Facility Name: **Beasley Forest Products, Inc.**
City: Hazlehurst
County: Jeff Davis
AIRS #: 04-13-161-00019 Application #: 682133

Date SIP Application Received: June 8, 2022
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Permit No: 2421-161-0019-V-03-1

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
2421-161-0019-V-03-0	July 18, 2021	Initial Title V Permit

B. Regulatory Status

1. PSD/NSR/RACT

After the construction and operation of the new Continuous Dry Kiln (ID No. DK10), the facility will be a major source with regards to the Prevention of Significant Deterioration of Air Quality (PSD) regulations. It will be a PSD major source because the Volatile Organic Compounds (VOC) emission rate will exceed the PSD major source threshold of 250 tons per year (ton/yr). Note that sawmills are not one of the 28 named categories whose major source threshold is 100 ton/yr.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes	✓		
PM_{10}	Yes			✓
$PM_{2.5}$	Yes			✓
SO_2	Yes			✓
VOC	Yes	✓		
NO_x	Yes			✓
CO	Yes			✓
TRS	N/A			
H_2S	N/A			
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

This modification is for the construction and operation of a continuous direct heated Kiln 10 (ID No. DK10) and the replacement of two existing chippers with a new chipper (ID No. CH01). Kiln 10 will have a drying capacity of 124.5 million board feet per year (MMBF/yr) and a natural gas burner with a maximum heat input rating of 40 million British Thermal units per hour (MMBtu/hr).

Currently, the facility processes both hardwood and pine lumber including debarking, sawing, drying, etc. After the installation of Kiln 10, the facility's hardwood operations will only consist of hardwood drying in the batch kilns (ID Nos. DK01-DK08). The hardwood lumber will be shipped from another offsite facility. The Debarker, Sawmill, Planer Mill, etc. will only process pine logs and lumber. Pine lumber will only be dried in Kiln 9 and Kiln 10.

As part of this modification, the existing powered vents on Kiln 9 will be upgraded so that each has a stack height of 42 feet, a diameter of 24 inches, and a fan with a volumetric flow rate of 33,000 cubic feet per minute (CFM).

The facility is currently a Title V Major Source and a Minor Source under PSD regulation. The facility has a permitted lumber drying limit of 115 MMBF/yr on Kiln 9 (ID No. DK09). After this modification, the facility will be major for PSD and Hazardous Air Pollutants (HAP). As a result, existing Boilers B001 and B002 will be subject to 40 CFR Part 63, Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Industrial Boilers and Process Heaters."

B. Emissions Change

Continuous Direct-Fired Drying Kiln 10 (ID No. DK10)

There will be an increase in the emissions rate as a result of the construction and operation of new Kiln 10. To estimate the increase in the emissions rate of the pollutants, the Environmental Protection Division (EPD) used the following emission factors for direct-fired lumber kilns based on recent unpublished National Council for Air and Stream Improvement (NCASI) test results:

VOC = 4.0 pounds per thousand board feet (lb/Mbf)
Formaldehyde = 0.0386 lb/Mbf
Methanol = 0.161 lb/Mbf
Acetaldehyde = 0.045 lb/Mbf
Acrolein = 0.006 lb/Mbf
Phenol = 0.0103 lb/Mbf
Combined HAP = 0.261 lb/Mbf

For $PM/PM_{10}/PM_{2.5}$, EPD used stack tested emission data from Title V Application No. 21615 for West Fraser – Augusta Lumber Mill, which are:
PM = 0.14 lb/Mbf
PM_{10} = 0.104 lb/Mbf
$PM_{2.5}$ = 0.099 lb/Mbf

For NO_x, CO, SO_2, Arsenic, Chromium VI, and Hexane, the AP-42, Chapter 1.4-Natural Gas Combustion emission factors were used:

NO_x = 84 pounds per million standard cubic feet (lb/MMscf)
CO = 100 lb/MMscf
SO_2 = 0.6 lb/MMscf
Arsenic = 2.00E-04 lb/MMscf
Chromium VI = 5.60E-05 lb/MMscf (Note that Chromium VI is assumed to be 4% of total Chromium)
Hexane = 1.8 lb/MMscf

