrated lime is similar to the raw materials currently fed into the kiln system. When the SO_2 emissions are detected, the hydrated lime will be feed into the kiln system with the kiln feed. The hydrated lime will act as a scrubbing/absorbing agent similar to the raw materials in the raw mill/roller mill, effectively scrubbing virtually all of the SO2 in the kiln exhaust gas and thereby resulting in further reduced SO_2 emissions. Since hydrated lime is similar to the limestone in the raw materials the hydrated lime is incorporated into the clinker. It is estimated that the hydrated lime will make up only a small portion (less then one percent) of the total kiln feed.

Presently, SO_2 emissions are close to zero for the vast majority of the time, so this system will only be used for short periods when there are SO_2 emissions for whatever reasons. The system will be controlled automatically by the CEM in the stack. The system will feed lime as SO_2 is detected in the stack and will control the dosage based on the concentration of SO_2 at the stack. This automation of the system will allow for the most efficient control and reduction of SO_2 emissions.

The department previously authorized SAC to test a temporary version of this hydrated lime system. The results of that test shows hydrated lime injection to be an effective method in further reducing SO2 emissions. This request seeks authorization to install a storage bin and associated equipment to allow for the efficient operation of a hydrated lime system.

Included in Figure 1 and 2 are drawings of the Hydrated Lime System.
Figure 3 includes the dust collector specifications.

