TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Suwannee Lumber Company
40 SW 10th Street
Cross City, Florida 32628

Cross City Mill
Facility ID No. 0290004

PROJECT

Project No. 0290004-012-AC
Application for Minor Source Air Construction Permit
EU 004 Kiln No. 3 Extension

COUNTY

Dixie, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
Northeast District Office
7777 Baymeadows Way W., Suite 100
Jacksonville, Florida 32256

October 17, 2012

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

Suwannee Lumber Company is an existing lumber wood processing facility which is categorized under Standard Industrial Classification Code No. 2421. The facility is located in Dixie County at 40 SW 10th Street in Cross City, Florida. The UTM coordinates of the existing facility are Zone 17, 291.8 km East, and 3280.7 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.

Project Description

The applicant has proposed a capital project involving the No. 3 Lumber Drying Kiln (EU No. 004). The No. 1 Lumber Drying Kiln (EU No. 002) and No. 2 Lumber Drying Kiln (EU No. 003) are affected units of the project. The proposal includes the addition of an equalizing chamber on each end of the existing kiln (No. 3) to increase the functional operational time of the drying process. Each chamber will be approximately 61 feet in length and the use of the chambers will result in a reduction of downtime at the kiln from approximately 3 to 4 hours per day to less than one hour per day. This physical and operational change will allow an increase in the production rate of dried lumber to a maximum of 80 million board feet per a 12 month rolling total period for the No. 3 Lumber Drying Kiln. The applicant has also requested a maximum production limit on the No. 1 Lumber Drying Kiln (EU No. 002) and the No. 2 Lumber Drying Kiln (EU No. 003) to 30 and 40 million board feet per a 12 month rolling total period respectively. Upon completion of the project the maximum permitted lumber board feet from the facility shall be limited as follows: No. Lumber Drying Kiln -- 30 million board feet per 12 month rolling total, No. 2 Lumber Drying Kiln -- 40 million board feet per 12 month rolling total, , and No. 3 Lumber Lumber Drying

Kiln -- 80 million board feet per 12 month rolling total. Restrictions have been placed in the permit without which PSD significant rates would have been exceeded due to this project.
Based upon the information available to the Department there were no contemporaneous increases or decreases in emissions which would impact this analysis.

Suwannee Lumber Company 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.

Proposed Work

No. 3 Lumber Drying Kiln: The permittee is authorized to construct, install, modify, and operate (for purposes of testing and unit shakedown) the following equipment:

- No. 3 Lumber Drying Kiln upgrade
- Necessary appurtenances for the operation of No. 3 Lumber Drying Kiln;
- Associated components including but not limited to piping, ductwork, connections, foundations, and structures;

Nos. 2 and 3 Lumber Drying Kilns : The permit restricts the operation of these kilns as mentioned above in the Project Description to comply with permit conditions.

For the proposed project, the baseline actual emissions from the project, the projected actual emissions of project, and the demand growth excludable emissions have been documented.

Processing Schedule

9/16/12 Received the Pre-application for a minor source air pollution construction permit.
9/19/12 Requested additional information.
9/24/12 Received the application for a minor source air pollution construction permit.
10/09/12 Application Meeting.
10/10/12 Received additional information
10/12/12 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: 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

The following table presents the Baseline Actual Emissions, Projected Actual Emissions, Projected Actual Emission Increase (not including Demand Growth Exclusion), Demand Growth Exclusion Calculations, Project Emission Increases (Including Demand Growth Exclusion), PSD significant Emission Increase Rate, and a Determination if the Pollutant is subject to PSD:

Annual Emissions Summary (Tons per Year) and PSD Applicability.

Pollutant	Baseline Actual Emissions [1]	Projected Actual Emissions [2]	Projected Emissions Increase [3]	Emissions Excludable for Demand Growth[4]	Project Emissions Increase[5]	PSD Significant Emissions Rate	Subject to PSD?
PM	(122,000*0.375)/ 2000 = 22.88	(150,000*0.375) /2000 = 28.13	28.13-22.88 = 5.25	(23,197*0.375)/ 2,000=4.35	0.90	25	N
PM_{10}	(122,000*0.375)/ 2000= 22.88	(150,000*0.375) /2000= 28.13	28.13-22.88=5.25	(23,197*0.375)/ 2000=4.35	0.90	15	N
$PM_{2.5}$	N/A					10	N
SO_2	N/A					40	N
NO_x	(122,000*0.102)/ 2000 =6.22	(150,000*0.102) /2000 =7.65	7.65-6.22 = 1.43	(23,197*0.102)/ 2,000=1.18	0.25	40	N
CO	(122,000*0.491)/ 2000 =29.95	(150,000*0.491) /2000 =36.83	36.83-29.95 = 6.88	(23,197*.491)/ 2000=5.69	1.19	100	N
VOC	(122,000*3.8)/20 00 =231.8	(150,000*3.8)/2 000 = 285	285-231.8 = **53.2**	(23,197*3.8)/ 2000= 44.07	9.13	40	N
H095	(122,000*0.103)/ 2000 =6.28	(150,000*0.103) /2000 =7.73	7.73-6.28 = 1.45	(23,197*0.103)/ 2,000=1.19	0.26	N/A	N/A
H115	(122,000*0.16)/2 000 =9.76	(150,000*0.16)/ 2000 =12.0	12.0-9.76 = 2.24	(24,400*0.16)/ 2000=1.86	0.38	N/A	N/A

[1] The Baseline Actual Emissions are calculated using the highest emissions for each pollutant during a consecutive 24-month period in the last 10 years of operation. Sources: AOR Data for Baseline Actual Emissions below[6].