Using the emission factor of 4.0 lb/Mbf, the potential to emit VOC from Kiln 10 is calculated to be 249 ton/yr:

$$\left(\frac{124,500,000\ bf}{yr}\right)\left(\frac{4.0\ lb}{1000\ bf}\right)\left(\frac{1\ ton}{2000\ lb}\right) = 249.0\ \frac{ton}{yr}$$

Similarly, using the emission factor of 84 pounds per million standard cubic foot, the potential to emit CO from the 40 MMBtu/hr natural gas-fired burner that provides heat for Kiln 10 is calculated to be 14.43 ton/yr:

$$\left(\frac{40,000,000\ Btu}{hr}\right)\left(\frac{1\ scf}{1020\ btu}\right)\left(\frac{84\ lb}{1000000\ scf}\right)\left(\frac{1\ ton}{2000\ lb}\right)\left(\frac{8760\ hr}{1\ yr}\right) = 14.43\ \frac{ton}{yr}$$

The pollutant emissions from Kiln 10 are indicated in the table below.

Pollutant	Emission Factor		Reference	Potential Emissions	
				(lb/hr)	(ton/yr)
Lumber Drying/Natural Gas Combustion Emissions					
CO	84	lb/MMscf	1	3.294	14.43
NO_x	100	lb/MMscf	1	3.922	17.18
PM	0.14	lb/MBF	2	1.990	8.715
PM_{10}	0.104	lb/MBF	2	1.478	6.474
$PM_{2.5}$	0.099	lb/MBF	2	1.407	6.163
SO_2	0.6	lb/MMscf	1	2.35E-02	0.1031
VOC	4.0	lb/MBF	3	56.85	249.0
Acetaldehyde	0.045	lb/MBF	4	0.6396	2.801
Acrolein	6.00E-03	lb/MBF	5	8.53E-02	0.3735
Arsenic	2.00E-04	lb/MMscf	1	7.84E-06	3.44E-05
Chromium VI	5.60E-05	lb/MMscf	1	2.20E-06	9.62E-06
Formaldehyde	0.0386	lb/MBF	6	0.5486	2.403
Hexane	1.8	lb/MMscf	1	7.06E-02	0.3092
Methanol	0.161	lb/MBF	6	2.288	10.02
Phenol	0.0103	lb/MBF	5	0.1464	0.6412
Total HAPs				3.779	16.55

1) AP 42, Chapter 1.4 Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4. AP-42 provides the emission factor for total chromium. According to Georgia EPD, chromium VI is equal to 4% total chromium.

2) PM emission factor for direct fired southern yellow pine lumber kiln obtained from a preliminary determination issued by the Georgia EPD for Simpson Lumber Company, LLC (Application No. 20735). The best available factor for PM is based on test data for Bibler Brothers Lumber Company in Russelville, AR. The PM factors are based on the following information as described in the preliminary determination:

PM:

Filterable PM factor from Bibler Bros. test = 0.0683 lb/MBF

Ratio of condensable to filterable PM (based on unpublished NCASI data) = 1.016

Condensable PM factor = 0.0683 x 1.016 = 0.0694

Total PM = 0.0683 + 0.0694 = 0.14 lb/MBF

PM_{10}:

Filterable PM10 = 50% of filterable PM (based on Permit No. 2421-107-0011-V-02-3 issued by the Georgia EPD to Rayonier Wood Products LLC - Swainsboro, GA)

Total PM10 = [0.0683 x 0.5] + 0.0694 = 0.104 lb/MBF

$PM_{2.5}$:

Filterable $PM_{2.5}$ = 87% of filterable PM_{10} based on AP 42 for wood combustion.

Total PM2.5 = [0.0683 x 0.5 x 0.87] + 0.0694 = 0.099 lb/MBF

3) GA EPD preferred VOC emission factor.

4) Average of acetaldehyde emission factors from NCASI Technical Bulletin 845, Table BB.1. Based on NCASI Technical Bulletin No. 845, lumber drying emissions using natural gas burners are expected to be more similar to lumber drying emissions from using wood-fired burners than from indirect steam heating.

5) Emission factor for lumber kilns from NCASI February 2013 Wood Products Air Emission Factor Database. Values for continuous kilns are used where available, otherwise, batch kiln values are used. Based on NCASI Technical Bulletin No. 845, lumber drying emissions using natural gas burners are expected to be more similar to lumber drying emissions from using wood-fired burners than from indirect steam heating.

