TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

International Paper Company
375 Muscogee Road
Cantonment, Florida 32523-1422

Pensacola Mill
Facility ID No. 0330042

PROJECT

Project No. 0330042-018-AC
Application for Title V Source Air Construction Permit
Operating Limit Change

COUNTY

Escambia, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
Northwest District Office
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

May 3, 2013

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

International Paper Company is an existing Pulp and Paper Mill, which is categorized under Standard Industrial Classification Code No. 2621, Paper Mills. The facility is located in Escambia County at 375 Muscogee Road in Cantonment, Florida. The UTM coordinates of the facility are Zone 16, 469 km East and 3386 km North; Latitude: 30° 36’ 28.1” North and Longitude: 87° 19’ 24.2” West. 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.

Project Description

The proposed project authorizes the facility to replace the mill’s total pulp production annual limit with an annual limit on black liquor solids (BLS) fired in the recovery furnaces. This change is being requested to allow the facility to use the additional plant capacity achieved through Project Onyx, which allowed physical changes to the Mill’s pulping operations to use 100% softwood. The projected increases in emissions of VOC, NOx and PM, that will result from increased pulp production, will be mitigated through a combination of permanent equipment shut down associated with Project Onyx and by eliminating the use of biomass fuel, fuel oil and used oil in Power Boiler No. 3 (PB3) and by limiting the amount of coal fired in that boiler, with the remainder of annual heat input coming from natural gas. The pulping process is unique to the type of pulp being produced; raw material feeds and cooking times are different for each product type. With Project Onyx, the Mill converted to 100% softwood pulp production. This pulp requires a less intense digester cook that in turn results in the production of less BLS per ton of pulp produced. The decreases in emission rates that were associated with Project Onyx combined with

the decreases that will now result from the fuel changes to PB3 will allow the Mill to increase pulp production without causing associated emissions increases to exceed significant increase thresholds.

There are no physical changes associated with this project. The proposed project includes the following operational changes:

1. Remove the total pulp production limit of 694,373 air-dried tons of unbleached pulp (ADTUP) per year.
2. Establish a federally enforceable limit for the combined amount of black liquor solids generated and combusted in the Mill's two recovery furnaces of no more than 950,000 tons per year.
3. Change the fuel mixture for Power Boiler No. 3 as follows:
   a) Fire natural gas as the primary fuel.
   b) Establish a federally enforceable limit for coal fired in PB3 of no more than 5,000 tons per year.
   c) Eliminate the use of biomass (wood waste) fuel*, fuel oil and used oil.

   *Note: Although the existing Title V operation permit allowed biomass fuel to be burned in Power Boiler No. 3, this was not routinely practiced. This permit formally removes wood waste as a permitted fuel for that boiler. Biomass fuel is only burned in Power Boiler No. 4.

Processing Schedule

March 1, 2013 - Received the application for a Title V source air pollution construction permit.

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 net emission increases resulting from the project exceed 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

This project will increase pulp production at the Mill. The proposed coal firing rates and black liquor solids (BLS) firing rates serve as the basis for emissions projections for all of the emissions units included in the project. Relational data derived from historic Mill data were used to determine the various other process throughput rates needed for computing future emissions. For the purpose of making future emissions projections, IP assumed that BLS combustion is evenly divided between the Mill's two identical recovery furnaces. IP also assumed that, in the future, the B-Line (batch) digester will produce 500 ADTUP per day, with the balance of pulp production attributed to the A-Line Kamyr (continuous) digester. This split is not intended to be a limit, but a reasonable approximation for projecting future operations.

The baseline period selected for this project is the 2003/2004 two-year period for determining baseline actual emissions (BAE) for all pollutants (This baseline period is consistent with Project Onyx). Table 2-1 includes the baseline actual emissions rates for the emissions units included in the project.

