TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Florida Rock Industries, Inc.
4000 NW County Road 235
Newberry, Florida 32669

Thompson S. Baker Cement Plant - Newberry
Facility ID No. 0010087

PROJECT

Project No. 0010087-040-AC
Application for Minor Source Air Construction Permit
Feasibility Trial Burn (EU003 & 010)

COUNTY

Alachua, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Permitting Section
Northeast District Office
Baymeadows Way, Suite B200
Jacksonville, Florida 32256

January 26, 2011

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Facility Description and Location

Florida Rock Industries, Inc., is an existing cement manufacturing plant (Standard Industrial Classification No. 3241). The facility is located in Alachua County at 4000 NW County Road 235, in Alachua, Florida. The UTM coordinates are Zone 17, 346.4 km East and 3285.7 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no 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.

Description of the Existing Pyroprocessing System

Facility ID No. 0010087	
ID No.	**Emission Unit Description**
003	Kiln System- Line 1. The kiln system (or pyroprocessing system) includes the 156.5-foot kiln, a four-stage preheater tower, a 25,300 cubic foot multi-stage combustion (MSC) calciner, a tire feed system, two coal burners and ancillary equipment. A high efficiency electrostatic precipitator controls particulate emissions. Selective Non-Catalytic Reduction System (SNCR) is a nitrogen oxides control technology. This (SNCR) will provide an alternate/backup/additional control technology at the facility to achieve compliance with the best available control technology (BACT). This can be used in conjunction with or in lieu of the strategy of staged combustion in the calciner and tire introduction at the kiln inlet. The process utilizes injection of ammonia solutions near the lowest preheater cyclone. The equipment consists of a storage tank, piping, pumps, compressed air delivery and injectors.
010	Kiln / Raw Mill- Line 2. The Kiln/Raw Mill from the preheater to the clinker cooler. This EU has one emission point, the stack of the in-line kiln/raw mill, designated 2E21. The kiln system (or pyroprocessing system) includes multi-stage combustion (MSC) calciner and a tire feed system, and two (front and calciner) burner systems. The front end burner includes an additional burner to use for alternative fuels. A high efficiency electrostatic precipitator controls particulate emissions. Selective Non-Catalytic Reduction System (SNCR) is a nitrogen oxides control technology.

Project Description

The applicant proposes a 120-day trial burn-term trials of pre-consumer reject paper as an alternative fuel in both cement kilns (Line 1 (EU003) and 2 (EU010)). The purpose of the short-term trials is to evaluate the operational feasibility of this material as an alternative fuel in the kilns. A Notice of Application for this alternative fuel was published in The Gainesville Sun on November 21, 2010.

Florida Rock Industries, Inc (FRI) request to conduct a 120- day trial burn for a total of up to 5,000 tons of pre-consumer reject paper as an alternative fuel. The facility will monitor emissions to determine the effect of the fuel on emissions. In the event of operational problems, FRI requests the facility be allowed to request in writing for an additional 2000 tons and/ or 60 more days to complete the trial. The total of the trial shall not exceed 7,000 tons of pre-consumer reject paper or 180 kiln operating days.

Pre-consumer reject paper will be supplied by International Paper Products Corporation (IPPC). The pre-consumer reject paper will come in Envirofuel Cubes (EFC). 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.

Emissions Comparison - Summary, conventional fuels and IPPC Envirofuel cubes

7000 tons of IPPC Envirofuel cubes	Increase/Decrea TRIAL PERIO tons	With SNCR control	PSD Threshold tons
Sulfur Dioxide	1.44	1.44	40
Nitrogen Oxides	8.64	0	40
Carbon Monoxide	13.52	0	100
Volatile Organic Compounds	1.65	1.65	40
Particulate matter (PM/PM10)	5.53	5.53	25/15
Hg (lbs)	-0.52	-0.52	120 lbs

See sheet: "Potential Emissions from Kiln - Coal and IPPC Envirofuel cubes", for details

