KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES
4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 • FAX/377-7158

KA 624-09-12
May 31, 2011

Ms. Christy Devore
Bureau of Air Regulation
Florida Dept. of Environmental Regulation
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

RE: AC Permit Application: Short Term Trial Test of Specific Recovered Materials in Kiln Suwannee American Cement; Permit Revision for Permit: 1210465-020-AC
1210465-022-AC

Dear Ms. Devore:

Enclosed please find four (4) copies of an application to revise the current permit 1210465-020-AC for the Suwannee American Cement, Branford cement plant. As discussed below, the alternative fuels materials are requested similar to other recent applications for materials that can supplant conventional fossil fuel and raw materials. These materials, while new to the experience of the cement plants in Florida, are used in other cement kilns throughout the U.S. and the world. Suwannee American Cement is proud to continue to be a leader in innovative and environmentally progressive techniques to bring forth and establish the value to reduce, re-use, and recycle recovered materials from conventional wastes. We look forward to working with you to move this proposed project to a reality.

Enclosed is the application form with a revised version of the permit describing the requested changes and revised calculations of the PSD thresholds.

Please feel free to contact me at (352) 377-5822 or mlee@kooglerassociates.com or Krishna Cole, Suwannee American Cement at (386) 935-5023 or krishnac@suwanneecement.com, if you have any questions regarding this submittal. I sincerely appreciate your time and consideration for this innovative project.

Regards,

Max Lee, Ph.D., P.E.
KOOGLER AND ASSOCIATES, INC.
P.E. 58091

5/31/11
Date

cc: Krishna Cole, SAC

SUWANNEE AMERICAN CEMENT

BRANFORD CEMENT PLANT

PERMIT: 1210465-20-AC

AIR CONSTRUCTION PERMIT MODIFICATION

SHORT-TERM TRIAL TESTING OF SPECIFIC RECOVERED MATERIALS

SUBMITTED May 31, 2011

KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES

4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 ▪ FAX/377-7158

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 any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

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

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **Suwannee American Cement, LLC**	
2. Site Name: **Branford Cement Plant**	
3. Facility Identification Number: **1210465**	
4. Facility Location... Street Address or Other Locator: **5117 US Hwy 27, near intersection of CR 49** 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: **Max Lee, PhD, PE**
2. Application Contact Mailing Address... Organization/Firm: **Koogler and Associates, Inc.** Street Address: **4014 NW 13th Street** City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Application Contact Telephone Numbers... Telephone: **(352) 377-5822** ext.**13** Fax: **(352) 377-7158**
4. Application Contact E-mail Address: **mlee@kooglerassociates.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 6/1/11	3. PSD Number (if applicable):
2. Project Number(s): 1210465-022-AC	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

- [X] Air construction permit.
- [ ] Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- [ ] Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

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

Application is for modification of permit 1210465-020-AC. See Appendix 1 for list of requested modifications.

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
004	In-Line Kiln/Raw Mill	N/A	N/A

Application Processing Fee

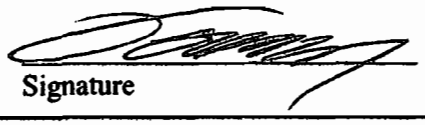
Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :
   Mr. Tom Messer, Plant Manager
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Suwannee American Cement, LLC**
   Street Address: **5117 US Hwy 27**
   City: **Branford** State: **Florida** Zip Code: **32008**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(386) 935 –5000** ext. Fax: **(386) 935 -5080**
4. Owner/Authorized Representative E-mail Address: **tomm@suwanneecement.com**
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.



Signature

5·31·11

Date

Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation 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, CAIR source, or Hg Budget 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 E-mail 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

Professional Engineer Certification

1. Professional Engineer Name: **Max Lee, Ph.D. P.E.**
   Registration Number: **58091**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Koogler and Associates, Inc.**
   Street Address: **4014 NW 13th Street**
   City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 377-5822** ext.**13** Fax: **(352) 377-7158**
4. Professional Engineer E-mail Address: **mlee@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] 5/31/11

Signature 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) **321.40** North (km) **3315.9**		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 :			

Facility Contact

1. Facility Contact Name: **Krishna Cole, Environmental Engineer**
2. Facility Contact Mailing Address Organization/Firm: **Suwannee American Cement, LLC** Street Address: **P.O. Box 410** City: **Branford** State: **FL** Zip Code: **32008**
3. Facility Contact Telephone Numbers: Telephone: **(386) 935-5023** ext. Fax: **(386) 935-5080**
4. Facility Contact E-mail Address: **krishnac@suwaneecement.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:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official E-mail Address:

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:	
The SAC Branford Cement Plant, is subject to 40 CFR 60, Subpart F: Standards of Performance for Portland Cement Plants (superceded by 40 CFR 63, Subpart LLL); 40 CFR 60, Subpart Y: Standards of Performance for Coal Preparation Plants; 40 CFR 60, Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants; 40 CFR 63, Subpart LLL: National Emission Standards for Hazardous Air Pollutants from Portland Cement Industry.	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter – PM	**A**	**N**
Particulate Matter – PM_{10}	**A**	**N**
SO_2	**A**	**N**
NO_x	**A**	**N**
CO	**A**	**N**
VOC	**B**	**N**
SAM	**B**	**N**
H114 (Mercury)	**B**	**N**
PB	**B**	**N**
DIOX (Dioxins/Furans)	**B**	**N**
HAPs – Total	**A**	**N**
H106 (hydrochloric acid)	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps N/A

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID'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:

APPENDIX 1

ATTACHMENT A

DESCRIPTION OF PROPOSED PROJECT

Suwannee American Cement (SAC) requests the following modifications to the current air construction permit, 1210465-020-AC and requested changes to the permit and permit appendices are attached to this document.

Comments are provided below as justification for requested changes. Please note some of the changes are minor or typographical errors and are not addressed below.

Revised Permit –Attachment A

Page 6. Item 2. Temporary Equipment.
SAC requests to remove the specific manufacturer name of the feeder equipment as there are several vendors with similar equipment which can meet the requirements of the air permit limitations.

Page 6. Item 3. Authorization.
SAC requests to increase the number of days allowed for each trial from 30 operating days for testing to 90 operating days. The existing limitation of 30 operating days provides little time for preparation of the feeding system for each material. Each alternative fuel trial is a unique project with unique setup and operations that require time and effort to develop handling and operations suitable for each material prior to establishing normal operation. This setup time wastes operating days and limits the opportunity for data collection under normal operating conditions. SAC references the Miami Cemex trial of biomass where a permitted 120 days resulted in only 45 days of testing as discussed in that project Summary Report. SAC believes that ninety days will provide the time necessary to operate the feeding system at low feed rates with room for starts and stops to make appropriate adjustments to the system while still leaving sufficient time for testing the material at nominal feed rates and under normal operating conditions.

Page 6. Item 3a.
SAC requests the definition simply to state this material as non-chlorinated polyethylene (PE). SAC also requests to increase the tonnage of trial material to 3,000 tons.

Page 6. Item 3d.
SAC requests the language be changed to address the limitation of the use of regulated asbestos containing materials (RACM). This change provides a more concise definition to the limitation

of these shingles that corresponds to NESHAP Subpart M, and ensures that the permit is consistent with existing regulation regarding RACM.

Page 7. Item 3g and 3h.
SAC requests to increase the tonnage of these trial materials to 5,000 tons.

Page 7. Item 3i .
SAC requests to increase the tonnage of trial material to 6,500 tons.

Page 7. Item 3j.
SAC requests to add allowance of a trial of an Alternative fuel mix a similar material to that allowed in permit 0530021-031-AC. This trial permits blending of materials tested that have proven to be successful materials based on completed test trials. . As such, the remainder of permitted tonnage of individual materials successfully tested can be blended to evaluate blends of those materials.

