Prevention of Significant Air Quality Deterioration Review

Preliminary Determination

April 19, 2016

Facility Name: Interfor U.S. Inc. – Preston Sawmill
City: Preston
County: Webster
AIRS Number: 04-13-307-00001
Application Number: TV-40720
Date Application Received: March 28, 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 PSD permit application (Application No. TV-40720) submitted by Interfor U.S. Inc. - Preston for authorization to shutdown wood-fired boilers B-1 and B-2 and steam heated batch kilns DK-1 and DK-2, conversion of steam heated batch kiln DK-3 to a direct-fired continuous kiln with its own burner and fuel silo and modification of direct-fired batch Kilns DK-4 and DK-5 into direct-fired continuous kilns with some burner upgrades and addition of powered stacks to all three continuous kilns. The wood-fired boilers are being shut down so as to avoid compliance with the boiler MACT (40 CFR 63 Subpart DDDDD) which will be effective on or after January 31, 2017 due to the 1 year compliance extension for existing boilers. The steam heated batch kilns DK01 and DK02 will also be shut down since there will be no steam supply source after the wood-fired boilers B-1 and B-2 are shut down. Interfor has also proposed to construct and operate a bark loadout system at the Preston sawmill.

The proposed project will result in the following emission change: Carbon Monoxide (-150.5) tpy, NOx (-30.2) tpy, SO_2 3.3 tpy, PM 9.6 tpy, PM_{10} 10.3 tpy, $PM_{2.5}$ 0.5 tpy, CO_{2e} (-29,945) tpy, HAPs total 10.3 tpy, VOC 96 tpy, Methanol 5. 2 tpy, Formaldehyde 3.5 tpy and Acetaldehyde 1.2 tpy.

The Interfor's Preston sawmill is located in Webster County, which is classified as "attainment" or "unclassifiable" for SO_2, $PM_{2.5}$ and PM_{10}, NO_X, CO, and ozone (VOC).

A Prevention of Significant Deterioration (PSD) analysis was performed for the facility for all pollutants to determine if any increase was above the PSD significance level. The VOC emissions increase was above the PSD significant level threshold of 40 ton per year for a PSD major source undergoing a major modification.

The EPD review of the data submitted by Interfor 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 volatile organic compounds (VOC), as required by federal PSD regulation 40 CFR 52.21(j).

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. Air Toxics Modeling results indicate that fenceline concentrations of toxic air pollutants will be lower than the respective acceptable ambient concentrations (AACs) for all averaging periods (15 minute, 24-hours and annual) except for Formaldehyde and Acrolein for the annual averaging period. A site-specific risk assessment performed for Formaldehyde and Acrolein indicates that concentrations will be less than the AAC for these two HAPs at all residences near the facility.

This Preliminary Determination concludes that an Air Quality Permit should be issued to Interfor U.S. Inc. for the modifications necessary to comply with the boiler MACT (40 CFR 63 Subpart 5D). 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 January 25, 2016, Interfor's Preston sawmill (hereafter Interfor-Preston) submitted an application for an air quality permit to shut down two wood-fired boilers and two steam-heated batch drying kilns and to convert the remaining three batch kilns to continuous kilns with its own burners and fuel silos and to construct and to construct and operate a bark loadout system. This application was revised and updated in March 2016. The facility is located at 378 Tolleson Road in Preston, Webster County.

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	yes		
PM_{10}	Yes			yes
$PM_{2.5}$	Yes			yes
SO_2	Yes			yes
VOC	Yes	yes		
NO_x	Yes			yes
CO	Yes	yes		
Individual HAP	Yes	yes		
Total HAPs	Yes	yes		
Total GHGs	Yes			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
2421-307-0001-V-04-0	July 30, 2014	Renewal Title V Permit
2421-307-0001-V-04-1	December 29, 2014	Administrative Amendment, Name Change

1.1 Emissions Summary

The table below summarizes the baseline period and baseline emissions for various pollutants from the Preston mill.

Table 1-3 Baseline Emissions Summary

Pollutant	Total Emissions for Kilns 3-5 Baseline Period Start Month	End Month	Baseline Emissions tpy (tpy)
PM	Jun-06	May-08	18.17
Total PM_{10}	Jun-06	May-08	23.60
Total $PM_{2.5}$	Jun-06	May-08	19.98
SO_2	Jan-06	Dec-07	7.88
NO_X	Jun-06	May-08	13.58
Total VOC	Jan-06	Dec-07	252.53
CO	Jun-06	May-08	33.94
Lead	Jan-06	Dec-07	4.86E-03
CO_2e	Jan-06	Dec-07	66,641

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.

Total Emission Increase from modified units, new units associated units are provided in Table 1.4.

Table 1-4 – Emissions Increase/Decrease

Pollutant	Emissions Increase Modified Units (tpy)	New Unit (tpy)	Associated Units (tpy)	Total (tpy)	PSD SER Thresholds (tpy)	PSD Permitting Triggered?
PM	31.23	3.75	24.28	59.26	25	Yes
Total PM_{10}	42.70	1.50	8.20	52.40	15	Yes
Total $PM_{2.5}$	28.12	0.75	3.15	32.02	10	Yes
SO_2	4.27	-	-	4.27	40	No
NO_X	33.22	-	-	33.22	40	No
Total VOC	248.80	-	-	248.80	40	Yes
CO	6.36	-	-	6.36	100	No
TRS, H_2S, H_2SO_4, Fluoride		Negligible			N/A	N/A
Lead	0	-	-	0	0.6	No
CO_2e	36,097	-	-	36,097	75,000	No

Table B-1 of the PSD permit application lists the emission factors for various pollutants of boiler B-1. Table B-2 of the PSD permit application list indirect batch kiln emission factors. Table B-3 lists the direct-fired batch kiln emission factors, Table B-4 lists the Direct-fired continuous kiln emission factors.

Table 1-5 Contemporaneous Emission Decreases from shut down of the two wood-fired boilers and two steam-fired batch kilns

Pollutant	Boiler 1 (tpy)	Boiler 2 (tpy)	Kiln1 (tpy)	Kiln 2 (tpy)	Total Shutdown Emission (tpy)
PM	24.86	23.59	0.62	0.58	49.64
Total PM_{10}	24.74	23.48	0.62	0.58	49.42
Total $PM_{2.5}$	15.54	14.75	0.62	0.58	31.49
SO_2	0.49	0.47	0	0	0.96
NO_X	32.55	30.89	0	0	63.44
VOC	0.41	0.39	78.86	73.12	152.78
CO	80.50	76.39	0	0	156.89
TRS, H_2S, H_2SO_4,		Negligible			N/A
Lead	2.47E-03	2.34E-03	0	0	4.81E-03
CO_2e	33,886	32,157	0	0	66,042

The net increases were calculated by subtracting the past actual emissions (based upon the annual average emissions from July 2006 to June 2007 from the future projected actual emissions of the drying kilns and associated emission increases from non-modified equipment. Table 1-5 and 1-6 details this emissions summary. The emissions calculations for Tables 1-3 and 1-4 can be found in in the facility's PSD application (see Tables 2.1, 2.2 and 2.3 of Application No. 40720). These calculations have been reviewed and approved by the Division.

Table 1-6 Netting analysis

Pollutant	Project Emission Increases (tpy)	Contemporaneous Emission Decreases (tpy)	Net Emission Increases (tpy)	PSD SER Thresholds (tpy)	PSD Permitting Triggered?
PM	59.26	49.64	9.62	25	No
Total PM_{10}	52.40	49.42	2.99	15	No
Total $PM_{2.5}$	32.02	31.49	0.52	10	No
SO_2	4.27	0.96	3.31	40	No
NO_X	33.22	63.44	(30.22)	40	No
VOC	248.80	152.78	96.02	40	Yes
CO	6.36	156.89	(150.53)	100	No
TRS, H_2S, H_2SO_4,		Negligible		N/A	N/A
Lead	0	4.81E-03	-4.81E-03	0.6	No
CO_2e	36,097	66,042	(29,945)	75,000	No

Based on the information presented in Table 1-6 above, Interfor Preston's proposed modification, as specified per Georgia Air Quality Application No. 40720, is classified as a major modification under PSD because the potential emissions increase of VOC exceeds the significant emission rate (SER) increase of 40 tons per year.

Through its new source review procedure, EPD has evaluated Interfor Preston's proposal for compliance with State and Federal requirements. The findings of EPD have been assembled in this Preliminary Determination.

2.0 PROCESS DESCRIPTION

According to PSD permit Application No. TV-40720, Interfor has requested authorization to shut down the two wood-fired boilers (B-1 and B-2) and two steam-heated batch kilns, Kiln 1 (DK-1), and Kiln 2 (DK-2), modify Kiln 3 (DK-3) into a direct fired continuous kiln with its own burner and fuel silo, the modify batch kilns Kiln 4 (DK-4) and Kiln 5 (DK-5) into continuous direct fired kilns with some additional work proposed for their burners and to construct and operate a bark load out system.
The facility has also proposed to add a powered stack to each of the three continuous kilns to assure compliance with the ambient air toxic regulations.

These proposed changes are driven by the need to retire the two wood-fired boilers before the Boiler MACT compliance deadline of January 31, 2017, by which time all the direct-fired continuous kilns must be operational.

The Interfor Preston permit application and supporting documentation are included in Appendix B of this Preliminary Determination and can be found online at 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 lumber dry kilns emit PM, which are regulated by GA Rule 391-3-1-.02(2)(e) "Particulate Emissions from Manufacturing Processes". The allowable PM emissions rate for new equipment with input rates up to and including 30 tons per hour (TPH) is expressed by the following equation:

$E = 4.1P^{0.67}$, where E equals the allowable PM emission rate in pounds per hour (lb/hr) and P equals the maximum process input weight in TPH.

The allowable PM emissions rate for new equipment with input rates above 30 TPH is expressed by the following equation:

$E = 55P^{0.11} - 40$, where E equals the allowable PM emission rate in lb/hr and P equals the maximum process input weight in TPH.

The allowable PM emissions rate for existing equipment (equipment in use before July 2, 1968) is expressed by the following equation: $E = 4.1P^{0.67}$, where E equals the allowable PM emission rate in lb/hr and P equals the maximum process input weight in TPH.

Based on the wet weight of green lumber of 5 lb/BF and a maximum production rate of 6.8 - 11.4 MBF/hr through the kilns, the maximum process input weight for the larger kilns is 28.53 TPH. Therefore, the larger kilns are subject to a maximum PM allowable emissions rate as calculated below:

$$E = 4.1P^{0.67} = 4.1\ (28.53)^{0.67} = 38.71 \text{ lb/hr}$$

A PM emission from the proposed bark loading system is subject to Georgia Rule (e).