Florida Rock Industries, TSB cement plant

Potential Emissions from Kiln - Coal and IPPC fuel cubes

	coal (wet)	IPPC*	
moisture content =	1.7	4	percent
heat content =	13000	8648	btu/lb
heat content =	26	17.3	mmbtu/ton
sulfur percent =	1.0	0	percent
Ash percent =	7.9	8	percent
maximum heat input (Kiln 2) =	400	120	mmbtu/hr
maximum fuel input =	15.4		ton/hr
30% of max. fuel input =	4.62	6.9	ton/hr
Trial Burn amount =		7000	tons

* see Att. C for analyses

pollutant	fuel type	Emission Factor COMMENTS	Fuel Quantity IPPC fuel cubes (tons)	equivalent coal (tons)	Emission Factor (lb/mmbtu)	Pollutant Emissions (tons)	Difference of Pollutant Emissions (tons)
SO2	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emission Factors from Kiln 1")		4657	0.0011	0.07	1.44
	IPPC	Ap-42, Table 1.6-2, majority of IPPC fuelcubes is wood fiber	7000		0.025	1.51	
NOx	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emission Factors from Kiln 1")		4657	0.347	21.03	8.64
	IPPC	Ap-42, Table 1.6-2, majority of IPPC fuelcubes is wood fiber	7000		0.490	29.66	
CO	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emission Factors from Kiln 1")		4657	0.377	22.80	13.52
	IPPC	Ap-42, Table 1.6-2, majority of IPPC fuelcubes is wood fiber	7000		0.600	36.32	
VOC (as NMHC)	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emission Factors from Kiln 1")		4657	0.012	0.71	1.65
	IPPC	Ap-42, Table 1.6-3, TOC,majority of IPPC fuelcubes is wood fiber	7000		0.039	2.36	
PM/PM10	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emission Factors from Kiln 1")		4657	0.009	0.53	5.53
	IPPC	AP-42, Table 1.6-1, (all fuels - 0.1 lb/mmbtu), majority of IPPC fuelcubes is wood fiber	7000		0.100	6.05	

METALS		comments	metal concentratio (ppm)	Fuel Quantity IPPC fuel cubes (tons)	equivalent coal (tons)	mercury content of fuel (lbs)	Pollutant Emissions (lbs)	Difference of Pollutant Emissions (tons)
Mercury	coal	2009 monthly analysis of coal and pet coke. Coal and pet coke considered the fuels with the highest concentration Hg. See "Emission Factors from Kiln 1"	0.071		4657	0.665	0.665	-0.52
	IPPC	See Att. C IPPC fuel analyses	0.01	7000		0.140	0.140	

Proposed Trial Burn Schedule: IPPC Envirofuel cubes

KILN 1, FRONT and BACK of KILN. note that the same fuel input sequence is proposed for the front of kiln and back end of kiln.

		heat rate of firing				mass rate of firing			
	Firing Config.	total mmbtu/hr	coal mmbtu/hr	IPPC mmbtu/hr		coal ton/hr	coal ton/period	IPPC ton/hr	IPPC ton/period
	No co-firing	364	364	0		14.0			
estimated # of days	heat input replaced %								
4	10	364	327.6	36.4		12.6	1,210	2.1	202
4	20	364	291.2	72.8		11.2	1,075	4.2	404
4	29	364	258.4	105.6		9.9	954	6.1	586
total days							coal tons		IPPC tons
12							3,239		1,192

KILN 1 - FRONT END	**12**	Total mass	3,239	1,192
KILN 1 - BACK END	**12**	Total mass	3,239	1,192
FRONT AND BACK	**24**		**Total mass**	**2,384**

KILN 2, FRONT and BACK of KILN. note that the same fuel input sequence is proposed for the front of kiln and back end of kiln.

		heat rate of firing				mass rate of firing			
	Firing Config.	total mmbtu/hr	coal mmbtu/hr	IPPC mmbtu/hr		coal ton/hr	coal ton/period	IPPC ton/hr	IPPC ton/period
	No co-firing	400	400	0		15.4			
estimated # of days	heat input replaced %								
4	10	400	360	40		13.8	1,329	2.3	222
4	20	400	320.0	80.0		12.3	1,182	4.6	444
4	29	400	284.0	116.0		10.9	1,049	6.7	644
total days							coal tons		IPPC tons
12							3,559		1,310