Table 2-1: Pollutant & Baseline Actual Emissions (Tons/Year)

Source	VOC	TRS	NO_X	SO_2	CO	SAM	PM	PM_{10}	$PM_{2.5}$	Pb	Fluor	CO_2e
A-Line O_2 Delignification	40.20	9.75	N/A	N/A	16.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A-Line Kamyr Digester & BSW	4.20	1.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A-Line Bleach Plant	10.39	1.76	N/A	N/A	84.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B-Line O_2 Delignification	35.01	12.3	N/A	N/A	14.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B-Line Batch Digesters & BSW	105.7	27.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B-Line Bleach Plant	6.93	1.00	N/A	N/A	78.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LVHC System/Thermal Oxidizer	0.13	0.32	36.39	14.40	0.40	2.40	2.16	2.16	2.16	N/A	N/A	N/A
P3 Paper Machine	4.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
No. 4 Pulp Dryer	3.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
P5 Paper Machine	12.67	N/A	N/A	N/A	N/A	N/A	0.85	0.85	0.85	N/A	N/A	N/A
No. 2 Woodyard	N/A	N/A	N/A	N/A	N/A	N/A	63.66	24.36	14.09	N/A	N/A	N/A
Recovery Area	134.8	18.6	663.6	112.4	768.45	8.40	239.3	277	242.5	0.0047	N/A	18,014
Tall Oil Plant	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Power Boiler No. 3	1.01	N/A	484.50	326.6	457.98	N/A	78.35	72.90	57.23	0.0152	5.19	181,859
BAE Totals	**359.3**	**73.1**	**1184.5**	**453.4**	**1420.7**	**10.80**	**384.3**	**377.3**	**316.8**	**0.0200**	**5.19**	**199,873**

Projected actual emissions rates were calculated based on the proposed maximum annual limit for virgin BLS (950,000 tons per year) combusted in the recovery furnaces. Table 2-2 summarizes the projected actual emissions (PAE) for the emissions units remaining in operation after completion of Project Onyx.

Table 2-2: Pollutant & Projected Actual Emissions (Tons/Year)

Source	VOC	TRS	NO_X	SO_2	CO	SAM	PM	PM_{10}	$PM_{2.5}$	Pb	Fluor	CO_2e
A-Line O_2 Delignification	9.8	0.35	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A-Line Kamyr Digester & BSW	4.98	0.63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A-Line Bleach Plant – ***Shutdown***	0	0	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B-Line O_2 Delignification	59.66	0.48	N/A	N/A	10.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B-Line Batch Digesters & BSW	45.79	3.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

B-Line Bleach Plant	7.81	0.08	N/A	N/A	57.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LVHC System/Thermal Oxidizer	0.26	0.44	57.38	9.64	0.96	1.93	2.58	3.68	3.68	N/A	N/A	N/A
P3 Paper Machine - ***Shutdown***	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*No. 4 Pulp Dryer	6.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*P5 Paper Machine	16.31	N/A	N/A	N/A	N/A	N/A	1.29	1.29	1.29	N/A	N/A	N/A
No. 2 Woodyard	N/A	N/A	N/A	N/A	N/A	N/A	66.55	28.54	20.70	N/A	N/A	N/A
Recovery Area	76.05	12.7	855.34	76.75	617.38	5.64	313.62	351.38	299.25	0.0054	N/A	20,653
Tall Oil Plant	3.94	0.21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Power Boiler No. 3	8.20	N/A	283.11	0.89	125.16	N/A	0.19	0.77	0.64	0.0007	0	177,829
PAE Totals	**239.4**	**18.4**	**1195.8**	**87.3**	**812**	**7.57**	**384.2**	**385.7**	**325.6**	**0.0062**	**0**	**198,482**

*Note: Brown Paper VOC emissions are higher than White Paper VOC emissions. The emissions model assumes all VOC emissions for No. 4 Pulp Dryer and P5 Paper Machine are from Brown Paper, and uses post Onyx P5 Paper Machine VOC emission factors from stack testing as worst case for both the No. 4 Pulp Dryer and P5 Paper Machine. This worst case scenario assumes plant operation is 365 days per year, total pulp production is 771,000 ADTUP per year and no coal is being fired in Power Boiler No. 3.

The PSD netting analysis for this project considered both Project Onyx (012-AC) changes and any other contemporaneous project changes at the Mill. As part of Project Onyx, a number of emissions units were permanently taken out of operation and the emissions reductions attributable to the shutdown of those units have been included in Table A in the column labeled "Emissions Changes Due to Project Onyx".