6) Emission factor for direct-fired southern pine drying kilns based on NCASI data. Based on NCASI Technical Bulletin No. 845, lumber drying emissions using natural gas burners are expected to be more similar to lumber drying emissions from using wood-fired burners than from indirect steam heating.

Kiln 10 will be subject to Georgia Rule (b) – "Visible Emissions" and Georgia Rule (e) – "Particulate Emission from Manufacturing Processes". Compliance with the Rule (b) opacity limit of less than 40 percent is likely with a properly designed kiln.

Kiln 10 will have a drying capacity of 124.5 MMbf/yr. The weight of dry lumber, assuming a density of 40 lb/ft^3 for Southern Yellow Pine, 8760 hours of operation, and a reduction of the lumber moisture content from 50 to 19 percent is:

$$\left(\frac{124{,}500{,}000\ bf}{yr}\right)\left(\frac{(1\ ft)(1\ ft)\left(\frac{1}{12}\ ft\right)}{1\ bf}\right)\left(\frac{40\ lb}{ft^3}\right)\left(\frac{1\ ton}{2000\ lb}\right)\left(\frac{1\ yr}{8760\ hr}\right)[1-(0.5-0.19)] = 16.34\ \frac{ton}{hr}.$$

The following equation is used to calculate the allowable rate of PM emission for process input weight rate up to and including 30 tons per hour:

$$E = 4.1P^{0.67}$$

Where:

E=Emission rate in pounds per hour
P=Process input weight rate in tons per hour.

Therefore, the allowable particulate matter emission rate is 26.65 lb/hr or 116.74 ton/yr assuming 8760 hours of operation per year. This is much higher than the predicted emission rate of 1.99 lb/hr obtained using the emission factor from testing. Therefore, compliance with Rule (e) is likely.

Chipper 1 (ID No. CH01)

Chipper 1 will replace existing Chippers 1 and 2. The potential throughput of new Chipper 1 is indicated as 643,445 ton/yr. The potential throughputs of existing chippers 1 and 2 were indicated as 308,961 ton/yr, or a difference in throughput of 334,484 ton/yr. The PM and PM_{10} emission factors are 0.024 and 0.012 lb/ton, respectively. These result in a PM and PM_{10} potential emission increase of 4.01 and 2.01 ton/yr, respectively, as result of the planned operation of Kiln10.

Facility-Wide Emission Summary

Pollutant	Pre-Mod Potential Emissions (ton/yr)	Post-Mod Potential Emissions (ton/yr)	Emission Increases (Actual/Potential) (ton/yr)
CO	84.96	99.39	14.43
NO_x	54.99	72.16	17.18
PM	91.03	164.2	73.18
PM_{10}	59.02	99.68	40.67
$PM_{2.5}$	23.23	32.89	9.655
SO_2	5.921	6.024	0.1031
VOC	237.2	486.2	249.0
Acetaldehyde	2.645	5.446	2.801
Acrolein	0.5919	0.9654	0.3735
Arsenic	3.85E-03	3.89E-03	3.44E-05
Chromium VI	6.13E-04	6.23E-04	9.62E-06
Formaldehyde	2.509	4.912	2.403
Hexane	0.4644	0.7736	0.3092
Hydrogen Chloride	4.461	4.461	0
Methanol	9.595	19.62	10.02
Phenol	0.6100	1.251	0.6412
Total HAPs[(1)]	16.09	32.64	16.55
GHG (CO_2e)[(2)]	53,974	72,585	18,611
GHG (CO_2e)[(3)]	59,496	80,011	20,516

[(1)]Facility-Wide Total HAPs includes the worst-case Total HAPs from DK09. Worst-case Total HAPs is the highest potential Total HAPs from either burning sawdust or burning natural gas. Therefore, the Total HAPs shown is not the sum of all the individual HAPs.

[(2)]GHG emissions in metric tons/yr.

[(3)]GHG emissions in short tons/yr.

C. PSD/NSR Applicability

The modification is not major for PSD. The increase in VOC emissions of 249 ton/yr is less than 250 ton/yr, the major source threshold for this category of emission sources. Therefore, PSD is not triggered.