The lumber dry kilns are also subject to GA Rule 391-3-1-.02(2)(b), which states that the kilns must comply with a 40% opacity limit. In addition, the kilns must meet the 2.5 percent sulfur limit for fuel burning, as expressed in GA Rule 391-3-1-.02(2)(g)2.

Georgia Rule (n) governs fugitive emissions from the various operations such as sawing, bark load out, chipping and planing etc. at the sawmill. The Permittee is required to take steps to minimize fugitive emissions which are limited to 20% by this rule.

Federal Rule - PSD

The regulations for PSD 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 PSD pollutant.

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 and that is subject to PSD permitting;
- 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: Identify all control technologies;
Step 2: Eliminate technically infeasible options;
Step 3: Rank remaining feasible control technologies by control effectiveness;
Step 4: Evaluate the most effective controls and document results including energy, environmental and economic considerations; and
Step 5: Select 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

No federal NSPS exists for drying kilns at lumber sawmills.

National Emissions Standards For Hazardous Air Pollutants

On July 30, 2004, EPA promulgated final MACT standards for the Plywood and Composite Wood Products (PCWP) source category (40 CFR 63 Subpart 4D). PCWP facilities are defined to include lumber kilns located at any facility including sawmills. Although lumber kilns are subject to the MACT, there are no emission limits or work practice standards for lumber kilns included in the final rule.

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 direct-fired continuous drying kilns 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. The permit has requirements for development and implementation of preventive maintenance plans (PMP) in order to minimize excess emissions during 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 applies to the direct-fired continuous drying kilns, which does not employ any air pollution control device; 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 Volatile Organic Compounds (VOCs).

Direct-Fired Continuous Drying Kilns- Background

The first step in a top-down BACT analysis is to determine, for each applicable pollutant, the most stringent control alternative available for a similar source or source category.

If it can be shown that this level of control is not feasible on the basis of technical, economic, energy, or environmental impacts for the source in question, then the next most stringent level of control is identified and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any technical, economic, energy, or environmental consideration.

In the case of the proposed project, the changes to the drying kilns constitute a physical modification to the source. As a result, BACT applies to the direct-fired drying kilns (DK-3, DK-4 and DK-5). VOC emissions from the drying kilns require a BACT analysis since the proposed project is subject to PSD for VOC. The BACT analysis is summarized in the following section.

The direct-fired continuous kilns (Source Code DK-3, DK-4 and DK-5) dries green lumber from the sawmill. The continuous kilns receive hot air from the dryer burners that are fired with sawdust.

The lumber is loaded on rail cars and moves slowly on tracks through the drying kilns. The lumber is arranged on the rail cars in stacks using sticks that allow the hot air to come in contact with the green lumber. The hot air removes moistures, VOC and HAPs from the lumber as it gets dried. The kiln exhaust containing moisture, VOC and HAPs leave the kilns from the end doors and the powered stacks on the side of the kiln.

Continuous Lumber Drying Kilns – VOC Emissions

Interfor's Proposal

Interfor operates a number of lumber drying kilns across the US. None of the lumber kilns at any of Interfor's manufacturing facilities utilize controls to remove VOCs. In addition, to the best of Interfor's knowledge, no lumber kilns operating in the US utilize controls to remove VOCs.

While add-on controls have not been demonstrated for lumber drying kilns, the following control technologies have been demonstrated to remove VOC emissions for other industrial processes:

Step 1 – Identification of Potential Control Techniques:

Interfor has suggested the following BACT for control of VOC emissions. An analysis of these technologies can be found in Section 5 (pages 28 through 44) of the application.

While add-on controls have not been demonstrated for lumber drying kilns, the following control technologies have been demonstrated to remove VOC emissions for other industrial processes:

- Wet electrostatic precipitator (WESP) followed by Thermal Oxidation
- WESP followed by Catalytic Oxidation
- Condensation
- Carbon Adsorption
- Wet Scrubbing
- Biofiltration
- Proper Kiln Design and Operation

A brief description of each of the VOC control technologies listed above was provided by Interfor in the PSD permit application.

The Division has reviewed Step 1 of the applicant's analysis and the Division agrees with the findings.

Step 2 – Elimination of Technically Infeasible Control Options:

- Wet electrostatic precipitator (WESP) followed by Catalytic Oxidation is not feasible due to the potential for blinding and poisoning of the catalyst. Blinding occurs when particulates build-up and coat the catalyst. Blinding prevents oxidation of VOC emissions in catalyst. Poisoning occurs when heavy metals in the gas stream become chemically bound to the catalyst and reduce the surface area for oxidation of VOC emissions. The applicant's analysis can be found on page 38 of the PSD permit application.

- Condensation is not feasible because of the low temperature required of the exhaust stream with the potential of freezing the water vapor in the gas stream. The applicant's analysis can be found on page 38 of the PSD permit application.

- Carbon Adsorption is not feasible because of the high humidity of the exhaust stream. The applicant's analysis can be found on page 38 of the PSD permit application.

- Wet Scrubbing is not feasible because of this requires water soluble VOC compounds to be controlled and the constituents of the gas stream are not water soluble. The adsorption media could easily be plugged. The applicant's analysis can be found on page 40.

- Biofiltration is not feasible due to the inconsistent flow of the exhaust stream and also the potential to buildup insoluble VOC compounds within the biofilter bed which could plug the media. The applicant's analysis can be found on page 40.

The Division agrees with the applicant that the use of wet electrostatic precipitator (WESP) followed by catalytic oxidation, condensation, carbon adsorption, wet scrubbing and biofiltration are technically infeasible.

Because wet electrostatic precipitator (WESP) followed by thermal oxidation was found to be technically feasible, it was evaluated further for BACT

Step 3 – Rank of Remaining Control Technologies

The following is a ranking of the control technologies based on control effectiveness found on page 41 of the application.

Efficiency Ranking of Feasible Control Technologies

Rank	Control Technology	Potential Control Efficiency (%)
1	Wet Electrostatic Precipitator (WESP) followed by Regenerative Thermal Oxidizer (RTO)	98%
2	Proper Maintenance and Work Practices	Base Case

The list also includes "Proper Maintenance and Work Practices." The efficiency of this method varies according to industry.

The Division agrees with the applicant that the RTO is ranked as the most effective control technology to use with the continuous kilns for VOC control.

Step 4 – Evaluation of Most Stringent Controls:

The applicant provided an analysis of the wet electrostatic precipitator (WESP) followed by thermal oxidation on pages 41 to 44 of the application. The applicant calculated the annualized cost of the RTO and WESP as $40,000 per ton of VOC removed for Kiln 3 and greater than $24,000 per ton of VOC removed for Kilns 4 and 5. The cost of the RTO and WESP exceeds the benefit of the VOC reduction.

The Division agrees with the applicant that the RTO and WESP costs exceed the benefit of the VOC reduction.

Step 5 – Selection of BACT:

The applicant has determined BACT as Proper Maintenance and Work Practices. Pages 44 in the application describe the BACT selection.

The applicant will use a VOC emission factor of 3.86 lb/MBF (VOC as terpene + methanol + formaldehyde) as BACT to calculate VOC emissions from the continuous direct-fired lumber kiln.

BACT is generally an emission limit. However in the case of continuous kilns which are an emerging technology, enough test data does not exist to impose a limit on the facility. Therefore, BACT in this case is not a numerical value but proper maintenance and work practices. Work practices will include proper maintenance and minimizing over-drying (target moisture content of 12% or more measured at the planer mill. Interfor will also develop and implement a preventative maintenance plan within 180 days of kiln startup. Development and implementation of site-specific maintenance plan is consistent recent BACT determinations in EPA Region 4.

EPD Review – VOC Control

The facility is located in a lightly populated and developed area of Georgia and ambient concentrations of ozone in this area are in attainment with the NAAQS for this pollutant. Moreover, it should also be noted that VOC emissions from the lumber kilns are small compared to the biogenic (naturally occurring) VOC emissions from forests in the vicinity of the facility and, consequently, any reduction of VOC emissions from the lumber kilns will have a negligible effect upon ozone formation and concentrations in the area while an increase in NOx concentrations generated by the control equipment could actually increase ozone levels.

Results of the top-down BACT analysis indicate that there are no demonstrated control techniques in practice, numerous technical challenges and no cost-effective control technologies for removing VOC emissions from lumber drying kilns and, consequently, the BACT proposed for the lumber kiln is “no additional add on control” with the use of “proper drying kiln design and operating practices such as optimum drying of the lumber and maintenance of the optimum moisture level in the dried wood” is determined to be BACT for VOC for the lumber drying kilns DK03, DK04 and DK05.

The naturally-occurring VOCs in the lumber are driven-off from the heat used to dry the lumber within the kiln. Lumber is dried to a specific moisture content for quality control purposes. Proper design and operation of the lumber kilns prevents over drying of the lumber that may release additional VOCs to the atmosphere. As a result, proper operation of the kilns will minimize VOC emissions to the atmosphere and is the BACT for VOC for the drying kilns.

Conclusion – VOC Control

The BACT selection for the drying kilns DK03, DK04 and DK05 is no additional add on control for removing VOC from the drying kiln exhaust, proper operation and maintenance of the drying kiln, maintenance of the drying level in the lumber by maintaining proper moisture content in the dried lumber.

The compliance method is proper maintenance and operation of the drying kilns DK03, DK04 and DK05 and monitoring of the moisture level of the dried lumber as it comes out of the planer mill.

5.0 TESTING AND MONITORING REQUIREMENTS

Testing Requirements:

No applicable testing requirements are imposed for the lumber drying kilns, since there is no VOC BACT emission limit for the lumber drying kilns DK03, DK04 and DK05.

Monitoring Requirements:

No applicable monitor requirements are imposed on drying kilns DK03, DK04 and DK05 since Interfor will follow the site-specific operation and maintenance plan for the drying kilns and will closely monitor the moisture content of the dried lumber as it comes out of the planer mill thereby ensuring optimum control of VOC emissions from the lumber drying kilns DK03, DK04 and DK05. The Permittee will also closely monitor the burner temperature in the dryer burner/gasifier and the temperature in the blend box and the kiln temperatures.

CAM Applicability:

CAM is only applicable to emission units that have potential emissions greater than the major source threshold, located at a major source, use a control device to control a pollutant emitted in an amount greater than the major source threshold for that pollutant, and have a specific emission standard for that pollutant.