Page 7. Item 3k.
SAC requests to add a recently discovered engineered fuel that is defined in the revised permit attached. SAC's supplier(s) have provided assurance that they will provide a fuel material that is reasonably free of incombustible materials and shall consist of primarily wood, plastics, paper, fabric, carpet, and foam. This is achieved through a selective collection program followed by the use of state of the art separation processes that include the use of magnetic, density, screening, and hand sorting separation techniques that target and remove incombustible materials.

Page 7. Item 3l.
Similar to the request for item 3. SAC requests to increase the number of days allowed for each trial from 30 operating days for testing to 90 operating days.

Page 8. Item 5e.
To consolidate the permit information, SAC requests that the essence of Appendix E be consolidated into the requirements of Item 5e. This statement of 5e provides all the limitations that must be met per regulation to receive used shingle materials. The information under the current Appendix E, although a helpful guide for suppliers, does not provide protection for suppliers nor establish a qualified criteria for acceptance per 40 CFR 61, Subpart M. As such, the criteria described in Appendix E although an attempt to bolster the regulation may create a risk for the Department, SAC, and a supplier if followed without adherence to 40 CFR 61, Subpart M which is established law. This permit modification makes it very clear that regulated asbestos containing material (RACM) is not permitted for use as an alternative fuel material and must be discarded appropriately. RACM must be handled and disposed of in accordance with Subpart M in 40 CFR Part 61.

Page 8. Item 7.
SAC requests to not limit the material evaluation to times when only the raw mill is up. The kiln system operates in two modes and an appropriate evaluation of the material should include both modes.

Page 9. Item 10.
Consistant with the recently issued permit, 0530021-031-AC, SAC is requesting the sampling/analysis to coincide.

Page 9. Item 14. b.
Based on the research of the impact of chlorine input, a limitation to require testing should not be imposed. Many studies as summarized by EPA state that dioxin/furan is NOT dependent on fuel type but on kiln exhaust temperature profile.[1] This fact has been thoroughly reviewed for the Cemex Brooksville North cement plant which, after years of extensive testing, controlled the temperature profile in the kiln exhaust to control dioxin/furan emissions. As well, the EPA determined through NESHAP development that the monitoring and limitation of temperature at the entrance to the pollution control device, and NOT the chlorine content of fuel should be the basis for control of dioxin furans. In addition, the chlorine input to the kiln not only includes fuel, but also, raw materials chlorine. In many cases, the chlorine of the raw materials is much greater than that of the fuel.

Page 9. Item 14. c.
Consistent with permit 0530021-020-AC, SAC requests to not be required to test for HCl unless a fuel material analysis from the supplied materials shows chlorine content greater than 0.2 percent. This chlorine content should be a reasonable value for coal used at SAC as the coal sources for Florida cement plants are normally from the same region (i.e., Kentucky).

Page 9. Item 14. d.
Given the unique nature of these trial tests, SAC requests the option to request additional time to complete the 90 day trials.

Page 9. Item 15.g.
SAC requests to remove as a requirement from the Trial Burn Summary Report as a matter of confidential business information:
"an estimate of the fuel costs that could be avoided by firing the material; the appropriate QA/QC procedures used to produce a high-quality alternative fuel (i.e., low in contaminants, high in heating value, free of scrap metals and properly sized);" and recommendations to improve handling, storage and firing the alternative fuel material".
This information is not needed to ensure that Suwannee can comply to the permit requirements.

[1] Federal Register: September 30, 1999 (Volume 64, Number 189 page 52853)

Revised Permit Appendices –Attachment A

Section IV. Appendix D.

General Criteria

SAC requests to modify the Criteria for Material Supplier so that it is consistent with recently issued permit 0530021-031-AC and it provides the for SAC to meet the suppliers criteria for sampling and analysis through its own sampling and analysis program if necessary.

Attachment B

The revised calculation of PSD pollutants is provided in Attachment B which shows the project will not be subject to PSD.

Florida Department of Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Mimi A. Drew
Secretary

PERMITTEE

Suwannee American Cement, LLC
5117 U.S. Highway 27
Branford, Florida 32008

Authorized Representative:
Mr. Tom Messer, Plant Manager

Air Permit No. 1210465-020-AC
Permit Expires: December 12, 2012

Branford Cement Plant
Temporary Trials of Alternative Fuels

PROJECT

Suwannee American Cement, LLC operates an existing Portland cement plant, which is categorized under Standard Industrial Classification No. 3241. The existing facility is located in Suwannee County at 5117 U.S. Highway 27 in Branford, Florida. The UTM coordinates are: Zone 17, 321.4 kilometers (km) East and 3315.9 km North.

This is the final air construction permit, which authorizes short-term temporary trials to co-fire coal with each of the following alternative fuel materials in the existing cement kiln to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel, reject roofing shingles, used roofing shingle scraps, clean woody biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, post-consumer paper and carpet-derived fuel. This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

Joseph Kahn, Director
Division of Air Resource Management

(Date)

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on _____ to the persons listed below.

cc: Mr. Tom Messer, Suwannee American Cement, LLC (tomm@vcsmc.com)
Mr. Celso Martini, VCSMC (celsom@vcsmc.com)
Mr. Joe Horton, Suwannee American Cement, LLC (JBHorton@vcnainc.com)
Mr. Krishna Cole, Suwannee American Cement, LLC (krishnac@vcsmc.com)
Mr. Max Lee, Ph.D., P.E., K&A (mlee@kooglerassociates.com)
Mr. Chris Bird, Director of Alachua County Department of Environmental Regulation (chris@alachuacounty.us)
Ms. December McSherry (lmcshe2001@aol.com)
Ms. Annette Long, Save Our Suwannee, Inc. (long5892@bellsouth.net)
Mr. Thomas Ellison, (dmot51@aol.com)
Chair, Suwannee County Board of County Commissioners (commissioners@suwcounty.org)
Chair, Alachua County Board of County Commissioners (bocc@alachuacounty.us)
Mr. Greg Strong, DEP Northeast District (greg.strong@dep.state.fl.us)
Mr. Chris Kirts, DEP Northeast District (christopher.kirts@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@dep.state.fl.us)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____ _____
(Clerk) (Date)

FACILITY DESCRIPTION

The existing facility consists of a Portland cement manufacturing plant, the associated quarry, and raw material and cement handling operations. The plant combines raw materials and utilizes a preheater/calciner kiln system with in-line mill to produce cement clinker. The kiln fires coal as the primary fuel. The clinker is milled and combined with gypsum to produce Portland cement. The existing plant has a capacity of 210 tons per hour of dry preheater feed materials, 120 tons per hour of clinker production, and 150 tons per hour of Portland cement production. Annual production is limited to the following 12-month rolling totals: 1,648,578 tons per year of dry preheater feed materials; 965,425 tons per year of clinker production; and 1,191,360 tons per year of Portland cement production. Certified continuous emissions monitoring systems (CEMS) measure and record emissions of nitrogen oxides (NO_X reported as NO_2), sulfur dioxide (SO_2) and total hydrocarbons (THC as a surrogate for volatile organic compounds (VOC)). A certified continuous opacity monitoring system (COMS) measures and records the stack opacity as a surrogate for particulate matter (PM). Process monitors measure and record emissions of carbon monoxide (CO).

PROPOSED PROJECT

This is the final air construction permit, which authorizes temporary short-term trials to co-fire coal with each of the following alternative fuel materials in the existing cement kiln to gather operational and emissions data: non-chlorinated agricultural plastics, tire-derived fuel, reject roofing shingles, used roofing shingle scraps, biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, post-consumer paper and carpet-derived fuel. This authorization is only for the temporary trials as conditioned by the permit to determine the operational viability of each fuel, the impacts on emissions and the effect on cement quality. The information will be used to determine whether a material is suitable as alternative fuel for co-firing with coal in the cement kiln, which may require additional testing. To obtain permanent authorization for any of the alternative fuel materials, the permittee must submit an additional application and obtain an air construction permit. The information gathered during the trial burn period may be used to support such an application or a project for a longer trial.

This project will affect the following existing permitted emissions unit.