IV. Regulated Equipment Requirements

A. Brief Process Description

Rough sawed lumber will be dried in new Kiln 10 (ID No. DK10), a continuous dry kiln with a power vent at both ends of the kiln. The kiln will be fired by a natural gas burner with a maximum heat input capacity of 40 MMBtu/hr.

B. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	**Description**		**ID No.**	**Description**
DB01	Debarker	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
SM01	Sawmill	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
B001	**Boiler 1** Wood-fired boiler 13.6 MMBtu/hr.	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 40 CFR 63 Subpart A 40 CFR 63 Subpart DDDDD 391-3-1-.02(2)(d)	MC01	Multiclone 1
B002	**Boiler 2** Natural gas fired boiler 20.08 MMBtu/hr.	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 40 CFR 63 Subpart A 40 CFR 63 Subpart DDDDD 391-3-1-.02(2)(d)	N/A	None
DK01	**Kiln 1** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK02	**Kiln 2** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK03	**Kiln 3** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK04	**Kiln 4** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK05	**Kiln 5** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK06	**Kiln 6** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK07	**Kiln 7** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
DK08	**Kiln 8** Indirect-fired steam-heated batch kiln.	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK09	**Kiln 9** Direct-fired continuous dry kiln with wood burner and natural gas burner.	40 CFR 63, Subpart A 40 CFR 63, Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
DK10	**Kiln 10** Direct-fired continuous dry kiln with natural gas burner.	40 CFR 63, Subpart A 40 CFR 63, Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	N/A	None
PM01	Planer Mill	391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	CY04	Cyclone 4

C. Equipment & Rule Applicability

Continuous Direct-Fired Drying Kiln 10 (ID No. DK10)

Kiln 10 VOC emission rate is limited to 249 ton/yr to avoid the modification being classified as major under the PSD regulations. To demonstrate PSD avoidance, the Permittee will be required to maintain a monthly record of the lumber dried in Kiln 10.

Kiln 10 is subject to the following rules and regulations:

40 CFR 63, Subpart DDDD – "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products."
Georgia Rule 391-3-1-.02(2)(b) – "Visible Emissions."
Georgia Rule 391-3-1-.02(2)(e) – "Particulate Emission from Manufacturing Processes."

40 CFR 63, Subpart DDDD – "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products."

Note that pursuant to 40 CFR 63.2252, lumber kiln facilities are not required to comply with the compliance options, work practice requirements, performance testing, monitoring, and recordkeeping or reporting requirements of 40 CFR 63, Subpart DDDD, or any other requirements in 40 CFR 63, subpart A, except for the initial notification requirements in 40 CFR 63.9(b). As indicated in 40 CFR 63.9(b)(1)(iii), the facility may use the permit application for approval of construction to fulfill the initial notification requirements.

Boiler 1 and Boiler 2 (ID Nos. B001, B002)

Boiler 1, installed in 2005, is wood fired and has a maximum heat input capacity of 13.6 MMBtu/hr. Boiler 2, installed in 2020, is natural gas fired and has a maximum heat input capacity of 20.08 MMBtu/hr. Each boiler is subject to the following rules and regulations:
40 CFR 60, Subpart Dc – "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units"

40 CFR 63, Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"
Georgia Rule 391-3-1-.02(2)(d) – "Fuel-Burning Equipment"
Georgia Rule 391-3-1-.02(2)(g) – "Sulfur Dioxide"

40 CFR 60, Subpart Dc – "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units"

Pursuant to 40 CFR 60.40c(a), each boiler is subject to this standard because each was constructed after June 9, 1989 and has a maximum heat input capacity of between 10 and 100 MMBtu/hr. However, because each boiler has a maximum heat input capacity of less than 30 MMBtu/hr, each is subject only to the fuel usage record keeping requirements specified in 40 CFR 60.48c(g).

40 CFR 63, Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"

As indicated, the construction and operation of Kiln 10 (ID No. DK10) will result in the facility becoming a major source of HAP. Therefore, Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002) hitherto subject to the boiler GACT (Generally Available Control Technology) will become subject to the boiler MACT (Maximum Achievable Control Technology).