The continuous drying kilns DK03, DK04 and DK05 do not have any add on control equipment for controlling VOC emissions and do not have a specific emission standard for VOC. Therefore, CAM is not applicable and is will not be triggered by the proposed modification. No CAM provisions for VOC for the continuous drying kilns are 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_2, CO, $PM_{2.5}$, PM_{10}, SO_2, Ozone (O_3), and lead. PSD increments exist for SO_2, NO_2, and PM_{10}.

The proposed project at the Interfor's Preston sawmill triggers PSD review for VOC only. A Toxic Impact Assessment (TIA) was conducted to demonstrate compliance with the Georgia air toxics program.

No PSD *de minimis* monitoring concentration exists for VOCs, however, an increase in VOC emissions of 100 TPY or more requires analysis for Ozone O_3. The predicted increase in VOC emissions due to the proposed modification is less than 100 TPY. Therefore, no Ozone analysis is required under the PSD rules for the proposed modification.

Modeling Requirements

The air quality modeling analysis was conducted in accordance with Georgia EPD's *Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions (Revised).*

The proposed project will cause net emission increases of VOC that are greater than the applicable PSD Significant Emission Rates of 40 tons per year. TRS and VOC do not have established PSD modeling significance levels (MSL) (an ambient concentration expressed in either $\mu g/m^3$ or ppm). Therefore, air dispersion modeling analyses are not required to demonstrate compliance with the NAAQS and PSD Increment since they don't exist for VOC. Modeling is not required for VOC emissions; however, the project will likely have no impact on ozone attainment in the area based on data from the monitored levels of ozone in Webster County and the level of emissions increases that will result from the proposed project. The southeast is generally NO_X limited with respect to ground level ozone formation.

Significance Analysis: Ambient Monitoring Requirements and Source Inventories

Significant impact levels do not exist for VOC. Therefore a significance analysis is not required for VOC. Therefore, the proposed project is exempt from pre-construction ambient monitoring.

NAAQS Analysis

NAAQS do not exist for VOC. Therefore a NAAQS Analysis is not required for the proposed modification.

PSD Increment Analysis

There is no PSD increment established for VOC. Therefore a PSD increment analysis is not required for the proposed modification.

Modeling Methodology

Details on the dispersion model, including meteorological data, source data, and receptors can be found in EPD's PSD Dispersion Modeling and Air Toxics Assessment Review in Appendix C of this Preliminary Determination and in Section 8 of the expedited PSD permit application.

As noted previously, the VOC *de minimis* concentration is mass-based (100 tpy) rather than ambient concentration-based (ppm or $\mu g/m^3$). Projected VOC emissions increases resulting from the proposed modification will not exceed 100 tpy; Therefore, no pre-construction or post-construction ozone monitoring is necessary for the proposed modification.

The project site is located in Webster County, which has been designated by EPA and GEPD as an attainment or maintenance area for all criteria pollutants. Webster County and surrounding counties are designated as PSD Class II areas for all criteria pollutants.

No source impact analysis was performed for the project since there are no AAQS or Class I and II increment values specified for VOC. In addition, there are no significant impact levels for VOC.

There are no Class 1 areas within 200 kilometers of Interfor's Preston sawmill so the additional impact analysis on Class I areas is not applicable.

The closest ambient ozone monitor to the facility is located in Leslie, Sumter County, Georgia; AIRS monitor site code of 1001. Sumter County, Georgia is located in a rural portion of the State. Rural locations usually are NO_x limited, when considering ozone production. These areas are typically rich in biogenic VOC emissions, such as isoprene, and the production of ozone is largely dominated by the changes in NO_x emissions.

For Webster County, the total VOC emissions, as reported in the 2011 National Emission Inventory (NEI), was 9,679 tons; a majority of which were from biogenic sources (~93.4%). A potential to emit increase of 96 TPY from this project will result in a 0.9% increase, relative to the 2011 NEI reported values, in VOC emissions for Webster County. This VOC emission increase should not cause local ambient ozone concentrations to increase above NAAQS levels. In addition, as previously stated, since this facility is located in a rural region with high biogenic VOC emissions, it is likely that ozone production in the area is NO_x limited. Again, based on data from the 2011 NEI, County wide emissions for NO_x were 396 tons and VOC emissions were 9,679 tons. And, this project will not increase NOx emissions. This characteristic of Webster County gives further reliance that the slight increase in VOC emissions will have negligible effects on ozone concentrations.

Class I Area Analysis

The nearest Class I Area to the facility is more than 200 kilometers away. The magnitude of the emissions from the proposed project does not warrant a review of impacts at this distance. Therefore, no Class I Increment consumption of Air Quality Related Values (AQRV) analyses were performed.

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

According to the Webster County Soil Survey, the soils in the vicinity of the Interfor Sawmill are dominated by Kinston and Bibb soil. This soil is nearly level. Typical vegetation includes loblolly pine, slash pine, eastern cottonwood, and yellow poplar.

The maximum O_3 concentrations in the vicinity of the site are currently below the AAQS (refer to Section 4.2). The proposed project represents approximately a 0.9 percent increase in regional VOC emissions (refer to Section 6.1.3). Therefore, the effects of O_3, as a result of VOC emissions from the proposed project, are expected to be insignificant, and no detrimental effects on soils or vegetation should occur in the vicinity of the Interfor Preston Sawmill.

Visibility

Sources of air pollution can cause visible plumes if emissions of PM_{10} and NO_X are sufficiently large. A plume will be visible if its constituents scatter or absorb sufficient light so that the plume is brighter or darker than its viewing background (e.g., the sky or a terrain feature, such as a mountain). PM_{10} and NOx are decreasing with this project so, no adverse impacts upon visibility in the vicinity of the site are expected to occur.

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 is 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 the saw dust fed to the combustion sources, and the fact that there are complex chemical reactions and combustion of fuel taking place in some. The vast majority of compounds potentially emitted however are emitted in only trace amounts that are not reasonably quantifiable.

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 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.

The calculations for this assessment were carried out by PLE Consulting and forwarded to Koogler & Associates, Inc. for air quality modeling. The pollutants of concern include methanol, formaldehyde, phenol, acetaldehyde, acrolein, propionaldehyde, methyl isobutyl ketone (MIK), benzene, o-xylene, and toluene. To carry out an adequate determination of the influences these TAP increases may contribute to surrounding air quality, air dispersion modeling was carried out. This modeling effort utilized EPA's AERMOD model, with the v.14134 executable.

For this assessment, the AAC values used were obtained from the GA EPD AAC database and a recently submitted application that GA EPD referenced in pre-modeling conversations[1,2].

The TIA Model inputs for Terrain and Sources are described in the PSD permit application in Section 8.0.

The locations, release height, gas exit temperature, stack inside diameter, gas exit flow rate and the exit velocity for each emission point is summarized below:

[1] http://epd.georgia.gov/air/documents/ssppmodelingaac-spreadsheet

[2] Georgia-Pacific Wood Products LLC PSD Permit Application submitted to GA EPD in March 2015. Title V Permit No. 2421-115-0016-V-04-0; Facility ID No. 04-13-115-00016

Source ID	X,Y UTM Coordinates [m]	Release Height [ft.]	Gas Exit Temperature [F]	Stack Inside Diameter [ft]	Gas Exit Flow Rate [ft^3/min]	Exit Velocity m/s
DK03a	736680, 3547417	35	140	2	7,135	11.537
DK03b	736720, 3547399	35	140	2	7,135	11.537
DK03ad	736680, 3547417	8	140	19.15	1,784	0.031 (0.001)
DK03bd	736720, 3547399	8	140	19.15	1,784	0.031(0.001)
DK04a	736646, 3547376	35	140	2	10,924	17.664
DK04b	736704 3547350	35	140	2	10,924	17.664
DK04ad	736646, 3547376	8	140	19.15	2,731	0.048 (0.001)
DK04bd	736704 3547350	8	140	19.15	2,731	0.048 (0.001)
DK05a	736634, 3547341	35	140	2	10,924	17.664
DK05b	736692, 3547316	35	140	2	10,924	17.664
DK05ad	736634, 3547341	8	140	19.15	2,731	0.048 (0.001)
DK05bd	736692, 3547316	8	140	19.15	2,731	0.048 (0.001)

Note that GA EPD modeled the impact of Formaldehyde and Acrolein using 0.001 m/s for horizontal discharge through the kiln doors.

The emission rate of each modeled TAP from DK03, DK04, and DK05 are summarized below. The emissions from each emission point are half the total emissions from each emission source. These values are reported on a ton per year basis (TPY).

Pollutant	DK03 [TPY]	DK04 [TPY]	DK05 [TPY]
Methanol	5.76	9.60	9.60
Formaldehyde	1.77	2.95	2.95
Phenol	0.31	0.52	0.52
Acetaldehyde	1.26	2.10	2.10
Acrolein	0.18	0.30	0.30
Propionaldehyde	0.09	0.15	0.15
MIK	0.07	0.11	0.11
Benzene	0.01	0.02	0.02
o-Xylene	0.01	0.01	0.01
Toluene	0.00	0.01	0.01

Pollutant	DK03a [lb/hr]	DK03b [lb/hr]	DK04a [lb/hr]	DK04b [lb/hr]	DK05a [lb/hr]	DK05b [lb/hr]
Methanol	0.5260	0.5260	0.8767	0.8767	0.8767	0.8767
Formaldehyde	0.1616	0.1616	0.2694	0.2694	0.2694	0.2694
Phenol	0.0283	0.0283	0.0475	0.0475	0.0475	0.0475
Acetaldehyde	0.1151	0.1151	0.1918	0.1918	0.1918	0.1918
Acrolein	0.0164	0.0164	0.0274	0.0274	0.0274	0.0274
Propionaldehyde	0.0082	0.0082	0.0137	0.0137	0.0137	0.0137
MIK	0.0064	0.0064	0.0100	0.0100	0.0100	0.0100
Benzene	0.0009	0.0009	0.0018	0.0018	0.0018	0.0018
o-Xylene	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Toluene	0.0000	0.0000	0.0009	0.0009	0.0009	0.0009

