TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Georgia-Pacific Wood Products LLC
223 Gordon Chapel Rd
Hawthorne, FL 32640

Hawthorne Plywood Plant
ARMS Facility ID No. 1070015
223 Gordon Chapel Rd
Hawthorne, FL 32640

PROJECT

Project No. 1070015-025-AC
Application for Air Construction Permit
South Debarker Replacement Project

COUNTY

Putnam, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Northeast District Office
Air Resources Section
7625 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

September 2, 2011

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects 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 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 activities. 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.

Facility Process Description and Location

The mill produces plywood and is categorized under the North American Industries Classification System (NAICS) code 321113 for Softwood Veneer & Plywood, Softwood Sawmill. The facility consists of three plywood veneer dryers, three presses, a wood-fired boiler that generates steam for use in the dryers, presses, and associated materials handling equipment.

Logs and glue are the primary raw materials used in the plywood panel production. The production process is composed of four principal manufacturing sub-processes:

1. The green end, which includes log handling, debarking, cutting, soaking vats, veneer lathes, and green veneer handling.
2. Veneer drying.
3. Glue line and pressing.
4. Finishing, which includes sawing, sanding, edge sealing, and shipping.

Logs are transported to the plant and temporarily stored in the log yard or wet deck. The logs are placed on the unscramble deck. From the deck, the logs are conveyed to the debarker, which removes the bark from the logs. Bark is conveyed to a hog for processing, and is stored under cover for shipment offsite, or to the boiler fuel house. The debarked logs are conveyed to the slasher saw. This saw cuts the logs into approximately 8.5 foot long sections called blocks. The blocks are then conveyed to the steaming vats, where they are soaked to condition them for peeling in the lathes.

The drying process consists of veneer dryers indirectly heated by steam from the boiler, and mechanical systems for moving the veneer through the dryers and onto the stacking bins. The exhaust gases from the hot zones of the dryers are directed to a regenerative thermal oxidizer (RTO) to destroy volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) from the wood veneer.

Also, periodically market conditions may cause the mill to produce final panels with dry veneer manufactured at another facility. Dry veneer is conveyed to one of two glue lines for assembly into panels. Whole veneer sheets are placed on a conveyor, sprayed with glue, and alternated with core material to form panels. Panels are sent to a pre-press in a stack, followed by individual panel pressing in one of three presses, where the glue is activated thermally.

Pressed panels are trimmed to final size at the panel saw. Some panels are further processed by the tongue and groove machine, specialty saw, or the sander. Wood residuals are collected at various points during the production process and are either shipped offsite or stored in bins for use as fuel in the wood-fired boiler. Finished panels are stacked; some receive treatment with end and/or edge seals, oil, or logo and product information. The panels are then stored in the warehouse before being shipped offsite.

Facility Regulatory Categories

- 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.

Project Description

On August 12, 2011, the Department issued a draft construction permit for the proposed project. On August 16, 17, and 22, 2011, Georgia-Pacific Wood Products LLC submitted comments on the draft construction permit documents. The Department has made changes to the draft permit based on the submitted comments. As such, the Department withdrew the August 12, 2011 draft construction permit and replaced it with a new draft construction permit package on September 6, 2011. The project description has been changed below based on the submitted comments.

The existing North and South ring debarkers (Emission Unit No. 009) have a physical short-term and long-term design capacity of 416.25 tons/hr and 3,646,363 tons/yr, respectively. The percentage of operating time of the two debarkers is approximately 25/75, respectively. To improve the uptime of the debarking operations and reduce maintenance costs, the facility proposes to replace the South debarker with a new debarker of increased design capacity (475.56 tons/hr and 4,165,871 tons/yr). At present, the facility is unable to process this quantity of logs due to the veneer dryers' (EU 005) annual production limitation. The total combined throughput of the new South debarker and the existing North debarker combined shall not exceed the tons of logs required per thousand square feet (Msf) of plywood produced (3/8" basis), i.e., shall not exceed the maximum log throughput of 1,011,044 tons per year.

The facility proposes to restrict the operation of the existing North debarker, as a debarking unit, to a backup unit when maintenance is being performed on the new South debarker. The facility may operate the North debarker when the slasher saws are not in operation/are down as the Debarkers are also capable of cutting logs to length.

The facility also proposes to replace the hydraulic power unit and process controls for the gang and slasher saws. The facility has stated that the availability of quality, large diameter veneer logs within the economical haul distance of the Hawthorne plant has declined to the point that the original green-

end processing equipment is now "oversized". Because the original cut-up design was developed for large diameter logs, the smaller diameter logs tend to cause the slasher saw setup process control system to malfunction. The proposed changes will allow the facility to process the smaller diameter logs that are available within the Hawthorne timber basin without causing these malfunctions.