Pursuant to 40 CFR 63.7485, each boiler is subject to 40 CFR 63, Subpart DDDDD. Pursuant to 40 CFR 63.7490(d), a boiler or process heater is *existing* if the Permittee commences construction of the boiler on or before June 4, 2010. Therefore, Boiler 1 (ID No. B001) is an *existing* boiler since construction commenced in 2005. Pursuant to 40 CFR 63.7490(b), Boiler 2 (ID No. B002) is *new* since construction commenced in 2020.

Pursuant to 40 CFR 63.7495(c)(2), *existing* Boiler 1 (ID No. B001) must be in compliance with the boiler MACT within 3 years after the source becomes a major source of HAP. Pursuant to 40 CFR 63.7495(c)(1), *new* Boiler 2 (ID No. B002) must be in compliance with the Boiler MACT upon startup after the source becomes a major source of HAP. Pursuant to 40 CFR 63.7500(e), *new* Boiler 2 (ID No. B002) which is in the unit designed to burn gas 1 fuel subcategory is not subject to the emission limits in Tables 1 and 2 or the operating limits in Table 4 of 40 CFR 63, Subpart DDDDD. *New* Boiler 2 (ID No. B002) is subject to the work practice standards in Table 3 which requires a tune-up of the boiler once every 5 years. Note that pursuant to 40 CFR 63.7540(a)(10), the frequency for the tune-up of a boiler with heat input capacity of 10 MMBtu/hr or greater is not annual if the boiler is equipped with a continuous oxygen trim system. Boiler 1 is equipped with a continuous oxygen trim system; therefore, the tune-up frequency is once every five years.

Toxic Impact Assessment

The toxic air pollutants (TAPs) - Acetaldehyde, Acrolein, Arsenic, Chromium (VI), Formaldehyde, Hexane, Hydrogen Chloride, Methanol, and Phenol are emitted from the facility. Each TAP was modeled to determine whether the maximum ground level concentration (MGLC) exceeded the acceptable ambient concentration (AAC) for that TAP. Below is the table summarizing the modeling results.

TAP MGLC Assessment

TAP	Averaging Period	AAC (µg/m^3)	Max Modeled Conc. (µg/m^3)	Receptor UTM Zone: 17	
				Easting (meter)	Northing (meter)
Acetaldehyde	Annual	4.55	0.35	351,709.93	3,530,871.43
	15-minute	4,500	11.66	351,885.85	3,530,932.00
Acrolein	Annual	0.35	0.066	351,984.50	3,530,647.00
	15-minute	23	1.56	351,885.85	3,530,932.00
Arsenic	Annual	0.000233	**0.00027**	351,973.80	3,530,962.28
	15-minute	0.2	0.014	351,885.85	3,530,932.00
Chromium (VI)	Annual	0.000083	0.000043	351,973.80	3,530,962.28
	15-minute	10	0.0022	351,885.85	3,530,932.00
Formaldehyde	Annual	1.1	0.31	351,709.93	3,530,871.43
	15-minute	245	13.22	351,885.85	3,530,932.00
Hexane	Annual	700	0.050	351,984.50	3,530,647.00
	15-minute	17,600	1.78	351,885.85	3,530,932.00
Hydrogen Chloride	Annual	20	0.23	351,973.80	3,530,962.28
	15-minute	700	11.66	351,885.85	3,530,932.00
Methanol	Annual	20,000	1.26	351,709.93	3,530,871.43
	15-minute	32,800	55.38	351,885.85	3,530,932.00
Phenol	24-hour	45.2	0.77	351,885.85	3,530,932.00
	15-minute	6,000	3.53	351,600.00	3,530,900.00

Arsenic MGLC (0.00027 µg/m^3) exceeded the AAC (0.000233 µg/m^3) for the annual averaging period. Therefore, business and residential risk analyses were performed. The tables below show the results.

