DRAFT PERMIT

PERMITTEE

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

Authorized Representative:
Mr. Tom Messer, Plant Manager

Air Permit No. 1210465-022-AC
Permit Expires: December 12, 2014

Branford Cement Plant
Revision to Alternative Fuel Trials

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 final air construction permit revises Permit No. 1210465-020-AC, which authorizes trial burns for non-chlorinated 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 project adds alternative fuel mixes and engineered 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

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_____ _____
(Signature) (Date)

_____
(Printed Name of Above Designee)

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, VCSMC (jbhorton@vcnainc.com)
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Mr. Chris Bird, Director of Alachua County Department of Environmental Regulation (chris@alachuacounty.us)
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Chair, Suwannee County Board of County Commissioners (commissioners@suwcounty.org)
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Mr. Greg Strong, DEP Northeast District (greg.strong@dep.state.fl.us)
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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.

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_____ _____
(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 permit 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 plastics, tire-derived fuel, reject roofing shingles, used roofing shingle scraps, biomass, agricultural fibrous organic byproducts, pre-consumer reject paper, post-consumer paper, carpet-derived fuel alternative fuel mixes and engineered 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); 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.]~~

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 Schenk feeder system or equivalent 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 ~~Schenck~~ 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 ~~Schenck~~ 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.]

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 ~~30~~ 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.

   a. *Non-Chlorinated ~~Agricultural~~ Plastics*: This material consists of non-chlorinated plastics, for example, ~~low-density~~ polyethylene (~~LDPE) and high-density polyethylene (HDPE)~~ plastic used primarily in agricultural and silvicultural operations to prevent weed growth, control soil erosion and moisture exposure. No more than ~~1,250~~ 3,000 tons shall be fired in the kiln.

   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. It also includes tire fluff, which is the shredded materials from the crumb of tires with no metal.

   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 bulk of 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 bulk of the incombustible grit material shall be removed from the shingles prior to delivery to improve burnability. The residual incombustible materials serve as raw materials. Used roofing shingle scraps shall contain no asbestos fibers as determined by polarized light microscopy (PLM) method or equivalent method in 40 CFR 61, Subpart M. No more than 4,000 total tons shall be fired in the kiln.

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 ~~3,500~~ 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 ~~3,500~~ 5,000 tons shall be fired in the kiln.

i. *Carpet-Derived Fuel*: This material consists of *shredded* ~~used~~ carpet (rejects, new or used). No more than ~~2,500~~ 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 the bulk of incombustible materials removed to improve burnability. Production of this alternative fuel 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 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 ~~30~~ 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-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) and, for suppliers of Used Roofing Shingle Scraps, Appendix E (Documentation for Used Roofing Shingle Scraps). [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 only in covered trucks (approximately 20 tons per truckload).

   c. The alternative fuel materials shall be unloaded to a paved area or compacted clay surface and stored under cover in separate piles. Optionally, the materials may be stored in enclosed trailers. ~~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.~~

   d. Unless otherwise authorized by the Division of Air Resource Management, 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 no asbestos fibers as determined by PLM or other equivalent method specified in Subpart M of 40 CFR Part 61.

   [Rule 62-4.070(3), F.A.C.]

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 ~~or when the raw mill is down~~. [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:

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

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
Alternative Fuel Mix	10
Engineered Fuel	10

{Permitting Note: Since the ~~Schenck~~ 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 and remove incombustible materials. 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: ~~At least once every four hours while firing an alternative fuel material, the permittee shall take a grab sample of as-fired material (approximately one gallon) from the front loader bucket before being dumped into the feed bin of the Schenck feeder system. At the end of each day, the grab samples shall be thoroughly mixed and a composite sample made (approximately 2 lb). Each representative composite sample shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and metals (including arsenic, cadmium, chromium, copper, lead and mercury). The composite samples for non-chlorinated agricultural plastics shall also be analyzed for pesticides, bromine and thallium. The composite samples for TDF shall also be analyzed for zinc. The composite samples for manufacturer reject roof shingles and roofing shingle scraps shall also be analyzed for manganese, nickel and zinc. [Application No. 1210465-020-AC and Rule 62-4.070(3), F.A.C.]~~

    On the first day that an alternative fuel material is fired, the permittee shall take a grab sample at least once every four hours of as-fired material (approximately one gallon) before transfer to the feed bin of the feeder system. At the end of each day, the grab samples shall be thoroughly mixed and a composite sample made (approximately 2 lb). At a minimum, the permittee shall use this procedure to obtain at least three, separate representative composite samples (which may include the first day sample and any obtained during stack tests) that were taken at least three operating days apart. Each representative composite sample shall be analyzed for the following: heating value, moisture, density, volatiles, ash, sulfur, chlorine and mercury. Samples of tire-derived fuel, roofing shingles, clean woody biomass and engineered fuel shall also be

analyzed for the following metals: arsenic, cadmium, chromium, copper and lead. Samples of agricultural plastics shall be analyzed for pesticides. [Application No. 1210465-021-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 (if available). [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 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*: 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 with TDF each alternative fuel having a chlorine content greater than 1% by weight based upon the initial chlorine content sampling by the supplier 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. If a trial of TDF is not conducted, then permittee shall conduct the dioxins/furans stack test on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel. If alternative fuels are only fired with the raw mill up, then the test may be conducted only with the raw mill up; otherwise separate tests shall be conducted with the raw mill up and the raw mill down.~~

~~c. *HCl Stack Tests*: 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. In accordance with EPA Methods 26, 26A or 321, the permittee shall conduct a stack test determine the HCl emissions rate while co-firing coal with each alternative fuel having a chlorine content greater than 0.2% by weight based upon the initial chlorine content sampling by the supplier. The stack test shall consist of at least three, 1-hour test runs.~~

~~d. *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 permittee shall conduct the stack test for metals on one of the other alternative fuels in this order: roofing shingles, clean woody biomass or carpet-derived fuel.~~

~~e. *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 with non-chlorinated agricultural plastics. Other equivalent methods may be used with prior written approval of the Bureau of Air Regulation. The stack tests shall consist of at least three, 1-hour test runs. During each test run, the permittee shall increase the sampling frequency of non-chlorinated agricultural plastics 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 pesticides. .~~

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

15. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. 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.]

16. 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
Pesticides	EPA SW-846 3500 or EPA 3550/8150, Test Methods for Evaluating Solid Waste

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

17. Shipment Notifications: Within one day, the permittee shall notify the Compliance Authority of receiving the first shipment of each alternative fuel material. Written notifications may be made by email, fax transmittal or letter. [Rule 62-4.070(3), F.A.C.]

18. 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.]

19. 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; an analysis of emissions from firing altertnative fuels compared to emissions from firing traditional fuels (separated for raw mill up/raw mill down), the baghouse inlet temperature; a conclusion as to the feasibility and practicality of firing the material as an alternative fuel~~; 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); 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; recommendations to improve handling, storage and firing the alternative fuel material; 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.]