

# Prevention of Significant Air Quality Deterioration Review

## Preliminary Determination

February 28, 2017

Facility Name: Interfor U.S. Inc. – Baxley Sawmill

City: Baxley

County: Appling

AIRS Number: 04-13-001-00005

Application Number: 42931

Date Application Received: November 10, 2016

Review Conducted by:

State of Georgia - Department of Natural Resources

Environmental Protection Division - Air Protection Branch

Stationary Source Permitting Program

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## SUMMARY

The Environmental Protection Division (EPD) has reviewed the application submitted by Interfor U.S. Inc. – Baxley Sawmill for a permit to relax the prevention of significant deterioration (PSD) avoidance limit in existing Condition 3.2.5 of Title V Permit Amendment No. 2421-001-0005-V-05-1 by conducting a PSD review in accordance with 40 CFR 52.21(r)(4). The facility proposes to use proper kiln operation and maintenance practices as the best available control technology (BACT) along with a BACT limit of 250 million board feet per year (MMbf/yr) BACT throughput limit. The 250-MMbf/yr BACT limit will replace the 219-MMbf/yr BACT limit in existing Condition 3.2.4 of Title V Permit Amendment No. 2421-001-0005-V-05-1. The proposed project does not involve any addition of new emission units.

The proposed PSD review project will result in an increase in emissions from the facility. The sources of these increases in emissions include the lumber dry kilns (ID Nos. KL01, KL02, and KL04) because of the proposed new BACT annual throughput limit.

The netting analysis indicates an increase in emission of particulate matter (PM/PM<sub>10</sub>) and volatile organic compounds (VOC). The increases are compared to the associated PSD Significant Emission Rates. The VOC emissions increase was above the PSD significant level threshold.

Interfor U.S. Inc. – Baxley Sawmill is located in Appling County, which is classified as “attainment” or “unclassifiable” for SO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>, NO<sub>x</sub>, CO, and ozone (VOC).

The EPD review of the data submitted by Interfor U.S. Inc. – Baxley Sawmill related to the proposed modifications indicates that the project will be in compliance with all applicable state and federal air quality regulations.

It is the preliminary determination of the EPD that the proposal provides for the application of Best Available Control Technology (BACT) for the control of VOC, as required by federal PSD regulation 40 CFR 52.21(j).

It has been determined through approved modeling techniques that the estimated emissions will not cause or contribute to a violation of any ambient air standard or allowable PSD increment in the area surrounding the facility or in Class I areas located within 200 km of the facility. It has further been determined that the proposal will not cause impairment of visibility or detrimental effects on soils or vegetation. Any air quality impacts produced by project-related growth should be inconsequential.

This Preliminary Determination concludes that an Air Quality Permit should be issued to Interfor U.S. Inc. – Baxley Sawmill for the modifications necessary to retroactively increase the annual throughput by converting the two lumber dry kilns (ID Nos. KL02 and KL04) from batch operations to continuous operations. Various conditions have been incorporated into the current Title V operating permit to ensure and confirm compliance with all applicable air quality regulations. A copy of the draft permit amendment is included in Appendix A. This Preliminary Determination also acts as a narrative for the Title V Permit.

## 1.0 INTRODUCTION – FACILITY INFORMATION AND EMISSIONS DATA

On November 10, 2016, Interfor U.S. Inc. – Baxley Sawmill (hereafter “facility”) submitted an application for an air quality permit to increase production through all lumber kilns to 250 MMbf/yr. The facility is located at 1830 Golden Isles East in Baxley, Appling County.

When the facility submitted Title V Permit Amendment Application No. TV-21279 on July 2, 2012 for the Lumber Dry Kiln KL02 conversion project (from batch operation to continuous operation), the facility proposed to avoid a PSD review for volatile organic compounds (VOC) by accepting a combined VOC emission limit, 352.7 tons per year (tpy), for the three lumber dry kilns (ID Nos. KL01, KL02, and KL03). In addition, the current permit contains a BACT annual throughput limit, 219 MMbf/yr, for KL01, KL02, and KL03, combined. This BACT limit was put in place after a PSD review was conducted in 1998.

The facility stated in PSD Application No. TV-42931 that, due to improvements in energy efficiency, the facility’s lumber drying capacity is projected to increase. With the lumber drying capacity expected to increase above the level that was previously possible, the facility proposes to process up to 250 MMbf/yr of lumber. Since this new annual production cap is higher than the existing BACT annual throughput limit, and will result in relaxation of the existing VOC PSD avoidance cap, the facility proposed to conduct a PSD review in accordance with 40 CFR 52.21(r)(4) for the modification that was originally described in Application No. TV-21279.

Table 1.1 summarizes the Title V major source status for the facility. Note that after the proposed modification in Application No. TV-42931, the facility is major for VOC, carbon monoxide (CO), and single/combined hazardous air pollutants (HAP) under Title V of 1990 CAAA and is major for VOC under PSD regulations.

**Table 1-1: Title V Major Source Status**

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility’s Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes			✓
PM <sub>10</sub>	Yes			✓
PM <sub>2.5</sub>	Yes			✓
SO <sub>2</sub>	Yes			✓
VOC	Yes	✓		
NO <sub>x</sub>	Yes			✓
CO	Yes	✓		
TRS	N/A			
H <sub>2</sub> S	N/A			
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		
Total GHGs	Yes			✓

Table 1-2 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a review of the "Permit" file(s) on the facility found in the Air Branch office.

**Table 1-2: List of Current Permits, Amendments, and Off-Permit Changes**

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
2421-001-0005-V-05-0	May 7, 2013	Ownership changed from Rayonier Wood Products, LLC to Interfor U.S. Inc.
2421-001-0005-V-05-1	May 14, 2013	Title V permit amendment for converting Kiln KL02 from batch operations to continuous operations.
2421-001-0005-V-05-2	May 30, 2014	502(b)(10) Permit for adding a new baghouse for the sawmill process group (ID No. SM01).
2421-001-0005-V-05-3	January 21, 2015	502(b)(10) Permit for repairing and updating Boiler PB02.

Based on the proposed project description and data provided in the permit application, the estimated incremental increases of regulated pollutants from the facility, without netting, are listed in Table 1-3 below.

**Table 1-3: Emission Increases Due to the Project (Without Netting)**

Pollutant	Increase from All Kilns with The New Cap (Including Hammer Mill Emissions)			Associated Units Increase (tpy)	Total Increase (tpy)
	Baseline Years	Past Actual (Baseline)	Future Potential		
PM	2005 – 2006	10.84	22.32	28.74	<b>40.22</b>
PM <sub>10</sub>	2005 – 2006	8.051	17.82	14.37	<b>24.14</b>
PM <sub>2.5</sub>	2005 – 2006	7.664	12.38	0.1196	4.836
VOC	2005 – 2006	309.6	500.0	0	<b>190.4</b>
NO <sub>x</sub>	2005 – 2006	0	14.21	0	14.21
CO	2005 – 2006	0	22.35	0	22.35
SO <sub>2</sub>	2005 – 2006	0	3.285	0	3.285
TRS	2005 – 2006	0	0	0	0
Pb	2005 – 2006	0	0	0	0
Fluorides	2005 – 2006	0	0	0	0
H <sub>2</sub> S	2005 – 2006	0	0	0	0
SAM	2005 – 2006	0	0	0	0
Total GHG	2005 – 2006	0*	27,540	0	27,540

\* Total GHG from the four kilns were zero because they were steam heated kilns before the modification.