TAP Risk Assessment Business Area Analysis

TAP	Averaging Period	AAC* (µg/m^3)	Modeled Conc. (µg/m^3)	Receptor UTM Zone: 17		Receptor ID
				Easting (meter)	Northing (meter)	
Arsenic	24-hour	0.0111	0.000367	350,377.00	3,530,259.00	B1
			0.000877	351,518.00	3,530,878.00	B2
			0.000239	353,785.00	3,531,676.00	B3
			0.000496	353,056.00	3,530,131.00	B4
			0.000536	351,763.00	3,531,630.00	B5

* SSPP approved applicant's case-by-case request to use a 24-hour AAC for arsenic that was derived from 10 µg/m^3 (OSHA Annotated Table Z-1.) The alternative value is derived as follows: ((10 µg/m^3)/(300*3)=0.0111 µg/m^3 where 300 is a safety factor for carcinogens, 1/3 (= 8/24) is to convert 8-hour TWA value into 24-hour threshold.

The table above shows that each of the receptor MGLC is less than the AAC of 0.0111 µg/m^3. Therefore, the businesses are not adversely impacted.

TAP Risk Assessment Residential Area Analysis

TAP	Averaging Period	AAC (µg/m^3)	Modeled Conc. (µg/m^3)	Receptor UTM Zone: 17		Receptor ID
				Easting (meter)	Northing (meter)	
Arsenic	Annual	0.000233	0.000187	351,878.00	3,530,975.00	R1
			0.000134	351,759.00	3,530,970.00	R2
			0.000122	351,674.00	3,530,909.00	R3
			0.000071	351,458.00	3,530,837.00	R4
			0.000064	351,408.00	3,530,818.00	R5
			0.000095	351,517.00	3,530,771.00	R6
			0.000084	351,474.00	3,530,763.00	R7
			0.000069	351,354.00	3,530,653.00	R8
			0.000072	351,524.00	3,530,427.00	R9
			0.000032	352,266.00	3,529,928.00	R10
			0.000048	352,432.00	3,530,156.00	R11
			0.000062	352,559.00	3,530,671.00	R12
			0.000049	352,694.00	3,530,668.00	R13
			0.000028	353,002.00	3,530,771.00	R14
			0.000026	352,981.00	3,530,913.00	R15
			0.000024	353,027.00	3,531,091.00	R16
			0.000037	352,674.00	3,531,257.00	R17
			0.000043	352,596.00	3,531,234.00	R18
			0.000220	351,954.67	3,531,002.87	R19
Arsenic	Annual	0.000233	0.000217	352,009.59	3,531,023.14	R20
			0.000202	351,962.00	3,531,031.00	R21
			0.000197	351,990.00	3,531,048.00	R22
			0.000188	351,957.00	3,531,051.00	R23
			0.000177	351,956.00	3,531,068.00	R24
			0.000178	351,986.00	3,531,074.00	R25
			0.000222	351,989.25	3,531,013.71	R26

The table above shows that the highest MGLC (0.000222 µg/m^3) for receptor R26 is close but less than the AAC (0.000233 µg/m^3).

Therefore, Beasley Forest Product, Inc. will not have an adverse toxic impact on the area and has satisfied the Georgia Air Toxic Guideline.

D. Permit Conditions

Existing Condition 3.2.3 is modified by changing the rule citation.

Existing Condition 3.2.4 is modified by changing the rule citation.

Existing Condition 3.2.5 is modified by requiring that the power vents on Kiln 9 and Kiln 10 be in operation at all times when each kiln is in operation.

Pursuant to PSD avoidance, new Condition 3.2.6 sets for Kiln 10 a lumber drying limit of 124.5 MMBF during any 12-consecutive month period.

Conditions 3.3.2 and 3.3.3 were deleted because the facility will no longer be a minor source for HAPs upon the construction and operation of Kiln 10.

New Condition 3.3.4 indicates that Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002) are each subject to 40 CFR 63, Subpart A – "General Provisions" and Subpart DDDDD - "National Emissions Standards for Hazardous Air Pollutants for Industrial Boilers and Process Heaters." This assures that the Permittee is subject to any required standard that is unintentionally omitted from the permit conditions.