Facility ID No. 1210465	
ID No.	**Emission Unit Description**
004	Kiln No. 1 pyroprocessing system

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

1. Permitting Authority: All documents related to PSD applications for permits to construct or modify emissions units shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to construct minor sources of air pollution or to operate the facility shall be submitted to the Air Resources Section of the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200-B, Jacksonville, FL 32256-7590.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resources Section of the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200-B, Jacksonville, FL 32256-7590.
3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Criteria for Material Suppliers).

Deleted: ; and Appendix E (Documentation for Used Roofing Shingle Scraps)

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation:

   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   [Rule 62-212.400(12), F.A.C.]
8. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

b. The permittee shall report to the Department within 60 days after the end of each calendar year during the trial period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

1) The name, address and telephone number of the owner or operator of the major stationary source;

2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

4) Any other information that the owner or operator wishes to include in the report.

c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the permit requires the annual reporting of actual emissions from the cement kiln for the following pollutant: CO based on data from the existing process monitor; NO_X reported as NO_2 based on data from the existing CEMS; SO_2 based on data from the existing CEMS; VOC based on data from the existing THC monitor; mercury (Hg) based on material balance and data from the CEMS required by this permit; and PM and lead (Pb) based on stack test data.

[Application 1210465-020-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Kiln 1 System – Short-Term Trial of Miscellaneous Alternative Fuel Materials

This section of the permit addresses the following emissions unit.

ID	Emission Unit Description
004	Kiln No. 1 pyroprocessing system

COMPLIANCE WITH EXISTING PERMIT CONDITIONS

1. Existing Permits: This permit supplements all existing valid air permits. The permittee shall continue to comply with all applicable conditions from valid air construction and operation permits. [Rule 62-4.070(3), F.A.C.]

EQUIPMENT

2. Temporary Equipment: The permittee is authorized to temporarily install and operate the following equipment for the trial: a feeder system to measure and dose alternative fuel materials through the existing fly ash injection feed lines; an electric or diesel-powered shredder (approximately 400 hp); an electric or diesel-powered screener (approximately 100 hp); a hopper; a conveyor; ductwork; and other miscellaneous equipment to unload, store and handle the alternative fuel materials. If not electrically powered, only diesel fuel shall be fired in the engines powering the shredder and screen. The feeder system shall be integrated with the operation and monitoring system currently in use in the operator control room and tied into the existing Data Retrieval System. There shall be a visible display of the alternative material feed rate at the feeder system as well as in the operator control room. The alternative material feed rate shall be recorded along with the other fuel and material feed rates. [Application No. 1210465-020-AC and Rule 62-4.070(3), F.A.C.]

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PERFORMANCE RESTRICTIONS

3. Authorization: The permittee is authorized to conduct a short-term operational trial for each of the following alternative fuel materials. Each alternative fuel trial is limited to no more than 90 operating days while co-firing coal. Each alternative fuel material shall be tested separately from other alternative fuel materials. Only one alternative fuel material at a time shall be co-fired with coal.

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   a. *Non-Chlorinated Agricultural Plastics*: This material consists of non-chlorinated polyethylene (PE) plastic used primarily in agricultural and silvicultural operations to prevent weed growth, control soil erosion and moisture exposure. No more than 3,000 tons shall be fired in the kiln.

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   b. *Tire-Derived Fuel (TDF)*: This material consists of shredded used tires and may have steel belt material. No more than 1,500 tons shall be fired in the kiln.

   c. *Manufacturer Reject Roofing Shingles*: This material shall consist of manufacturer reject shingles that were never installed and which the manufacturer certifies as being "asbestos free". The incombustible grit material shall be removed from the shingles prior to delivery. No more than 4,000 tons shall be fired in the kiln.

   d. *Used Roofing Shingle Scraps*: This material consists of a combination of used shingles from residential roof replacements ("tear-off"), leftover material new from shingle production ("roofing shingle tabs") and minimal roofing debris. The incombustible grit material shall be removed from the shingles prior to delivery to improve the burnability. The incombustible materials serve as raw material. Used roofing shingle scraps shall not be identified as regulated asbestos containing material per 40 CFR 61, Subpart M. No more than 4,000 total tons shall be fired in the kiln.

Deleted: no asbestos fibers as determined by polarized light microscopy (PLM) method

Deleted: See 40 Appendix E in CFR 763 for the method details.

   e. *Clean Woody Biomass*: This material will include clean untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chips scraps, wood scraps, wood slabs, wood millings, wood shavings, and processed pellets made from wood or other forest residues. This material excludes copper-

chromium-arsenic (CCA)-treated wood, creosote-treated wood, construction and demolition (C&D) debris, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and sheet goods. No more than 4,000 tons shall be fired in the kiln.

f. *Agricultural Organic Fibrous Byproducts*: This material includes peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding, etc. Other similar types of materials may be tried with prior written approval of the Department. No more than 5,000 tons of any single type of agricultural organic fibrous byproduct shall be fired in the kiln. Only one type of agricultural byproduct material shall be stored on site at any given time. No more than 25,000 total tons of agricultural organic fibrous byproducts shall be fired in the kiln.

g. *Pre-Consumer Paper*: This material consists of pre-consumer: printing and writing paper; household and sanitary paper; wrapping and packaging paper; paper board; chipboard; Kraft liner, writing and packaging paper; fluting; other wrapping and packaging paper; folding boxboard; other paperboard; polymer laminated wrapping paper; game boards and boxes; foil wrapping paper; thermal papers; specialty papers for filtration or hygienic applications; adhesive labels; waxed corrugated cardboard; and other miscellaneous coated papers. This group of materials also includes fabrics and textiles such as dyed/finished natural fibers, dyed/finished natural fiber woven/scrap trim, polymer fiber woven scrap trim, and un-dyed/unfinished natural or synthetic fiber scrap trim. No more than 5,000 tons shall be fired in the kiln.

h. *Post-Consumer Paper*: This material will be provided by Materials Recovery and Recycling Facilities (MRRF) and consists primarily of used, mixed office paper that is too costly to separate for recycling. No more than 5,000 tons shall be fired in the kiln.

i. *Carpet-Derived Fuel*: This material consists of *shredded* carpet. No more than 6,500 tons shall be fired in the kiln.

j. *Alternative Fuel Mix:* Subject to the individual limits on material quantities, alternative fuels for which all required sampling/analysis and stack tests (if necessary) have been conducted and satisfactory results obtained may be blended and fired as a separate alternative fuel trial. Prior to conducting this trial, SAC shall notify the Department and provide the Department with a test plan that specifies the length of testing (not to exceed 90 days) and expected quantities of materials to be consumed.

k. *Engineered Fuel*: This material consists of a mix of non-hazardous materials or wastes such as wood, paper, plastic, fabrics, carpet, and foams. This material is a product of targeted recycle and recovery of materials from construction and demolition debris. The material has been developed as a dry, high energy, clean burning fuel material for use at the Branford cement plant with unwanted substances such as incombustible materials sorted to ensure removal. Production of this fuel material from the source material involves selective collection followed by the use of state of the art separation processes that include the use of magnetic, density, screening, and hand sorting separation techniques. During the test trial no more than 5,000 tons shall be fired in the kiln.

l. *Expiration and Revocation*: Authorization to fire each alternative fuel material expires with this permit, at the end of 90 operating days of firing the alternative fuel or when permitted amount of material has been fired. The Department may require the trial of an alternative fuel material to stop if:

a) The permittee accepts alternative fuel material that does not meet the acceptance criteria based on analytical results provided by the material suppliers.

b) The analytical results of samples taken by the plant vary widely with those provided by the material suppliers.

c) The firing of an alternative fuel material causes frequent upsets to kiln operation resulting in non-

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Deleted: This material consists of a mix of non-hazardous materials such as wood, paper, plastic, fabrics, carpet, and foams. This material is a byproduct of targeted recycle and recovery of materials from construction and demolition debris. The material has been developed as a dry, high energy, clean burning fuel material for use at the Branford cement plant with unwanted substances such as wallboard, PVC plastics, treated or painted lumber, and incombustible materials removed. Production of this fuel material from the source material involves selective collection followed by the use of state of the art separation processes that include the use of magnetic, density, screening, and hand sorting separation techniques. During the test trial no more than 00 tons shall be fired in the kiln.