KILN 1 - FRONT END	**12**	Total mass	3,559	1,310
KILN 1 - BACK END	**12**	Total mass	3,559	1,310
FRONT AND BACK	**24**		**Total mass**	**2,620**

TOTAL MASS FOR PROJECT: **5,004**

heat values

coal	13000 btu/lb=	26 mmbtu/ton
IPPC	8648 btu/lb=	17.3 mmbtu/ton

Emissions Estimate of IPPC Envirofuel cubes Transport/Handling/Injecting

STEP	Action/Tasks	generic description	effective mileage	% of Total Throughput	PM Emission Factor [b]	PM_{10} Emission Factor [b]	PM Emissions tons	PM_{10} Emissions tons
1	Receive materials by covered truck. Fugitive emissions: 3500 ft/trip (2 x route-plant entrance to Coal Shed L1I) x 7,000 tons/23 tons/trip x 1 mile/5280ft= 403 miles. Assume PM10 = PM. EF = 0.524 lb/VMT (see next page)	transporting	403	100	0.524 lb/VMT		0.106	0.106
2	Store under cover (to prevent stormwater runoff and fugitives).			*negligible when stored under cover (coal shed L1 building)*				
5	Half (1/2) inch or less material transported to IPPC injection system, 500 ft/trip x 7,000 tons/23 tons/trip x 1 mile/5280ft= 29 miles EF = 0.524 lb/VMT (see next page)	transporting	29	100	0.524 lb/VMT		0.008	0.008
6	Prepared material loaded by frontend loader into the pneumatic feed hopper.[a]	loading without cover		100	0.0014676 lb/ton	0.0006941 lb/ton	0.00514	0.00243
7	electric powered pneumatic feeder system emissions	electric engine						
						Total =	**0.118**	**0.116**

total = **7,000** tons of IPPC envirofuel cubes

Notes:

a Emission factors of screening, crushing, and conveying based on AP-42 Table 11.19.2-2. Alternate fuel PM factors assumed to have similar emissions as aggregate operation. Controlled emission factors are used since the moisture content of the raw material is estimated to be >1.5% (AP-42 basis for "controlled" emissions).

Emission Factors: Material Transfer operations

E = k (0.0032) (U/5)**1.3 / (M/2)**1.4 Reference: AP-42 Section 13.2.4

k =	0.74	TSP	Factor	1.000	Ratio/TSP
	0.35	PM10		0.473	Ratio/TSP
	0.11	PM2.5		0.149	Ratio/TSP
U =	7.3	MPH	Average Wind Speed		

			Emission Factor, E		
Material	Condition	Moisture M, %	TSP Lbs./Ton	PM10 Lbs./Ton	PM2.5 Lbs./Ton
biomass	Normal	4	0.00147	0.00069	0.00022

Moisture content based on material analyses (Att. C)

Truck Traffic

Potential PM emissions from truck traffic from paved roads are calculated based on AP- 42 factors in 13.2.1-1 and -2 and Equation 2, as follows:

E= (k x (sL/2)**0.65 x (W/3)**1.5 – C) x (1 - (p/4N)) lb/VMT
Where from AP-42 and references, k=0.082, sL=0.4, W=22, C=0.00047, p =120.

E = (0.082 x (0.4/2)**0.65 x (22/3)**1.5 – 0.00047) x (1- (120/4 x 365))
= 0.524 lb/VMT (paved roads)

Processing Schedule

10/28/10 Received the application for a minor source air pollution construction permit.

11/16/10 Issued a Notice of Application

11/21/10 Notice of Application published

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants,
- petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO_2 and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

As provided in the application, the following table summarizes potential emissions and PSD applicability for the project. Based on reasonable assurance provided by the applicant, the project will not result in significant emissions increases requiring PSD preconstruction review, and will not violate the terms and conditions of the current Title V air operation permit.