The definition of baseline actual emissions is the average emission rate, in tons per year, at which the emission unit actually emitted the pollutant during any consecutive 24-month period selected by the facility within the 10-year period immediately proceeding the date a complete permit application was received by EPD. The net increases were calculated by subtracting the past actual emissions (based upon the annual average emissions from 2005 through 2006) from the future potential emissions. Note that all of the kilns are combined into a group when the

facility determines the net increases. The past actual (baseline) emissions include the grouped emissions from Kilns KL01 through KL04, while the future potential emissions include the grouped emissions from the unmodified kiln (ID No. KL01) and modified kilns (ID Nos. KL02 and KL04).

Note that the increased lumber drying capacity (by the kilns) by amending the annual throughput limit from 219 MMbf/yr to 250 MMbf/yr will also increase the amount of lumber processed by the existing lumber processes (debarking, handling, sawing, planning, and paved/unpaved road for truck traffic). Although most of the emissions from these processes are fugitive emissions (which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening), the Georgia EPD PSD Permit Application Guidance Document (Section 2.2.2 on p. 2-3) requires that the fugitive emissions be included in determining whether a physical change in a major stationary source would trigger the classification of “major modification” as defined in Georgia Rule 391-3-1-.02(7)2. Per 76 FR 17548 dated March 30, 2011, U.S. EPA issued an indefinite stay of the Fugitive Emissions Rule until U.S. EPA completes its reconsideration of the Fugitive Emissions Rule; therefore, the provisions of 40 CFR 52.21(b)(2)(v) have been indefinitely stayed.

As shown in Table 1-3 above, the relaxation of the existing PSD avoidance cap, without netting, would trigger a PSD review for particulate matter (PM/PM<sub>10</sub>) and VOC. In order to avoid a PSD review for PM/PM<sub>10</sub>, the facility requested a contemporaneous netting analysis. The contemporaneous period began five years prior to the date the KL02 modification occurs (January 3, 2014). Therefore, the facility claims that the changes during the five-year contemporaneous period include the following projects:

- The conversion of Lumber Dry Kiln No. 4 (ID No. KL04) from a steam heated batch kiln to a steam heated continuous kiln in 2011.
- The shutdown of Lumber Dry Kiln No. 3 (ID No. KL03) in 2013.
- The shutdown of Kipper Power Boiler (ID No. PB01) in 2013.

Note that the future potential emissions included in Table 1-3 does not include any emissions from Kiln KL03 while the baseline emissions include KL03’s emissions. The emission changes presented in Table 1-3 already reflects the fact that Kiln KL03 is already removed when calculating future potential emissions. Therefore, the Division does not agree to credit the emission decreases due to the removal of KL03 in the netting process.

Also note the proposed 250-MMbf/yr annual throughput limit applies to all three kilns (ID Nos. KL01, KL02, and KL04). Therefore, the emission increases associated with the conversion of Kiln KL04 from a steam heated batch kiln to a steam heated continuous kiln are already included in Table 1-3. Table 1-4 below summarizes net emission changes after the netting process.

**Table 1-4: Net Emission Changes during the Contemporaneous Period (tpy)**

Pollutant	Total Emission Increases	Emission Decreases (Shutdown of PB01)	Net Emission Increases	PSD Significant Emission Rate (tpy)	Subject to PSD Review
PM	40.22	-29.94	10.28	25	No
PM <sub>10</sub>	24.14	-17.66	6.480	15	No
PM <sub>2.5</sub>	4.836	-17.66	-12.82	10	No
VOC	190.4	-3.661	<b>186.7</b>	40	<b>Yes</b>
NO <sub>x</sub>	14.21	-46.62	-32.41	40	No
CO	22.35	-351.5	-329.2	100	No
SO <sub>2</sub>	3.285	-5.384	-2.099	40	No
TRS	0	0	0	10	No
Pb	0	0	0	0.6	No
Fluorides	0	0	0	3	No
H <sub>2</sub> S	0	0	0	10	No
SAM	0	0	0	7	No
Total GHG	27,540	-45,130	-17,590	75,000	No

Based on the information presented in Table 1-4 above, Interfor U.S. Inc. – Baxley Sawmill's proposed modification, as specified per Georgia Air Quality Application No. TV-42931, is classified as a major modification under PSD because the increase in VOC emissions (186.7 tpy) exceeds the corresponding PSD significant emission rate (40 tpy).

The Division also evaluated the facility-wide potential-to-emit (PTE) for all criteria pollutants, single/combined HAP, and total greenhouse gases (Total GHG) with the above information. Unlike the determination of emission increases for PSD purposes, when determining the facility's source categories under Title V of 1990 CAAA, fugitive emissions need not be included in the facility-wide PTE's. The following table summarizes the facility-wide PTE's.

**Table 1-5: Facility-wide PTE's after the Retro-active PSD Review (tpy)**

Pollutant	3 Kilns	Hammer Mill	Planer Mill	Boiler PB02	Total
NO <sub>x</sub>	14.21	0	0	39.99	54.20
CO	22.35	0	0	99.86	<b>122.2</b>
PM	17.50	4.818	24.53	14.69	61.54
PM <sub>10</sub>	13.00	4.818	14.45	14.69	46.96
PM <sub>2.5</sub>	12.38	0	0	14.69	27.07
VOC	500.0	0	0	4.542	<b>504.5</b>
SO <sub>2</sub>	3.285	0	0	6.680	9.965
Single HAP (Methanol)	25.64	0	0	0.1956	<b>25.84</b>
Combined HAP	33.97	0	0	0.5437	<b>34.51</b>
Total GHG	27,540	0	0	55,990	83,530

According to Table 1-5, with the proposed change in annual kiln throughput limit, the facility is major under Title V of 1990 CAAA for CO, VOC, and single/combined HAP. The updated source categories have been reflected in Table 1-1 of this Preliminary Determination.

The data used for emissions calculations in Tables 1-3 through 1-5 can be found in detail in the facility's PSD application (see Section 4 of Application No. 42931). Note that some of the emission rates differ slightly from those included in the application because the emission calculations in the application contained some typos in formulas. These calculations, except the emission credit claimed by the removal of Kiln KL03, have been reviewed and approved by the Division.



## **2.0 PROCESS DESCRIPTION**

According to Application No. TV-42931, Interfor U.S. Inc. – Baxley Sawmill has proposed to increase the annual combined kiln throughput limit from 219 MMbf/yr to 250 MMbf/yr. Increase of the annual throughput capacity would require amending the existing annual throughput limit in existing Condition 3.2.4 and the VOC PSD avoidance limit specified in existing Condition 3.2.5. The annual throughput limit in existing Condition 3.2.4 is a BACT limit that was put in place as a result of a PSD review conducted in 1998. The VOC PSD avoidance limit was added in Title V Permit Amendment No. 2421-001-0005-V-05-1 for the Kiln KL02 conversion project.

The Interfor U.S. Inc. – Baxley Sawmill permit application and supporting documentation are included in Appendix A of this Preliminary Determination and can be found online at [www.georgiaair.org/airpermit](http://www.georgiaair.org/airpermit).