Figure 1: Hydrated_Lime Drawing

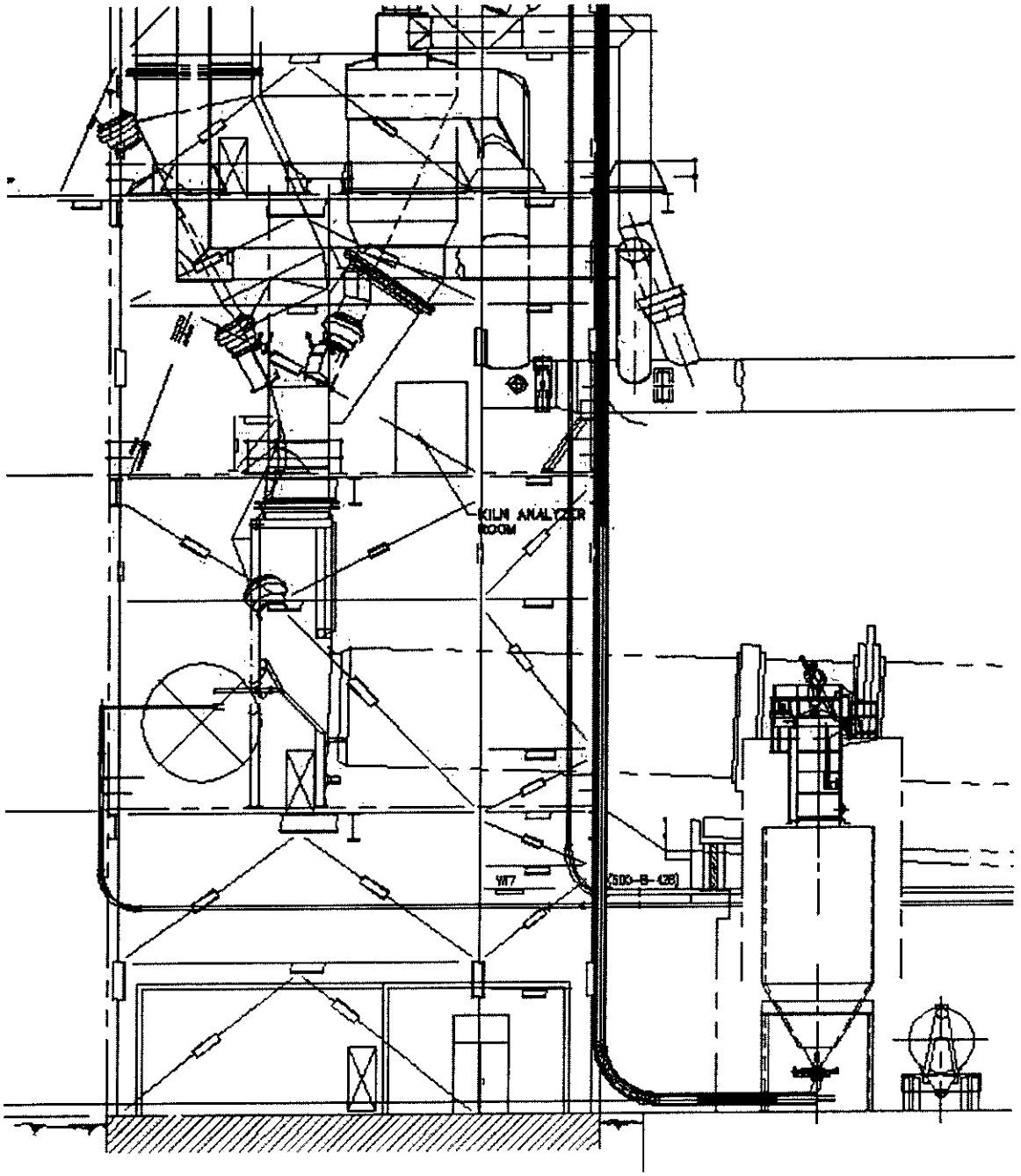


Figure 2: Hydrated Lime Drawing 2