Pursuant to 40 CFR 63.7500(a)(1); Item 13.b., Table 2, new Condition 3.3.5 limits filterable particulate matter emissions from Boiler 1 (ID No. B001) to less than 0.44 lb/MMBtu of heat input or 0.55 lb/MMBtu of steam output, excluding periods of startup and shutdown. This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1); Item 13.a., Table 2, new Condition 3.3.6 limits Carbon monoxide (CO) emissions from Boiler 1 (ID No. B001) to less than 3,500 pounds per million by volume dry basis (ppmvd) corrected to 3% O_2 on a short-term/3 –hour average basis, 900 ppmvd at 3% O_2 on a 30-day rolling average, or 0.35 lb/MMBtu of steam output on a short-term/3-hour average basis, excluding periods of startup and shutdown. This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1); Item 1.a., Table 2, new Condition 3.3.7 limits Hydrogen chloride (HCl) emissions from Boiler 1 (ID No. B001) to less than 0.022 lb/MMBtu of heat input or 0.025 lb/MMBtu of steam output, excluding periods of startup and shutdown. This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1); Item 1.b., Table 2, new Condition 3.3.8 limits Mercury (Hg) emissions from Boiler 1 (ID No. B001) to less than 5.7E-06 lb/MMBtu of heat input or 6.4E-06 lb/MMBtu of steam output, excluding periods of startup and shutdown. This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1); Item 6, Table 4, new Condition 3.3.9 limits visible emissions from Boiler 1 (ID No. B001) to opacity of 10 or less or the highest hourly average opacity reading measured

during the performance test run demonstrating compliance with the PM emission limitation (daily block average). This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1), Item 7, Table 4, new Condition 3.3.10 requires the Permittee to maintain the 30-day rolling average operating load of Boiler 1 (ID No. B001) such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test. This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1); Items 1, 4, 5, and 6, Table 3, new Condition 3.3.11 requires the Permittee to comply with the work practice standards indicated for Boiler 1 (ID No. B001). This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(3), Condition No. 3.3.12 requires the Permittee to operate and maintain Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002) in a manner consistent with safety and good air pollution practices for minimizing emissions. This is effective 3 years from the date of startup of Kiln 10 for Boiler 1 and upon the startup of Kiln 10 for Boiler 2.

Pursuant to 40 CFR 63.7505(d), new Condition 3.3.13 requires the Permittee to develop a site-specific monitoring plan for Boiler 1 (ID No. B001) according to the requirements specified therein if the Permittee demonstrates compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits using CPMS or CEMS or COMS. This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7505(e), Condition 3.3.14 requires the Permittee to develop and implement for Boiler 1 (ID No. B001) a written startup and shutdown plan (SSP). This is effective 3 years from the date of startup of Kiln 10.

Pursuant to 40 CFR 63.7500(a)(1); Item 1, Table 3, Condition 3.3.15 requires the Permittee to conduct a tune-up of Boiler 2 (ID No. B002) once every 5 years as specified in 40 CFR 63.7540. This is effective upon startup of Kiln 10.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Pursuant to 40 CFR 63.7510(a)(1), (3), and (4) and 40 CFR 63.7515(a), (b), (c), new Condition 4.2.2 requires the Permittee to conduct for Boiler 1 (ID No. B001) an annual performance tests for HCl, Hg, PM, and CO to establish operating limits and CMS performance evaluations.

Pursuant to 40 CFR 63.7515(d), 40 CFR 63.7540(a)(12),(13), new Condition 4.2.3 requires the Permittee to conduct a tune-up for Boiler 1(ID No. B001) and Boiler 2 (ID No. B002) as indicated.

Pursuant to 40 CFR 63.7515(f), new Condition No. 4.2.4 requires the Permittee to report the results of performance tests within 60 days after the completion of such tests.

Pursuant to 40 CFR 63.7520, new Condition 4.2.5 specifies the requirements for conducting a performance test for Boiler 1 (ID No. B001).

New Condition 4.2.6 requires the Permittee to submit a notification within 15 days of the date of the fan upgrades indicating that the fans installed on each power vent on Kiln 9 (ID No. DK09) have a volumetric flow rate sufficient to generate the stack exit velocity on each power vent as indicated in Application No. 682133.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

Condition 5.2.3 was deleted because the facility will no longer be a minor source for HAPs upon the construction and operation of Kiln 10.

Pursuant to 40 CFR 63.7525(c), new Condition 5.2.4 specifies the requirements for the COMS used to monitor the opacity from Boiler 1 (ID No. B001).