### 3.0 REVIEW OF APPLICABLE RULES AND REGULATIONS

#### State Rules

Georgia Rule for Air Quality Control (Georgia Rule) 391-3-1-.03(1) requires that any person prior to beginning the construction or modification of any facility which may result in an increase in air pollution shall obtain a permit for the construction or modification of such facility from the Director upon a determination by the Director that the facility can reasonably be expected to comply with all the provisions of the Act and the rules and regulations promulgated thereunder. Georgia Rule 391-3-1-.03(8)(b) continues that no permit to construct a new stationary source or modify an existing stationary source shall be issued unless such proposed source meets all the requirements for review and for obtaining a permit prescribed in Title I, Part C of the Federal Act [i.e., Prevention of Significant Deterioration of Air Quality (PSD)], and Section 391-3-1-.02(7) of the Georgia Rules (i.e., PSD).

The modified kilns (ID Nos. KL02 and KL04) are subject to the visible emission standard specified in Georgia Rule 391-3-1-.02(2)(b)1. and the PM emission standard specified in Georgia Rule 391-3-1-.02(2)(e)1. According to Application No. TV-42931, each of Kilns KL02 and KL04 will have a modified annual design throughput capacity of 103,000,000 bf.

Hourly design throughput of Kilns KL02 and KL04, each  
 = (103,000,000 bf/yr) / (8,760 hrs/yr)  
 = 11,800 bf/hr

Density of dry wood is assumed to be 48 pounds per cubic foot.

Hourly design throughput of Kilns KL02 and KL04, each  
 = (11,800 bf/hr) \* (1 ft<sup>3</sup>/12 bf) \* (48 lbs/ft<sup>3</sup>) \* (1 ton/2,000 lbs)  
 = 23.6 tons wood / hr

The equations listed in Georgia Rule for Air Quality 391-3-1-.02(2)(e)1.(i), “Particulate Emission from Manufacturing Processes”, are used to compute the allowable emission rate for particulate matter for the process equipment. New equipment (constructed after July 2, 1968) may not emit particulate matter at a rate greater than that determined by the following equation:

$$E = 4.1 * P^{0.67} \quad \text{for process input weight rate up to and including 30 tons per hour}$$

$$E = 55 * P^{0.11} - 40 \quad \text{for process input weight rate above 30 tons per hour}$$

where E = emission rate in pounds per hour  
 P = process input weight rate in tons per hour

The allowable particulate emission rate and the calculation regarding Kilns KL02 and KL04 are shown in the following table.

Name/ID No.	Startup Date after Modification	Process Input Weight Rate (P) (tons/hr)	Allowable Emission Rate (E) (lbs PM / hr)
Kiln KL02	2013	23.6	$E = 4.1 * 23.6^{0.67} = 34.1$
Kiln KL04	2011	23.6	$E = 4.1 * 23.6^{0.67} = 34.1$

In Application No. TV-42931, the facility calculated PM emissions from Kilns KL02 and KL04 using a GA EPD accepted emission factor from Application No. TV-21615 for West Frasier based on stack test data, 0.14 lb/Mbf. The average hourly PM emission rate is estimated to be 1.65 lbs/hr. Therefore, compliance with the Georgia Rule (e) PM emission standard is expected. Compliance with the Georgia Rule (b) visible emission standard can also be expected.

$$\begin{aligned} &\text{Average Hourly PM Emission Rate from Kilns KL02 and KL04, each} \\ &= (0.14 \text{ lb}/10^3 \text{ bf}) * (103,000,000 \text{ bf}/\text{yr}) / (8,760 \text{ hrs}/\text{yr}) \\ &= 1.65 \text{ lbs}/\text{hr} \end{aligned}$$

### **Federal Rule - PSD**

The PSD regulations in 40 CFR 52.21 require that any new major source or modification of an existing major source be reviewed to determine the potential emissions of all pollutants subject to regulations under the Clean Air Act. The PSD review requirements apply to any new or modified source which belongs to one of 28 specific source categories having potential emissions of 100 tons per year or more of any regulated pollutant, or to all other sources having potential emissions of 250 tons per year or more of any regulated pollutant. They also apply to any modification of a major stationary source which results in a significant net emission increase of any regulated pollutant.

Georgia has adopted a regulatory program for PSD permits, which the United States Environmental Protection Agency (EPA) has approved as part of Georgia's State Implementation Plan (SIP). This regulatory program is located in the Georgia Rules at 391-3-1-.02(7). This means that Georgia EPD issues PSD permits for new major sources pursuant to the requirements of Georgia's regulations. It also means that Georgia EPD considers, but is not legally bound to accept, EPA comments or guidance. A commonly used source of EPA guidance on PSD permitting is EPA's Draft October 1990 New Source Review Workshop Manual for Prevention of Significant Deterioration and Nonattainment Area Permitting (NSR Workshop Manual). The NSR Workshop Manual is a comprehensive guidance document on the entire PSD permitting process.

The PSD regulations require that any major stationary source or major modification subject to the regulations meet the following requirements:

- Application of BACT for each regulated pollutant that would be emitted in significant amounts;
- Analysis of the ambient air impact;
- Analysis of the impact on soils, vegetation, and visibility;
- Analysis of the impact on Class I areas; and
- Public notification of the proposed plant in a newspaper of general circulation

### Definition of BACT

The PSD regulation requires that BACT be applied to all regulated air pollutants emitted in significant amounts. Section 169 of the Clean Air Act defines BACT as an emission limitation reflecting the maximum degree of reduction that the permitting authority (in this case, EPD), on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such a facility through application of production processes and available methods, systems, and techniques. In all cases BACT must establish emission limitations or specific design characteristics at least as stringent as applicable New Source Performance Standards (NSPS). In addition, if EPD determines that there is no economically reasonable or technologically feasible way to measure the emissions, and hence to impose and enforceable emissions standard, it may require the source to use a design, equipment, work practice or operations standard or combination thereof, to reduce emissions of the pollutant to the maximum extent practicable.

EPA's NSR Workshop Manual includes guidance on the 5-step top-down process for determining BACT. In general, Georgia EPD requires PSD permit applicants to use the top-down process in the BACT analysis, which EPA reviews. The five steps of a top-down BACT review procedure identified by EPA per BACT guidelines are listed below:

- Step 1: Identification of all control technologies;
- Step 2: Elimination of technically infeasible options;
- Step 3: Ranking of remaining control technologies by control effectiveness;
- Step 4: Evaluation of the most effective controls and documentation of results; and
- Step 5: Selection of BACT.

The following is a discussion of the applicable federal rules and regulations pertaining to the equipment that is the subject of this preliminary determination, which is then followed by the top-down BACT analysis.

### New Source Performance Standards

The kilns (ID Nos. KL02 and KL04) are not subject to any NSPS.

### National Emissions Standards For Hazardous Air Pollutants

Per 40 CFR 63.2231, the facility is subject to 40 CFR 63 Subpart DDDD, "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products," (a.k.a. PCWP MACT) because it is major for single and combined HAP emissions and is a plywood and composite wood products manufacturing facility that manufactures kiln-dried lumber. Please note that the kilns (ID Nos. KL02 and KL04) are not subject to any compliance options specified in Tables 1A and 1B to Subpart DDDD, any operating requirements specified in Table 2 to Subpart DDDD, or any work practice requirements specified in Table 3 to Subpart DDDD. According to 40 CFR 63.2252, the facility is only subject to the initial notification requirements specified in 40 CFR 63.9(b). The Division has determined that the facility has already met the initial notification requirements. Therefore, KL02 and KL04 are subject to this rule, but are not subject to any requirements.

