

INITIAL TITLE V AIR PERMIT APPLICATION REVIEW

Last Modified July 29, 2003

PROPOSED

<b>APPLICANT:</b> Weyerhaeuser, Company	<b>SITE LOCATION:</b> Elkin	<b>COUNTY:</b> Surry
<b>TECHNICAL CONTACT:</b> Billie Caudill	<b>PHONE:</b> 336-526-6422	<b>RESPONSIBLE OFFICIAL:</b> Tommie E. Glisson
<b>REVIEW ENGINEER:</b> Leo H. Stander, PE, DEE/Charles Yirka	<b>SIGNATURE:</b>	<b>TITLE:</b> General Manager
<b>REGIONAL CONTACT:</b> Ray Stewart	<b>REGIONAL OFFICE:</b> Winston-Salem Regional Office	<b>DATE:</b>
<b>APPLICATION NUMBER:</b> 8600108A5.A	<b>EXISTING PERMIT NUMBER:</b> 05678R24	<b>SIC CODE:</b> 2492
		<b>NEW PERMIT NUMBER:</b> 05678T25

**I. Introduction**

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina’s Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility’s obligations under the CAA.

This Initial Title V Air Permit Application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the Title V operating permit. The primary source of information used to construct the permit is the above referenced air permit application.

**II. Background Information**

The Title V Operating Permit replaces the existing Air Quality Construction and Operation Permits No. 05678R24, issued on xxx xx, 200x , and currently scheduled to expire on xxx xx, 200x.

Pursuant to 15A NCAC 2Q .0506, Weyerhaeuser Company submitted its initial Title V application for the Elkin Plant to the Division of Air Quality on August 8, 1996. The application was considered complete for processing on October 3, 1996. The draft permit was noticed to the public pursuant to 15A NCAC 2Q .0521 on XX, XX, 2002.

The Weyerhaeuser Company, Elkin Facility, is considered as a major source of air pollution and subject to Title V requirements since the potential emissions of each of the following pollutants exceed 100 tons per year:

- < particulate matter - 197 tons/year
- < volatile organic compounds - 1019 tons/year
- < nitrogen oxides - 129 tons/year
- < carbon monoxide - 1051 tons/year.

In addition, total potential emissions of hazardous air pollutants, principally acetaldehyde (at 56 tons/year), formaldehyde (at 48 tons/year), and methanol (at 170 tons/year), exceed 25 tons per year.

The existing permit (Air Permit No. 05678R24) includes provisions that specify emission limits and monitoring and reporting requirements that will be utilized to comply with Prevention of Significant Deterioration (PSD) requirements.

The applicant provided comments on two draft permits. The first draft was authored by a contractor; the second, revised by the DAQ considering a draft permit submitted by the Permittee's consultant, URS. The last set of comments were accompanied with a letter dated July 18, 2003 from Tommy E. Glisson General Manager. Responses to the comments follow.

1. Concur with proposed note added to summary table which indicates the source descriptions are not enforceable. (The descriptions are not enforceable, however, maximum throughputs and heat input rates are used to calculate allowable emissions under 2D .0503, .0504, and .0515).
2. We believe the testing requirement for 2D .0504 should remain in place and reference the PSD testing requirement for the same pollutant. We believe the PSD and 2D .0504 limits are different and severable.
3. See above.
4. We concur and agree there is a history of a compliance by a wide margin based on the historical data for these PSD pollutants, therefore, additional testing was not required.
5. We concur and required a modified testing requirement for PM10 at the common wet ESP stack. We concur with the proposed testing frequency; since the hours of operation are limited, the testing would not need to be as frequent as proposed in our draft.
6. We concur with proposal to test one of the three wet cell burner stacks for PM10 as the wet cell burners do not typically operate in the idle mode scenario. We also concur with proposed testing frequency .
7. We did not concur with the contention that all conditions associated with the RTO control device, which provides control of VOC emissions from wood drying, should be State enforceable only. The DAQ maintains the company entered into an agreement with the Federal authorities to install this device when it was discovered through stack testing other similar sources around the country that emissions of anthropogenic VOCs were higher than previously estimated. We do however believe we have the authority to include those conditions that had appeared in the 300 permit in this title V permit to clarify, through the title V process, that these conditions are considered Federal enforceable only. The conditions require a 90% control efficiency and specify the frequency and duration of extended shutdowns of the device for maintenance purposes.
8. We concur and have removed stack test requirements. There is a history stack tests that show compliance with the PSD/BACT limits. The results also show there is a considerable margin of compliance comparing actual test data to the limits. The factors established from tests are used to calculate emission rates and demonstrate compliance with the limits.

### **III. Facility Description**

The Weyerhaeuser Company's Elkin Facility manufactures oriented strand board (OSB). OSB is produced from oriented layers of dried wood strands or flakes. The wood utilized in the process is a mixture of hardwoods and softwoods. The flakes are bonded together with a resin. Wax is also added to the flakes for water resistance. The resin is cured in a press to form the panels. The panels are finished prior to shipping.

The Weyerhaeuser Elkin facility operates 7 days a week, 24 hours per day, 365 days per year. The facility may shut down temporarily for maintenance and typically has down time on an annual basis associated with maintenance.

### **IV. Statement of Compliance**

*The DAQ has reviewed the compliance status of this facility. The most recent inspection of the facility was performed on August 16, 2002. No violations have been noted for the Weyerhaeuser Company, Elkin facility.*

The applicant has certified that the facility will be in compliance with all applicable requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

### **V. Summary of Emission Sources and Control Devices**

The following table identifies all emission sources and associated control devices including those for which the Initial Title V