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Deleted: Subject to the individual limits on material quantities, alternative fuels for which all required sampling/analysis and stack tests (if necessary) have been conducted and satisfactory results obtained may be blended and fired as a separate alternative fuel trial. Prior to conducting this trial, SAC shall notify the Department and provide the Department with a test plan that specifies the length of testing (not to exceed 90 days) and expected quantities of materials to be consumed.

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. steady state operation; or

d) The pyroprocessing kiln is unable to comply with the emissions standards in the Title V air operation permit.

[Application No. 1210465-020-AC and Rule 62-4.070(3), F.A.C.]

4. Material Suppliers: Suwannee American Cement shall provide each material supplier with a copy of this air construction permit including the Appendix D (Criteria for Material Suppliers). [Rule 62-4.070(3), F.A.C.]

5. Accepting Shipments of Alternative Fuels:

   a. The permittee shall obtain the analytical results of an alternative fuel material prior to, or along with, the first delivery of the alternative fuel material. The permittee shall record the amount and type of each material received.

   b. The permittee shall receive alternative fuel materials in covered trucks.

   c. The alternative fuel materials shall be stored in separate piles under cover on top of a paved or compacted clay surface. Optionally, the materials may be stored in enclosed trailers.

   d. Unless otherwise authorized, alternative fuel materials delivered to the site shall be burned in the kiln during the trial or removed from the site within 30 days of completing the trial.

   e. Based on the analytical results, the permittee shall only accept used roofing shingle scraps that contain materials not identified as regulated asbestos containing materials per 40 CFR Part 61, subpart M. Prior to each delivery the supplier shall supply written certification to Suwannee that the delivered material has been analyzed and is not identified as regulated asbestos containing materials (RACM), per 40 CFR Part 61, Subpart M. RACM is not permitted for use as an alternative fuel material and must be discarded appropriately. RACM must be handled and disposed of in accordance with Subpart M in 40 CFR Part 61.

[Rule 62-4.070(3), F.A.C., 40 CFR 61 Subpart M]

6. Fugitive Dust: To prevent fugitive dust caused by any alternative fuel materials from leaving the property, the plant shall apply water if necessary; otherwise, the material shall be kept dry to facilitate burning. [Rule 62-4.070(3), F.A.C.]

7. Operation: Alternative fuel materials shall only be fired when the kiln has achieved stable operation, temperatures and production. Alternative fuel materials shall not be fired during startup, shutdown, malfunction, or other non-steady state operation. [Rule 62-4.070(3), F.A.C.]

8. Capacity: During each designated trial, an alternative fuel material may be co-fired with coal in the existing cement kiln at the following approximate maximum rates:

Material	Estimated Maximum Firing Rates (tons/hour)
Non-Chlorinated Agricultural Plastics	4
Tire Derived Fuel	4.5
Roofing Shingles	12
Clean Woody Biomass	14
Agricultural Byproducts	25
Paper	11
Carpet Derived Fuel	7.5

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Deleted: <#>Accepting Shipments of Alternative Fuels: The permittee shall receive alternative fuel materials only in covered trucks (approximately 20 tons per truckload). The alternative fuel materials shall be unloaded to a paved area or compacted clay surface and stored under cover. No more than 5,000 tons of agricultural organic fibrous byproducts shall be stored on site at any given time. The permittee shall obtain copies from the material supplier of manufacturer certifications, analytical results and the amount (tons) for each delivery. A delivery may consist of more than one truckload. Based on the analytical results provided by the material supplier, the permittee shall only accept used roofing shingle scraps that contain no asbestos fibers as determined by the PLM method. See Appendix D (Criteria for Material Suppliers) and Appendix E (Documentation for Used Roofing Shingle Scraps) of this permit for material processing procedures. [Rule 62-4.070(3), F.A.C.]¶

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Comment [CK2]: We need to update this table? Add Engineered Fuel / Alternative Fuel Mix.

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Alternative Fuel Mix	10
Engineered Fuel	10

{Permitting Note: Since the feeder system is limited by volumetric throughput, the maximum mass feed rates will also be variable based on the material densities. Each trial will be used to determine the maximum sustainable mass feed rate of each alternative fuel material.} [Application No. 1210465-020-AC and Rule 62-210.200(PTE), F.A.C.]

9. Re-Processing: If problems with feeding alternative fuel materials occur during the trial period, the permittee is authorized to re-shred and screen the alternative fuel materials to obtain a more desirable size or cleaner material. Used roofing shingle scraps shall not be re-processed. The shredding and screening operations shall be equipped with a water spray system to control fugitive dust emissions only if necessary; otherwise, the material shall be kept dry to facilitate burning. Once it is determined that re-processing on site is necessary, the permittee shall contact the material suppliers and adjust the material specifications and processing requirements as necessary to reduce re-processing at the Branford Cement Plant. The permittee shall provide advance notice to the Compliance Authority that re-processing equipment will be brought on site. [Rule 62-4.070(3), F.A.C.]

10. Sampling/Analyses: Daily composite samples shall be made up of samples collected at least once every four hours while firing an alternative fuel material. The samples of as-fired material (approximately one gallon) shall be collected from any appropriate sampling point that ensures a representative as-fired material is being sampled. At the end of each day these grab samples shall be thoroughly mixed and a daily composite sample made (approximately 2 lb). At a minimum, the permittee shall collect three daily composite samples that were taken on representative operating days and at least three operating days apart, and on any day in which there was stack testing conducted. Each representative composite sample shall be analyzed for the following: heating value, moisture, volatiles, ash, sulfur, chlorine. Tire-derived fuel, shingles, clean woody biomass and engineered fuel shall be analyzed for total metals (including arsenic, cadmium, chromium, copper, and lead). [Application No. 1210465-020-AC and Rule 62-4.070(3), F.A.C.]

MONITORING REQUIREMENTS

11. Operations and Emissions: During the trial period, the permittee shall continue to monitor: NO_X, SO_2, and THC emissions with the existing certified CEMS; opacity with the existing certified COMS; CO emissions with the existing process monitors; and the fuel feed rates, kiln feed rates, clinker production rate and baghouse inlet temperature with the existing continuous monitoring systems. Mercury emissions shall be determined both by material balance as well as the mercury CEMS. [Application No. 1210465-020-AC and Rule 62-4.070(3), F.A.C.]

12. Upsets: When an upset condition causes the plant to stop firing an alternative fuel that results in non-steady state operation, the permittee shall record each incident and identify the cause of the upset as well as the corrective action taken. [Rule 62-4.070(3), F.A.C.]

13. Process Monitoring: For the trial, the plant will monitor: the sampling and analysis procedures used; the analytical results of the alternative fuel materials, the fuel feed rates, the kiln feed rates, the clinker production rates, pre-calciner temperature and the baghouse inlet temperature. [Application No. 1210465-020-AC and Rule 62-4.070(3), F.A.C.]