Current emissions as stated in Title V Permit No. 0010087-038-AV:

POLLUTANT	EMISSION LIMIT		AVERAGING TIME	BASIS
EU003 Mercury (Hg)	---	200 lb/year	Monthly sampling	Permit No. AC01-267311/PSD-FL-228
EU010 Mercury (Hg)		121 lb/ year		BACT
EU003 VE	10% Opacity	---	30 minutes	Permit No. AC01-267311/PSD-FL-228
EU010 VE			6 minutes block average	BACT

Current emissions as stated in Title V Permit No. 0010087-038-AV continued:

POLLUTANT	EMISSION LIMIT	AVERAGING TIME	BASIS	POLLUTANT
EU003 PM	0.14 pounds per ton of dry feed to the preheater and 0.23 pounds per ton of clinker	25.9 lb/hr and 94 ton/yr	3 one hour runs	Permit No. 0010087-006-AC (PSD-FL-228C)
EU010 PM	0.136 lb/ton of dry preheater feed; 0.23lb/ton of clinker	28.8 lb/hr	3 hours	BACT
EU003 PM_{10}	0.12 pounds per ton of dry feed to the preheater and 0.20 pounds per ton of clinker	22.1lb/hr and 80 ton/yr	3 one hour runs	Permit No. 0010087-006-AC (PSD-FL-228C)
EU010 PM_{10}	0.118 lb/ton of dry preheater feed; 0.20 lb/ton of clinker	25.0 lb/hr	3 hours	BACT
EU003 SO_2	0.10 lb/ton of dry feed to the preheater and 0.16 pounds per ton of clinker (24-hr rolling average)	17.7 lb/hr and 64 ton/yr	Continuous	Permit No. 0010087-006-AC (PSD-FL-228C)
EU003 NOx	1.50 lb/ton of dry feed to the preheater and 2.45 pounds per ton of clinker	271 lb/hr (30-day rolling average) and 980 ton/yr	Continuous	Permit No. 0010087-006-AC (PSD-FL-228C)
EU010 NOx	1.95 lb/ton of clinker	243.75 lb/hour	30 day	BACT
EU003 CO	1.55 lb/ton of dry feed to the preheater and 2.50 pounds per ton of clinker	276 lb/hr (1-hr average), and 1000 ton/yr	3 one hour runs	Permit No. 0010087-006-AC (PSD-FL-228C)
EU010 CO	3.6 lb/ton of clinker	450.0 lb/hour	24 hours	BACT
EU003 VOC	0.075 lb/ton of dry feed to the preheater and 0.11 pounds per ton of clinker	11.8 lb/hr (1-hr average), and 43 ton/year	3 one hour runs	Permit No. 0010087-006-AC (PSD-FL-228C)
EU010 VOC	0.12 lb/ton of clinker	15.0 lb/hour	30 day	BACT
EU003 SAM	0.0016 lb/ton dry feed to the preheater and 0.0025 lb/ton clinker	0.25 lb/hr and 1.00 ton/year	3 one hour runs	Permit No. 0010087-006-AC (PSD-FL-228C)

Current emissions as stated in Title V Permit No. 0010087-038-AV continued:

POLLUTANT	EMISSION LIMIT	AVERAGING TIME	BASIS	POLLUTANT
EU010 THC	50 ppmv	----		40 CFR 63.1343(c)(4)
EU003 & EU010 DIOX (D/F)	0.20 ng per dscm (8.7×10^{-11} gr per dscf)(TEQ) corrected to 7 percent oxygen; or 0.40 ng per dscm (1.7×10^{-10} gr/dscf)(TEQ) corrected to 7 percent oxygen, when the average of the performance test run average temperatures at the inlet of the particulate matter control device is 204° C (400° F) or less.		3 three hour runs	Rule 40CFR 63.1343(b)(3)

A draft permit will be issued to authorize and regulate the short-term trials of this alternative fuel material.

Table A. Potential Emissions (Tons/Year) and PSD Applicability

Emissions Comparison - Summary, conventional fuels and IPPC Envirofuel cubes

7000 tons of IPPC Envirofuel cubes	Increase/Decrea TRIAL PERIO tons	With SNCR control	PSD Threshold tons
Sulfur Dioxide	1.44	1.44	40
Nitrogen Oxides	8.64	0	40
Carbon Monoxide	13.52	0	100
Volatile Organic Compounds	1.65	1.65	40
Particulate matter (PM/PM10)	5.53	5.53	25/15
Hg (lbs)	-0.52	-0.52	120 lbs

See sheet: "Potential Emissions from Kiln - Coal and IPPC Envirofuel cubes", for details

3. APPLICATION REVIEW

State Requirements

Rule 62-210.200(PTE), F.A.C.; and Rule 62-4.070(3), F.A.C.