### **State and Federal – Startup and Shutdown and Excess Emissions**

Excess emission provisions for startup, shutdown, and malfunction are provided in Georgia Rule 391-3-1-.02(2)(a)7. Excess emissions from the lumber dry kilns (ID Nos. KL02 and KL04) associated with the proposed project would most likely result from a malfunction of the associated control equipment. The facility cannot anticipate or predict malfunctions. However, the facility is required to minimize emissions during periods of startup, shutdown, and malfunction.

### **Federal Rule – 40 CFR 64 – Compliance Assurance Monitoring**

Under 40 CFR 64, the *Compliance Assurance Monitoring* Regulations (CAM), facilities are required to prepare and submit monitoring plans for certain emission units with the Title V application. The CAM Plans provide an on-going and reasonable assurance of compliance with emission limits. Under the general applicability criteria, this regulation applies to units that use a control device to achieve compliance with an emission limit and whose pre-controlled emissions levels exceed the major source thresholds under the Title V permitting program. Although other units may potentially be subject to CAM upon renewal of the Title V operating permit, such units are not being modified under the proposed project and need not be considered for CAM applicability at this time.

Therefore, this applicability evaluation only addresses the lumber dry kilns (ID Nos. KL02 and KL04), which does not employ any air pollution control devices; therefore, the CAM requirements are not triggered by the proposed modification.

#### 4.0 CONTROL TECHNOLOGY REVIEW

The proposed project will result in emissions that are significant enough to trigger PSD review for the following pollutants: VOC.

##### Lumber Dry Kilns KL01/KL02/KL04- Background

Lumber Dry Kilns KL02 and KL04 are continuous kilns while Lumber Dry Kiln KL01 is a steam heated batch kiln. The primary purpose of the kilns is to lower the moisture content in the lumber to a desired level before sending the lumber to the planer mill and other downstream processes.

Both Kilns KL01 and KL04 utilize the steam produced by the hurst power boiler (ID No. PB02). The design process capacities of Kilns KL01 and KL04 are 44 MMbf/yr and 103 MMbf/yr, respectively.

Kiln KL02 is a direct-fired unit and fire exclusively on dry wood shavings from the planer mill. Kiln KL02 has a process capacity of 103 MMbf/yr, and its burner capacity is 30 million Btu per hour (MMBtu/hr).

##### Lumber Dry Kilns KL01/KL02/KL04 – VOC Emissions

###### Applicant's Proposal

Drying southern pine lumber in the lumber dry kilns (ID Nos. KL01, KL02, and KL04) and combusting wood shavings in KL02 would generate VOC emissions. The facility proposed the following BACT analysis for VOC emissions from the kilns, which is consistent with the five step approach to establish BACT.

###### Step 1: Identify all control technologies

The facility considered VOC emissions control techniques/technologies as noted below.

- Option 1: Carbon Absorption
- Option 2: Condensation
- Option 3: Biofiltration
- Option 4: Thermal Oxidation
- Option 5: Wet Scrubbing
- Option 6: Proper Kiln Operation and Maintenance Practices

###### Option 1: Carbon Absorption

Carbon adsorption systems use an activated carbon bed to trap VOC. As the exhaust gas stream passes through the activated carbon bed, VOC molecules are attracted to the surface of the activated carbon. The clean exhaust gas is then discharged to the atmosphere. When the activated carbon is spent and can no longer effectively adsorb VOC, the carbon is reactivated either by heating with steam or by vacuuming to remove VOC from the surface. Reactivation can occur on-site, or the spent carbon may be returned to the supplier for reactivation.

### Option 2: Condensation

Condensation systems work by converting VOC in the exhaust gas from the vapor phase to the liquid phase. The phase change is usually accomplished by decreasing the temperature of the gas stream, but it can also be accomplished by increasing the pressure of the gas stream enough to cause the vapor to liquefy.

### Option 3: Biofiltration

Biofiltration involves the use of microbes which remove organics from the exhaust gas stream by feeding on the organic material. The exhaust gas stream from the exhaust is directed through the bed media in which the microbes live. Organics are adsorbed by moisture in the bed media and come into contact with the microbes. The microbes reduce the concentration of organics by consuming the organic material. The cleaned air is then discharged to the atmosphere.

### Option 4:

Thermal oxidation is a process by which combustion converts the VOCs in an exhaust gas stream to water and carbon dioxide. Regenerative thermal oxidizers (RTOs) are the most widely used design. RTOs have a ceramic material in a packed bed which is used to preheat the incoming gas. The preheated gas enters the combustion chamber where it is further heated by natural gas combustion. The combustion chamber is maintained at a temperature of around 1,400 to 1,500°F for VOC oxidation.

A regenerative catalytic oxidizer (RCO) operates in the same manner as an RTO, except that it uses a catalyst material in the packed bed instead of a ceramic material. The use of a catalyst allows for oxidation of VOC at a lower temperature of around 800°F.

### Option 5: Wet Scrubbing

Wet scrubbing systems are used to absorb pollutants in the exhaust gas stream into a liquid by passing the stream through a countercurrent flow of a scrubbing liquid. Pollutants are impacted by the liquid droplets and dissolve in the liquid.

### Option 6: Proper Kiln Operation and Maintenance Practices

Heating of the lumber inside the kiln causes VOC to be drawn out of the wood and emitted to the atmosphere. Ensuring proper operation of the kiln and performing routine maintenance on the kiln minimizes VOC emissions. Lumber is dried to the target moisture content that will ensure the quality of the lumber. Over-drying of the lumber causes additional VOCs to be drawn from the wood. Proper operating practices can prevent over-drying, therefore minimizing emissions of VOC.

## Step 2: Eliminate technically infeasible options

### Option 1: Carbon Adsorption

The kiln exhaust gas stream has a high relative humidity. Carbon adsorption beds are most effective on streams with a low relative humidity. The water present in the exhaust gas stream would compete with VOC for adsorption onto the activated carbon. In some cases, it has been found that steam in the exhaust gases may cause desorption of previously adsorbed VOC. For these reasons, carbon adsorption is deemed to be technically infeasible for the kilns.

### Option 2: Condensation

The primary compounds in VOC from lumber drying kilns are terpenes. In order to cause condensation of the terpenes, the gas stream would have to be cooled to below 32°F. As previously mentioned, the exhaust gas stream from kilns has a high moisture content. Cooling the gas stream to below the freezing point of water would cause ice to form on the condenser, which would render the unit ineffective. For this reason, condensation is deemed to be technically infeasible for the kilns.

### Option 3: Biofiltration

Most microbes need a temperature range between 60 to 105°F to survive. The exhaust from lumber drying kilns is typically around 215°F. Introducing gas streams of this temperature into a biofilter would likely kill the microbes inhabiting the bed media. As previously mentioned, the primary compounds in VOC from lumber drying kilns are terpenes, and most terpenes are not highly soluble in water. Compounds that are not easily soluble in water are not suitable for removal by biofiltration since the compound must be absorbed by moisture in the bed media to come into contact with the microbes. For these reasons, biofiltration is deemed to be technically infeasible for the kilns.