TESTING REQUIREMENTS

14. Compliance Tests: The permittee shall conduct the following stack tests to determine compliance with the dioxin/furan and particulate matter emissions standards as well as the emission rates of hydrochloric acid (HCl) and metals while operating the cement kiln at permitted capacity and firing the maximum sustainable feed rate of the alternative fuel material. The feed rate achieved during the stack tests will be used to

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establish the maximum feed rate for any subsequent request to permanently fire the alternative fuel material.

a. *PM Stack Tests*: In accordance with EPA Method 5, the permittee shall conduct a stack test with the raw mill up to determine compliance with the PM emissions standard while co-firing coal with either clean woody biomass or one of the agricultural byproducts. The stack test shall consist of at least three, 1-hour test runs.

b. *Dioxins/Furans Stack Tests*: If the chlorine content of any fuel is greater than 1.0 percent from the supplier analysis, in accordance with EPA Method 23, the permittee shall conduct a stack test with the raw mill up to determine compliance with the dioxins/furans emissions standard while co-firing coal in the cement kiln. The stack test shall consist of at least three, 3-hour test runs, and the sample volume for each run shall be at least 90 dscf.

c. *HCl Stack Tests*: If the chlorine content of any fuel is greater than 0.2 percent from the supplier analysis, in accordance with EPA Methods 26, 26A or 321, the permittee shall conduct separate stack tests with the raw mill up to determine compliance with the HCl emissions standard while co-firing coal with TDF in the cement kiln: The stack test shall consist of at least three, 1-hour test runs. If a trial of TDF is not conducted, then permittee shall conduct the HCl stack test on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.

EPA Methods 1 – 4 shall be used as necessary to support the other test methods. [Rule 62-4.070(3), F.A.C.]

d. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. As a practical matter for trial testing, shorter time notice may be approved by the Department if requested in writing. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Conditions) of this permit and the current Title V air operation permit. When in conflict, the permittee shall follow the requirements of the current Title V air operation permit. [Rule 62-297.310(7)(a)9, F.A.C.]

e. Analytical Methods: The permittee shall use the following analytical methods to determine the composition of the alternative fuel materials.

Parameter	Analytical Methods
Moisture, Volatiles, Ash and Fixed Carbon	Proximate Analysis appropriate for given fuel
Carbon, Hydrogen, Nitrogen Sulfur and Oxygen	Ultimate Analysis appropriate for given fuel
Heating Value	ASTM E711 - 87(2004) Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter, or ASTM D5468 - 02(2007) Standard Test Method for Gross Calorific and Ash Value of Waste Materials
Chlorine	EPA SW-846 or EPA Method 9056
Mercury	EPA 7470A/7471A
Other Metals	EPA SW-846 or EPA Method 6010B

Other equivalent methods may be used with prior written approval of the Bureau of Air Regulation. [Rule 62-4.070(3), F.A.C.]

NOTIFICATIONS, RECORDS AND REPORTS

15. Notifications: Written notifications may be made by email, fax transmittal or letter.

a. Within one day, the permittee shall notify the Compliance Authority of receiving the first shipment of each alternative fuel material. [Rule 62-4.070(3), F.A.C.]

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Comment [CK3]: The maximum chlorine content of 0.88 percent for Kentucky coal database: http://kgs.uky.edu/kgsweb/datasearching/Coal/Quality/QualitySearch.asp

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Deleted: <#>*Metals Stack Test*: In accordance with EPA Method 29, the permittee shall conduct two separate stack tests to determine total PM and the following metal emissions while co-firing coal with TDF: arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc. One stack test shall be conducted when the raw mill is up and one stack test when the raw mill is down. Each stack test shall consist of at least three, 1-hour test runs. During each test run, the permittee shall increase the TDF sampling frequency to one representative grab sample (approximately 1 gallon) every 15 minutes. The four grab samples collected during each test run shall be thoroughly mixed and a composite sample made (approximately 1 lb). Each composite sample representing the test run shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc). In addition, the permittee shall obtain a representative sample of the baghouse dust generated and the clinker produced during each test run and have it analyzed for the same metals. If a trial of TDF is not conducted, then permi ... [1]

Deleted: <#>*Pesticides*: In accordance with Method SW 0010/8270 for Semi-volatile Organics (including pesticides), the permittee shall conduct a stack test to determine the presence of pesticides in the exhaust while co-firing coal w ... [2]

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b. *Test Notifications*: The permittee shall notify the Department in writing, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the permittee. [Rule 62-297.310(7), F.A.C.]

f. Records: In addition to plant operation and production data, the permittee shall maintain records of the monitoring and emissions data required by the permit, including, but not limited to: the sampling and analysis procedures used; the analytical results of each alternative fuel materials; each fuel feed rate; the kiln production and process data; the emissions monitoring data; the baghouse inlet temperature; times, and any specific problems that occurred during the trial and the cause of the problem. [Rule 62-4.070(3), F.A.C.]

g. Trial Burn Summary Report: Within 90 days of completing each temporary trial of alternative fuel material, the permittee shall submit a report to the Bureau of Air Regulation and the Compliance Authority summarizing: the sampling and analysis procedures used; the analytical results of the alternative fuel materials; a comparison of the heating value of each material determined by fuel analyses with that determined by the amount of coal displaced; the kiln production and process data; pre-calciner temperature; the emissions monitoring data; the baghouse inlet temperature; a conclusion as to the feasibility and practicality of firing the material as an alternative fuel; any specific problems that occurred during the trial and the cause of the problem; and problems with unloading storing or handling the material; problems with the material size and any re-processing conducted on site; and an assessment of the suitability of the material as a permanent alternative fuel for the plant. The report shall include a statistical analysis of the analytical data for the alternative fuel material and the emissions monitoring data. [Rule 62-4.070(3), F.A.C.]

Deleted: an estimate of the fuel costs that could be avoided by firing the material; the appropriate QA/QC procedures used to produce a high-quality alternative fuel (i.e., low in contaminants, high in heating value, free of scrap metals and properly sized);

Deleted: recommendations to improve handling, storage and firing the alternative fuel material;

SECTION 4. APPENDICES

Contents

CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located
"2222" represents the specific facility ID number for that county
"001" identifies the specific permit project number
"AC" identifies the permit as an air construction permit
"AF" identifies the permit as a minor source federally enforceable state operation permit
"AO" identifies the permit as a minor source air operation permit
"AV" identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality
"FL" means that the permit was issued by the State of Florida
"317" identifies the specific permit project number

Florida Administrative Code (F.A.C.)

Example: [*Rule 62-213.205, F.A.C.*]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CRF 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit
µg: microgram
AAQS: Ambient Air Quality Standard
acf: actual cubic feet
acfm: actual cubic feet per minute
ARMS: Air Resource Management System (Department's database)
BACT: best available control technology
bhp: brake horsepower
Btu: British thermal units
CAM: compliance assurance monitoring
CEMS: continuous emissions monitoring system
cfm: cubic feet per minute
CFR: Code of Federal Regulations

CAA: Clean Air Act
CMS: continuous monitoring system
CO: carbon monoxide
CO_2: carbon dioxide
COMS: continuous opacity monitoring system
DARM: Division of Air Resource Management
DEP: Department of Environmental Protection
Department: Department of Environmental Protection
dscf: dry standard cubic feet
dscfm: dry standard cubic feet per minute
EPA: Environmental Protection Agency
ESP: electrostatic precipitator (control system for reducing particulate matter)
EU: emissions unit
F: fluoride
F.A.C.: Florida Administrative Code
F.A.W.: Florida Administrative Weekly
F.D.: forced draft
F.S.: Florida Statutes
FGD: flue gas desulfurization
FGR: flue gas recirculation
ft^2: square feet
ft^3: cubic feet
gpm: gallons per minute
gr: grains
HAP: hazardous air pollutant
Hg: mercury
I.D.: induced draft
ID: identification
kPa: kilopascals
lb: pound
MACT: maximum achievable technology
MMBtu: million British thermal units
MSDS: material safety data sheets
MW: megawatt
NESHAP: National Emissions Standards for Hazardous Air Pollutants
NO_X: nitrogen oxides
NSPS: New Source Performance Standards
O&M: operation and maintenance
O_2: oxygen
Pb: lead
PM: particulate matter
PM_{10}: particulate matter with a mean aerodynamic diameter of 10 microns or less
ppm: parts per million
ppmv: parts per million by volume
ppmvd: parts per million by volume, dry basis
QA: quality assurance
QC: quality control
PSD: prevention of significant deterioration
psi: pounds per square inch
PTE: potential to emit
RACT: reasonably available control technology
RATA: relative accuracy test audit
RBLC: EPA's RACT/BACT/LAER Clearinghouse
SAM: sulfuric acid mist
scf: standard cubic feet
scfm: standard cubic feet per minute
SIC: standard industrial classification code
SIP: State Implementation Plan
SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)
SO_2: sulfur dioxide
TPD: tons/day
TPH: tons per hour
TPY: tons per year
TRS: total reduced sulfur
UTM: Universal Transverse Mercator coordinate system
VE: visible emissions
VOC: volatile organic compounds.