The following table summarizes potential emissions and PSD applicability for the project. The PSD applicability analysis was performed in two steps: Step 1 shows PSD applicability before netting and Step 2 shows emissions results after netting.

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

Pollutant	**PSD Applicability Step 1 [a]**				
	Baseline Actual Emissions (2003/2004)	Projected Actual Emissions	Project Emissions Increases	PSD Significant Emission Rate	PSD Significant (Yes/No)
VOC	359.3	239.4	55.7	40	Yes
TRS	73.0	18.4	2.7	10	No
NO_X	1,184.5	1,195.8	212.7	40	Yes
SO_2	453.4	87.3	0.5	40	No
CO	1,420.7	811.9	68.2	100	No
SAM (H_2SO_4)	10.8	7.6	0.0	7	No
PM	384.3	384.2	101.0	25	Yes
PM_{10}	377.2	385.7	90.5	15	Yes
$PM_{2.5}$	316.9	325.6	72.2	10	Yes
Pb	2.00E-02	6.17E-03	6.93E-04	0.6	No
Fluorides	5.19E+00	0.00E+00	0.00E+00	3	No
CO_2e [(b)]	199,873	198,483	2,639	75,000	No

Notes (a): Baseline actual emissions, projected actual emissions, and project emissions increases include emissions from both Project Onyx affected units and Power Boiler No. 3.

(b): CO2e emissions data excludes biogenic CO2 emissions. Per 76 FR 43492, biogenic CO2 emissions are not subject to PSD permitting requirements until July 21, 2014, at the earliest. All project-related CO2 emissions are from BLS fired in the recovery furnaces and considered biogenic per 40 CFR Part 98, the Greenhouse Gas Reporting Rule. Thus, project-related CO2e emissions include only CH4 and N2O from BLS fired in the recovery furnaces.

Pollutant	**PSD Applicability Step 2**				
	Contemporaneous Emissions Decrease Due to PB3	Contemporaneous Emissions Decrease Due to Project Onyx	Total Net Emissions Increase	PSD Significant Emission Rate	PSD Significant (Yes/No)
VOC	0.0	16.5	39.2	40	No
TRS	N/A	N/A	N/A	10	No
NO_X	201.4	0.0	11.3	40	No
SO_2	N/A	N/A	N/A	40	No
CO	N/A	N/A	N/A	100	No

SAM (H_2SO_4)	N/A	N/A	N/A	7	No
PM	78.2	11.2	11.6	25	No
PM_{10}	72.1	6.6	11.8	15	No
$PM_{2.5}$	56.6	6.6	9.0	10	No
Pb	N/A	N/A	N/A	0.6	No
Fluorides	N/A	N/A	N/A	3	No
CO_2e [(b)]	N/A	N/A	N/A	75,000	No

This facility is considered a major stationary source for PSD because as a Kraft pulp mill, it is one of the 28 PSD-major facility categories listed in Rule 62-210.200(195)(a)1., and emits 100 TPY or more of VOC, NOx, SO_2, CO and PM. As shown in the above table, this project is not a major modification under PSD regulations since the differences between the baseline actual emissions and projected actual emissions do not exceed the significant emissions rates. Therefore, the project is not subject to PSD preconstruction review.

3. APPLICATION REVIEW

Application Fee

Title V Facility - no fees.

Discussion of Emissions

Project Onyx, permit No. 0330042-012-AC, issued on November 20, 2006, allowed physical changes to the Mill's pulping operations to use 100% softwood. The permit included annual limits on pulp production proposed by the Mill to insure the project would not trigger PSD major source air permitting requirements. These proposed pulp production limits were included in the Mill's post-project operating permit as follows:

Total Pulp Production Limit (A-Line plus B-Line): 694,373 ADTUP/year
B-Line Pulp Production Limit: 178,836 ADTUP/year

Project Onyx changes were completed and the modified facility began operation in September 2007. Actual operations following implementation of the project indicated the facility's revised equipment configuration was capable of producing pulp at higher sustained levels than were estimated when the project was planned and permitted. In addition, based on post-change testing, the facility's actual emissions were lower than the projected emissions presented in the Mill reconfiguration permit application and PSD applicability assessment.