### Option 4: Thermal Oxidation

As previously mentioned, the exhaust gas stream from a kiln has a temperature of around 215°F and also has a high moisture content. The high moisture content and relatively low exit temperature of the exhaust gas makes an RTO unsuitable. Particulates present in the exhaust gas could also cause fouling of the ceramic material. The fouled ceramic would not provide the necessary preheating needed for the RTO to be effective. An RCO would be an ineffective option for the same reasons as an RTO. Particulates in the exhaust gas are an even bigger problem for an RCO. The catalytic material becomes coated with PM, and the coated sections are unable to act as a catalyst in the oxidation of VOCs entering the unit. For these reasons, thermal oxidation by an RTO or an RCO is deemed to be technically infeasible for the kilns.

### Option 5: Wet Scrubbing

In order for a wet scrubbing system to work, the pollutant being removed must be soluble in the scrubbing liquid. Terpenes, the primary constituent in VOC from lumber drying kilns, are not very soluble in water. For this reason, wet scrubbing is deemed to be technically infeasible for the kilns.



Step 3: Ranking the Remaining Control Technologies by Control Effectiveness**Table 4-1: Ranking of CO Control Technology for Heaters F001 and F002**

<b>Control Technology Ranking</b>	<b>Control Technology</b>	<b>Control Efficiency</b>
Option 6	Proper Kiln Operation and Maintenance Practices	Variable due to design

Step 4: Evaluating the Most Effective Controls and Documentation

Since the only technically feasible BACT option is proper kiln operation and maintenance practices, a cost effectiveness evaluation is not required.

Step 5: Selection of BACT

The selected CO BACT for Kilns KL01, KL02, and KL04 is proper kiln operation and maintenance practices. No adverse energy, environmental, or economic impacts are associated with the selected VOC BACT. The facility proposes that the VOC BACT limit take the form of a Work Practice and Preventative Maintenance Program for the kilns. The facility claimed that the proposed VOC BACT limit was consistent with the VOC BACT limits that had been established in recent permits by GA EPD to similar sources.

EPD Review – VOC Control

The Division agrees with the facility that carbon adsorption and condensation are technically infeasible because of the high moisture content of the exhaust gas stream. The Division also agrees that biofiltration is technically infeasible because of the relatively high temperature of the exhaust and low solubility of terpenes. The Division would agree that wet scrubbing is also technically infeasible because of low solubility of terpenes. Thermal oxidation is also technically infeasible because of high moisture content and relatively low temperature of the exhaust stream and PM fouling.

The Division agrees that the only technically feasible option is proper kiln operation and maintenance practices. The Division also accepts the VOC BACT limit in the form of a Work Practice and Preventative Maintenance Program for the kilns (ID Nos. KL01, KL02, and KL04). The facility must demonstrate that they actually employ proper kiln operation and maintenance practices by developing and implementing a Work Practice and Preventative Maintenance Program. These are included in new Condition 3.2.6 of the proposed Title V permit amendment.

In addition, the Division would consider the proposed annual throughput limit for all three kilns, 250MMbf/yr, as a long term VOC BACT limit. This limit would replace the existing VOC BACT limit of 219 MMbf/yr.

**Conclusion – VOC Control**

The VOC BACT selection for the Kilns KL01, KL02, and KL04 is summarized below in Table 4-1:

**Table 4-1: BACT Summary for the Lumber Dry Kilns (ID Nos. KL01, KL02, and KL04)**

<b>Pollutant</b>	<b>Control Technology</b>	<b>Proposed BACT Limit</b>	<b>Averaging Time</b>	<b>Compliance Determination Method</b>
VOC	Proper Kiln Operation and Maintenance Practices	Work Practice and Preventive Maintenance Program	Varies	Records of Preventive Maintenance Performed.

## **5.0 TESTING AND MONITORING REQUIREMENTS**

### Testing Requirements:

There are no applicable testing requirements being imposed. Note that the proposed Title V Permit Amendment does not include any new emission limit that would warrant a performance test.

### Monitoring Requirements:

There are no applicable monitor requirements being imposed. Note that there are some inspection/monitoring requirements specified in the Work Practice and Preventive Maintenance Program required by new Condition 3.2.6.

### CAM Applicability:

Because there is no control for the lumber dry kilns (ID Nos. KL01, KL02, and KL04), CAM is not applicable and is not being triggered by the proposed modification. Therefore, no CAM provisions are being incorporated into the facility's permit.

## **6.0 AMBIENT AIR QUALITY REVIEW**

An air quality analysis is required to determine the ambient impacts associated with the construction and operation of the proposed modifications. The main purpose of the air quality analysis is to demonstrate that emissions emitted from the proposed modifications, in conjunction with other applicable emissions from existing sources (including secondary emissions from growth associated with the new project), will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment in a Class I or Class II area. NAAQS exist for NO<sub>2</sub>, CO, PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, Ozone (O<sub>3</sub>), and lead. PSD increments exist for SO<sub>2</sub>, NO<sub>2</sub>, and PM<sub>10</sub>.

The proposed project at Interfor U.S. Inc. – Baxley Sawmill triggers PSD review for VOC. VOC does not have established PSD modeling significance levels (MSL) (an ambient concentration expressed in either µg/m<sup>3</sup> or ppm). Therefore, modeling is not required for VOC emissions. However, an ozone analysis is required since VOC emission increases are greater than 100 tpy. An additional analysis was conducted to demonstrate compliance with the Georgia air toxics program.

### **Modeling Requirements**

#### **Class I Area Analysis**

Federal Class I areas are regions of special national or regional value from a natural, scenic, recreational, or historic perspective. Class I areas are afforded the highest degree of protection among the types of areas classified under the PSD regulations. U.S. EPA has established policies and procedures that generally restrict consideration of impacts of a PSD source on Class I Increments to facilities that are located near a federal Class I area. Historically, a distance of 100 km has been used to define “near”, but more recently, a distance of 200 kilometers has been used for all facilities that do not combust coal.

The two Class I areas within approximately 200 kilometers of Interfor U.S. Inc. – Baxley Sawmill are Okefenokee National Wild Life Refuge, located approximately 75 kilometers south of the facility; and Wolf Island National Wild Life Refuge, located approximately 105 kilometers southeast of the facility. The U.S. Fish and Wildlife Service (FWS) is the designated Federal Land Manager (FLM) responsible for oversight of both of these Class I areas.

Since no significant air quality concentration has been established for the ozone impact analysis, PSD permit applicants with a proposed net emission increase of 100 tpy or more of VOC or NO<sub>x</sub> are required to conduct an ambient air impact analysis that includes pre-application monitoring data to determine the current state of the ambient air conditions for this pollutant.

The proposed modification is expected to have a net VOCs emission increase of 186.7 tpy (Table 1-4 of this Narrative). GA EPD examined the 3-year rolling average ozone concentration at the Brunswick site (site ID 131270006), Glynn County, which is the closest site to the facility. The latest three-year design value (2013-2015) average of 4th high annual values is 56 ppb. This area is in attainment with the 2015 8-hour ozone standard (70 ppb).

## 7.0 ADDITIONAL IMPACT ANALYSES

PSD requires an analysis of impairment to visibility, soils, and vegetation that will occur as a result of a modification to the facility and an analysis of the air quality impact projected for the area as a result of the general commercial, residential, and other growth associated with the proposed project.