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
   a. Have access to and copy any records that must be kept under conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
   a. A description of and cause of noncompliance; and
   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (no new determinations);

    b. Determination of Prevention of Significant Deterioration (no new determinations); and

    c. Compliance with New Source Performance Standards (no new standards).

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        (a) The date, exact place, and time of sampling or measurements;

        (b) The person responsible for performing the sampling or measurements;

        (c) The dates analyses were performed;

        (d) The person responsible for performing the analyses;

        (e) The analytical techniques or methods used;

        (f) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Unless otherwise specified in the permit or other valid permits, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]

2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]

4. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]

7. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]

8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]

9. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

COMPLIANCE TESTING REQUIREMENTS

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units that require testing.

10. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be

discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

11. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

12. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

13. Applicable Test Procedures:

    a. Required Sampling Time.

        (1) Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

        (2) Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be 60 minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and 30 minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

            (a) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

            (b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

            (c) The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

    b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

    c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

    d. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.

    e. Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

TABLE 297.310-1 CALIBRATION SCHEDULE			
ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calibration liquid in glass	5° F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5° F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/- 0.001" mean of at least three readings; Max. deviation between readings, 0.004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, when 5% change observed, annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

[Rule 62-297.310(4), F.A.C.]

14. Determination of Process Variables:

    a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

    b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

    [Rule 62-297.310(5), F.A.C.]

15. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must also comply with all applicable Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

    a. Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a

visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

b. Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

c. Sampling Ports.

(1) All sampling ports shall have a minimum inside diameter of 3 inches.

(2) The ports shall be capable of being sealed when not in use.

(3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.

(4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.

(5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

d. Work Platforms.

(1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.

(2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.

(3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.

(4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

e. Access to Work Platform.

(1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.

(2) Walkways over free-fall areas shall be equipped with safety rails and toe boards.

f. Electrical Power.

(1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.

(2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. Sampling Equipment Support.

(1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

(a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.

(b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.

(c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.

(2) A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.

(3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

NOTIFICATIONS, RECORDS AND REPORTS

16. Test Notifications: The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7), F.A.C.]

17. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]

18. Emissions Computation and Reporting:

a. *Applicability*. This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

b. *Computation of Emissions*. For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

(1) Basic Approach. The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.

(a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.

(b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-

210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(2) Continuous Emissions Monitoring System (CEMS).

(a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:

1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or

2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.

(b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:

1) A calibrated flow meter that records data on a continuous basis, if available; or

2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

(c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.

(3) Mass Balance Calculations.

(a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:

1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.

(b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.

(c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.

(4) Emission Factors.

a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more

accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.

1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.

3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.

b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.

(5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.

(6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.

(7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.

(8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

(1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:

a. All Title V sources.

b. All synthetic non-Title V sources.

c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.

d. All facilities for which an annual operating report is required by rule or permit.

(2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.

(3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following

year. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.

(4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.

(5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

19. Test Reports:

a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

b. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information.

(1) The type, location, and designation of the emissions unit tested.

(2) The facility at which the emissions unit is located.

(3) The owner or operator of the emissions unit.

(4) The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

(5) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

(6) The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.

(7) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.

(8) The date, starting time and duration of each sampling run.

(9) The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

(10) The number of points sampled and configuration and location of the sampling plane.

(11) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.

(12) The type, manufacturer and configuration of the sampling equipment used.

(13) Data related to the required calibration of the test equipment.

(14) Data on the identification, processing and weights of all filters used.

(15) Data on the types and amounts of any chemical solutions used.

(16) Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

(17) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and

prepared the report.

(18) All measured and calculated data required to be determined by each applicable test procedure for each run.

(19) The detailed calculations for one run that relate the collected data to the calculated emission rate.

(20) The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.

(21) A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

SECTION IV. APPENDIX D.

Criteria for Material Suppliers

The permittee shall provide each supplier with a copy of this air construction permit including the following criteria for material suppliers.

General Criteria

1. A material supplier will use best efforts and good housekeeping practices to keep unwanted substances and incombustible materials from mixing with the alternative fuel materials.
2. Suwannee will work with each material supplier to develop a Quality Assurance & Quality Control (QA/QC) program designed to exclude unwanted substances from the alternative fuel materials.
3. The QA/QC program will contain material sampling and analysis procedures that ensure representative sampling is conducted by the supplier. This procedure must also specify which lab(s) and methods will be used to analyze the material, sample size, split sample retention time,
4. The QA/QC program will contain the following minimum analysis each permitted material:
   - *Higher Heating Value / Calorific Value*
   - *Percent Moisture*
   - *Percent Volatiles*
   - *Percent Ash*
   - *Percent Sulfur*
   - *Chloride Concentration*
   - *Total Metals Concentration (as applicable per material description listed below)*
     - i. *Arsenic*
     - ii. *Cadmium*
     - iii. *Chromium*
     - iv. *Copper*
     - v. *Lead*

   There are also other special analysis requirements for some of the alternative fuel materials listed below.
5. The Suwannee will obtain analytical results for any alternative fuel materials shipped to the plant and certify that nonconforming materials will be recollected and disposed of properly.
6. Alternative fuel materials will be transported in covered trucks.

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Agricultural Plastics (Permit Limit 3,000 tons)

This material consists of non-chlorinated polyethylene plastic used primarily in agricultural and silvicultural operations to prevent weed growth, control soil erosion and moisture exposure.

Tire-Derived Fuel (TDF) (Permit Limit 1,500 tons)

This material consists of whole or shredded tires (may consist of steel belted tires).

Manufacturer Reject Roofing Shingles (Permit Limit 4,000 tons)

This material consists of unused manufacturer reject shingles. SAC must obtain a manufacturer certification that shows the reject shingles are "asbestos free" with each shipment.

Used Roofing Shingle Scraps (Permit Limit 4,000 tons)

This material consists of a sorted combination of leftover new material from roofing shingle production ("roofing shingle tabs"), used roofing shingles from residential roof replacements ("tear-off") and minimal roofing debris that may be processed to remove incombustible grit material from the shingles to improve the combustion properties and .

SAC will obtain certification from the supplier the used roofing shingle scraps does not contain asbestos for each shipment of material.

Clean Woody Biomass (Permit Limit 4,000 tons)

This material may include clean untreated lumber, tree stumps, tree limbs, slash, bark, sawdust, sander dust, wood chips scraps, wood scraps, wood slabs, wood millings, wood shavings, and processed pellets made from wood or other forest residues. This material excludes copper-chromium-arsenic (CCA)-treated wood, creosote-treated wood, construction and demolition (C&D) debris, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and sheet goods.

Agricultural Organic Fibrous Byproducts (Permit Limit 5,000 tons per material and 25,000 tons as a whole)

This material includes peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding, etc. Other similar types of materials of organic fibrous byproducts may be tried with prior written approval of the Department.

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Pre-Consumer Paper (Permit Limit 5,000 tons)

This material consists of pre-consumer paper such as: printing and writing paper; household and sanitary paper; wrapping and packaging paper; paper board; chipboard; Kraft liner, writing and packaging paper; fluting; other wrapping and packaging paper; folding boxboard; other paperboard; polymer laminated wrapping paper; game boards and boxes; foil wrapping paper; thermal papers; specialty papers for filtration or hygienic applications; adhesive labels; waxed corrugated cardboard; and other miscellaneous coated papers. This group of materials also includes fabrics and textiles such as dyed/finished natural fibers, dyed/finished natural fiber woven/scrap trim, polymer fiber woven scrap trim, and un-dyed/unfinished natural or synthetic fiber scrap trim.