Pollutant	DK03ad [lb/hr]	DK03bd [lb/hr]	DK04ad [lb/hr]	DK04bd [lb/hr]	DK05ad [lb/hr]	DK05bd [lb/hr]
Methanol	0.1315	0.1315	0.2192	0.2192	0.2192	0.2192
Formaldehyde	0.0404	0.0404	0.0674	0.0674	0.0674	0.0674
Phenol	0.0071	0.0071	0.0119	0.0119	0.0119	0.0119
Acetaldehyde	0.0288	0.0288	0.0479	0.0479	0.0479	0.0479
Acrolein	0.0041	0.0041	0.0068	0.0068	0.0068	0.0068
Propionaldehyde	0.0021	0.0021	0.0034	0.0034	0.0034	0.0034
MIK	0.0016	0.0016	0.0025	0.0025	0.0025	0.0025
Benzene	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005
o-Xylene	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Toluene	0.0000	0.0000	0.0002	0.0002	0.0002	0.0002

The following table is the acceptable ambient concentrations (AACs) for the modeled HAPs for the short term (15 minute and 1-hour averages) and long term (Annual average) for the various pollutants are in the table below:

Source ID	15-Minute AAC [µg/m^3]	24-Hour AAC [µg/m^3]	Annual AAC [µg/m^3]
Methanol	32,800	619	NA
Formaldehyde	245	NA	1.1
Phenol	6,000	45.2	NA
Acetaldehyde	4,500	NA	4.55
Acrolein	23	NA	0.15
Propionaldehyde	NA	NA	8
MIK	30,700	NA	3,000
Benzene	1,600	NA	0.13
o-Xylene	65,500	NA	100
Toluene	113,000	NA	5,000

The dispersion modeling results from this analysis are summarized in the table below. Each modeled value represents the maximum concentration for each averaging time. In accordance with The Toxics Guideline, the 1-hour model results were multiplied by 1.32 to generate an equivalent 15-minute averaging AAC. Each pollutant was individually modeled by AERMOD to eliminate the assumption of a linear relationship between facility emissions and resulting concentrations. To simplify the presentation of the data, the following table show the averaging time appropriate AACs for all of the modeled TAPs at the fenceline.

Source ID	15-Min. AAC [µg/m^3]	15-Min. MGLC Fenceline [µg/m^3]	24-Hour AAC [µg/m^3]	24-Hour MGLC Fenceline [µg/m^3]	Annual AAC [µg/m^3]	Annual MGLC Fenceline [µg/m^3]
Methanol	32,800	90.5	619	23.7	NA	2.3
Formaldehyde	245	27.8	NA	7.3	1.1	0.70 (2.36)
Phenol	6,000	4.9	45.2	1.3	NA	0.12
Acetaldehyde	4,500	19.8	NA	5.2	4.55	0.50
Acrolein	23	2.8	NA	0.74	0.15	0.07 (0.24)
Propionaldehyde	NA	1.4	NA	0.37	8	0.04
MIK	30,700	1.1	NA	0.28	3,000	0.03
Benzene	1,600	0.18	NA	0.05	0.13	0.005
o-Xylene	65,500	0.11	NA	0.03	100	0.003
Toluene	113,000	0.05	NA	0.02	5,000	0.002

The above table shows that the maximum ground level concentrations of various toxic air pollutants modeled are less than their respective AAC values for both and short term and long term periods beyond the facility fenceline except for the annual average concentrations of Formaldehyde and Acrolein when the exit velocity from the kiln doors is modeled at 0.001 m/s. The results indicate that the MGLCs increase by about 3.4 times at annual and 7.6 times at 15-min averaging period, listed in parentheses in Table 1. Therefore, a site specific risk assessment is required and was conducted by GA EPD for Formaldehyde and Acrolein. GA EPD's site-specific risk assessment indicated that there are no residential locations in the areas where the modeled maximum annual concentration for Formaldehyde and Acrolein exceed the corresponding AACs. Therefore, the Interfor's Preston site passes the site specific risk assessment and meets the applicable Georgia Air Toxics Guideline.

8.0 EXPLANATION OF DRAFT PERMIT CONDITIONS

The permit requirements for this proposed facility are included in draft Permit Amendment No. 2421-307-0001-V-04-2.

Section 1.0: Facility Description

Intefor plans to shutdown wood-fired boilers B-1 and B-2 and steam heated batch kilns DK-1 and DK-2, convert steam heated batch kiln DK-3 to a direct-fired continuous kiln with its own burner and fuel silo and modify batch Kilns DK-4 and DK-5 into continuous kilns with some burner upgrades and addition of powered stacks to all three continuous kilns.

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

Condition 3.3.1 was amended stating that the Boiler NSPS Subpart Dc requirements do not apply after the wood-fired boilers B-1 and B-2 are removed from the facility.

Existing Condition 3.3.3 is amended by stating that the Plywood and Composite Wood Product MACT is applicable to all drying kilns at the facility.

Existing Condition 3.3.4 is amended by stating that the boiler MACT requirements do not apply after the wood-fired boilers B-1 and B-2 are removed from the facility or January 31, 2017 whichever occurs first.

Existing Condition 3.3.5 is deleted since Interfor has indicated that it will shut down the wood-fired boilers and remove them from the facility before January 31, 2017. New Condition 3.3.5 is the work practice and preventive maintenance program for the direct-fired continuous drying kilns DK-3, DK-4 and DK-5. This is BACT for the kilns for VOC emissions.

Existing Conditions 3.4.1 and 3.4.2 are amended by stating that Georgia Rule (d) will not apply to the two wood-fired boilers B-1 and B-2 after they are removed from the facility.

Existing Condition 3.4.3 is amended by adding that the sulfur content limit of Georgia Rule (g)2 applies to the wood-fired burners of the direct-fired drying kilns DK-3, DK-4 and DK-5 and boiler B-1 and B-2. This rule will not apply to the two wood-fired boilers B-1 and B-2 after they are removed from the facility.

Existing Conditions 3.4.4 and 3.4.6 are amended by adding that Georgia Rule (e) for PM emissions will not apply to the indirect-fired batch kilns DK-1 and DK-2 after they are removed from the facility.

Existing Condition 3.4.7 was deleted since this condition is included in amended Condition 3.4.3. New Condition 3.4.7 requires the Permittee to remove boilers B-1 and B-2 before startup of direct-fired continuous kilns DK-3, DK-3 and DK-5 in order to avoid new source review under the PSD rules for particulate matter (PM).

Condition 3.4.8 is amended by moving some of the language from Condition 3.4.9 for fugitive dust and Condition 3.4.9 is deleted.

Section 4.0: Requirements for Testing

Standard condition 4.1.4 was added to describe testing data submission to US EPA.

Existing Condition 4.2.1 was amended by adding that this condition will not apply after the two wood-fired boilers B-1 and B-2 after they are removed from the facility or January 31, 2017 whichever occurs first.

Section 5.0: Requirements for Monitoring

Existing Condition 5.2.1 is amended by adding that this condition will not apply after the two wood-fired boilers B-1 and B-2 are removed from the facility.

Existing Conditions 5.2.2 and 5.2.3 is amended by adding that this condition will not apply to the boiler multiclones (BC-1 and BC-2) after the two wood-fired boilers B-1 and B-2 are removed from the facility.

Existing Conditions 5.2.4 and 5.2.5 are amended by adding that CAM requirements will not apply to the wood-fired boiler for PM after these boilers are removed from the facility.

Section 6.0: Other Recordkeeping and Reporting Requirements

Existing Condition 6.1.7c is amended that reporting of boiler multiclone excursions will not be effective after the two wood-fired boilers B-1 and B-2 are removed from service. This condition also requires reporting of all problems discovered during the inspections that are part of the work practice and preventive maintenance program for the drying kilns specified in Condition 3.3.5.

Existing Conditions 6.2.2 and 6.2.4 are amended by adding they are not valid after the two wood-fired boilers B-1 and B-2 are removed from service.

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 Revised Title V Operating Permit Amendment
Interfor U.S. Inc. – Preston Mill
Preston (Webster County), Georgia

Part 70 Operating Permit Amendment

Permit Amendment No.: **2421-307-0001-V-04-2** **Effective Date:**

Facility Name: **Interfor U.S., Inc. – Preston Mill**
378 Tolleson Road
Preston, Georgia 31824 (Webster County)

Mailing Address: 378 Tolleson Road
Preston, Georgia 31824

Parent/Holding Company: Interfor U.S. Inc.

Facility AIRS Number: 04-13-307-00001

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a construction and operating permit for:

> Shutdown of wood-fired boilers B-1 and B-2 and steam heated batch kilns DK-1 and DK-2, conversion of steam-fired batch kiln DK-3 to a direct-fired continuous kiln with its own burner and fuel silo, modification of direct-fired batch Kilns DK-4 and DK-5 into continuous kilns with some burner upgrades, addition of powered stacks to all three continuous kilns and for construction and operation of a new bark loadout system.

This Permit Amendment is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit Amendment and Permit No. 2421-307-0001-V-04-0. Unless modified or revoked, this Permit Amendment expires upon issuance of the next Part 70 Permit for this source.

This Permit Amendment may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 40720 dated March 25, 2016; any other applications upon which this Permit Amendment or Permit No. 2421-307-0001-V-04-0 are based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit Amendment is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **13** pages, which pages are a part of this Permit Amendment, and which hereby become part of Permit No. 2421-307-0001-V-04-0.

Director
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION

1.3 Process Description of Modification

Interfor Preston requested authorization to shut down two wood-fired boilers (B-1 and B-2) and two steam heated batch kilns, Kiln 1 (DK-1) and Kiln 2 (DK-2), modify steam heated batch Kiln 3 (DK-3) into a direct-fired continuous kiln with its own burner and fuel silo, and to modify direct-fired batch kilns Kiln 4 (DK-4) and Kiln 5 (DK-5) into continuous kilns with some additional work proposed for their burners. The facility plans to add a powered stack to each of the three continuous kilns (DK-3, DK-4 and DK-5) to assure compliance with the ambient air toxic regulations and aid the dispersion of the HAPs. The Permittee has also proposed to construct and operate a new bark loadout system which will consist of two hoppers, a bark hogger, a bark storage bin and a truck loadout operation.

PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1.1 Updated Emission Units

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	**Description**	**Applicable Requirements/Standards**	**Corresponding Permit Conditions**	**ID No.**	**Description**
B-1**	Wood Waste-Fired Boiler No.1 (28.7 MMBtu/hr)	40 CFR 60, Subpart A & Dc 40 CFR 63 Subpart A & 5D GA Rule 391-3-1-.02(2)(d)2.(ii) GA Rule 391-3-1-.02(2)(d)3 GA Rule 391-3-1-.02(2)(g)2	3.3.1, 3.3.4, 3.4.1, 3.4.2, 3.4.3, 3.4.7, 3.5.1, 3.5.2, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 6.1.7c.i-iii, 6.2.1, 6.2.2, 6.2.4	BC-1	Multiclone
B-2**	Wood Waste-Fired Boiler No.2 (28.7 MMBtu/hr)	40 CFR 60, Subpart A & Dc 40 CFR 63 Subpart A & 5D GA Rule 391-3-1-.02(2)(d)2.(ii) GA Rule 391-3-1-.02(2)(d)3 GA Rule 391-3-1-.02(2)(g)2	3.3.1, 3.3.4, 3.4.1, 3.4.2, 3.4.3, 3.4.7, 3.5.1, 3.5.2, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 6.1.7c.i-iii, 6.2.1, 6.2.2, 6.2.4	BC-2	Multiclone
DK-1**	Drying Kiln No. 1 (Steam heated)	40 CFR 63, Subpart A & 4D GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e)	3.3.2, 3.3.3, 3.4.4, 3.4.6, 6.2.3	N/A	N/A
DK-2**	Drying Kiln No. 2 (Steam heated)	40 CFR 63, Subpart A & 4D GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e)	3.3.2, 3.3.3, 3.4.4, 3.4.6, 6.2.3	N/A	N/A
DK-3#	Drying Kiln No. 3 (Steam heated)	40 CFR 63, Subpart A & 4D GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(g)2 40 CFR 52.21(j) (BACT)	3.3.2, 3.3.3, 3.3.5, 3.4.4, 3.4.6, 3.4.7, 6.1.7.c., 6.2.3	N/A	N/A
DK-4##	Drying Kiln No. 4 (Direct-fired, 36 MMBtu/hr)	40 CFR 63, Subpart A & 4D GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(g)2 40 CFR 52.21(j) (BACT)	3.3.2, 3.3.3, 3.3.5, 3.4.4, 3.4.6, 3.4.7, 6.1.7.c., 6.2.3	N/A	N/A
DK-5##	Drying Kiln No. 5 (Direct-fired, 40 MMBtu/hr)	40 CFR 63, Subpart A & 4D GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(g)2 40 CFR 52.21(j) (BACT)	3.3.2, 3.3.3, 3.3.5, 3.4.4, 3.4.6, 3.4.7, 6.1.7.c., 6.2.3	N/A	N/A
PLN1	Planer Mill	GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e)	3.4.5, 3.4.6, 3.5.1, 3.5.2, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.6, 6.1.7c.i-iii, 6.2.1, 6.2.3	PLC1	Relay fan (Shavings bin) Cyclone
BLO1	Bark loadout system	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(n)	3.4.4, 3.4.8	N/A	N/A
PR	Plant Roads	GA Rule 391-3-1-.02(2)(n)	3.4.8, 6.2.3	N/A	N/A

* 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. ** Scheduled to be shut down before January 31, 2017, # Steam-heated batch Kiln DK-3 will be converted to a direct-fired continuous kiln. ## Direct-fired batch Kilns DK-4 and DK-5 will be converted to continuous kilns.

3.3 Equipment Federal Rule Standards

Amended Conditions

3.3.1 The Permittee shall operate Boiler B-1 and Boiler B-2 in compliance with the provisions of the New Source Performance Standards (NSPS) found in 40 CFR Part 60 Subpart A - "General Provisions" and Subpart Dc - " Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" for operation of the wood-fired boilers (B-1 and B-2). **This condition is null and void after removal of the boilers from the facility.**
[40 CFR 60 Subpart A and Subpart Dc]

3.3.3 The Permittee shall comply with all applicable provisions of 40 CFR 63, Subparts A & DDDD – "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products" **for the operation of the drying kilns at the facility**.
[40 CFR 63, Subpart 4D]

3.3.4 The Permittee shall comply with all applicable provisions of 40 CFR 63, Subpart DDDDD - *"National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters",* and all applicable provisions of 40 CFR Part 63, Subpart A – *"General Provisions"* as indicated in Table 10 to 40 CFR Part 63, Subpart DDDDD amended on January 31, 2013 and January 21, 2015. In particular, the Permittee shall comply with all the applicable emissions limits and work practice standards of 40 CFR Part 63, Subpart DDDDD by the applicable compliance date specified below; some of the submittal may be due earlier than the compliance date. **This condition is null and void if boilers B-1 and B-2 are removed from the facility or January 31, 2017 whichever occurs first**:
[40 CFR 63.7490 and 7495]

a. No later than **January 31, 2017** for Wood-Waste Fired Boilers (B-1 and B-2) provided that the boiler is an "existing" boiler(s) as defined in 40 CFR 63.7490(d), except as provided in 40 CFR 63.6(i).

b. For any "new" or "reconstructed" boiler(s) as defined in 40 CFR 63.7490(b) or 40 CFR 63.7490(c), upon startup.

New Condition

3.3.5 For the continuous direct-fired kilns DK-3, DK-4 and DK-5, the Permittee shall develop and implement a Work Practice and Preventive Maintenance Program. The program shall be subject to review and modification by the Division. At a minimum, the following operational and maintenance checks shall be made and a record of the findings and corrective actions taken, shall be kept in electronic or manual maintenance logs:
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

a. General Work Practice Standards for Wood-Drying Kiln Operation:

i. The lumber kiln drying operation target final moisture content will be 12% or greater based on a 12-month rolling average. Moisture content will be measured with a moisture meter at the infeed of the planer mill on a daily basis.

ii. Routines for periodic preventative maintenance are detailed in paragraphs b, c, d and e of this condition. With future equipment changes or modifications, these preventative maintenance activities can be modified pending approval from EPD.

b. Daily Routine:

i. Make certain all fans are running properly. If one "trips out" frequently or becomes inoperable, investigate to determine the reason and then document the corrective actions.

ii. Check to verify that the kiln heating systems (direct-fired burners) are operating properly.

c. Quarterly Routine:

i. Grease fan motors, shafts and bearings and inspect fan blades for damage. Check fan clearances, rotation, tension and replace belts if required.

ii. Inspect kiln walls, doors and baffles for deterioration and schedule repairs as needed.

iii. Inspect temperature monitoring systems for proper operation.

iv. Inspect and repair as necessary external components of direct-fired gasifier.

d. Semi-annual Routine:

i. Verify accuracy of the temperature measurement systems. Repair or replace components as necessary.

ii. During cold shutdown of continuous kilns DK3, DK4 and DK5, inspect and repair as necessary all internal components of kilns and direct-fired burners. During this time the continuous kilns DK3, DK4 and DK5 and burners should be thoroughly cleaned of accumulated dust.

e. Any adverse condition discovered by this inspection shall be corrected in the most expedient manner possible. The Permittee shall record problems discovered in a maintenance log/checklist or the plant's Computerized Maintenance Management System (CMMS), indicating the corrective action(s) taken. If a problem discovered during daily inspection cannot be remedied within 48 hours of discovery, it shall be entered into the plant's Computerized Maintenance Management System (CMMS) as an excursion.

3.4 Equipment SIP Rule Standards

Amended Conditions

3.4.1 The Permittee shall not cause, let, suffer, permit or allow the emission of fly ash and/or other particulate matter from boilers (B-1 and B-2) in amounts equal to or exceeding the allowable rate derived from $P=0.5(10/R)^{0.5}$; where P equals the allowable weight of emissions of fly ash and/or other particulate matter in pounds per million BTU heat input and R equals the heat input of fuel-burning equipment in million Btu per hour. **This condition is null and void after removal of the boilers B-1 and B-2 from the facility**.
[391-3-1-.02(2)(d)2(ii)]

3.4.2 The Permittee shall not cause, let, suffer, permit or allow the emission from wood-fired boilers (B-1 and B-2), visible emissions the opacity of which is equal to or greater than twenty (20) percent except for one six minute period per hour of not more than twenty-seven (27) percent opacity. **This condition is null and void after removal of the boilers B-1 and B-2 from the facility**.
[391-3-1-.02(2)(d)3.]

3.4.3 The Permittee shall not burn fuel containing more than 2.5 percent sulfur, by weight, in the wood-fired boilers (B-1 and B-2) **or in the direct-fired continuous drying kiln burners DK-3, DK-4 and DK-5**. **For boilers B-1 and B-2 this condition will be null and void after their removal from the facility**.
[391-3-1-.02(2)(g)]

3.4.4 The Permittee shall not cause, let, suffer, permit or allow the rate of emissions from the drying kilns (DK-1, DK-2, DK-3, DK-4, and DK-5) particulate matter in total quantities equal to or exceeding the allowable rate derived from $E = 4.1\ P^{0.67}$; where E equals the emission rate in pounds per hour and P equals the process input weight rate in tons per hour**. For drying kilns DK-1 and DK-2 this condition will be null and void after their removal from the facility.**
[391-3-1-.02(2)(e)1(i)]

3.4.6 The Permittee shall not cause, let, suffer, permit or allow emissions from any drying kiln (DK-1, DK-2, DK-3, DK4, and DK-5) and the planer mill (PLN1) the opacity of which is equal to or greater than forty (40) percent. **For drying kilns DK-1 and DK-2 this condition will be null and void after their removal from the facility.**
[391-3-1-.02(2)(b)1]

3.4.7 The Permittee shall remove boiler B-1 and B-2 from the facility before startup of the continuous drying kilns D-3, D-4 and D-5.
[PSD avoidance for PM]

3.4.8 The Permittee shall take all reasonable precautions to prevent dust from becoming airborne including, but not limited to, the application of water or other suitable chemicals to control fugitive dust from plant roads. The percent opacity from any fugitive dust source shall not equal or exceed 20 percent.
[391-3-1-.02(2)(n)]

3.4.9 Condition deleted.

PART 4.0 REQUIREMENTS FOR TESTING

4.1 General Testing Requirements

New Condition

4.1.4 The Permittee shall submit performance test results to the US EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI) in accordance with any applicable NSPS or NESHAP standards (40 CFR 60 or 40 CFR 63) that contain Electronic Data Reporting Requirements. This Condition is only applicable if required by an applicable standard and for the pollutant(s) subject to said standard.
[391-3-1-.02(8)(a) and 391-3-1-.02(9)(a)]

4.2 Specific Testing Requirements

Amended Condition

4.2.1 The Permittee shall, conduct performance tests for Particulate Matter (PM) and visible emissions from each of the wood-fired-boilers (B-1 and B-2) at 24-month intervals. The tests shall be conducted at the maximum anticipated production rate. The results of the performance test(s) shall be submitted to the Division within 60 days of the completion of testing. Should the PM emissions for a boiler be less than fifty (50) percent of the applicable emissions limitations contained in Condition 3.4.1, the Permittee may request that testing be conducted at 48-month intervals. **This condition shall be null and void after removal of boilers B-1 and B-2 from the facility.**
[391-3-1-.02(2)(a)3]

PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)

5.2 Specific Monitoring Requirements

Amended Conditions

5.2.1 The Permittee shall perform checks of the visible emissions from each boiler multiclone (BC-1 and BC-2). Checks shall be daily, for each day or portion of each day of operation. The Permittee shall retain a record in a visible emissions (VE) log, suitable for inspection or submittal. The checks shall be conducted using the procedure below except when atmospheric conditions or sun positioning prevent any opportunity to perform the daily VE check. Any operational day when atmospheric conditions or sun position prevent a daily reading shall be reported as monitor downtime in the VE log. **For boilers B-1 and B-2 this condition shall be effective until the boilers are removed from service.**
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. The person performing the determination shall stand at a distance of at least 15 feet, which is sufficient to provide a clear view of the plume against a contrasting background with the sun in the 140° sector at his/her back. Consistent with this requirement, the determination shall be made from a position such that the line of vision is approximately perpendicular to the plume direction. Only one plume shall be in the line of sight at any time when multiple stacks are in proximity to each other.

b. The person performing the determination shall be Method 9 certified and the determination shall cover a period of three minutes. The opacity action level shall be any occurrence of visible emissions that is equal or greater than 20 percent. The Permittee shall determine the cause of the visible emissions and correct any operational problems in the most expedient manner possible. The Permittee shall maintain a written log defining the cause of any occurrence of visible emissions equal to or greater than the opacity action level and corrections made. The log shall be maintained in a form suitable for inspection or submittal to the Division.