Federal NSPS and Federal NESHAP Provisions

EU003 {Permitting note(s): This emissions unit is regulated under NSPS- 40 CFR 63, Subparts A and LLL (National Emission Standards for Hazardous Air Pollutants – General Provisions and National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). 40 CFR 60 Subpart A – General Provisions, Appendix A and Appendix B, and PSD regulations. This facility is exempted (except as provided in 40 CFR 63.1356 (a)(1) and (a)(2)) from otherwise applicable NSPS requirements (40 CFR 60, Subpart F)}

EU010 Emissions unit 010 is subject to 40 CFR 60 Subpart F, Standards of Performance for Portland Cement Plants (40 CFR 60.60 – 60.66) and 40 CFR 60 Subpart A. This emissions unit is also subject to 40 CFR 63 Subpart LLL, National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry (40 CFR 63.1340 – 63.1359), adopted by reference into Rule 62.204.800, F.A.C. and 40 CFR 63 Subpart; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration and Rule 62-296.407, F.A.C., Portland Cement Plants.

New NESHAP for Portland Cement Plants

In 2010, EPA proposed the new NESHAP standards in Subpart LLL of 40 CFR 63, which represent the MACT for Portland cement production. The federal NESHAP provisions regulate the following HAP emissions: mercury, dioxins/furans, hydrochloric acid (HCl), PM (as a surrogate for metals such as cadmium and lead) and THC (as a surrogate for organic HAP). For an existing cement plant, the mercury standard is 55 pounds per million tons of clinker produced. For a new cement plant, the mercury standard is 21 pounds per million tons of clinker produced. The final NESHAP standards will apply in 2012.

New NSPS for Commercial and Industrial Solid Waste Incineration (CISWI) Units

Also in 2010, EPA proposed updates to the NSPS Subpart CCCC provisions for new CISWI units and Emission Guidelines for existing CISWI units (Subpart DDDD). The proposed CISWI rules changed the definition of solid waste within these rules to conform with the definition of solid waste under the Resource Conservation and Recovery Act (RCRA), "… any distinct operating unit of any commercial or industrial facility that combusts any solid waste as that term is defined in 40 CFR Part 241 [RCRA]..." Each subcategory will have different emission limits. EPA sets emission limits using the MACT procedures as required by Section 129 for new and existing sources. Therefore, the emission limits for new CISWI units reflect the best limits that are achievable in practice by the best controlled similar CISWI unit. The emission limits for existing CISWI units reflect the emission limits achieved by the top 12% of comparable CISWI units.

In a parallel regulatory action, EPA proposed to amend the definition of solid waste provided under 40 CFR Section 241 to add an exclusion for "non-hazardous secondary wastes" that would otherwise qualify as solid waste under 40 CFR Section 241. If EPA finalizes the RCRA definition of solid waste and removes the non-hazardous secondary waste exclusions, many existing cement kilns will be considered CISWI units because the current materials fired will be considered solid waste. Although NESHAP Subpart LLL establishes standards for kilns, it may be necessary to reconsider the MACT analysis because of this definition change to reset the MACT floors for both new and existing CISWI units. The proposed changes broaden the scope of the CISWI rules and will potentially subject more types of units to the CISWI rules, including cement kilns if some common alternative fuels (e.g., whole tires) are reclassified as wastes.

Other Draft Permit Requirements

FRI proposed the following monitoring of emissions during the feasibility trial using the Continuous Emissions Monitoring Systems (CEMS) for the following pollutants to determine the effect of burning IPPC fuel cubes on emissions:

- **SO_2 – CEM**
- **NO_x – CEM**
- **CO – EPA Method 10**
- **VOC (THC) – CEM (Kiln 2 only).** ***Kiln 2 CEM results should provide an adequate measure of the impact of IPPC fuel cubes for this feasibility study of Kilns 1 and 2.***
- **opacity – COM**

Other Permits. The conditions of this permit temporarily supplement all previously issued air construction and operation permits for this emissions unit. These conditions are in addition to all other applicable permit conditions and regulatory requirements. The permittee shall continue to comply with the conditions of those permits, which include restrictions and standards regarding capacities, production, operation, fuels, emissions, monitoring, record keeping, reporting, etc. [Rule 62-4.070, F.A.C.]

