TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Georgia-Pacific Consumer Operations, LLC
P.O. Box 919
Palatka, FL 32178

Palatka Mill
Facility ID No. 1070005

PROJECT

Project No. 1070005-067-AC/PSD-FL-380C
Application for Minor Source Air Construction Permit
No. 4 Lime Kiln Replacement Burner Project

COUNTY

Putnam County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

August 22, 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

The Palatka Mill is an existing Kraft pulp and paper mill, which is categorized under Standard Industrial Classification Code No. 2611. The existing Palatka Mill is located in Putnam County at 215 County Road 216 in Palatka, Florida. The UTM coordinates of the existing facility are Zone 17, 434.00 km East and 3,283.4 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 62-213, 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.

Project Description

The existing facility operates #4 Lime Kiln with a venturi scrubber to control emissions. This unit recalcines the spent lime cake (calcium carbonate) to produce the quicklime (calcium oxide), which is used to convert the green liquor to cooking liquor. The kiln currently fires residual fuel oil and has a maximum processing rate of 41.5 tons of material per hour based on a 24-hour average.

The applicant proposes to replace the existing fuel oil burner with a combination fuel oil/natural gas burner, replace the existing induced draft fan and replace the existing primary fan. The applicant expects the new burner to reduce the NO_X concentration from 140 ppmvd to 92 ppmvd on an annual basis (vendor guarantee). The applicant proposes a NOx emissions standard of 114 ppmvd on a 30-day rolling average and the installation of a continuous emissions monitoring system (CEMS) to monitor to demonstrate compliance, excluding startup, shutdown, fuel switching and documented malfunctions.

Processing Schedule

March 14, 2011	Received the application for a minor source air pollution construction permit.
April 8, 2011	Requested additional information.
June 10, 2011	Received additional information; application complete.

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 (includes Kraft pulp mills).

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 (F); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; 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 Table 1 summarizes the actual emissions increases and PSD applicability for the project. Baseline emissions calculations, demand growth calculations, and projected actual emissions can be found in the "Tables" section of the application.

Table 1- Summary of the Applicant's PSD Applicability Analysis

Pollutant	Annual Emissions, Tons/Year					Subject to PSD?
	Baseline[1] Actual	Demand Growth	Projected Actual	Increase	Significant Emissions Rate	
CO	16.62	1.50	68.16	50.04	100	No
NO_X	101.10	8.57	149.31	39.64	40	No
PM	59.24	5.36	67.46	2.86	25	No

Pollutant	Annual Emissions, Tons/Year					Subject to PSD?
	Baseline[1] Actual	Demand Growth	Projected Actual	Increase	Significant Emissions Rate	
PM_{10}	50.18	4.54	57.14	2.42	15	No
$PM_{2.5}$	45.50	4.12	51.81	2.19	10	No
SO_2	1.68	0.15	1.91	0.08	40	No
SAM	0.075	0.007	0.085	0.004	7	No
TRS	4.78	0.43	4.75	-0.46	40	No
VOC	6.97	0.63	7.94	0.34	40	No
Pb[2]	0.0169	0.0015	0.0192	1.60 lb	1,200 lb	No
Hg[2]	0.000228	0.0000206	0.000259	0.022 lb	200 lb	No

1 The two-year baseline period was 2005-2006. Actual emissions are based on stack tests (when available) and emissions factors.

2 Emissions are stated in pounds per year.

As shown in the above table, total project emissions will not exceed the PSD significant emissions rates; therefore, the project is not subject to PSD preconstruction review.

Although Florida does not regulate greenhouse gas (GHG) emissions, EPA recognized GHG as a PSD pollutant subject to PSD preconstruction review. Therefore, the applicant provided a GHG emission review for this project. The applicant projects a possible increase of carbon dioxide equivalents (CO_{2e}) of only 3146 tons/year. The significant emission rate CO_{2e} is less than the 75,000 ton per year threshold. Therefore, PSD review and BACT determination for GHG emissions will not be required from EPA for this project.

3. APPLICATION REVIEW

The No. 4 Lime Kiln is currently in operation at the Palatka Mill and is permitted to burn residual fuel oil as the primary fuel and natural gas as a start up fuel. The project will replace the existing fuel oil burner with a combination fuel oil/natural gas burner, replace the existing induced draft fan, and replace the existing primary fan. As calculated by the applicant, all pollutants will be less than the PSD significant emission rates and the project does not trigger PSD preconstruction review. The draft permit specifies the following NOx BACT standard:

Nitrogen Oxides (NOx): When firing any authorized fuel, NOx emissions from the No. 4 Lime Kiln shall not exceed:

a. *Initial Shakedown Period*: 140 ppmvd corrected to 10% oxygen based on a 30-day rolling average determined by CEMS data for the first 180 operating days after first fire upon completing replacement of the burner system.

b. *Final*: 114 ppmvd corrected to 10% oxygen based on a 30-day rolling average determined by CEMS data after completing the initial shakedown period.

This standard supersedes all previous BACT standards for NOx emissions from the No. 4 Lime Kiln. [Application No. 1070005-067-AC; Rule 62-212.400(BACT), F.A.C.]

The limit excludes data collected during startup, shutdown, fuel switching and malfunctions. The initial shakedown period provides flexibility to operate and tune the new burner system. Based on discussions[1] between the Department and the applicant, this limit will replace the previous BACT limit in Permit No. PSD-FL-380, which specified 140.0 ppmvd at 10% O_2 (54.2 lb/hour) based on the average of three one-hour stack test runs.

1 Phone conversations between Jeff Koerner (DARM) and Ron Reynolds (Georgia-Pacific) on August 18th and 19th, 2011.

Pursuant to Rule 62-212.300(1)(e), F.A.C., the operator must submit reports for the five full calendar years after completing installation and shakedown. Actual emissions shall be estimated in accordance with Rule 62-210.370, F.A.C.

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. Bobby Bull 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 Department's Office of Permitting and Compliance at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.