Post-Consumer Paper (Permit Limit 5,000 tons)

This material will be provided by Materials Recovery and Recycling Facilities (MRRF) and consists primarily of used, mixed office paper that is too costly to separate for recycling.

Carpet-Derived Fuel (Permit Limit 6,500 tons)

This material consists of shredded used carpet.

Engineered Fuel (Permit Limit 5,000 tons)

This material consists of a mix of non-hazardous materials or wastes such as wood, paper, plastic, fabrics, carpet, and foams. This material is a byproduct of targeted recycle and recovery of materials from construction and demolition debris. The material has been developed as a dry, high energy, clean burning fuel material for use at the Branford cement plant with unwanted substances such as incombustible materials sorted to ensure removal. Production of this fuel material from the source material involves selective collection followed by the use of state of the art separation processes that include the use of magnetic, density, screening, and hand sorting separation techniques.

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Each

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Acceptable Materials: Roofing shingle tabs, used shingles and the felt attached to the used shingles.¶
Unacceptable Materials: Wood, metal flashing, metal gutters, nails (best effort), plastic wrap, buckets, paper waste and other garbage and trash. ¶
Supply Certification for Used Roofing Shingle Scraps (Manifest Form)¶
Each material supplier must provide the following information with regard to the origination of the used roofing shingle scraps. ¶ ... [19]

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ATTACHMENT B

Suwannee American Cement, Branford cement plant

REVISED MAY 25, 2011

Proposed Trial Test Schedule: Specific Recovered Materials

Fuel/material*	heat values (wet basis) btu/lb	mmbtu/ton	Moisture %		References
coal	13264	26.5	6.0	- based on 2008 monthly analyses	
Alternative materials					
1) agricultural film	18600	37	0.5	agricultural film	(5), (6)
2) tire-derived fuels	15688	31	0.6	TDF	(7), (8)
3) manufacturer reject roofing shingles	5842	12	3.1	reject shingles	Appendix 3, St. Marys Cement material analysis
4) used roofing shingles	4674	9	3.1	used shingles	Appendix 3, St. Marys Cement material analysis
5) clean woody biomass	5200	10.4	40	woody biomass	(9), (10)
6a) agricultural fibrous organic byproducts - max. btu/lb	8000	16	10	agricult byproducts	
6b) agricultural fibrous organic byproducts -min. btu/lb	1500	3	50	peanut hulls	(11)
				rice hulls	(12)
				corn husks	(13), (14)
				citrus peel	(15)
				cotton gin material	(16)
				animal bedding	(17), (18)
7) pre-consumer reject paper	6500	13	16	pre-consumer paper	(19)
8) post-consumer waste paper	6500	13	16	post-consumer paper	(19)
9) carpet derived fuels	9194	16	0.5	carpet derived fuel	(20)

heat rate of firing — mass rate of firing

			total	coal	Alt Fuel	coal		agricultural film 1)		TDF 2)		reject shingle 3)		used shingle 4)		wood biomass 5)		agricult. Min usage 6)		agricult. Max usage 6)		preconsum paper 7)		postconsum paper 8)		carpet derived fuel 9)	
			mmbtu/hr	mmbtu/hr	mmbtu/hr	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period	ton/hr	ton/period
coal-only firing for 21 days			458	458	0	17.3	8,701	17.3		17.3		17.3		17.3		17.3		17.3		17.3		17.3		17.3		17.3	
estimated dates	estimated trial time days	heat input replaced %																									
1-Jul	7	10	458	412.2	45.8	15.5	2,610	1.2	207	1.5	245	3.9	659	4.9	823	4.4	740	2.9	481	15.3	2,565	3.5	592	3.5	592	2.5	418
(24 months)	7	20	458	366.4	91.6	13.8	2,320	2.5	414	2.9	490	7.8	1,317	9.8	1,646	8.8	1,480	5.7	962	30.5	5,130	7.0	1,184	7.0	1,184	5.0	837
↓	7	29.5	458	322.9	135.1	12.2	2,045	3.6	610	4.3	723	11.6	1,943	14.5	2,428	13.0	2,183	8.4	1,419	45.0	7,566	10.4	1,746	10.4	1,746	7.3	1,234
1-Jul				Coal replaced for each trial test		1,726																					
							tons		tons		tons		tons		tons		tons		tons		tons		tons		tons		tons
		Total mass					1,231		1,459		3,918		4,898		4,402		2,861		15,261		3,522		3,522		2,490
TOTAL AMOUNT OF RECOVERED MATERIALS REQUESTED			58000 tons		Requested amounts		3000		1500		4000		4000		4000	*(agricultural amount requested will be limited to total of 25,000 tons)*			5000		5000		6500				

Suwannee American Cement, Branford cement plant

REVISED OCTOBER 2, 2010

Emissions Comparison - Summary for Total Emissions of Trial Periods

		Material Firing										
	Transport/Handling	Agricultural Film	TDF	Manu. Reject Shingles	Used Shingles	Clean Woody Biomass	Agricultural Byproducts min. tonnage	Preconsum. Reject Paper	Postconsum. Reject Paper	carpet derived fuel	Total	
	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Incr./Dec. tons	Increase/Decrease TRIAL PERIOD tons	PSD Threshold tons
Sulfur Dioxide	0.00	0.0	0.0	0.1	0.1	0.4	0.7	0.6	0.6	0.0	2.4	40
Nitrogen Oxides	0.00	0.0	0.0	-8.2	-8.2	-3.6	-6.9	-6.0	-6.0	0.0	-39.2	40
Carbon Monoxide	0.00	0.0	0.0	0.0	0.0	-1.7	-3.0	-2.6	-2.6	0.0	-9.9	100
Volatile Organic Compounds	0.00	0.0	0.0	0.5	0.5	0.4	0.8	0.7	0.7	0.0	3.7	40
Particulate matter (PM/PM10)	1.44	0.0	0.0	0.0	0.0	1.8	3.2	2.6	2.6	0.0	12.1	25/15
Particulate matter (PM2.5)*	0.04	0.00	0.00	0.00	0.00	0.90	1.62	1.41	1.41	0.00	5.4	10
Hg (pounds)	negligible	-1.0	-1.4	-0.5	-0.5	-0.9	-0.3	-1.9	-1.9	1.6	-6.8	120 lbs

*** Transport and Handling PM2.5 based on revisions - see Fugitives sheet as revised October 2, 2010. PM2.5 from Material firing conservatively estimated at 50% of fraction of PM.**

RESVISED 5/25/2011

Suwannee American Cement, Branford cement plant

Potential Emissions from Kiln - Coal and Recovered Material: Agricultural Film

	coal (wet)	Material (wet)	* coal based on monthly analyses for 2008
moisture content =	5.98	0.5	percent
heat content =	13264	18600	btu/lb
heat content =	26.53	37.20	mmbtu/ton
maximum heat input =	458	137.4	mmbtu/hr
maximum fuel input =	17.3		ton/hr
30% of max. fuel input =	5.18	3.69	ton/hr
Trial amount =		3000	tons

pollutant	fuel type	Emission Factor COMMENTS	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Coal Emission Factor	Effective Ag Film Emission Factor	Estimated Emissions	Difference of Emissions
			tons	tons	lb/mmbtu	lb/mmbtu	tons	tons
SO2	coal	based on 2008 CEM data and material usage (see attached data sheet- "Emiss. Factor Data")		4207	0.008		0.43	0.00
	test material	Estimated to be no greater than coal	3000			0.008	0.43	
NOx	coal	based on 2008 CEM data and material usage (see attached data sheet- "Emiss. Factor Data")		4207	0.675		37.66	0.00
	test material	Estimated to be no greater than coal	3000			0.675	37.66	
CO	coal	based on 2008 CEM data and material usage (see attached data sheet- "Emiss. Factor Data")		4207	0.681		37.98	0.00
	test material	Estimated to be no greater than coal	3000			0.681	37.98	
VOC (as NMHC)	coal	based on 2008 CEM data and material usage (see attached data sheet- "Emiss. Factor Data")		4207	0.018		1.00	0.00
	test material	Estimated to be no greater than coal	3000			0.018	1.00	
PM/PM10	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")		4207	0.013		0.75	0.00
	test material	Estimated to be no greater than coal	3000			0.013	0.75	