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
<b>Dryers</b>			
1611 <b>PSD</b>	Drum Dryer No. 1 (one rotary drum dryer for drying wet wood strands, 61,440 lbs/hour maximum wet wood drying capacity)	1611-150	Simple cyclone - 168 inches in diameter
3811 <b>PSD</b>	Suspension Burner No. 1 (one wood / fuel oil-fired burner 40 million Btu/hour maximum heat input, 60 million Btu/hour designed capacity)	3450	Wet electrostatic precipitator 39,036 square feet of collection plate area
3311 <b>PSD</b>	Wet Cell Burner No. 1 (one wood / fuel oil / alternative fuel-fired burner, 20 million Btu/hour maximum heat input)	3460	Regenerative oxidizer (RO) (Note: RO not subject to PSD requirements)
3311 <b>PSD</b>	<b>Alternative Operating Mode</b> - when dryers are not operating (i.e., when operating in idle mode) Wet Cell Burner No. 1 (one wood / fuel oil / alternative fuel-fired burner, 20 million Btu/hour maximum heat input)	3340-100	Multi-cyclone with 66 (sixty-six) tubes each 8 inches in diameter
1621 <b>PSD</b>	Drum Dryer No. 2 (one rotary drum dryer for drying wet wood strands, 61,440 lbs/hour maximum wet wood drying capacity)	1621-150	Simple cyclone - 168 inches in diameter
3821 <b>PSD</b>	Suspension Burner No. 2 (one wood / fuel oil-fired burner, 40 million Btu/hour maximum heat input, 60 million Btu/hour designed capacity)	3450	Wet electrostatic precipitator 39,036 square feet of collection plate area
3321 <b>PSD</b>	Wet Cell Burner No. 2 (one wood / fuel oil / alternative fuel-fired burner, 20 million Btu/hour maximum heat input)	3460	Regenerative oxidizer (RO) (Note: RO not subject to PSD requirements)
3321 <b>PSD</b>	<b>Alternative Operating Mode</b> - when dryers are not operating (i.e., when operating in idle mode): Wet Cell Burner No. 2 (one wood / fuel oil / alternative fuel-fired burner 20 million Btu/hour maximum heat input)	3340-200	Multi-cyclone
1631 <b>PSD</b>	Drum Dryer No. 3 (one rotary drum dryer for drying wet wood strands 61,440 lbs/hour maximum permitted wet wood drying capacity)	1632-150	Simple cyclone - 168 inches in diameter
3831 <b>PSD</b>	Suspension Burner No. 3 (one wood / fuel oil-fired burner 40 million Btu/hour maximum heat input, 60 million Btu/hour designed capacity)	3450	Wet electrostatic precipitator 39,036 square feet of collection plate area
3331 <b>PSD</b> <b>NSPS</b>	Wet Cell Burner No. 3 (one wood / fuel oil / alternative fuel-fired burner, 25 million Btu/hour maximum heat input)	3460	Regenerative oxidizer (RO) (Note: RO not subject to PSD requirements)

3331 <b>PSD</b> <b>NSPS</b>	<b>Alternative Operating Mode -</b> when dryers are not operating (i.e., when operating in idle mode): Wet Cell Burner No. 3 (one wood / fuel oil / alternative fuel-fired burner, 25 million Btu/hour maximum heat input)	3340-300	Multi-cyclone <b>PROPOSED</b>
<b>OSB Press</b>			
4301 <b>PSD</b>	OSB Press	NA	None
<b>Dust Collection Systems</b>			
B2801 <b>PSD</b>	Dust Collection System (for woodroom, conversion, and finishing)	2821-401	Simple Cyclone
		2803	Simple Cyclone
		2801	Fabric filter with 9,187 square feet of filter surface area
B2811 <b>PSD</b>	Dust Collection System (for woodroom, conversion, and finishing)	2035	Simple Cyclone
		2812	Simple Cyclone
		2814	Simple Cyclone 180 inches in diameter
		2811	Fabric filter with 9,187 square feet of filter surface area
B2831 <b>PSD</b>	Dust Collection System (for woodroom, conversion, and finishing)	2813	Simple Cyclone 90 inches in diameter
			Simple Cyclone
		2821-301	Simple Cyclone
		2832	
		2831	Fabric filter with 2,668 square feet of filter surface area
B2841 <b>PSD</b>	Sander Dust Collection System	2842	Simple cyclone 150 inches in diameter
		2841	Fabric filter with 4,801 square feet of filter surface area
B2807 <b>PSD</b>	Dust Collection System (for woodroom, conversion, and finishing)	2804	Simple Cyclone 192 inches in diameter
		2807	Fabric filter with 6,040 square feet of filter surface area
B2670 <b>PSD</b>	Sander Dust Collection System	2675	Simple cyclone 150 inches in diameter
		2670	Fabric filter with 6,040 square feet of filter surface area

B2607-100 <b>PSD</b>	Dust Collection System (for woodroom, conversion, and finishing)	2607-110  2607-100	Simple Cyclone 192 inches in diameter  Fabric filter with 6,040 square feet of filter surface area
<b>Engines and Generator</b>			
5000-100 <b>PSD</b>	Fire Water Pump Engine (one diesel-fired engine)	N/A	None
1100-306 <b>PSD</b>	Wood Yard Hog Engine (one diesel-fired engine)	N/A	None
4763-100 <b>PSD</b>	Standby Generator (one diesel-fired generator engine)	N/A	None
<b>Storage Tanks</b>			
4030-100 <b>NSPS</b>	Diesel Fuel Oil Tank 75,000 gallon capacity	N/A	None
4011-100 <b>NSPS</b>	Resin Storage Tank - 20,758 gallon capacity	N/A	None
4012-100 <b>NSPS</b>	Resin Storage Tank 20,758 gallon capacity	N/A	None
4050-100 <b>NSPS</b>	Wax Storage Tank 20,758 gallon capacity	N/A	None
<b>Debarking Units</b>			
1414	Debarking	N/A	None
1134	Debarking	N/A	None
<b>Log Yard</b>			
1100-100	Logs stored in log yard	N/A	None

<sup>1</sup>WESP was referred to as ID No. 3450 in application

<sup>2</sup>Emission point ID No. 3350 was identified as 3340-200 in application.

Note: All descriptions are nominal and are not regulatory limits.

## VI. Emission Source-by-Source Evaluation

### A. Dryers and Associated Burners

#### 1. Description

Each dryer system is equipped with three wood burners, three alternative fuel fired burners, primary cyclones to separate product flakes from the exhaust airstream, and dual secondary cyclones followed by wet electrostatic precipitator (WESP) for particulate emission control and regenerative thermal oxidizer (RTO) for VOC emission control. The dryers are each fired by a Wellons Wet Cell Burner fueled with wet wood waste and by a McConnell Suspension Burner fueled with dry woodwaste or sawdust/sanderdust. An alternative fuel fired burner, firing No. 2 fuel oil and sized at the same heat capacity as the suspension burner is also installed at each dryer. Combined burner exhaust heat

passes through the dryer, through the control equipment and out the RTO stack during normal operations. The WESP has three fields, consisting of 2 chambers each, of which 2 of the 3 fields were operating at the time of the inspection in the 38.0 kV and 360 mA range at the time of the inspection, while the third was in the middle of it's wash cycle. The RTO consists of two "towers" (North and South) with each "tower" consisting of four "cans" (A through D). The RTO can be fired with either natural gas or No. 2 fuel oil. The facility was required to install the RTO in order to comply with an agreement with the Federal authorities and was required to have a minimum total non-methane organic compound (TNMOC) destruction efficiency of at least 90%. The most recent TNMOC stack testing (5/23/2002) performed on the RTO exhaust indicated that under normal operating conditions, the RTO had a TNMOC destruction efficiency in the 95% range. The temperature of the RTO ranged, as designed, from 1080°F to 1200°F.