[2] Sources: Projected Actual Emissions =Future Mbf * EF/2000.

[3] The projected emissions = (Projected Actual Emissions – Baseline Actual Emissions). When determining projected actual emissions, Rule 62-210.200(250), F.A.C. states that the Department … "… Shall exclude that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project including any increased utilization due to product demand growth."

[4] **Excludable** for Demand Growth: The industry has been in recession due to the economic down turn and housing market collapse. The plant could have operated at full permitted capacity if demand for product had been available. Excludable Demand Growth is calculated as 23.197 million board feet per 12 month rolling total.

[5] The Project Emissions = (Projected Actual Emissions)-(Baseline Actual Emissions)-(Excludable for Demand Growth).

The Baseline Actual Emissions from AOR Data[6]:

Kiln- throughput MMbf/yr

Year	1	2	3	Total
2001	21.4105	27.93	0	49.3405
2002	21.553	28.004	0	49.557
2003	31.383	42.32	0	73.703
2004	34.925	39.553	0	74.478
2005	28.138	32.768	28.843	89.749
2006	32.787	37.848	39.293	109.928
2007	34.177	41.664	42.16	118.001
2008	36.223	37.943	39.174	113.34
2009	34.2743	29.85756	41.35526	105.48712
2010	38.6693	34.46481	43.63026	116.76437
2011	37.613	42.32878	47.41698	127.35876
AVG 2010-2011	38.14115	38.396795	45.52362	122.061565

[6] AOR Data compiled by M. Palcic.

Pollutants	Current Permit	Proposed using annual
Throughput	145.20	150.00
PM	27.22	28.13
CO	35.65	36.83
NOx	7.41	7.65
VOC	275.87	285.00
HO95	7.48	7.73
H115	11.62	12.00

Therefore, the project requires a minor air construction permit to authorize the kiln Extension Project. Pursuant to Rule 62-212.300(1)(e), F.A.C., the applicant shall provide reports in summarizing actual emissions (CO, VOC, NO_X,, PM, PM_{10}, and $PM_{2.5}$.) computed in accordance with the requirements of Rule 62-210.370, F.A.C. for each year during the 10-year period following completion of the project.

3. APPLICATION REVIEW

Discussion of Emissions

PM, PM_{10}, NOx, VOC, H095, H115

State Requirements

These emissions units are subject to the requirements of Rule 62-296.410(2)(a), F.A.C.- Carbonaceous Fuel Burning Equipment and Rule 62-297.310(7) F.A.C.

Federal NESHAP Provisions

These emissions units are subject to the requirements of 40 CFR 63, Subpart DDDD - National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. However, the kiln is not required to comply with any compliance/operating requirement, and the work practice standards, except for the initial notification as required in 40 CFR 63.9(b).}

Other Draft Permit Requirements

This project will change the Permitted Capacity- Throughput Rates as follows:

a. EU-002 No. 1 Direct-Fired Kiln Permitted Capacity- Throughput Rate. The maximum process rate shall not exceed ~~101 Mbf (101,000 board feet)~~ 84 Mbf (84,000 board feet), during any single drying cycle or charge. The maximum annual process rate shall not exceed ~~36,865 Mbf~~ 30,000 Mbf during any twelve consecutive months. This capacity shall include any logs or plywood that may be dried for the wood preserving operation.

b. **EU 003 No. 2 Direct-Fired Kiln Permitted Capacity- Throughput Rate.** The maximum process rate shall not exceed ~~128 Mbf (128,000 board feet)~~ 112 Mbf (112,000 board feet), during any single drying cycle or charge. The maximum annual process rate shall not exceed ~~46,720 Mbf~~ 40,000 Mbf during any twelve consecutive months. This capacity shall include any logs or plywood that may be dried for the wood preserving operation.

c. EU 004 No. 3 Direct-Fired Kiln Permitted Capacity- Throughput Rate. The maximum process rate shall not exceed ~~168 Mbf (168,00 board feet)~~ 219 Mbf (219,000 board feet), during any single drying cycle or charge. The maximum annual process rate shall not exceed shall not exceed ~~61,612 Mbf~~ 80,000 Mbf during any twelve consecutive months. This capacity shall include any logs or plywood that may be dried for the wood preserving operation.

[Application No. 0290004-012-AC; Rule 62-210.200(PTE), F.A.C.]

Permitted Fuel Capacity Rates as follows:

a. EU 002 Permitted Capacity – Burner Heat Input. The maximum heat input rate of the burner shall not exceed 20.0 MMBtu/hr (Basis: 4500 lb/hr, 4500 Btu/lb).

b. EU 003 Permitted Capacity – Burner Heat Input. The maximum heat input rate of the burner shall not exceed 25.0 MMBtu/hr (Basis: 6260 lb/hr, 4500 Btu/lb).

c. EU 004 Permitted Capacity – Burner Heat Input. The maximum heat input rate of the burner shall not exceed 29.5 MMBtu/hr (Basis: 7633 lb/hr, 3825 Btu/lb).

[Rules 62-4.160(2), 62-210.200(PTE), F.A.C. and Application No. 0290004-012-AC]

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 7777 Baymeadows Way W., Suite 100, Jacksonville, Florida 32256, (904) 256-1700.