5.2.2 The Permittee shall perform the following applicable operation and maintenance checks and retain a record suitable for inspection or submittal, for each week or portion of each week of operation of the boilers (B-1 and B-2) controlled by Multiclones BC-1 and BC-2 and the planer mill shavings bin controlled by Cyclone PLC-1. A checklist or other similar log may be used for this purpose:

a. Check exterior for holes in the body or evidence of malfunction in the interior of each multiclone/cyclone.

b. Check hopper for bridging and plugging.

c. Check particulate catch transfer device for proper operation to ensure dust emissions do not occur during transfer.

Any adverse condition discovered by this inspection shall be corrected in the most expedient manner possible. The Permittee shall record the incident as an excursion and note the corrective action taken. **For boiler multiclones BC-1 and BC-2, this condition is effective until the boilers are removed from service.**
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

5.2.3 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Pressure drop across each multiclone (BC-1 and BC-2) and Cyclone (PLC1), which controls emissions from Boilers B-1 and B-2, and Planer Mill PLN1, respectively. Data shall be recorded at least once per day. **For the boiler multiclones BC-1 and BC2 the pressure drops needs to be monitored until the boilers are removed from service.**

Within 120 days after the issuance of this permit, the Permittee shall establish a normal operating range for each pressure drop. Data acquired by the pressure drop monitors required in the preceding paragraph shall be used to establish the normal pressure drop range for each multiclone. The Permittee shall submit for acceptance by the Division, a report consisting of the pressure drop readings, the range established as the normal pressure drop, and a description of the procedures used to establish the range.

5.2.4 The following pollutant specific emission unit(s) (PSEU) is subject to the Compliance Assurance Monitoring (CAM) Rule in 40 CFR 64.

Emission Unit	Pollutant
Boiler B-1	PM
Boiler B-2	PM
Planer Mill PLN1	PM

Permit conditions in this permit for the PSEU(s) listed above with regulatory citation 40 CFR 70.6(a)(3)(i) are included for the purpose of complying with 40 CFR 64. In addition, the Permittee shall meet the requirements, as applicable, of 40 CFR 64.7, 64.8, and 64.9. **This condition applies to boilers B-1 and B-2 until the boilers are removed from service.**
[40 CFR 64]

5.2.5 The Permittee shall comply with the performance criteria listed in the table below for the PM emissions from Boilers B-1 and B-2. **This condition is effective until the boilers are removed from service or until January 31, 2017 whichever occurs first.**
[40 CFR 64.6(c)(1)(iii)]

Performance Criteria [64.4(a)(3)]	**Indicator No. 1 Pressure drop**	**Indicator No. 2 Visible Emissions**
A. Data Representativeness [64.3(b)(1)]	Pressure drop across each multiclone measured by a pressure monitor with accuracy of ± 1 inch water gauge over operating range.	Measurements are made at the emission point. Visible emissions from multiclones will be checked.
B. Verification of Operational Status (new/modified monitoring equipment only) [64.3(b)(2)]	Installed per manufacturer's recommendation.	Not applicable.
C. QA/QC Practices and Criteria [64.3(b)(3)]	Pressure drop monitor is calibrated quarterly.	See Condition 5.2.1a.
D. Monitoring Frequency [64.3(b)(4)]	Pressure drop is recorded at least once per day.	A daily check, when weather permits.
Data Collection Procedures [64.3(b)(4)]	Daily recording to electronic/paper.	By observation of a Method 9 certified reader.
Averaging Period [64.3(b)(4)]	Not applicable.	Not applicable.

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS

6.1 General Record Keeping and Reporting Requirements

Amended Condition

6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Excess emissions: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

i. None required to be reported in accordance with Condition 6.1.4.

b. Exceedances: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)

i. None required to be reported in accordance with Condition 6.1.4.

c. Excursions: (means for the purpose of this Condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)

i. Any visible emissions from any multiclone (BC-1 and BC-2) that is equal to or greater than 20 percent and which occurs for two consecutive determinations as required by Condition 5.2.1.

ii. Any adverse condition discovered by the weekly inspections of the multiclones/cyclone (BC-1, BC-2, and PLC1).

iii. Any pressure drop across a multiclone (BC-1, BC-2) and Cyclone (PLC1), which is outside the range established for that multiclone/cyclone per Condition 5.2.3.

iv. Any problem discovered during the inspections in Condition 3.3.5 that is not corrected within 48 hours of discovery.

Excursion for boiler multiclones BC-1 and BC-2 are valid until their removal from the facility.

6.2 Specific Record Keeping and Reporting Requirements

Amended Condition

6.2.2 The Permittee shall retain operational records of the boilers (ID Nos. B-1 and B-2). These records shall be available for inspection or submittal to the Division upon request and contain the quantity of wood waste or other fuel combusted monthly. These records shall be maintained in an order suitable for inspection or submittal to the Division upon request for a period of five years from the date of record. **This condition is valid till the boilers B-1 and B-2 are removed from the facility.**
[391-3-1-.02(6)(b)1(i); 40 CFR 60 (Subpart Dc) 60.48(c)(g)]

6.2.4 The Permittee shall submit to the Division the following notifications, as applicable:
This condition is valid till the boilers B-1 and B-2 are removed from the facility or January 31, 2017 whichever occurs first.
[40 CFR 63.7545]

a. Notifications specified in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) by the dates specified, as applicable.

b. A Notification of intent to conduct a performance test at least 60 days before the required performance test is scheduled to begin.

c. A Notification of Compliance Status for each boiler according to 40 CFR 63.9(h)(2)(ii) if an initial compliance demonstration as specified in 40 CFR 63.7530 is required. The Notification of Compliance Status, including all performance test results and fuel analyses, shall be submitted before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boilers at the facility according to 40 CFR 63.10(d)(2). The Notification of Compliance Status report must contain all the following information, as applicable. If an initial compliance demonstration as specified in 40 CFR 63.7530(a) is not required, the Notification of Compliance Status must only contain the information specified in subparagraphs (e)(i) and (viii).

i. A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with 40 CFR Part 63, Subpart DDDDD, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by the Permittee or the EPA through a petition process to be a non-waste under 40 CFR 63.241.3, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 63.241.3 and justification for the selection of fuel(s) burned during the compliance demonstration.

ii. Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including:

(A) Identification of whether the affected boiler(s) is complying with the PM emission limit or the alternative TSM emission limit.

(B) Identification of whether the affected boiler(s) is complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits.

iii. A summary of the maximum CO emission levels recorded during the performance test to show that the affected boiler(s) has met any applicable emission standard in Tables 1, 2, or 11 through 13 to 40 CFR Part 63, Subpart DDDDD as amended on January 31, 2013, if a CO CEMS is not used to demonstrate compliance.

iv. Identification of whether planning to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis.

v. Identification of whether planning to demonstrate compliance by emissions averaging and identification of whether planning to demonstrate compliance by using efficiency credits through energy conservation. If planning to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013.

vi. A signed certification that all applicable emission limits and work practice standards have been met.

vii. A description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report if there was a deviation from any emission limit, work practice standard, or operating limit.

viii. In addition to the information required in 40 CFR 63.9(h)(2), the notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(A) ‘‘This facility complies with the required initial tune-up according to the procedures in 40 CFR 63.7540(a)(10)(i) through (vi).’’

(B) “This facility has had an energy assessment performed according to 40 CFR 63.7530(e).”

(C) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: ‘‘No secondary materials that are solid waste were combusted in any affected unit.’’

ix. If operating a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to 40 CFR Part 63, Subpart DDDDD, and intending to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of 40 CFR Part 63, Part 60, Part 61, or Part 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575, the Permittee must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575. The notification must include the following information:

(A) Company name and address.

(B) Identification of the affected unit.

(C) Reason of unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(D) Type of alternative fuel intended to use.

(E) Dates when the alternative fuel use is expected to begin and end.

x. If intending to commence or recommence combustion of solid waste, the Permittee must provide 30 days prior notice of the date upon which the combustion of solid waste will commence or recommence. The notification must identify:

(A) The name of the owner or operator of the affected source, as defined in 40 CFR 63.7490, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(B) The currently applicable subcategories under 40 CFR Part 63, Subpart DDDDD.

(C) The date on which the affected unit(s) became subject to the currently applicable emission limits.

(D) The date upon which combusting solid waste will commence.

xi. If switched fuels or made a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory, the Permittee must provide notice of the date of the fuel switch or the physical change within 30 days of the switch/change. The notification must identify:

(A) The name of the owner or operator of the affected source, as defined in 40 CFR 63.7490, the location of the source, the boiler(s) that has switched fuels, were physically changed, and the date of the notice.

(B) The currently applicable subcategory under this subpart.

(C) The date upon which the fuel switch or physical change occurred.