The process rates for the dryers are as follows:

<b>Emission Source</b>	<b>Emission Source ID No.</b>	<b>Maximum Process Rate<sup>1</sup></b>
<b>Drum Dryer No. 1</b>	1611 <b>PSD</b>	61,440 lbs/hour maximum wet wood drying capacity
<b>Drum Dryer No. 2</b>	1621 <b>PSD</b>	61,440 lbs/hour maximum permitted wet wood drying capacity
<b>Drum Dryer No. 3</b>	1631 <b>PSD</b>	61,440 lbs/hour maximum permitted wet wood drying capacity
<b>McConnell Suspension Burner No. 1- Dry Wood fired</b>	3811 <b>PSD</b>	40 million Btu/hour maximum heat input, 60 million Btu/hour designed capacity 5,000 pounds per hour wood (solid fuel) process rate
<b>McConnell Suspension Burner No. 2- Dry Wood fired</b>	3821 <b>PSD</b>	40 million Btu/hour maximum heat input, 60 million Btu/hour designed capacity 5,000 pounds per hour wood (solid fuel) process rate
<b>McConnell Suspension Burner No. 3 - Dry Wood fired</b>	3831 <b>PSD</b>	40 million Btu/hour maximum heat input, 60 million Btu/hour designed capacity 5,000 pounds per hour wood (solid fuel) process rate
<b>Wellons Wet Cell Burner No. 1 - Wood [green wood and alternative fuels] fired</b>	3311 <b>PSD</b>	20 million Btu/hour maximum heat input 5,556 pounds per hour wood (solid fuel) process rate
<b>Wellons Wet Cell Burner No. 2 - Wood [green wood and alternative fuels] fired</b>	3321 <b>PSD</b>	20 million Btu/hour maximum heat input 5,556 pounds per hour wood (solid fuel) process rate
<b>Wellons Wet Cell Burner No. 3 - Wood [green wood and alternative fuels] fired</b>	3331 <b>PSD</b> <b>NSPS</b>	25 million Btu/hour maximum heat input 5,556 pounds per hour wood (solid fuel) process rate

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the dryers. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
particulate matter	<p><i>AOS - firing oil and or alternative fuels only</i></p> <p><math>E = 1.090 Q^{-0.2594}</math></p> <p>where E = allowable emission rate in pounds per million Btu heat input                      Q = maximum heat input in million Btu per hour for combustion of fuels other than wood</p> <p>for Q = 65 million Btu per hour                      E = 0.369 pounds per million Btu heat input</p> <p>Affected emission units:                      &lt; Wet Cell Burner No. 1 (<b>ID No. 3311</b>)                      &lt; Wet Cell Burner No. 2 (<b>ID No. 3321</b>)                      &lt; Wet Cell Burner No. 3 (<b>ID No. 3331</b>)</p>	15A NCAC 2D .0503(c)
particulate matter	<p><i>POS - firing wood only and/or alternative fuels and/or oil</i></p> <p><math>E = [(0.467)(Q_w) + (0.369)(Q_o)]</math> pounds per million Btu (Q<sub>w</sub> + Q<sub>o</sub>)</p> <p>where: E = allowable emission rate in pounds per million Btu heat input                      Q<sub>w</sub> = actual wood or wood products heat input rate in Btu/hr                      Q<sub>o</sub> = actual oil and/or alternative fuels heat input rate in Btu/hr</p> <p>Affected emission units:                      &lt; Wet Cell Burner No. 1 (<b>ID No. 3311</b>)                      &lt; Wet Cell Burner No. 2 (<b>ID No. 3321</b>)                      &lt; Wet Cell Burner No. 3 (<b>ID No. 3331</b>)</p>	15A NCAC 2D .0504(c) and (f)

particulate matter	$E = 55.0 P^{0.11} - 40$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour  Affected emission units: < Drum Dryer No. 1 ( <b>ID No. 1611</b> ) < Drum Dryer No. 2 ( <b>ID No. 1621</b> ) < Drum Dryer No. 3 ( <b>ID No. 1631</b> ) < Suspension Burner No. 1 ( <b>ID No. 3811</b> ) < Suspension Burner No. 2 ( <b>ID No. 3821</b> ) < Suspension Burner No. 3 ( <b>ID No. 3831</b> )	15A NCAC 2D .0515
sulfur dioxide	2.3 pounds per million Btu heat input  Affected emission units: < Suspension Burner No. 1 ( <b>ID No. 3811</b> ) < Suspension Burner No. 2 ( <b>ID No. 3821</b> ) < Suspension Burner No. 3 ( <b>ID No. 3831</b> ) < Wet Cell Burner No. 1 ( <b>ID No. 3311</b> ) < Wet Cell Burner No. 2 ( <b>ID No. 3321</b> ) < Regenerative oxidizer ( <b>ID No. 3460</b> )	15A NCAC 2D .0516(a)
visible emissions	20 percent opacity  Affected emission units: < Drum Dryer No. 1 ( <b>ID No. 1611</b> ) < Drum Dryer No. 2 ( <b>ID No. 1621</b> ) < Drum Dryer No. 3 ( <b>ID No. 1631</b> ) < Suspension Burner No. 1 ( <b>ID No. 3811</b> ) < Suspension Burner No. 2 ( <b>ID No. 3821</b> ) < Suspension Burner No. 3 ( <b>ID No. 3831</b> ) < Wet Cell Burner No. 1 ( <b>ID No. 3311</b> ) < Wet Cell Burner No. 2 ( <b>ID No. 3321</b> ) < Wet Cell Burner No. 3 ( <b>ID No. 3331</b> )	15A NCAC 2D .0521(d)
sulfur dioxide	0.5 lbs per million Btu heat input or sulfur in fuel limit of 0.5 weight percent sulfur.  Affected emission units: < Wet Cell Burner No. 3 ( <b>ID No. 3331</b> )	15A NCAC 2D .0524 (40 CFR 60.40c, Subpart Dc - Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units (60.40c--60.48c))