METALS		comments	metal concentration	percent captured	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Estimated Emissions	Difference of Emissions
			ppm	percent*	tons	tons	lbs	lbs
Mercury	coal	Conc. based on coal analysis for 2008. Assume all Hg emitted.	0.4	0		4207	3.4	-0.97
	test material	Metals analysis	0.4		3000		2.4	
Lead	coal	EPA 745-B-00-04, TRI Guidance	24.51	99		4207	2.1	-0.59
	test material	Metals analysis	24.51		3000		1.5	

*Percent capture based on reference (Trace metal report, VDZ) and estimated the same for both fuels.
** conservatively assume same metal content as coal

RESVISED 5/25/2011

Suwannee American Cement, Branford cement plant

Potential Emissions from Kiln - Coal and Recovered Material: Reject Manufacturer Paper

	coal (wet)	Material (wet)	* coal based on monthly analyses for 2008
moisture content =	5.98	16	percent
heat content =	13264	6500	btu/lb
heat content =	26.53	13.00	mmbtu/ton
maximum heat input =	458	137.4	mmbtu/hr
maximum fuel input =	17.3		ton/hr
30% of max. fuel input =	5.18	10.57	ton/hr
Trial Burn amount =		5000	tons

pollutant	fuel type	Emission Factor COMMENTS		Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Coal Emission Factor	Effective test material Emission Factor	Estimated Emissions	Difference of Emissions
				tons	tons	lb/mmbtu	lb/mmbtu	tons	tons
SO2	coal	*based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")*			2450	0.008		0.25	0.56
	test material	*Use Ap-42, Table 1.6-2*		5000			0.0250	0.81	
NOx	coal	*based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")*			2450	0.675		21.93	-6.01
	test material	*Use Ap-42, Table 1.6-2*		5000			0.490	15.93	
CO	coal	*based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")*			2450	0.681		22.12	-2.62
	test material	*Use Ap-42, Table 1.6-2*		5000			0.600	19.50	
VOC (as NMHC)	coal	*based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")*			2450	0.018		0.58	0.68
	test material	*Use AP-42, Table 1.6-3, TOC*		5000			0.039	1.27	
PM/PM10	coal	*based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")*			2450	0.013		0.44	2.81
	test material	*Use AP-42, Table 1.6-1, (all fuels - 0.1 lb/mmbtu)*		5000			0.100	3.25	

METALS		comments	metal concentration	percent captured	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Estimated Emissions	Difference of Emissions
			ppm	percent*	tons	tons	lbs	lbs
Mercury	coal	*Conc. based on Cemex Miami plant, coal monthly analysis for 2008. Assume all Hg emitted.*	0.4	0		2450	2.0	-1.86
	test material	**	0.01		5000		0.1	
Lead	coal	*EPA 745-B-00-04, TRI Guidance*	24.51	99		2450	1.2	-0.35
	test material	**	8.5		5000		0.9	

*Percent capture based on reference (Trace metal report, VDZ) and estimated the same for both fuels.

** Permit application. Cemex Miami 0250014-031-AC. Three samples of biomass, all analyses < detection limit. Apply 1/2 DL. Att. C.

RESVISED 5/25/2011

Suwannee American Cement, Branford cement plant

Potential Emissions from Kiln - Coal and Recovered Material: Post-Consumer Paper

	coal (wet)	Material (wet)	* coal based on monthly analyses for 2008
moisture content =	5.98	16	percent
heat content =	13264	6500	btu/lb
heat content =	26.53	13.00	mmbtu/ton
maximum heat input =	458	137.4	mmbtu/hr
maximum fuel input =	17.3		ton/hr
30% of max. fuel input =	5.18	10.57	ton/hr
Trial Burn amount =		5000	tons

pollutant	fuel type	Emission Factor COMMENTS	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Coal Emission Factor	Effective test material Emission Factor	Estimated Emissions	Difference of Emissions
			tons	tons	lb/mmbtu	lb/mmbtu	tons	tons
SO2	coal	based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2450	0.008		0.25	0.56
	test material	use value of that of Pre consumer reject paper	5000			0.0250	0.81	
NOx	coal	based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2450	0.675		21.93	-6.01
	test material	use value of that of Pre consumer reject paper	5000			0.490	15.93	
CO	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")		2450	0.681		22.12	-2.62
	test material	use value of that of Pre consumer reject paper	5000			0.600	19.50	
VOC (as NMHC)	coal	based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2450	0.018		0.58	0.68
	test material	use value of that of Pre consumer reject paper	5000			0.039	1.27	
PM/PM10	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")		2450	0.013		0.44	2.81
	test material	use value of that of Pre consumer reject paper	5000			0.100	3.25	

METALS		comments	metal concentration	percent captured	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Estimated Emissions	Difference of Emissions
			ppm	percent*	tons	tons	lbs	lbs
Mercury	coal	Conc. based on Cemex Miami plant, coal monthly analysis for 2008. Assume all Hg emitted.	0.4	0		2450	2.0	-1.86
	test material	use value of that of Pre consumer reject paper	0.01		5000		0.1	
Lead	coal	EPA 745-B-00-04, TRI Guidance	24.51	99		2450	1.2	-0.35
	test material	use value of that of Pre consumer reject paper	8.5		5000		0.9	

*Percent capture based on reference (Trace metal report, VDZ) and estimated the same for both fuels.

** Permit application. Cemex Miami 0250014-031-AC. Three samples of biomass, all analyses < detection limit. Apply 1/2 DL. Att. C.

RESVISED 5/25/2011

Suwannee American Cement, Branford cement plant

Potential Emissions from Kiln - Coal and Recovered Material: Carpet Derived Fuel

	coal (wet)	Material (wet)	
moisture content =	5.98	0.55	percent
heat content =	13264	9194	btu/lb
heat content =	26.53	18.39	mmbtu/ton
maximum heat input =	458	137.4	mmbtu/hr
maximum fuel input =	17.3		ton/hr
30% of max. fuel input =	5.18	7.47	ton/hr
Trial Burn amount =		6500	tons

* coal based on monthly analyses for 2008

pollutant	fuel type	Emission Factor COMMENTS	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Coal Emission Factor	Effective test material Emission Factor	Estimated Emissions	Difference of Emissions
			tons	tons	lb/mmbtu	lb/mmbtu	tons	tons
SO2	coal	based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		4506	0.008		0.46	0.00
	test material	use value of that of coal	6500			0.008	0.46	
NOx	coal	based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		4506	0.675		40.33	0.00
	test material	use value of that of coal	6500			0.675	40.33	
CO	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")		4506	0.681		40.67	0.00
	test material	use value of that of coal	6500			0.681	40.67	
VOC (as NMHC)	coal	based on 2008 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		4506	0.018		1.07	0.00
	test material	use value of that of coal	6500			0.018	1.07	
PM/PM10	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")		4506	0.013		0.81	0.00
	test material	use value of that of coal	6500			0.013	0.81	

METALS		comments	metal concentration	percent captured	Estimated Trial Testing Emissions: Fuel Quantity Test Material	equivalent coal	Estimated Emissions	Difference of Emissions
			ppm	percent*	tons	tons	lbs	lbs
Mercury	coal	Conc. based on Cemex Miami plant, coal monthly analysis for 2008. Assume all Hg emitted.	0.4	0		4506	3.6	1.60
	test material	use value of that of coal	0.4		6500		5.2	
Lead	coal	EPA 745-B-00-04, TRI Guidance	24.51	99		4506	2.2	0.98
	test material	use value of that of coal	24.5		6500		3.2	

*Percent capture based on reference (Trace metal report, VDZ) and estimated the same for both fuels.

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