Authorization. Only pre-consumer paper and coal shall be fired during this trial test. The alternative fuel material shall consist of the following:

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.

Expiration and Revocation- Authorization to fire the alternative fuel material expires with this permit, at the end of 120 kiln operating days of firing the alternative fuel or when permitted amount of material has been fired. The Department may require the trial of alternative fuel material to stop if:

a) The permittee accepts alternative fuel material that does not meet the acceptance criteria based on this permit.

b) The firing of an alternative fuel material causes frequent upsets to kiln operation resulting in non-steady state operation; or

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

Temporary Equipment. This construction permit authorizes the temporary installation and operation of calciner ports at Kilns Line 1, identified as (K1) and Line 2, identified as K(2), and any construction necessary for the portable IPPC fuel cubes handling system for injecting Envirofuel Cubes (EFC) into the precalciner.

Trial Period. The permittee is authorized to conduct a 120-day (kiln operating days) trial burn for a total of up to 5,000 tons of pre-consumer reject paper as an alternative fuel. Pre-consumer reject paper will be supplied by International Paper Products Corporation (IPPC). The pre-consumer reject paper will come in Envirofuel Cubes (EFC). The EFC will be injected at the front and back end of both kilns by an automated system provided by IIPC. In the event of operational problems, FRI is allowed to request in writing for an additional 2000 tons to complete the trial. The total of the trial shall not exceed 7,000 tons of pre-consumer reject paper.

- The EFC will be delivered to Florida Rock Industries (FRI) by trucks in walking floor trailers and each delivery truck carries approximately 23 tons of material.
- The average number of trucks delivering the EFC during the trial period of kiln operation will be two trucks per day.
- FRI shall not store more than 500 tons at any time.

Fuel (EFC) Delivery, Storage and Transport Requirements.

- Walking floor trailers will offload the EFC into the Line 1 covered coal shed for temporary storage.
- When the EFC are ready for use, they will be reloaded by front end loader to a walking floor trailer. The trailer will be moved into position at the EFC injection system.
- The material will be pneumatically blown into the injection points at the front and back ends of the calciners of Kilns Line 1 (K1) and Line 2 K(2).

Best Management Practices for Envirofuel Cubes (EFC). The facility shall follow the Best Management Practices as proposed in the attached Appendix BPM to minimize fugitive dust, pile management and fire prevention.

Trial Test Schedule. The pre-consumer reject paper test schedule proposes to conduct at each kiln front and end burner system at three test levels of 10%, 20%, and <30% (e.g. 29.5%) heat replacement for coal for four days at each level.

- EU003: The total maximum heat input permitted limit is 364 MMbtu/hr (coal usage rate shall not exceed 14.0 TPH).
- EU010: Total maximum heat input permitted limit is 400 million Btu per hour (coal usage rate shall not exceed 15.4 TPH).

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Emissions Monitoring. During the trial period, the permittee shall continue to monitor: NO_X, SO_2, and VOC (THC) emissions with the existing certified CEMS; opacity with the existing certified COMS (Kiln 2 only).

Process Monitoring. For the trial, the plant will monitor the fuel feed rates, the kiln feed rates, the clinker production rates and pre-calciner temperature.

Upsets. If an upset condition causes the plant to stop firing EFC 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.

Trial Burn Summary Report. Within 90-days of completing the trial, FRI shall submit a report to DEP summarizing: problems with unloading, storing or handling the EFC; the emissions monitoring data; kiln production/ process data; and a conclusion as to the feasibility and practicality of firing EFC as an alternative fuel. The report shall identify any problem that occurred during the trial and the expected cause of the problem.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Leslie Maybin is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection, Northeast District Office, 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7590.