The pulp production limits translated into black liquor solids generation and combustion rates that were lower than historic actual BLS generation and combustion rates at the Mill. In 2010, IP proposed a two phased approach to ultimately achieve an increase in permitted production limits consistent with the actual post-reconfiguration equipment capabilities. Phase 1, permit No. 0330042-015-AC, issued on January 7, 2011, increased operating flexibility at the Mill by eliminating the individual B-Line pulp production limit while maintaining the total pulp production limit. The justification for eliminating the individual B-Line pulp production limit was the commitment by the Mill to retain the total pulp production limit (A-Line plus B-Line) while maintaining Project Onyx emissions increases below the levels projected in the original air construction permit.

IP is now planning to move forward with phase 2 that will allow overall Mill pulp production to increase to levels above the total pulp production limit specified in the existing Title V operation permit. With this application, IP is requesting permission to limit future plant operations on the basis of total black liquor solids generated and combusted in the Mill's recovery furnaces, rather than on total pulp production. The increases in emissions resulting from the Mill conversion project (Onyx), at the proposed future pulp production levels, are more closely correlated with the Mill's recovery operations than to the actual pulping process. The pulping process is unique to the type of pulp being produced; raw material feeds and cooking times are different for each product type. With Project Onyx, the Mill converted to 100% softwood pulp production. This pulp requires a less intense digester cook that in turn results in the production of less BLS per ton of pulp

produced. Limiting BLS generation and combustion is a more accurate means of insuring the project emissions increases, resulting from this project, do not exceed the levels projected in the application.

The Mill's recovery area sources were not affected by the original Project Onyx changes. However, the recovery area sources are now included as part of this project because the proposed increase in pulp production, allowed by this project, will result in higher BLS generation and combustion rates than those historically achieved. The Mill's two recovery furnaces, associated smelt dissolving tanks and the salt cake mix tanks are also affected units and are included in the Mill's PSD applicability analysis.

The Mill's power boilers were also not affected by the original Project Onyx changes. However, the Mill has determined that converting existing Power Boiler No. 3 from its current mixture of biomass and fossil fuels, to fire only natural gas with a limited amount of coal as backup fuel, is now an economically viable option. IP presented two scenarios in the application representing the opposite extremes of coal firing in PB3 in order to project future actual emissions rates from the project: firing 5,000 tons of coal per year is the first scenario, and firing no coal in PB3 represents the second scenario. The change in Mill operations due to this project, through the range of coal firing in PB3, will not result in a PSD significant emissions increase for any regulated NSR pollutant from pre-Onyx baseline levels. Establishing a federally enforceable limit for coal fired in PB3 will result in actual emissions decreases below baseline period operations. These emissions reductions are incorporated in the emissions netting portion of the PSD applicability assessment for the project.

State Requirements
Rules 62-210.370, 62-212.300, 62-212.400, 62-213.400, 62-213.412, 62-296.404, 62-296.405, F.A.C.

Federal NSPS Provisions
40 CFR 60 Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971.
40 CFR 60 Subpart BB - Standards of Performance for Kraft Pulp Mills.

Federal NESHAP Provisions
40 CFR 63 Subpart S – NESHAP from the Pulp and Paper Industry.
40 CFR 63 Subpart MM – NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills.
40 CFR 63 Subpart DDDDD – NESHAP for Industrial, Commercial and Institutional Boilers and Process Heaters.

Other Draft Permit Requirements
Initial testing shall be conducted within 90 days after completing the proposed work. Initial emissions tests are required to determine the emissions rates or verify the emission factors for PSD pollutants that were used in the PSD Avoidance (baseline actual to projected actual) determination. Recordkeeping and annual stack testing and reporting of actual emissions has been included in this permit for ten years following resumption of regular operations, per Rule 62-212.300(1)(e), F.A.C. in order to verify that this project will not exceed the PSD significant emissions rates for VOC, NOx and PM.

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. Howard Ard 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 850.595.0622 or howard.ard@dep.state.fl.us.