APPENDIX B

Interfor U.S. Inc. – Preston Mill PSD Permit Application and Supporting Data

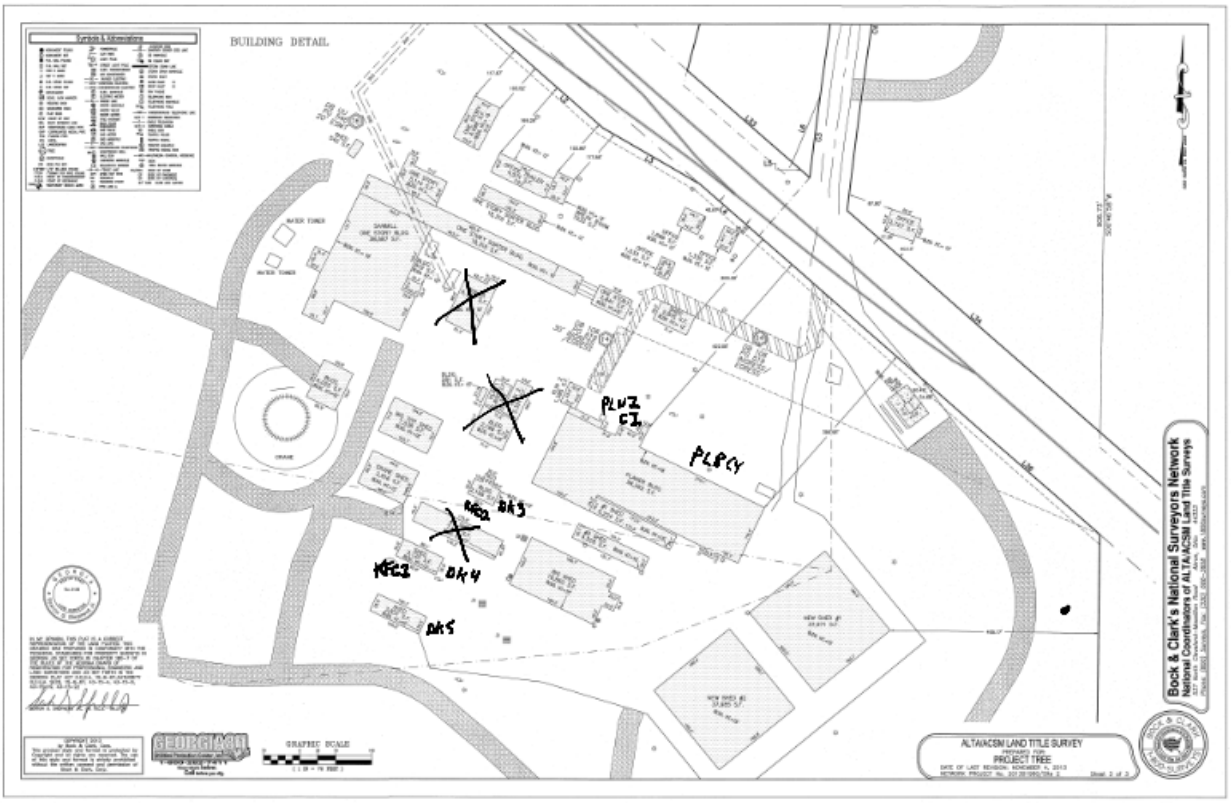
Contents Include:

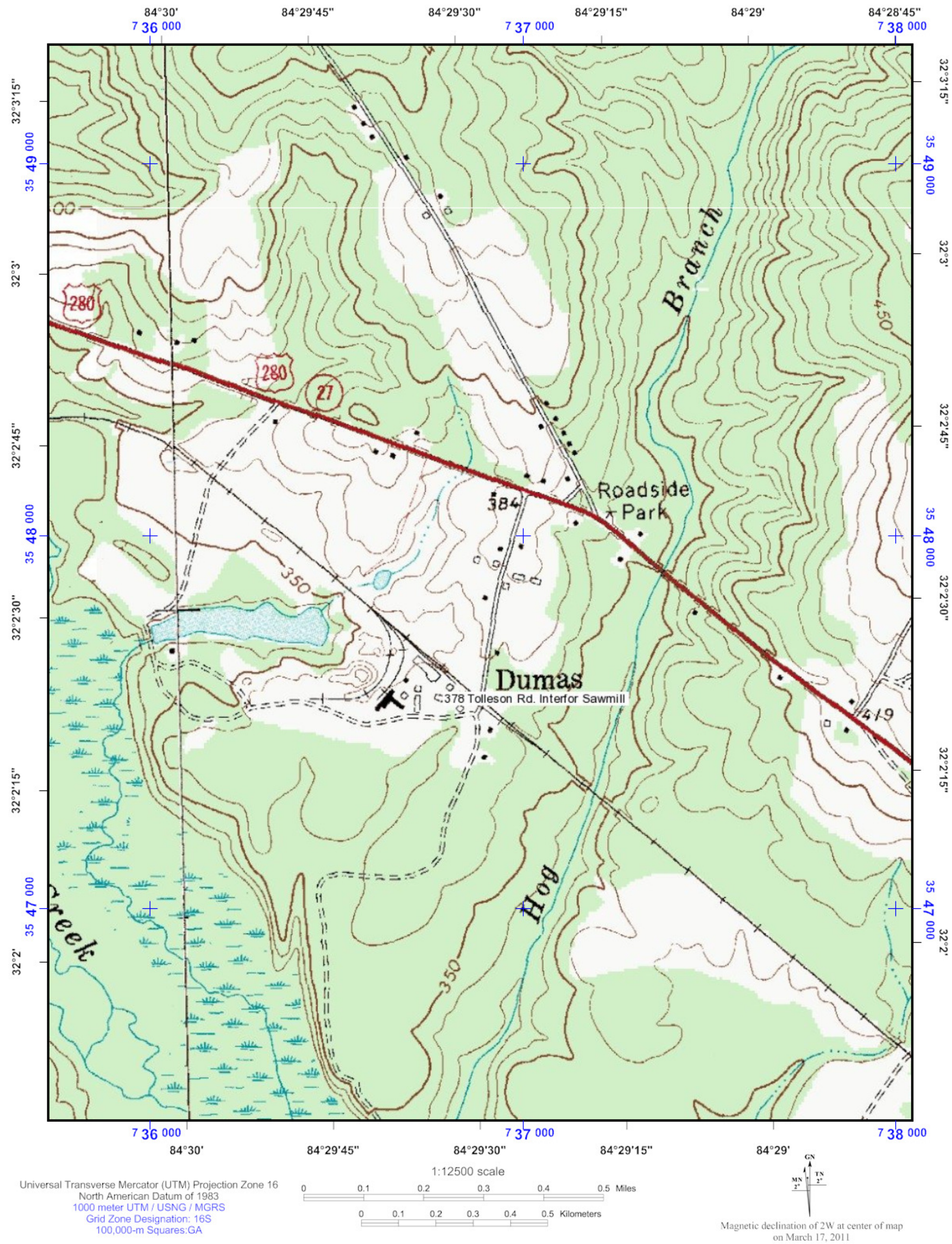
1. PSD Permit Application No. 40720, dated March 28, 2016

FIGURE
1
FACILITY LAYOUT

&

AREA MAP


BUILDING DETAIL
PLWZ
CI
PLBCY
KFC1
BK3
BK4
BK5
ALTA/ACSM LAND TITLE SURVEY
PROJECT TREE
GRAPHIC SCALE
Bock & Clark's National Surveyors Network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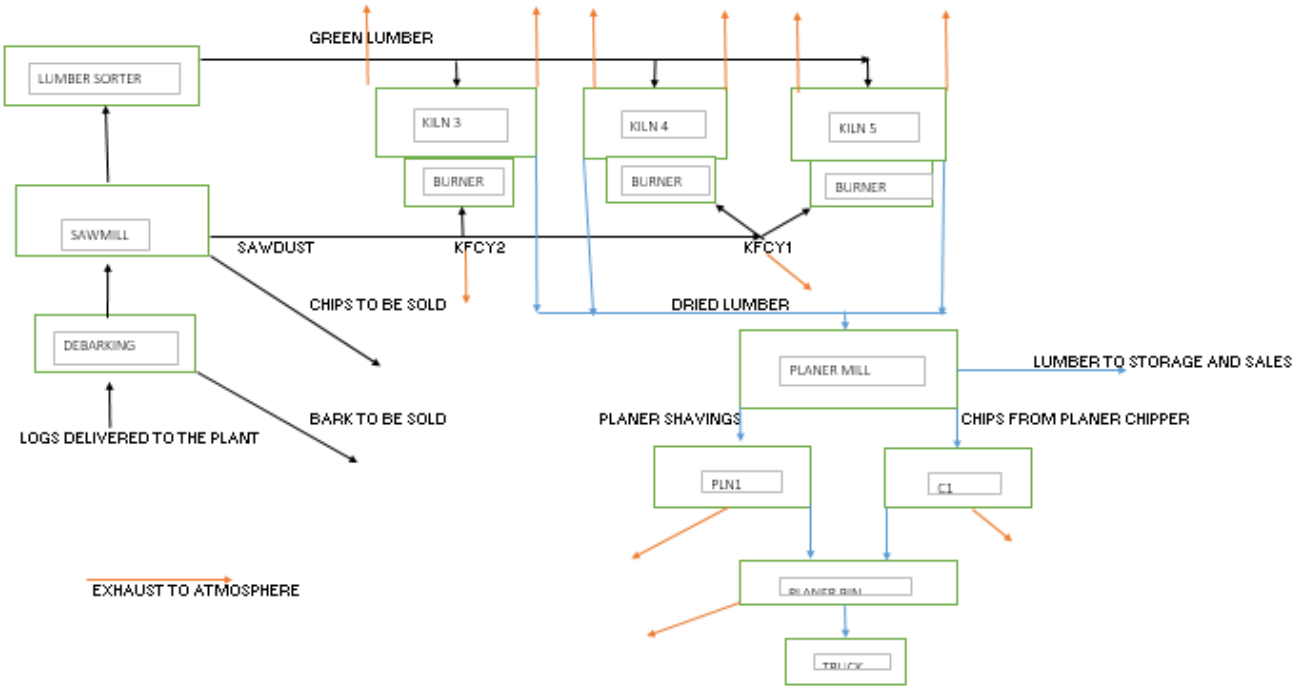
84°29'45"
84°29'30"
84°29'15"
84°29'
84°28'45"
Branch
Roadside Park
384
Dumas
378 Tolleson Rd. Interfor Sawmill
Hog
Creek
280
27
350
450
419
1:12500 scale
Universal Transverse Mercator (UTM) Projection Zone 16
North American Datum of 1983
1000 meter UTM / USNG / MGRS
Grid Zone Designation: 16S
100,000-m Squares:GA
Magnetic declination of 2W at center of map on March 17, 2011