### Soils and Vegetation

The pollutants of concern for adverse impacts on soils and vegetation are SO<sub>2</sub>, nitrogen dioxide (NO<sub>2</sub>), CO, and ozone. The facility conducts an analysis for VOC, a precursor of ozone, since it is the only pollutant that undergoes a PSD review. The facility states that the increases in VOC are not expected to lead to an increase in ambient ozone concentration and therefore, expects no adverse effects on soil and vegetation as a result of this modification. The Division agrees that the additional air quality impact on soil and vegetation is expected to be very minimal.

### Growth

The growth analysis is conducted to estimate increased emissions due to residential, commercial, and industrial growth that will occur as a result of the modification. The facility states that additional employees may be hired in the future in order to achieve increases in production, but they believe that any new employees are already part of the existing labor force in the surrounding area. Therefore, no significant residential, commercial, and industrial growth is anticipated as a result of this modification. The Division agrees with the facility and determines that the proposed modification would not cause a quantifiable impact on the air quality of the area surrounding the facility.

### Visibility

Visibility impairment is any perceptible change in visibility (visual range, contrast, atmospheric color, etc.) from that which would have existed under natural conditions. Poor visibility is caused when fine solid or liquid particles, usually in the form of volatile organics, nitrogen oxides, or sulfur oxides, absorb or scatter light. This light scattering or absorption actually reduces the amount of light received from viewed objects and scatters ambient light in the line of sight. This scattered ambient light appears as haze.

Another form of visibility impairment in the form of plume blight occurs when particles and light-absorbing gases are confined to a single elevated haze layer or coherent plume. Plume blight, a white, gray, or brown plume clearly visible against a background sky or other dark object, usually can be traced to a single source such as a smoke stack.

VOC emissions do not impact visibility. Therefore, the project will not impact Class I and Class II visibility for purposes of PSD review of the modification.

## **Georgia Toxic Air Pollutant Modeling Analysis**

Georgia EPD regulates the emissions of toxic air pollutant (TAP) emissions through a program covered by the provisions of *Georgia Rules for Air Quality Control*, 391-3-1-.02(2)(a)3.(ii). A TAP is defined as any substance that may have an adverse effect on public health, excluding any specific substance that is covered by a State or Federal ambient air quality standard. Procedures governing the Georgia EPD's review of TAP emissions as part of air permit reviews are contained in the agency's "*Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions (Revised)*."

### **Selection of Toxic Air Pollutants for Modeling**

For projects with quantifiable increases in TAP emissions, an air dispersion modeling analysis is generally performed to demonstrate that off-property impacts are less than the established Acceptable Ambient Concentration (AAC) values. The TAP evaluated are restricted to those that may increase due to the proposed project. Thus, the TAP analysis would generally be an assessment of off-property impacts due to facility-wide emissions of any TAP emitted by a facility. To conduct a facility-wide TAP impact evaluation for any pollutant that could conceivably be emitted by the facility is impractical. A literature review would suggest that at least one molecule of hundreds of organic and inorganic chemical compounds could be emitted from the various combustion units. This is understandable given the nature of VOC and TAP evaporated from the drying of lumber. The vast majority of compounds potentially emitted however are emitted in only trace amounts that are not reasonably quantifiable.

Per Sections 4.1.1 and 4.1.2 of the PSD application, the facility uses the NCASI emission factors for direct-fired and steam heated kilns. The Division agrees with the facility to use the above-mentioned NCASI methanol, formaldehyde, and acetaldehyde emission factors. The toxic impact analysis is discussed in Section 7 of the PSD application.

For each TAP identified for further analysis, both the short-term and long-term AAC were calculated following the procedures given in Georgia EPD's *Guideline*. Figure 8-3 of Georgia EPD's *Guideline* contains a flow chart of the process for determining long-term and short-term ambient thresholds. Interfor U.S. Inc. – Baxley Sawmill referenced the resources previously detailed to determine the long-term (i.e., annual average) and short-term AAC (i.e., 24-hour or 15-minute). The AACs were verified by the EPD.

### **Determination of Toxic Air Pollutant Impact**

The Georgia EPD *Guideline* recommends a tiered approach to model TAP impacts, beginning with screening analyses using SCREEN3, followed by refined modeling, if necessary, with ISCST3 or ISCLT3. For the refined modeling completed, the infrastructure setup for the SIA analyses was relied upon with appropriate sources added for the TAP modeling. Note that per the Georgia EPD's *Guideline*, downwash was not considered in the TAP assessment.

### **Initial Screening Analysis Technique**

Generally, an initial screening analysis is performed in which the total TAP emission rate is modeled from the stack with the lowest effective release height to obtain the maximum ground level concentration (MGLC). Note the MGLC could occur within the facility boundary for this evaluation method. The individual MGLC is obtained and compared to the smallest AAC. Due

to the likelihood that this screening would result in the need for further analysis for most TAP, the analyses were initiated with the secondary screening technique.

The impacts of facility-wide TAPs emissions were evaluated to demonstrate compliance according to the Georgia Air Toxics Guideline. The following three TAPs were included in the analysis: Acetaldehyde, Formaldehyde, and Methanol. The annual, 24-hour, and 15-minute AACs of the three TAPs were reviewed based on U.S. EPA IRIS reference concentration (RfC), OSHA Permissible Exposure (PEL), ACGIH Threshold Limit Values (TLV) including STEL (short term exposure limit) or ceiling limit, and NIOSH Recommended Standards (REL) according to the Georgia Air Toxics Guideline. The modeled MGLCs were calculated using the AERMOD dispersion model (v16216r) for 1-hour, 24-hour, and annual averaging periods.

Table I summarizes the AAC levels and MGLCs of the TAPs. The maximum 15-min impact is based on the maximum 1-hour modeled impact multiplied by a factor of 1.32. As shown in Table I, the modeled MGLCs for all three TAPs are below their respective AAC levels except for Acetaldehyde and Formaldehyde at the annual averaging period. According to Georgia Air Toxics Guideline, a site specific risk assessment is required to be conducted by the applicant if the modeled MGLC of any TAP is greater than the AAC level. As seen in Figure 1, Figure 2, Table II, and Table III, the MGLC for Acetaldehyde and Formaldehyde did not exceed the corresponding AAC at any residential areas. Therefore, the applicant passes the site specific risk assessment and meets the applicable Georgia Air Toxics Guideline.

## **CONCLUSIONS**

The air toxics analysis shows conformance with the GA EPD's Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions. VOCs are the only criteria air contaminants with projected emissions by the applicant in excess of respective SER. An ozone impact analysis showed that this area is in attainment with the 8-hour ozone standard (70 ppbv). The additional air quality impact on soil, vegetation, and visibility is expected to be very minimal.

For these reasons, it is recommended a permit to be issued based on the project design and operating hours described in the application.