Once logs are debarked and processed through the slasher saws, the vat in-feed kickers transfer the cut-to-length logs (blocks) into the log soaking vats for conditioning. The facility is proposing to also upgrade the vat in-feed system to better handle the smaller log blocks. The vat in-feed kicker system is not a regulated unit due to it not being a source of air emissions. However, the kickers impact the speed at which blocks are fed into the log soaking vats.

Pursuant to Rule 62-212.400, F.A.C., Georgia-Pacific Wood Products LLC provided information to show that the project will not exceed the significant emissions rates that require preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality. In accordance with Rule 62-212.300, F.A.C., the draft permit requires Georgia-Pacific Wood Products LLC to provide reports summarizing the actual emissions for each year during the 5-year period following completion of the project. This is to ensure that the project remains minor with respect to PSD preconstruction review.

Proposed Work

The permittee is authorized to conduct this project as follows:

- Replace the existing, 415.25 ton per hour South Debarker with a new 475.56 ton per hour Debarker;
- Replace the existing hydraulic power unit and process control system for the gang and slasher saws. The new hydraulic power unit shall be powered by an electric motor ;
- Upgrade the existing log soaking vat in-feed kicker system in order to handle smaller log blocks
- For the proposed project, the application documents the baseline actual emissions from the North Debarker, and all green-end emissions units, the potential emissions from new South Debarker, and projected actual emissions from North Debarker and all green-end emissions units.

Processing Schedule

05/13/2011	Department received the application for a minor source air pollution construction permit.
06/08/2011	Department requested additional information.
07/12/2011	Department received additional information; application complete.
08/12/2011	Department issued draft permit documents
08/16/2011	Comments from Applicant on draft permit documents
08/17/2011	Comments from Applicant on draft permit documents
08/22/2011	Comments from Applicant on draft permit documents
09/06/2011	Department withdraws 08/12/2011 draft permit documents replaces with revised draft permit documents based on applicant comments.

2. PSD APPLICABILITY

General PSD Applicability

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. A PSD applicability review is required in areas currently in attainment with the state and federal AAQS or areas otherwise designated as "unclassifiable". A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit: 5 tons per year or more of lead; 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 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.). Projects at existing or new major stationary sources are subject to PSD preconstruction review. In addition, proposed projects at existing minor sources are subject to PSD preconstruction review if potential emissions *from the proposed project* will exceed the PSD major stationary source thresholds.

Once a project becomes subject to PSD preconstruction review, each PSD pollutant is reviewed for PSD applicability based on emissions thresholds known as 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; 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 nonmethane organic compounds (NMOC); and mercury (Hg). Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant 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

Since the proposed Debarker is a new unit, the slasher saw, and log soaking vats are existing units, pursuant to Rule 62-212.400(2)(a), F.A.C., the review procedure used to determine whether a significant emission increase would occur as a result of this project was the Hybrid Test for Multiple Types of Emissions Units.

Annual potential emissions from the new South Debarker are based on the maximum plywood production throughput of the facility, which is based on the veneer dryer's capacity as the plant is bottlenecked by the dryers. Since the proposed South Debarker is a new piece of equipment the past actual emissions are zero. The facility did not take credit for the existing North Debarker past emissions as the new South Debarker will be capable of processing the entire capacity (1,011,044 tons per year of logs) by itself.

As the Debarkers are potentially a bottleneck for the green-end operations, and improved Debarker performance from the new unit may reduce downtime, emissions calculations were determined for all green-end emissions units. Emissions calculations were also determined from the wood fired boiler which provides steam to the log soaking vats. As the slasher saw and log soaking vats emissions calculations were determined using future potential emissions, no additional calculations were required to determine the emissions increase from their respective proposed modifications. Emissions units downstream of the veneer dryers and the dryer's themselves were not included in the emissions calculations as these processes will not be impacted by the Debarker, gang and slasher saws hydraulic power unit and process control system, and log soaking vat in-feed kicker system projects.

Baseline actual emissions were selected by the applicant for the 24 month consecutive period of January 2003 through December 2004. Baseline emissions were adjusted downward by the applicant to reflect the current control devices and emission limits at the facility.

Project pollutant increases/decreases were determined by summing the difference between the baseline actual emissions and the projected actual emissions, and baseline actual emissions and the potential emissions for the new South Debarker.

The following table summarizes the applicant's potential calculated changes (increases) in actual emissions from the steam coil replacement project based on the application and the applicant's additional information.