carbon monoxide	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitation for CO shall not be exceeded:</p> <p>498.3 lb/hr, daily divided by operating hours per day averaging period (Note: Before RO control emission rate)</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Drum Dryer No. 1 (<b>ID No. 1611</b>)</li> <li>&lt; Drum Dryer No. 2 (<b>ID No. 1621</b>)</li> <li>&lt; Drum Dryer No. 3 (<b>ID No. 1631</b>)</li> <li>&lt; Suspension Burner No. 1 (<b>ID No. 3811</b>)</li> <li>&lt; Suspension Burner No. 2 (<b>ID No. 3821</b>)</li> <li>&lt; Suspension Burner No. 3 (<b>ID No. 3831</b>)</li> <li>&lt; Wet Cell Burner No. 1 (<b>ID No. 3311</b>)</li> <li>&lt; Wet Cell Burner No. 2 (<b>ID No. 3321</b>)</li> <li>&lt; Wet Cell Burner No. 3 (<b>ID No. 3331</b>)</li> </ul>	<p>15A NCAC 2D .0530</p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">PROPOSED</p>
nitrogen oxides	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitation for NO<sub>x</sub> shall not be exceeded:</p> <p>33.44 lb/hr, 12-month rolling averaging period (Note: Before RO control emission rate)</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Drum Dryer No. 1 (<b>ID No. 1611</b>)</li> <li>&lt; Drum Dryer No. 2 (<b>ID No. 1621</b>)</li> <li>&lt; Drum Dryer No. 3 (<b>ID No. 1631</b>)</li> <li>&lt; Suspension Burner No. 1 (<b>ID No. 3811</b>)</li> <li>&lt; Suspension Burner No. 2 (<b>ID No. 3821</b>)</li> <li>&lt; Suspension Burner No. 3 (<b>ID No. 3831</b>)</li> <li>&lt; Wet Cell Burner No. 1 (<b>ID No. 3311</b>)</li> <li>&lt; Wet Cell Burner No. 2 (<b>ID No. 3321</b>)</li> <li>&lt; Wet Cell Burner No. 3 (<b>ID No. 3331</b>)</li> </ul>	<p>15A NCAC 2D .0530</p>

particulate matter	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitations for PM/PM<sub>10</sub> shall not be exceeded:</p> <p>40.3 lb/hr, 24-hour averaging period (Note: Before RO control emission rate)</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Drum Dryer No. 1 (ID No. 1611)</li> <li>&lt; Drum Dryer No. 2 (ID No. 1621)</li> <li>&lt; Drum Dryer No. 3 (ID No. 1631)</li> <li>&lt; Suspension Burner No. 1 (ID No. 3811)</li> <li>&lt; Suspension Burner No. 2 (ID No. 3821)</li> <li>&lt; Suspension Burner No. 3 (ID No. 3831)</li> <li>&lt; Wet Cell Burner No. 1 (ID No. 3311)</li> <li>&lt; Wet Cell Burner No. 2 (ID No. 3321)</li> <li>&lt; Wet Cell Burner No. 3 (ID No. 3331)</li> </ul> <p>22.34 lb/hr, 24-hour averaging period (Note: Wood combustion emission rate during <b>alternative operating mode when operating in idle run mode</b>)</p> <p>16.61 lb/hr, 24-hour averaging period (Note: Oil combustion emission rate during <b>alternative operating mode when operating in idle run mode</b>)</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Wet Cell Burner No. 1 (ID No. 3311)</li> <li>&lt; Wet Cell Burner No. 3 (ID No. 3331)</li> </ul> <p>11.17 lb/hr, 24-hour averaging period (Note: Wood combustion emission rate during <b>alternative operating mode when operating in idle run mode</b>)</p> <p>7.38 lb/hr, 24-hour averaging period (Note: Oil combustion emission rate during <b>alternative operating mode when operating in idle run mode</b>)</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Wet Cell Burner No. 2 (ID No. 3321)</li> </ul>	<p style="text-align: center;">15A NCAC 2D .0530</p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">PROPOSED</p>
sulfur dioxide	<p>For PSD purposes, "Best Available Control Technology" (BACT) permit limitations shall not be exceeded. See Section 2.2 A.1 Facility Wide Affected Emission Sources</p>	<p>15A NCAC 2D .0530</p>

visible emissions	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitation for opacity shall not be exceeded:</p> <p>20% opacity</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Drum Dryer No. 1 (ID No. 1611)</li> <li>&lt; Drum Dryer No. 2 (ID No. 1621)</li> <li>&lt; Drum Dryer No. 3 (ID No. 1631)</li> <li>&lt; Suspension Burner No. 1 (ID No. 3811)</li> <li>&lt; Suspension Burner No. 2 (ID No. 3821)</li> <li>&lt; Suspension Burner No. 3 (ID No. 3831)</li> <li>&lt; Wet Cell Burner No. 1 (ID No. 3311)</li> <li>&lt; Wet Cell Burner No. 2 (ID No. 3321)</li> <li>&lt; Wet Cell Burner No. 3 (ID No. 3331)</li> </ul>	15A NCAC 2D .0530 <b>PROPOSED</b>
volatile organic compounds	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitations for VOC shall not be exceeded:</p> <p>514.6 lb/hr as C, 12-month rolling averaging period (Note: Before RO control emission rate)</p> <p>Affected emission units:</p> <ul style="list-style-type: none"> <li>&lt; Drum Dryer No. 1 (ID No. 1611)</li> <li>&lt; Drum Dryer No. 2 (ID No. 1621)</li> <li>&lt; Drum Dryer No. 3 (ID No. 1631)</li> <li>&lt; Suspension Burner No. 1 (ID No. 3811)</li> <li>&lt; Suspension Burner No. 2 (ID No. 3821)</li> <li>&lt; Suspension Burner No. 3 (ID No. 3831)</li> <li>&lt; Wet Cell Burner No. 1 (ID No. 3311)</li> <li>&lt; Wet Cell Burner No. 2 (ID No. 3321)</li> <li>&lt; Wet Cell Burner No. 3 (ID No. 3331)</li> </ul>	15A NCAC 2D .0530
volatile organic compounds	Work Practice Standards Section 2.2 B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section 2.2 B.2 Facility Wide Affected Emission Sources <b><u>State-enforceable only.</u></b>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section 2.2 B.3 Facility Wide Affected Emission Sources; <b><u>State-enforceable only</u></b>	15A NCAC 2D .1806

volatile organic compounds	The regenerative oxidizer ( <b>ID No. 3460</b> ) shall be capable of demonstrating a 90% efficiency in reducing Total Non-Methane Organic Carbon (TNMOC) emissions <b><u>State-enforceable only</u></b>	15A NCAC 2D .0300 <b>PROPOSED</b>
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POS - Primary Operating Scenario, AOS - Alternative Operating Scenario

Other regulations considered for emissions from the units that comprise the dryers:

- C 15A NCAC 2D .0519: Control of Nitrogen Dioxide and Nitrogen Oxides Emissions. The facility is not a producer of nitric acid and does not utilize a boiler with a capacity of 250 million Btu per hour of heat input.
- C 15A NCAC 2D .1111: Maximum Achievable Control Technology. The Plywood and Composite Wood Products MACT rule has not been promulgated.