**Table I. Modeled MGLCs and the Respective AACs**

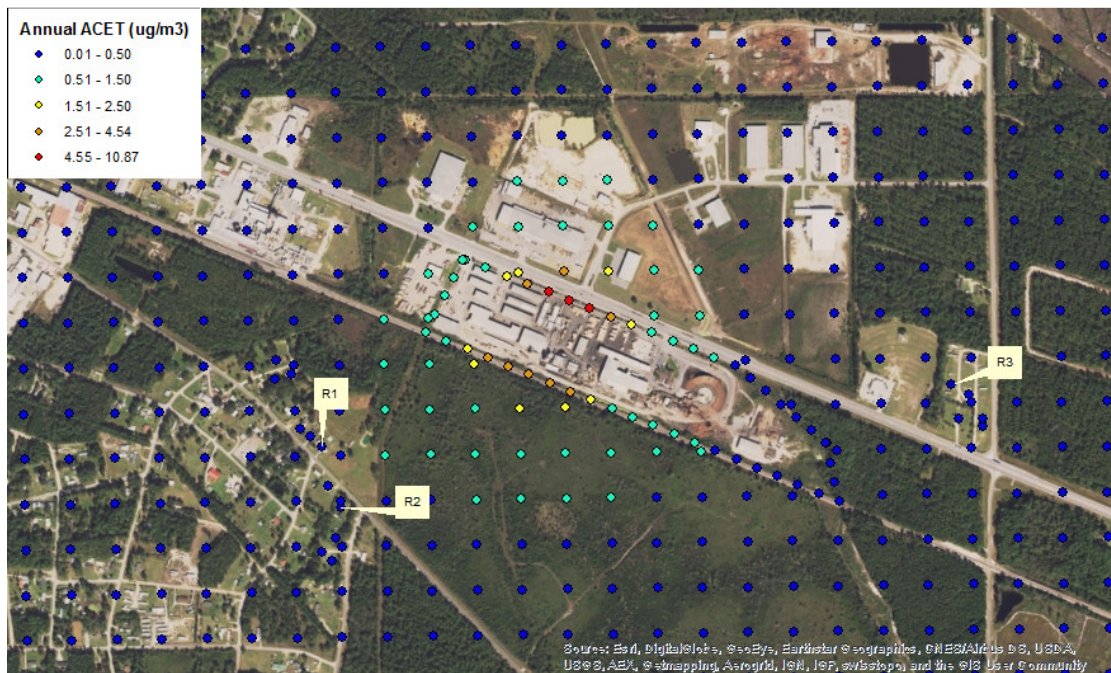
<b>Pollutant</b>	<b>CAS</b>	<b>Averaging period</b>	<b>MGLC (µg/m<sup>3</sup>)</b>	<b>AAC (µg/m<sup>3</sup>)</b>	<b>Averaging period</b>	<b>MGLC (µg/m<sup>3</sup>)</b>	<b>AAC (µg/m<sup>3</sup>)</b>
Acetaldehyde	75070	Annual	10.87	4.55	15-min	83	4500
Formaldehyde	50000	Annual	6.2	1.1	15-min	51	245
Methanol	67561	24-hr	144	619	15-min	418	32800

**Table II. Modeled Annual MGLCs for Acetaldehyde at Nearby Residences**

Residential Areas	Receptor UTM Zone:17		Averaging period	MGLC (µg/m³)	AAC (µg/m³)
	(meter East)	(meter North)			
R1	374235	3515306	Annual	0.33	4.55
R2	374277	3515172	Annual	0.34	4.55
R3	375632	3515425	Annual	0.14	4.55

**Table III. Modeled Annual MGLCs for Formaldehyde at Nearby Residences**

Residential Areas	Receptor UTM Zone:17		Averaging period	MGLC (µg/m³)	AAC (µg/m³)
	(meter East)	(meter North)			
R1	374235	3515306	Annual	0.2	1.1
R2	374277	3515172	Annual	0.2	1.1
R3	375632	3515425	Annual	0.1	1.1



**Figure 1 Google Earth Map for Interfor.** Dots show the locations of the receptors. Color indicates the annual averaged concentration of Acetaldehyde for year 2014, when the MGLC of 10.87 µg/m³ was recorded. Red color indicates receptors having concentrations greater than the annual AAC. “R1”, “R2”, and “R3” indicate locations of the three nearby residences.



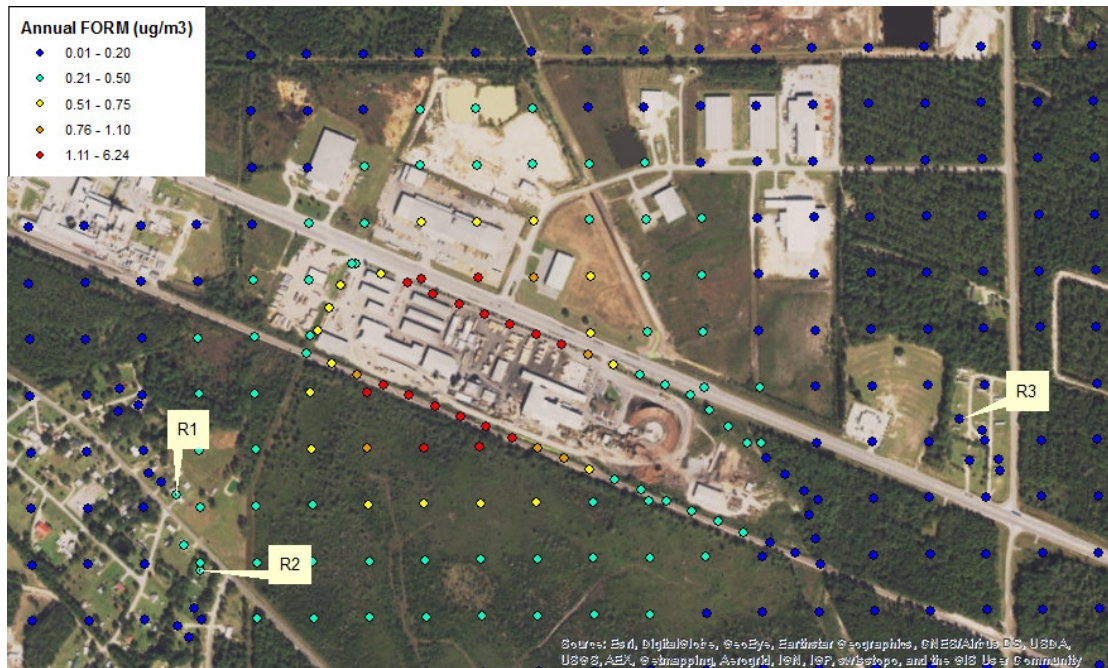


Figure 2 The same as Figure 1 except for Formaldehyde.

**8.0 EXPLANATION OF DRAFT PERMIT CONDITIONS**

The permit requirements for this proposed facility are included in draft Title V Permit Amendment No. 2421-001-0005-V-05-4.

Section 1.0: Facility Description

Interfor U.S. Inc. – Baxley Sawmill proposed to increase the annual throughput limit for all the lumber dry kilns (ID Nos. KL01, KL02, and KL04), combined, from 219 MMbf/yr to 250 MMbf/yr. Increase of the annual throughput capacity would require amending the existing annual throughput limit in existing Condition 3.2.4 and the VOC PSD avoidance limit specified in existing Condition 3.2.5. Although the facility does not propose to conduct any physical modifications in Application No. TV-42931, in order to amend the requirements specified in existing Conditions 3.2.4 and 3.2.5, the facility is required to conduct a retro-active PSD review for the Kiln KL02 conversion project that was originally submitted in Application No. TV-21279 dated July 2, 2012. As discussed previously, the facility proposed a PSD netting practice to avoid a PSD review for PM/PM10; therefore, the retro-active PSD review would also cover the Kiln KL04 conversion project in 2011 and the shutdown of existing Kiln KL03 and existing Boiler PB01 (both in 2013). The retro-active PSD review is for VOC only.