Table A. Applicant's Projected Emission Increases (Tons per Year) and PSD Applicability

Pollutant	Projected Increases	PSD Significant Emissions Rate	Subject to PSD?
SO_2	0.8	40	No
NO_X	9.9	40	No
CO	12.1	100	No
PM	18.5	25	No
PM_{10}	8.7	15	No
$PM_{2.5}$	7.9	10	No
VOC	5.4	40	No
Pb	9.7E-04	0.6	No
Biogenic CO_2e	4,161	75,000	No

Non-biogenic CO_2e	156.3	75,000	No

3. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) REVIEW

Brief Discussion of Emissions and PSD Applicability

The following table presents the Departments summary of the project based upon the information presented by the applicant in the application and additional information received.

Table B. FDEP's Annual Emissions Summary (Tons per Year) and PSD Applicability

Pollutant	Baseline Actual Emissions	Projected Actual Emissions[1]	Potential Emissions[2]	Project Emissions[3]	PSD Significant Emissions Rate	Subject to PSD?
PM	63.37056	71.68079	10.113	18.42323	25	No
PM_{10}	39.20026	42.27037	5.607	8.67711	15	No
$PM_{2.5}$	33.67002	36.04003	5.607	7.97701	10	No
SO_2	17.62	18.42	0	0.8	40	No
NO_x	178.52	188.38	0	9.86	40	No
CO	352.33	364.4	0	12.07	100	No
VOC	45.27	50.65	0	5.38	40	No
Pb	0.03	0.030966	0	9.66E-04	0.6	No
Biogenic CO_2e	121432	125592.8	0	4160.8	75,000	No
Non-biogenic CO_2e	2556	2712.31	0	156.31	75,000	No

[1] Sources: Wood Fired Boiler, Log Soaking Vats, Plant Roadways, Cutoff Saw No. 1, 2, or Gang/Slasher Saws, Lily Pad Chipper, Rechipper, chip Bin Screen, Chip Bin and Truck Loading, Bark separator Screen, Bark Bin and Truck Loading, Shredder, Dry Waste bin and Truck Loading, and Mulch Hog

[2] Sources: New South Debarker, Mulch Hog (baseline emissions not known, facility assumed potential). Potential emissions of new South Debarker based on restricted capacity of 1,011,044 tons of logs/yr.

[3] The project emissions are the sum of the difference between projected actual emissions and baseline actual emissions and the difference between potential emissions and baseline actual emissions.

The facility presented in the application and additional information response, that the physical capacity of the existing North and South Debarkers, and the proposed new South Debarker, are each greater than the maximum requested total log throughput of 1,011,044 tons per year (the log throughput required to achieve the maximum permitted capacity of the veneer dryers, the stated plant bottleneck).

The physical short-term and long-term design capacity of the existing North and South Debarkers are each, 416.25 tons/hr and 3,646,363 tons/yr, respectively. The physical short-term and long-term design capacity of the proposed new South Debarker is 475.56 tons/hr and 4,165,871 tons/yr, respectively.

Using the same emission factors for particulate matter and PM_{10} (0.02 and 0.011 pounds per tons of logs, respectively), the unrestricted physical design capacity of the new South Debarker, and the same approach at calculating emissions from the project (potential emissions since this is a new emissions unit, and no credit for the North Debarker), emissions are determined below:

4,165,871 tons of logs/yr x 0.020 lbs PM/tons of logs = 41.66 tons of PM

4,165,871 tons of logs/yr x 0.011 lbs PM10/tons of logs = 22.91 tons of PM_{10}

Table C. FDEP's Annual Emissions Summary (Tons per Year) w/ new Debarker at physical design capacity and PSD Applicability

Pollutant	Baseline Actual Emissions	Projected Actual Emissions[1]	Potential Emissions[2]	Project Emissions[3]	PSD Significant Emissions Rate	Subject to PSD?
PM	63.37056	71.68079	41.66	49.97023	25	Yes
PM_{10}	39.20026	42.27037	22.91	25.98011	15	Yes
$PM_{2.5}$	33.67002	36.04003	22.91	25.28001	10	Yes
SO_2	17.62	18.42	0	0.8	40	No
NO_x	178.52	188.38	0	9.86	40	No
CO	352.33	364.4	0	12.07	100	No
VOC	45.27	50.65	0	5.38	40	No
Pb	0.03	0.030966	0	9.66E-04	0.6	No
Biogenic CO_2e	121432	125592.8	0	4160.8	75,000	No
Non-biogenic CO_2e	2556	2712.31	0	156.31	75,000	No

[1] Sources: Wood Fired Boiler, Log Soaking Vats, Plant Roadways, Cutoff Saw No. 1, 2, or Gang/Slasher Saws, Lily Pad Chipper, Rechipper, chip Bin Screen, Chip Bin and Truck Loading, Bark separator Screen, Bark Bin and Truck Loading, Shredder, Dry Waste bin and Truck Loading, and Mulch Hog

[2] Sources: New South Debarker, Mulch Hog (baseline emissions not known, facility assumed potential). Potential emissions of new South Debarker based on physical annual design capacity of 4,165,871 tons of logs/yr.