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0503: Particulates from Fuel Burning Indirect Heat Exchangers**

**Statement of Basis**

- i. The emission limit for particulate matter from the fuel burning indirect heat exchanger (i.e., the wet cell burners) was prescribed in the Air Permit No. 05678R24 (Specific Conditions and Limitations No. 1).
- ii. The wet cell burners are indirect fired heat exchangers as they produce hot exhaust gas which is used to dry wood flakes in the dryers and to provide heat for the thermal oil heaters. The wet cell burners burn No. 2 fuel oil wood and alternative fuels such as wood waste or used oil.
- iii. Emissions from the wet cell burners are controlled by the same cyclone - wet electrostatic precipitator system as the suspension burners when the dryers are in operation. When the dryers are not in operation the emissions are routed through multi-cyclones.
- iv. When No. 2 fuel oil is used in the burners, minimal emissions of particulate matter are expected from this combustion operation.
- vi. As required by 15A NCAC 2D .0503(e), "The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in operation, under construction, or permitted pursuant to Subchapter 15A NCAC 2Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning heat exchanger." The fuel burning indirect heat exchangers at the facility are as follows:

<u>Emission Source</u>	<u>Emission Source ID No.</u>	<u>Maximum Heat Input</u>
Wet Cell Burner #1	3311	20 million Btu/hour
Wet Cell Burner #2	3321	20 million Btu/hour
Wet Cell Burner #3	3331	25 million Btu/hour

Sum of maximum heat input of all fuel burning heat exchangers at the plant site is: 65 million Btu/hr

Using the equation in 15A NCAC 2D .0503(c) and the sum of maximum heat input of all fuel burning heat exchangers at the plant site (65million Btu/hour), the allowable emission limit for particulate matter from all fuel burning heat exchangers is calculated to be 0.369 lb/million Btu.

**Regulatory Requirements**

- vii. The allowable emissions of particulate matter shall be calculated by the equation  $E = 1.090 \text{ times } Q \text{ to the } -0.2594 \text{ power}$ . E = allowable emission limit in lb/million Btu. Q = maximum heat input in million Btu/hour (See 15A NCAC 2D .0503(c)). Emissions of particulate matter from

the combustion of No. 2 fuel oil and alternative fuels such as used oil discharged from each indirect heat exchanger into the atmosphere shall not exceed the following limitations:

<u>Source</u>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>
Wet Cell Burner #1 (ID No. 3311)	Particulate matter	0.369 lbs/million Btu	20 million Btu/hour	7.38 lbs/hour
Wet Cell #2 Burner (ID No. 3321)	Particulate matter	0.369 lbs/million Btu	20 million Btu/hour	7.38 lbs/hour
Wet Cell #3 Burner (ID No. 3331)	Particulate matter	0.369 lbs/million Btu	25 million Btu/hour	9.18 lbs/hour

**Monitoring/ Recordkeeping/Reporting**

viii. No monitoring, record keeping, or reporting is required for particulate emissions from the firing of No. 2 fuel oil by the wet cell burners 1, 2, and 3 (ID Nos 3311, 3321, and 3331)

**b. 15A NCAC 2D .0504: Particulates from Wood Burning Indirect Heat Exchangers**

**Statement of Basis**

- i. The emission limit for particulate matter from the wood burning indirect heat exchanger (i.e., the wood fired suspension burners and the wet cell burners) was prescribed in the Air Permit No. 05678R24 (Specific Conditions and Limitations No. 1). However the wet cell burners are the only indirect fired units thus are subject to .0503 and .0504 not the wood fired suspension burners as they are direct fired.
- ii. The wet cell burners are indirect heat exchangers as they produce hot exhaust gas which is used to dry wood flakes in the dryers and to provide heat for the thermal oil heaters.
- iii. Emissions from the wet cell burners are controlled by the same cyclone - wet electrostatic precipitator system as the suspension burners when the dryers are in operation. When the dryers are not in operation (during idle run mode operation), an alternative operating mode is used wherein the emissions are routed through multi-cyclones.
- iv. The permit application process flow schematic for a typical dryer system Page B2-15, shows emissions are combined from all emission points associated with the wet electrostatic precipitator (ID No. 3450) together as one single unit. Total emissions after the wet electrostatic precipitator represent emissions from all the dryers, wood fired burners, and fuel fired burners. Though emissions from the wet electrostatic precipitator appear to be less than the sum of all the allowable limits (with regard to this regulation and also for 15A NCAC 2D .0515), compliance for individual emission units with specific limitations can not be determined as the indirect and direct-fired source emissions are combined and routed through the dryer.
- v. Emissions from the wet cell burners appear to be in compliance with this regulation when the dryers are in operation as the controls (multicyclone in series with wet ESP) would appear to be adequate if properly designed, maintained, and operated. When the Alternative Operating Mode is used, during idle run mode operations; whereby, the emissions are routed only through the multicyclones, emissions of particulate matter appear to exceed the allowable limits prescribed by this regulation according to the application. Allowable limits are calculated to be: 7.38 lbs/hour for Wellon Wet Cell Burners Nos. 1 and 2 and 9.18 lbs/hour for Wellon Wet Cell Burner no. 3. Emissions after controls, as indicated in the application, are 11.17 lbs/hour from each burner. The after control emissions appear to be equal to the PSD limitations of 15A NCAC 2D .0530 for but exceed the limitations calculated for 15A NCAC 2D .0504. For the above reasons, and since multicyclones are sometimes not adequate in controlling particulate emissions from wood fired boilers, a stack test is required within one year of issuance of the permit to demonstrate compliance with .0504 while one of the wet cell burners are in the idle mode (dryer system and associated controls) not in operation. In

addition testing is required of the dryer system with associated controls to demonstrate compliance with the PSD/BACT limits.