Section 2.0: Requirements Pertaining to the Entire Facility

No conditions in Section 2.0 are being added, deleted or modified as part of this permit action.

Section 3.0: Requirements for Emission Units

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
PB02	Hurst Power Boiler	40 CFR 63 Subpart A 40 CFR 63 Subpart DDDDD 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)2.	3.2.3, 3.3.5, 3.3.6, 3.4.6, 3.4.8, 4.2.2, 4.2.4, 4.2.5, 5.2.2, 5.2.3, 5.2.9, 5.2.10, 5.2.11, 5.2.12, 6.1.8, 6.2.3, 6.2.4	HMC1	Multiclone
	Hurst Boiler Inc. Model H-7500-200 Capacity = 61 MMBtu/hr Installed on September 1, 1988 Fuel: Wood Waste (Green Sawdust)			HESP	Electrostatic Precipitator
SM01	Sawmill Process Group	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.	3.4.5, 3.4.7, 5.2.11, 5.2.13, 6.1.8, 6.1.9, 6.2.1	CY01	Cyclone
				CY02	Cyclone
				CY03	Cyclone
				BH02	Baghouse
PM01	Planer Mill  Capacity = 73 tons/hr Installed in 1995	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.	3.2.2, 3.4.5, 3.4.7, 5.2.5, 5.2.6, 5.2.11, 6.1.8	CY04	Cyclone
				CY05	Cyclone
				PBH1	Baghouse
KL01	Lumber Dry Kiln No. 1  Indirect Steam Heated Batch Drying Kiln Capacity = 44 MMbf/yr Installed in 1974 Reconstructed in 2000	40 CFR 52.21 40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.	<del>3.2.4, 3.2.5, 3.3.4,</del> 3.4.5, 3.4.7, <b>6.1.8,</b> 6.2.11, 6.2.12, 6.2.13, <del>6.2.14, 6.2.15, 6.2.16,</del> <del>6.2.17, 6.2.18, 6.2.19</del>	None	None

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
KL02	Lumber Dry Kiln No. 2 Direct-fired Continuous Drying Kiln Capacity = 103 MMbf/yr Modified from Batch Operation to Continuous Operation in 2013	40 CFR 52.21 40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.	<b>3.2.4, 3.2.5, 3.2.6,</b> 3.3.4, 3.4.5, 3.4.7, <b>6.1.8,</b> 6.2.11, 6.2.12, 6.2.13, <del>6.2.14, 6.2.15,</del> <del>6.2.16, 6.2.17, 6.2.18,</del> <del>6.2.19, 6.2.20</del>	None	None
KL04	Lumber Dry Kiln No. 4 Indirect Steam Heated Continuous Drying Kiln Capacity = 103 MMbf/yr Installed in 1990 Modified from Batch Operation to Continuous Operation in 2011	40 CFR 52.21 40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.	<b>3.2.4, 3.2.5,</b> 3.3.4, 3.4.5, 3.4.7, <b>6.1.8,</b> 6.2.11, 6.2.12, 6.2.13, <del>6.2.14, 6.2.15, 6.2.16,</del> <del>6.2.17, 6.2.18, 6.2.19</del>	None	None

\* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

\*\* Modified and new conditions are in bold.

\*\*\* Deleted requirements/conditions are in strikethrough.

Condition 3.2.4 has been modified that the VOC BACT limit is changed from 219 MMbf/yr to 250 MMbf/yr.

The VOC PSD avoidance limit in existing Condition 3.2.5 of Title V Permit Amendment No. 2421-001-0005-05-1 is no longer needed because of the retro-active PSD review requested in Application No. TV-42931.

Modified Condition 3.2.5 now requires that the direct-fired continuous kiln (ID No. KL02) fore only clean cellulosic biomass, which includes dry wood shavings from the planer mill.

New Condition 3.2.6 includes the Work Practice and Preventive Maintenance Program requirements to ensure that the facility actually employs proper kiln operation and maintenance practices, which is the determined VOC BACT for Kilns KL01, KL02, and KL04. Note that the list of items that must be included in the Work Practice and Preventive Maintenance Program has previously been approved by U.S. EPA.

Section 4.0: Requirements for Testing

No new testing requirements are added in Section 4.0 of the proposed Title V Permit Amendment. Existing Condition 4.1.4 has been modified to include the current template condition language.

Section 5.0: Requirements for Monitoring

No conditions in Section 5.0 are being added, deleted or modified as part of this permit action.

## Section 6.0: Other Recordkeeping and Reporting Requirements

Condition 6.1.8 has been modified for the following:

- Subparagraph b.i. now defines an exceedance as any twelve consecutive month period for which the total amount of lumber dried in the lumber dry kilns (ID Nos. KL01, KL02, and KL04), combined, exceeds 250 million board feet.
- The exceedance reporting requirement specified in existing Subparagraph b.iii. is no longer included in the proposed Title V Permit Amendment because the VOC PSD avoidance limit in existing Condition 3.2.5 is no longer needed.

Subparagraph b.iii. now defines an exceedance as any time that the fuel burned in Lumber Dry Kiln No. 2 (ID No. KL02) does not meet the requirements specified in Condition 3.2.5.

Existing Conditions 6.2.14, 6.2.16. and 6.2.18 include the VOC emission rate record keeping and reporting requirements for demonstrating compliance with the VOC PSD avoidance limit specified in existing Condition 3.2.5. Since the facility conducted a retro-active PSD review, and the VOC PSD avoidance limit is no longer needed, the requirements in existing Conditions 6.2.14, 6.2.16. and 6.2.18 are deleted by the proposed Title V Permit Amendment.

Existing Condition 6.2.15, 6.2.17, and 6.2.19 include the PM/PM<sub>10</sub> emission rate record keeping and reporting requirements for demonstrating that the conversion of Kiln KL04 from a batch kiln to a continuous kiln would not cause a PSD review of PM/PM<sub>10</sub>. These requirements were due to the requirements specified in 40 CFR 52.21(r)(6)(iii). Since the facility conducted the retro-active PSD review, and the PM/PM<sub>10</sub> emission increases (7.570 tpy and 4.470 tpy, respectively), with netting, are no longer more than 50% of the associated PSD significant modification threshold (25 tpy and 15 tpy, respectively), the 10-year monitoring/record keeping/reporting requirements for PM/PM<sub>10</sub> emission rates are therefore no longer required. The requirements in existing Conditions 6.2.15, 6.2.17, and 6.2.19 are deleted by the proposed Title V Permit Amendment.

## Section 7.0: Other Specific Requirements

No conditions in Section 7.0 are being added, deleted or modified as part of this permit action.

## APPENDIX A

Draft Title V Operating Permit Amendment  
Interfor U.S. Inc. – Baxley Sawmill  
Baxley (Appling County), Georgia

## APPENDIX B

### Interfor U.S. Inc. – Baxley Sawmill PSD Permit Application and Supporting Data

#### Contents Include:

1. PSD Permit Application No. TV-42931, dated November 10, 2016
2. Additional Information Package Dated January 17, 2017

## APPENDIX C

### EPD'S PSD Dispersion Modeling and Air Toxics Assessment Review