Figure 2

Process Flow Diagram



Appendix A
Historical Production Information

Appendix B
Emission Calculations

APPENDIX C

EPD'S PSD Dispersion Modeling and Air Toxics Assessment Review

Georgia Department of Natural Resources
Environmental Protection Division • Air Protection Branch
4244 International Parkway • Suite 120 • Atlanta • Georgia 30354
404/363-7000 • Fax: 404/363-7100
Judson H. Turner, Director

MEMORANDUM

March 1, 2016

To: Manny Patel, Seetharaman Ganapathy
Thru: Di Tian
From: Yan Huang

Subject: PSD and Toxics Modeling Review for Interfor U.S. Inc. - Preston Sawmill Modification Project, Preston, Webster County, GA

GENERAL INFORMATION

Interfor U.S. Inc. - Preston Sawmill (Preston) proposed to shutdown existing wood-fired boilers B-1 and B-2 and steam-fired batch kilns DK-1 and DK-2, convert existing steam-fired batch kiln DK-3 to a direct-fired continuous kiln with its own burner and fuel silo, and modify existing direct-fired batch Kilns DK-4 and DK-5 into continuous kilns with some burner upgrades and addition of powered stacks to all three continuous kilns. After the proposed modification, the Preston mill will have three direct-fired continuous drying kilns with powered stack at each end of each continuous kiln. The project will result in an increase of VOC and CO emissions and a decrease of other criteria pollutant emissions. VOC is the only PSD pollutant with net increase greater than the PSD significant emission rate. Air dispersion modeling for this modification application was conducted by Interfor's consultant, Koogler and Associates, Inc., to assess conformance of proposed emission limits for the subject emission point sources on site with the Georgia Air Toxics Guideline and the applicable federal Prevention of Significant Deterioration (PSD) air quality standards.

This memo discusses the procedures used to review the supporting dispersion modeling. The air toxic impacts of the 10 most significant Toxic Air Pollutants (TAPs) from the proposed project do not exceed their applicable Acceptable Ambient Concentrations (AACs) except for Formaldehyde and Acrolein at annual averaging period. A site specific risk assessment was performed to these two TAPs. The annual averaged maximum ground-level concentration (MGLC) does not exceed the ACC at any residential areas. The results of these modeling evaluations are summarized in the following sections of this memorandum.

INPUT DATA

1. **Meteorological Data** – The hourly meteorological data used in this review were obtained from Columbus Metropolitan Airport NWS surface station and Peachtree City NWS upper air station, GA, for the period of 2010-2014. The data were processed using the AERMET (v. 15181) and provided by GA EPD (http://www.georgiaair.org/airpermit/html/sspp/modeling/aermetdata.htm).

2. **Source Data** – Emission unit physical parameters, criteria and TAP emission rates were provided by the applicant and have been subjected to GA EPD engineering review. Tables in the modeling report (dated on Jan. 21, 2016) summarized modeled point source parameters and the facility-wide TAP emission from the proposed project. Following the GA EPD's recommendation, the emissions from three continuous Dry Kilns (DK03, DK04, and DK05) were suggested to split on an 80/20 basis with 80% of the emissions being discharged from the powered stack and 20% out the kiln doors. The emission points are modeled as a single stack and a single door on each end of the kiln buildings. For horizontal discharge through the each end of the kiln door, GA EPD recommended to set the exit velocity of 0.001 m/s. However the applicant used the exit velocity (ranging from 0.031 m/s to 0.048 m/s) derived from the kiln door dimensions and gas exit flow rate.
(http://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide_addendum_v11059_draft.pdf)

3. **Receptor Locations** – Discrete receptors with 50-meter intervals were placed on a Cartesian grid along the fence-line. Receptors extend outwards from the fence line at 50-meter intervals to approximately 500 meters and at 100-meter intervals to approximately 1 kilometer. This domain is sufficient to capture the maximum impact.

4. **Terrain Elevation** – Topography was found to be generally flat in the site vicinity. Terrain data from USGS 1-sec National Elevation Dataset (NED) CONUS were extracted to obtain the elevations of all sources and receptors by AERMAP terrain processor (version 11103). The resulting elevation data were verified by comparing contoured receptor elevations with USGS 7.5-minute topographic map contours.

5. **Building Downwash** – GEP building downwash analysis files were provided by Koogler and Associates, and were based on the scaled site plan included in the application using the BPIPPRM program (version 04274). The BPIPPRM model was used to derive building dimensions for downwash assessment and the assessment of cavity-region concentrations appropriate for the AERMOD model.

CLASS II AREA IMPACT ANALYSIS

VOC is the only criteria pollutant with emission greater than the SER (40 tpy), therefore neither Class II area significant impact analysis, nor monitoring *De Minimis* concentration analysis are required. In addition, the potential soil and vegetation impacts and the Class II visibility analysis are not required.

Ozone Impact Analysis

Since no significant air quality concentration has been established for ozone impact analysis, PSD permit applicants with a proposed net emission increase of 100 tons/year or more of VOC and/or NOx 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 project will have a net increase of 69.2 tpy VOC, therefore no ozone impact analysis is required.

AIR TOXICS ASSESSMENT

The proposed facility will emit 10 TAPs: Acrolein, Acetaldehyde, Benzene, Formaldehyde, Methanol, MIK, o-Xylene, Phenol, Propionaldehyde, and Toluene. The annual, 24-hour, and 15-minute AACs of the 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 (version 15181) for 1-hour, 24-hour, and annual averaging periods.

Table 1 summarizes the AAC levels and MGLCs of the TAPs from the modeling report dated on Jan 21, 2016. The maximum 15-min impact is based on the maximum 1-hour modeled impact multiplied by a factor of 1.32. GA EPD remodeled the impact of two TAPs - Formaldehyde and Acrolein using 0.001 m/s for horizontal discharge via kiln doors. The results indicate that the MGLCs increase by about 3.4 times at annual and 7.6 times at 15-min averaging period, listed in parentheses in Table 1. The modeled MGLCs for all TAPs are below their respective AAC levels except for the MGLC of Formaldehyde and Acrolein at the annual averaging period (shown in red in Table 1). According to Georgia Air Toxics Guideline, a site specific risk assessment is required to be conducted if the modeled MGLC of any TAP is greater than the AAC level.

Figure 1 and 2 show that the Preston Sawmill is located in a rural area. As seen in Figure 1 and 2, there are no residential locations in the areas where the modeled maximum annual concentration for Formaldehyde and Acrolein exceed the corresponding AACs. Therefore, the applicant passes the site specific risk assessment and meets the applicable Georgia Air Toxics Guideline.

Table 1. Modeled MGLCs and the Respective AACs at Annual, 24-hr, and 15-min Averaging Periods

TAP	Averaging Period	AAC [µg/m^3]	MGLC [µg/m^3]	Averaging Period	AAC [µg/m^3]	MGLC [µg/m^3]
Methanol	24-hr	619	2.3	15-min	32,800	90.5
Formaldehyde	Annual	1.1	0.70 (2.36)	15-min	245	27.8 (211.27)
Phenol	24-hr	45.2	0.12	15-min	6,000	4.9
Acetaldehyde	Annual	4.55	0.50	15-min	4,500	19.8
Acrolein	Annual	0.15	0.07 (0.24)	15-min	23	2.8 (21.4)
Propionaldehyde	Annual	8	0.04	15-min	NA	1.4
MIK	Annual	3,000	0.03	15-min	30,700	1.1
Benzene	Annual	0.13	0.005	15-min	1,600	0.18
o-Xylene	Annual	100	0.003	15-min	65,500	0.11
Toluene	Annual	5,000	0.002	15-min	113,000	0.05

CONCLUSIONS

The air quality analysis reviewed and described in the above sections demonstrates the conformance of the project's air pollutant impacts with Class I and Class II PSD NAAQS regulations and GA EPD's Guideline for Ambient Impact Assessment of Toxic Air Pollutant

Emissions. 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.

Figure 1. Google Earth Map for Interfor Preston Sawmill. Contours show the concentration of the annual averaged Formaldehyde concentration (µg/m^3).

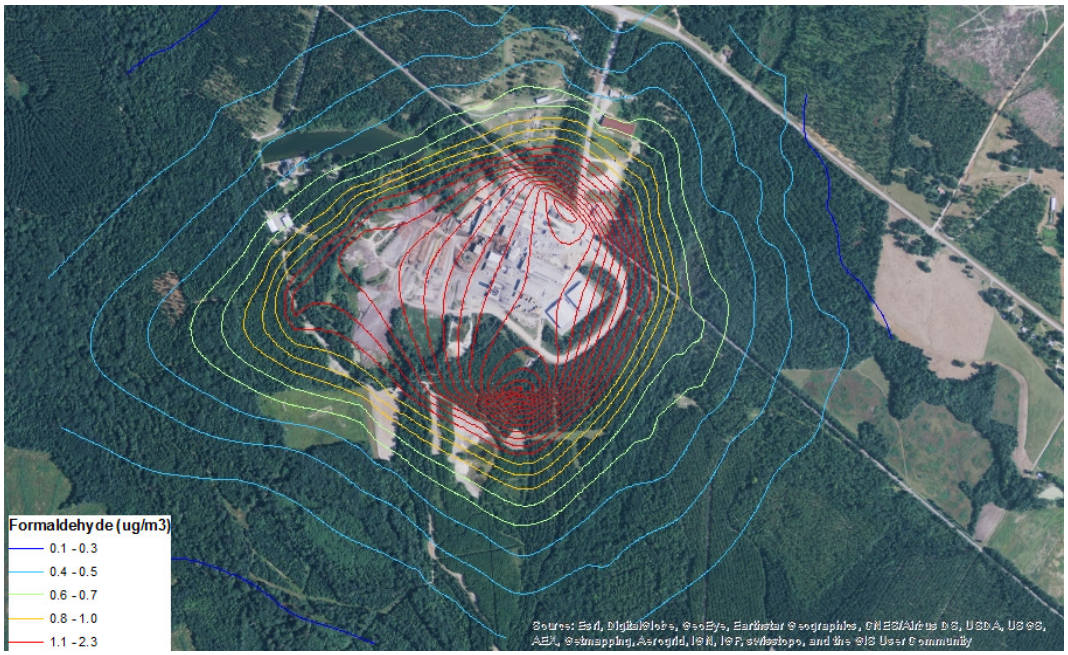


Figure 2. Google Earth Map for Interfor Preston Sawmill. Contours show the concentration of the annual averaged Acrolein concentration (µg/m^3).