- vi. As required by 15A NCAC 2D .0504(e), “The total of maximum heat input of all wood burning indirect heat exchangers at a plant site which are in operation, under construction, or with a permit, shall be used to determine the allowable emission limit of a wood burning indirect heat exchanger.” The wood burning indirect heat exchangers at the facility are as follows:

<u>Emission Source</u>	<u>Emission Source ID No.</u>	<u>Maximum Heat Input</u>
Wellons Wet Cell Burner #1	3311	20 million Btu/hour
Wellons Wet Cell Burner #2	3321	20 million Btu/hour
Wellons Wet Cell Burner #3	3331	25 million Btu/hour

Sum of maximum heat input of all fuel burning in-direct heat exchangers at the plant site is: 65 million Btu/hr

Using the equation in 15A NCAC 2D .0504(c) and the sum of maximum heat input of all fuel burning heat exchangers at the plant site (65 million Btu/hour), the allowable emission limit for particulate matter from all fuel burning heat exchangers is calculated to be 0.4467 lb/million Btu.

**Regulatory Requirements**

- vii. The allowable emissions of particulate matter shall be calculated by the equation  $E = 1.1698 \times Q$  to the  $-0.2230$  power. E = allowable emission limit in lb/million Btu. Q = maximum heat input in million Btu/hour (See 15A NCAC 2D .0504(c)). Emissions of particulate matter from the combustion of wood and wood products and/or No.2 oil or alternative fuels discharged from each indirect heat exchanger into the atmosphere shall not exceed the following limitations:

<u>Source</u>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>
Wellons Wet Cell Burner #1 ( <b>ID No. 3311</b> )	Particulate matter	0.4467 lbs/million Btu	20 million Btu/hour	8.93 lbs/hour
Wellons Wet Cell Burner #2 ( <b>ID No. 3321</b> )	Particulate matter	0.4467 lbs/million Btu	20 million Btu/hour	8.93 lbs/hour
Wellons Wet Cell Burner #3 ( <b>ID No. 3331</b> )	Particulate matter	0.4467 lbs/million Btu	25 million Btu/hour	11.17 lbs/hour

viii. **Monitoring and Recordkeeping Requirements**

Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits above by testing one of the Wellons Wet Cell Burners Nos. 1, 2, and 3 (**ID Nos 3311, 3321, and 3331**) for particulate matter with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted by within one year of issuance of permit, unless an alternate date is approved by the DAQ. If the results of the test are within 90% of the limit testing shall be performed on a biennial basis thereafter, if the results of the test are less than 90% of the limit testing shall be performed every 5 years. If the results of this test are above the limit given, above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0504.

- PROPOSED
- ix. Particulate matter emissions from the wood-fired burners shall be controlled as follows:
    - < Emissions from the following units shall be combined and controlled by a simple cyclone (**ID No. 1611-150**), which is 168 inches in diameter, in series with a wet electrostatic precipitator (**ID No. 3450**) which has 39,036 square feet of collection plate area..
      - the McConnell dry wood-fired suspension burner # 1 (**ID No. 3811**)
      - the Wellons Wet Cell Burner No. 1 (**ID No. 3311**)
    - < Emissions from the following units shall be combined and controlled by a simple cyclone (**ID No. 1621-150**), which is 168 inches in diameter, in series with a wet electrostatic precipitator (**ID No. 3450**) which has 39,036 square feet of collection plate area..
      - the McConnell dry wood-fired suspension burner # 2 (**ID No. 3821**)
      - the Wellons Wet Cell Burner No. 2 (**ID No. 3321**)
    - < Emissions from the following units shall be combined and controlled by a simple cyclone (**ID No. 1632-150**), which is 168 inches in diameter, in series with a wet electrostatic precipitator (**ID No. 3450**) which has 39,036 square feet of collection plate area..
      - the McConnell dry wood-fired suspension burner # 3 (**ID No. 3831**)
      - the Wellons Wet Cell Burner No. 3 (**ID No. 3331**)
    - < **Alternative operating mode-** During times when dryers are not operational the particulate emissions from the Wellons Wet Cell burners shall be controlled as follows:
      - Particulate emissions from Wellons Wet Cell Burner Nos. 1 (**ID No. 3311**) shall be controlled by a multi-cyclone (**ID No. 3340-100**) with 66 tubes, each 8 inches in diameter.
      - Particulate emissions from Wellons Wet Cell Burner No. 2 (**ID No. 3321**) shall be controlled by a multi-cyclone (**ID No. 3340-200**) with 66 tubes, each 8 inches in diameter.
      - Particulate emissions from Wellons Wet Cell Burner No. 3 (**ID No. 3331**) shall be controlled by a multi-cyclone (**ID No. 3340-300**) with 35 tubes, each 8 inches in diameter

For the cyclones (**ID Nos. 1611-150, 1621-150, and 1632-150**) multi-cyclones (**ID Nos. 3340-100, 3340-200, and 3340-300**) wet electrostatic precipitator (**ID No. 3450**):

- xi. See Section VI.A.3.g. for monitoring, record keeping, and reporting requirements. If the required records are not maintained as given in Section VI.A.3.g. below, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0504.

**c. 15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The methods for calculating the emission limits for particulate matter from the dryers were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations number 1).
- ii. Dryer exhaust gases are directed to cyclones followed by a wet electrostatic precipitator.
- iii. In the permit application, Permittee combined emissions from all emission points associated with the wet electrostatic precipitator (**ID No. 3450**) together as one single unit. Total emissions after the wet electrostatic precipitator represent emissions from all the dryers, wood fired burners, and fuel fired burners. Though emissions from the wet electrostatic precipitator appear to be less than the sum of all the allowable limits (with regard to this regulation and also for 15A NCAC 2D .0504), compliance for individual emission units with specific limitations can not be determined.

**Regulatory Requirements**

- iv. Emissions of particulate matter from the dryers that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equations: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{for units with process weight rate less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures  
 P = process weight rate in tons per hour

or  $E=55.0(P)^{.11} - 40$  for units with process weight rates greater than 30 tons per hour  
 Where E = allowable emission rate in pounds per hour calculated to three significant figures  
 P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight. **However, solid fuels charged to the suspension burners and wet cell burners are considered part of the process rate.** In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>	<u>Emission Limit</u>	<u>Emission Rate After Controls</u>
Drum Dryer No. 1 (ID No. 1611)	Particulate matter	30.7 tons/hour	40.2 lbs/hour	Not provided
Drum Dryer No. 2 (ID No. 1621)	Particulate matter	30.7 tons/hour	40.2 lbs/hour	Not provided
Drum Dryer No. 3 (ID No. 1631)	Particulate matter	30.7 tons/hour	40.2 lbs/hour	Not provided
Total Emission Rate from All Units after Controls				40.3 lbs/hour