Pursuant to 40 CFR 63.7525(a)(7), new Condition 5.2.5 requires the Permittee to install, certify, operate, and maintain an oxygen trim system for Boiler 1 (ID No. B001) as indicated.

Pursuant to 40 CFR 63.7525(d), (e), new Condition 5.2.6 requires the Permittee to meet the requirements indicated for the steam flow monitoring system for Boiler 1 (ID No. B001).

VII. Other Record Keeping and Reporting Requirements

New Condition 6.1.7.b.ii defines as a reportable exceedance any consecutive 12-month period during which lumber dried in Kiln 10 exceeds 124.5 MMBF.

New Condition 6.1.7.c.iii defines as a reportable excursion any time the power vents of the drying kilns (ID Nos. DK09 and DK10) are not operated while the associated kiln is in operation.

New Condition 6.1.7.c.iv defines as a reportable excursion any 30-day rolling average boiler operating load, that exceeds 110 percent of the highest hourly average operating as specified in Condition 3.3.10.

New Condition 6.1.7.c.v defines as a reportable excursion any daily block COMS average opacity that is greater than the limit specified in Condition 3.3.9.

New Condition 6.1.7.c.vi defines as a reportable excursion any operation of boiler Oxygen Trim System set point below the lowest hourly average oxygen content concentration obtained during the most recent CO performance test.

Conditions 6.2.5 and 6.2.6 were deleted because the facility will no longer be a minor source for HAPs upon the construction and operation of Kiln 10.

New Conditions 6.2.7 and 6.2.8 require that the Permittee keep records of the monthly and 12-consecutive month total amount of dried lumber processed through Kiln 10 (ID No. DK10). The records are necessary to demonstrate compliance with the PSD avoidance limit specified in Condition 3.2.6.

Pursuant to 40 CFR 63.7545(e), new Condition 6.2.9 requires the Permittee to submit a Notification of Compliance Status for Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002) as indicated.

Pursuant to 40 CFR 63.7550(c), new Condition 6.2.10 specifies the information a compliance report must contain for Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002).

Pursuant to 40 CFR 63.7550(d), new Condition 6.2.11 specifies the information the compliance report for Boiler 1 (ID No. B001) must contain if the Permittee is not using a CMS to show compliance.

Pursuant to 40 CFR 63.7550(e), new Condition 6.2.12 specifies the information the compliance report for Boiler 1 (ID No. B001) must contain if the Permittee is using a CMS to show compliance.

Pursuant to 40 CFR 63.7550(h), new Condition No. 6.2.13 requires the Permittee to submit a report for Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002) as indicated.

Pursuant to 40 CFR 63.7555(a), new Condition 6.2.14 specifies the records that must be kept for Boiler 1 (ID No. B001) and Boiler 2 (ID No. B002).

Pursuant to 40 CFR 63.7555(b), new Condition 6.2.15 indicates the records that must be kept for each CEMS, COMS, and continuous monitoring system for Boiler 1 (ID No. B001).

Pursuant to 40 CFR 63.7555(c), new Condition No. 6.2.16 requires the Permittee to keep the records required in Table 8 of 40 CFR 63, Subpart DDDDD for Boiler 1 (ID No. B001).

Pursuant to 40 CFR 63.7555(d), new Condition 6.2.17 requires the Permittee to keep the records indicated for Boiler 1 (ID No. B001).

New Condition 6.2.18 requires the Permittee to submit a written notification of startup of Kiln 10 within 15 days of such date.

New Condition 7.14.1 requires the Permittee to comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) as found in 40 CFR 63 Subpart A – "General Provisions," and Subpart JJJJJJ – "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources" for operation of Boiler 1 (ID No. B001) until 3 years after the date of startup of Kiln 10. Effective 3 years after the startup of Kiln 10, Boiler 1 is required to comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) as found in 40 CFR 63 Subpart A – "General Provisions," and Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Conditions 3.3.2, 3.3.3, 5.2.3, 6.2.5, and 6.2.6 are deemed deleted in their entirety as marked in this amendment. This assures that Boiler 1 is covered at all times by either the boiler GACT or the boiler MACT before and after the facility becomes a major source of HAPs.

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.

//If comments were received, state the commenter, the date the comments were received in the above paragraph. All explanations of any changes should be addressed below.//