[3] The project emissions are the sum of the difference between projected actual emissions and baseline actual emissions and the difference between potential emissions and baseline actual emissions.

Operation of the new South Debarker at its physical design, would result in project emissions above the significant emissions threshold for PM, PM_{10}, and $PM_{2.5}$, i.e. would trigger PSD review.

Therefore, the Department review confirms that operating conditions for the Debarkers are required to insure that a significant increase in emissions after completion of the project does not occur. The

following additional conditions are necessary to provide reasonable assurance of compliance with applicable regulations:

a. Log Throughput: The maximum annual log throughput rate through the North and South Debarkers combined shall not exceed the rate equivalent to the wood veneer dryers' (EU 005) maximum annual capacity of 441,504 Thousand Square Feet per 12 month period, on a monthly average 3/8" basis. The maximum equivalent tons of logs debarked in the North and South Debarkers combined shall not exceed 1,011,044 tons logs during any consecutive 12-month period.

b. North Debarker: Upon completion of the installation of the new South Debarker and after initial operation, the Permittee shall restrict operation of the North Debarker, as a debarking unit, to only during times of maintenance of the South Debarker. In this mode of operation, the North Debarker shall be restricted to back up operation only. The facility may operate the North debarker when the slasher saws are not in operation/are down as the Debarkers are also capable of cutting logs to length.

c. Log Throughput- Recordkeeping: The Permittee shall maintain records of the actual quantity (tons) of logs debarked in the North and South Debarkers on at least a calendar month basis. The Permittee shall determine a rolling, consecutive 12-month total from the monthly data. These records shall be kept onsite and available to Department personnel upon request.

Based on the projections, supporting information provided by the applicant, conclusions presented by the applicant, and the emissions summary presented in Table B., the Department agrees that the project does not trigger PSD preconstruction review.

Therefore, the project requires a minor air construction permit to authorize the replacement of the existing South Debarker with a new Debarker, replacement of the existing hydraulic power unit and process control system for the gang and slasher saws, and upgrading of the existing log soaking vat in-feed kicker system in order to handle smaller log blocks. Pursuant to Rule 62-212.300(1)(e), F.A.C., the applicant shall provide reports in summarizing actual emissions (PM, PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO, and VOC) computed in accordance with the requirements of Rule 62-210.370, F.A.C. for each year during the 5-year period following completion of the project.

NSPS Applicability

A project for an existing unit may trigger the federal New Source Performance Standards (NSPS) in two ways.

1. The project is considered a modification when the project results in an increase in the hourly mass emissions rate of an NSPS-regulated pollutant. Since this project will not change the performance or increase the capacity (heat input rate, fuel consumption rate or steam generation rate) of the wood-fired boiler, the hourly mass emissions rates will not increase.

2. Pursuant to 40 CFR 60.15, a project is considered reconstruction when the fixed capital costs of the replacement components exceed 50% of the fixed capital costs for a comparable new replacement unit. The wood-fired boiler itself is not being modified by this project.

As such, NSPS is not triggered by this project for the wood fired boiler. The NSPS does not have a source category for Wood Product Plants (Plywood Manufacturing).

NESHAP Applicability

The facility is currently subject to the National Emission Standards for Hazardous Air Pollutants requirements in 40 CFR 63, Subpart DDDD, Plywood and Composite Wood Products, and 40 CFR 63, Subpart A, General Provisions. The facility is classified as an existing facility for purposes of the NESHAP. This project does not change that designation.

Applicability of Previously Issued Permits

Existing Permits and Regulations: The conditions of this permit supplements all other previously issued air construction and operation permits for these emission units. 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, recordkeeping, reporting and the like.

Reclassification of Emissions Unit 009 as Regulated Emissions Unit

It is also noted that with the necessary operating restrictions on the North and South Debarkers in order to avoid PSD review, Emissions Unit 009 will be reclassified as a regulated emissions unit with the issuance of this construction permit. *[Rule 62-210.200(122),F.A.C. – Emission Limitation; and Rule 62-210.200(PTE), 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. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Rita Felton-Smith 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, 7525 Baymeadows Way, Suite 200B, Jacksonville, FL 32256-7590, Phone: 904/256-1700.