**Monitoring/Recordkeeping**

- v. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits above by testing the drum dryers Nos. 1, 2, and 3 (ID Nos. 1611, 1621, and 1631) for particulate matter with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted within one year of the issuance of this permit, unless an alternate date is approved by the DAQ. If the results of the test are within 90% of the limit testing shall be performed on a biennial basis thereafter, if the results of the test are less than 90% of the limit testing shall be performed every 5 years. Thereafter the testing shall be performed every 5 years. If the results of this test are above the limit given in above the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.
- vi. To comply with the provisions of the permit and ensure compliance with the limitations prescribed in 15A NCAC 2D .0515, the Permittee shall establish an inspection and maintenance schedule/checklist and perform such inspections and maintenance on the drum dryers Nos. 1, 2, and 3 (ID Nos. 1611, 1621, and 1631). As a minimum, the inspection and maintenance program will include a monthly external inspection of the dryers, fans, and duct work for leaks and to ensure structural integrity. In addition, Permittee shall perform maintenance at least once per year. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the drum dryers are not inspected and maintained.
- vii. The results of inspection and maintenance for the drum dryers Nos. 1, 2, and 3 (ID Nos. 1611, 1621, and 1631) shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) the results of each inspection;
  - (c) the results of any maintenance performed on the dryers, fans, and duct work; and

(d) any variance from manufacturer's recommendations, if any, and corrections made. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

- viii. Particulate matter emissions from the drum dryers shall be controlled as follows:
  - < Emissions from the Drum Dryer No. 1 (**ID No. 1611**) shall be controlled by a simple cyclone (**ID No. 1611-150**), which is 168 inches in diameter, in series with a wet electrostatic precipitator (**ID No. 3450**) which has 39,036 square feet of collection plate area..
  - < Emissions from the Drum Dryer No. 2 (**ID No. 1621**) shall be controlled by a simple cyclone (**ID No. 1621-150**), which is 168 inches in diameter, in series with a wet electrostatic precipitator (**ID No. 3450**) which has 39,036 square feet of collection plate area..
  - < Emissions from the Drum Dryer No. 3 (**ID No. 1631**) shall be controlled by a simple cyclone (**ID No. 1632-150**), which is 168 inches in diameter, in series with a wet electrostatic precipitator (**ID No. 3450**) which has 39,036 square feet of collection plate area..
- ix. For the cyclones (**ID Nos. 1611-150, 1621-150, and 1632-150**) and wet electrostatic precipitator (**ID No. 3450**):  
See Section VI.A.3.g. for monitoring, record keeping, and reporting requirements. If the required records are not maintained as given in Section VI.A.3.g. below, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

**d. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

**Statement of Basis**

- i. The method for calculating the emission limit for sulfur dioxide from the dryer combustion units (ID Nos. 3311, 3321, 3811, 3821, 3831, oil-fired suspension burner #1, oil-fired suspension burner #2, oil-fired suspension burner #3, oil-fired auxiliary burner with Wet Cell #1, oil-fired auxiliary burner with Wet Cell #2, and oil-fired auxiliary burner with Wet Cell #3) and the regenerative thermal oxidizer (**ID No. 3460**) was prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 1). Weyerhaeuser Company utilizes, No. 2 fuel oil, and wood to fire the burners and natural gas, and No. 2 fuel oil to fire the regenerative thermal oxidizer. No control devices are used to remove sulfur dioxide from the gas streams before being exhausted to the atmosphere.
- ii. As the Wellons Wet Cell Burner No. 3 (**ID No. 3331**) is subject to the requirements of 15A NCAC 2D .0524, these units are not subject to these requirements.
- iii. Inherently low sulfur fuels are fired, therefore, this emissions limit will never be exceeded, therefore, no monitoring recordkeeping or reporting are required.

**Regulatory Requirements**

- iv. Sulfur dioxide from the burners shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516(a)]. Emissions of sulfur dioxide from the combustion of coal, natural gas, or No. 2 fuel oil as discharged from the following emission points shall not exceed the following limitations:

<u>Source</u>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>
McConnell Dry Wood-fired Suspension Burner #1 ( <b>ID No. 3811</b> )	Sulfur dioxide	2.3 lbs/million Btu	40 million Btu/hour	92. lbs/hour

McConnell Dry Wood-fired Suspension Burner #2 (ID No. 3821)	Sulfur dioxide	2.3 lbs/million Btu	40 million Btu/hour	92. lbs/hour
McConnell Dry Wood-fired Suspension Burner #3 (ID No. 3831)	Sulfur dioxide	2.3 lbs/million Btu	40 million Btu/hour	92. lbs/hour
Wellons Wet Cell Burner #1 (ID No. 3311)	Sulfur dioxide	2.3 lbs/million Btu	20 million Btu/hour	46. lbs/hour
Wellons Wet Cell Burner #2 (ID No. 3321)	Sulfur dioxide	2.3 lbs/million Btu	20 million Btu/hour	46. lbs/hour
Wellons Wet Cell Burner #3 (ID No. 3331)	Sulfur dioxide	2.3 lbs/million Btu	25 million Btu/hour	58. lbs/hour
Regenerative thermal oxidizer (ID No. 3460-100)	Sulfur dioxide	2.3 lbs/million Btu	Not provided	

**Monitoring/Record keeping/Reporting**

iv. No monitoring, record keeping, or reporting is required for sulfur dioxide emissions from the firing of wood, alternative fuels, or No. 2 fuel oil in the dryer combustion units (ID Nos. 3311, 3321, 3331, 3811, 3821, 3831, and regenerative thermal oxidizer (ID No. 3460-100).

**e. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**

**Statement of Basis**

- i. Emission limits for visible emissions from the dryers were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 4).
- ii. Emissions from the wet cell burners are controlled by the same cyclone - wet electrostatic precipitator system as the suspension burners when the dryers are in operation. When the dryers are not in operation (during idle run mode operation), an alternative operating mode is used wherein the emissions are routed through multi-cyclones and exhausted to the atmosphere via a separate emission point.
- iii. In the permit application, Permittee combined emissions from all emission points associated with the wet electrostatic precipitator (ID No. 3450) together as one single unit. Total emissions after the wet electrostatic precipitator represent emissions from all the dryers, wood fired burners, and fuel fired burners. As several units have the same emission points, compliance for individual emission units can not be determined.
- iv. For visible emissions, cyclones, multi-cyclones, and a wet electrostatic precipitator are utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units of the dryers. If visible emissions are observed at the electrostatic precipitators, the control devices may not be functioning properly. To ensure proper operation of the electrostatic precipitator and in turn compliance with this requirement, daily observations for visible emissions are necessary.