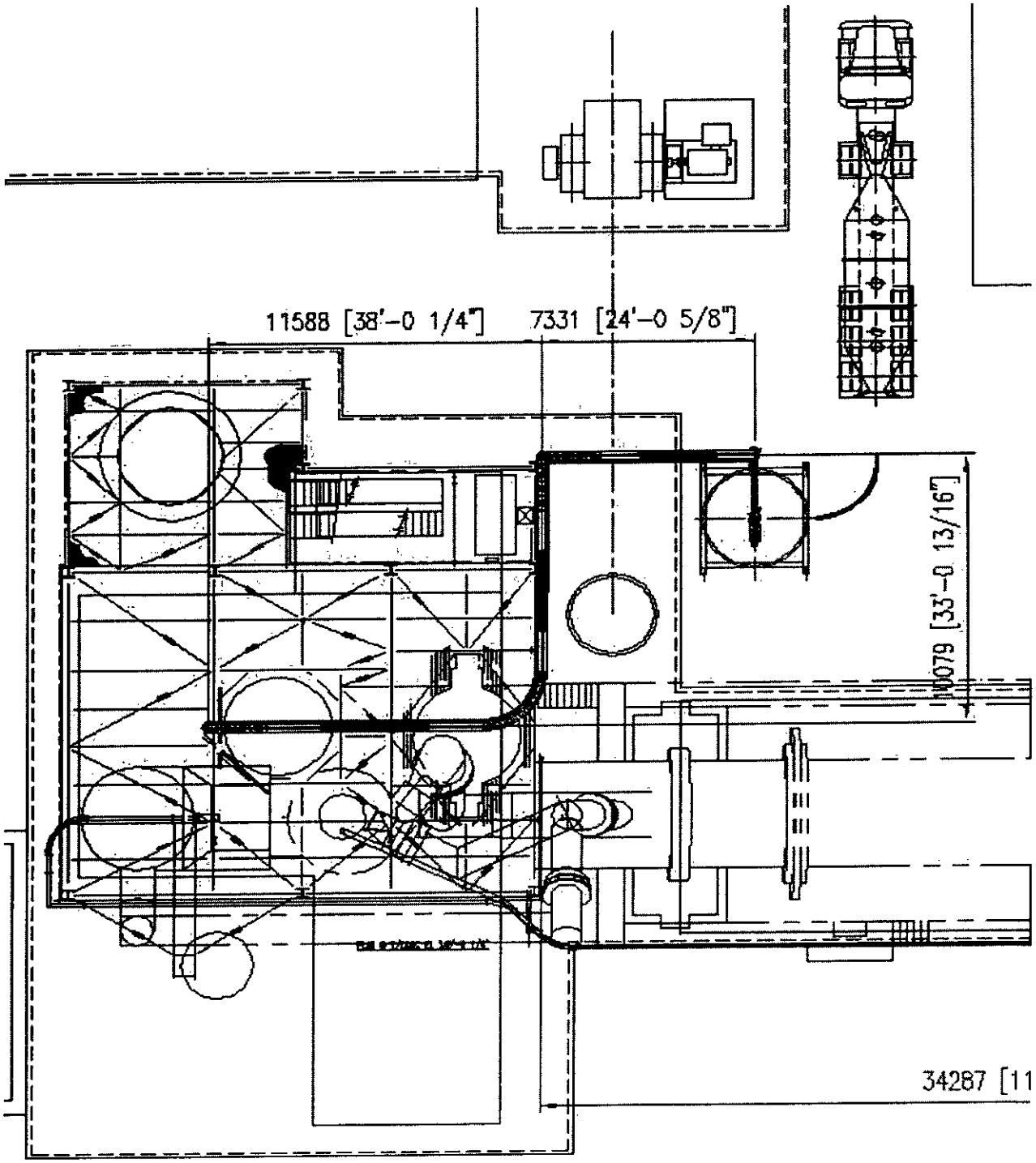
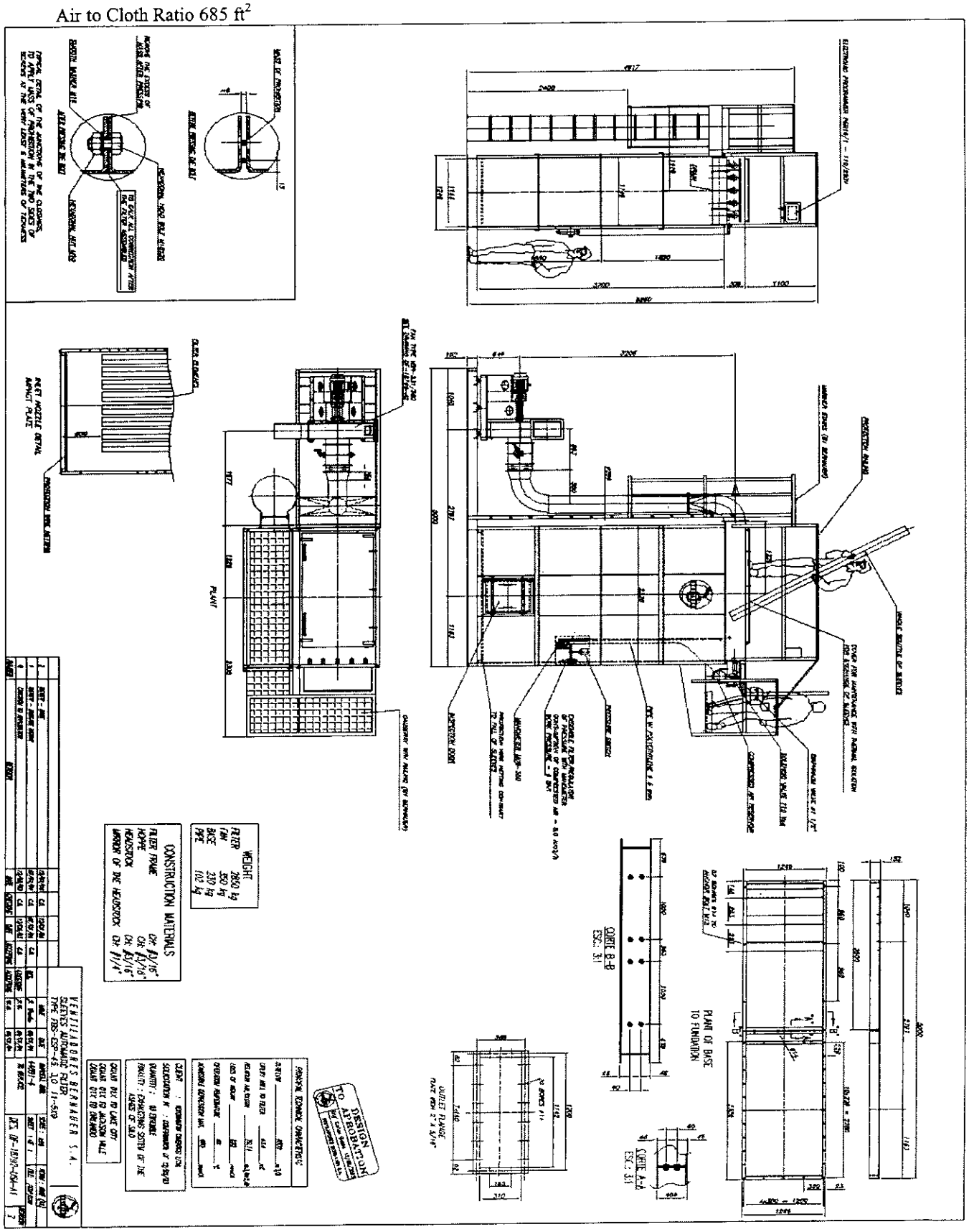


Figure 3: Dust Collector Information

Airflow – 2700 acfm

Air to Cloth Ratio 685 ft^2



Permit Language Revision Information

SECTION II – EMISSION LIMITING STANDARDS CONDITION 10

24. Unconfined Emissions of Particulate Matter:

(c) Reasonable precautions include the following

- ~~Bulk transport trucks leaving the plant shall travel through a tire wash, designed to remove particulate matter from vehicle tires, before traveling on the facility's access roadways.~~

[SAC additions to permit underscored; SAC deletions are ~~stricken~~]

Explanation/Rationale: SAC has experienced no fugitive dust problems from bulk transport trucks. Roadways are cleaned with a street sweeper and fugitive dust from truck traffic just does not occur or foreseen to be a problem. The addition of a wheel wash raises several concerns with both SAC and Florida DEP Water Division. The SAC facility is designed to have no industrial wastewater. Furthermore SAC discharges no stormwater off of the property as well. The addition of the wheel wash would create an industrial waste water source that could possible create a discharge or outfall for SAC. Since fugitive dust is not a problem from bulk transport trucks this addition of industrial wastewater is not needed and this condition should be removed from the permit. This will insure SAC can continue to generate no industrial wastewater and discharge no water from the property.

SECTION III.B - SPECIFIC CONDITION 24

24. Process Rate Limitations: The owner or operator shall make and maintain records of the process rate of dry preheater feed in units of tons per hour and tons per consecutive 12-month period, and the production rate of clinker and cement in units of tons per hour and tons per consecutive 12-month period. ~~The clinker rate shall be directly measured independently of preheater feed.~~

[SAC additions to permit underscored; SAC deletions are ~~stricken~~]

Explanation/Rationale: SAC uses a very accurate system for processing and measuring the preheater feed. This system is supplied by Polysius and is called the Poldos. The Poldos accurately measures and transfers preheater feed into the kiln system. SAC uses this preheater feed measurement and a set Loss of Ignition (LOI) Factor to determine the clinker produced. SAC determined the LOI factor using the ASTM test method 2863 on its preheater feed with consideration for dust return from the main baghouse. This method accurately determines the clinker produced and corresponds with physical inventory numbers and cement production. This method is an industry standard for determining clinker production, and it is the method by which SAC determines its own production for accounting and inventory purposes.

SAC also uses a load cell for measurement of clinker production as it exits the clinker cooler. This rate is recorded in the NEXUS software, but should not used for determining compliance with production limits or in emission limit calculations due to various factors that may cause this information to be inaccurate.

Load cells operate accurately to measure throughput only when a known area of flexible conveyor belt comes in consistent and uniform contact with the load cell. Clinker must be

transported from the clinker cooler using a bucket or pan conveyor because of the high heat of the clinker. Bucket and pan conveyors do not uniformly contact the load cell in the same manner as a flexible belt due to the stiffness of the metal buckets and the chain pulling the buckets. .In addition, clinker leaving the kiln system is not in a steady state because various amounts of accumulation can occur in the clinker cooler dependent on the amount of cooling needed. For these reasons, a load cell may not always provide an accurate determination of clinker production. Accordingly SAC requests that paragraph 24 be revised by deleting the unnecessary requirement to measure clinker production independently of preheater feed.