**Regulatory Requirements**

- v. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

vi. Visible emissions from the dryers shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Drum Dryer No. 1 (ID No. 1611)	3450	Visible Emissions	20%
Drum Dryer No. 2 (ID No. 1621)			
Drum Dryer No. 3 (ID No. 1631)			
McConnell Dry Wood-fired Suspension Burner #1 (ID No. 3811)			
McConnell Dry Wood-fired Suspension Burner #2 (ID No. 3821)			
McConnell Dry Wood-fired Suspension Burner #3 (ID No. 3831)			
Wellons Wet Cell Burner #1 (ID No. 3311)			
Wellons Wet Cell Burner #2 (ID No. 3321)			
Wellons Wet Cell Burner #3 (ID No. 3331)			
Alternative Operating Mode when operating in idle mode			
Wellons Wet Cell Burner #1 (ID No. 3311)	3340-100	Visible Emissions	20%
Wellons Wet Cell Burner #3 (ID No. 3331)			
Wellons Wet Cell Burner #2 (ID No. 3321)	3350	Visible Emissions	20%

**Monitoring/Recordkeeping/Reporting**

vii. See Section VI.A.3.g. for monitoring, record keeping, and reporting requirements. If the required records are not maintained as given in Section VI.A.3.g. below, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

- f. **15A NCAC 2D .0524: New Source Performance Standards (also see Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units as promulgated in 40 CFR Part 60 (60.40c--60.48c))**

**Statement of Basis**

- i. New source performance standards for the Wellons wet fuel cell (ID No. 3331) and the auxiliary No. 2 fuel oil-fired burner with wet cell #3 (ID No. not provided) were listed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 7). However, the applicant has indicated that there is not an auxiliary burner and that NSPS applies only to this boiler.
- ii. As indicated in 40 CFR 60.40c(a), the affected facility to which this regulation applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr). The units were placed in operation in 1995.
- iii. As defined in 40 CFR 60.41c, a “steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.” The units produce hot exhaust gas for a

dryer and for a thermal oil heater and is therefore considered a “steam generating unit” under the regulation.

- iv. This unit burns wood and No. 2 fuel oil. No coal is combusted in the unit.
- v. The Wellons wet fuel cells are all rated at 25 million Btu/hour, however only wet fuel cell (**ID Nos. 3331**) is subject to this NSPS. This unit is not subject to the standards for particulate matter and opacity as it is smaller than the minimum 30 million Btu/hour specified in 40 CFR 60.43c(b) and (c).
- vi. Permittee has chosen to demonstrate compliance with the emission limits or fuel oil sulfur limits under this section based on a certification from the fuel supplier as provided in 40 CFR 60.42c(h)

**Regulatory Requirements**

- vii. Under provisions of 40 CFR 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, and as specifically stated in 40 CFR 60.42c(d): "... no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur."
- viii. As specifically stated in 40 CFR 60.42c(i): "The ... fuel oil sulfur limits ... under this section apply at all times, including periods of startup, shutdown, and malfunction."
- ix. Terms used throughout this segment [Section VI.B.3.g] are defined in the Clean Air Act as amended in 1990 and in 40 CFR 60.2 and 60.41c.

**Monitoring/Recordkeeping**

- x. To ensure compliance, the Permittee shall monitor the sulfur content of the fuel oil by using fuel oil supplier certification per shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
  - (a) the name of the fuel oil supplier;
  - (b) the maximum sulfur content of the fuel oil received during the quarter;
  - (c) a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR 41c and
  - (d) a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the sulfur content of the oil is not monitored and recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the sulfur content of the fuel oil exceeds 0.5 weight percent sulfur.
- xi. In addition to any other recordkeeping requirements of the Environmental Protection Agency (EPA), the Permittee is required to maintain records as follows:
  - (a) the Permittee shall record and maintain records of the amounts of each fuel combusted during each day; and
  - (b) all records required under this section shall be maintained by the Permittee for a period of two years following the date of such record.

The record of the amounts of fuel combusted during each day shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the amounts of fuel combusted during each month are not recorded.

**Reporting**

- xii. In addition to any other notification requirements to the Environmental Protection Agency (EPA), the Permittee is required to **NOTIFY** the Regional Supervisor, Division of Air Quality, in **WRITING**, of the following:
  - (a) the date construction (40 CFR 60.7) or reconstruction (40 CFR 60.15) of when an affected facility is commenced, postmarked no later than thirty (30) days after such date;

- (b) the anticipated date of initial start-up of an affected facility, postmarked not more than sixty (60) days nor less than thirty (30) days prior to such date; and
- (c) the actual date of initial start-up of an affected facility, postmarked within fifteen (15) days after such date.

xiii. Within thirty days after each calendar year quarter, the Permittee must submit in writing to the Regional Supervisor, Division of Air Quality, the sulfur content of the distillate oil combusted in an affected facility. If fuel supplier certification is used to demonstrate compliance, fuel supplier certification shall include the following information:

- (a) the name of the oil supplier;
- (b) a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR 60.41(c); and
- (c) a certified statement signed by the owner or operator of an affected facility that the records of fuel supplier certification submitted represents all of the fuel combusted during the quarter;

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the sulfur content of the fuel oil exceeds 0.5 weight percent sulfur.

**g. 15A NCAC 2D .0530: Prevention of Significant Deterioration**

**Statement of Basis**

- i. Requirements regarding “prevention of significant deterioration” for the affected emission points were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 8).
- ii. A production limit for the OSB press (ID No. 4301) was provided in Air Permit No. 05678R24 (Specific Conditions and Limitations Nos. 8(b)(i)), which indicated that “The Permittee shall limit total press production to 450 million square feet equivalent (3/8 inch basis at 42 pounds per cubic foot) per year annual press production ...” Compliance with this limit should result in compliance with the BACT limits.
- iii. For particulate matter emissions from the units involved in the production of OSB, cyclones followed by fabric filters are used to meet the BACT requirements. For emissions from the dryers, cyclones are used to remove large particles and the cyclone exhausts are vented to a wet electrostatic precipitator for further cleaning. For the OSB press (**ID No. 4301**), no controls are necessary to meet BACT requirements. In the permit application, Permittee combined emissions from all emission points that vented through each fabric filter as one single unit. The emissions emitted from each fabric filter represent emissions from all units that are attached to it. Applicant did not provide process weight rates for any individual units. Only pollutant loadings to some control devices were provided. Though emissions from the fabric filters appear to be less than the sum of all the allowable limits, compliance for individual emission units with specific limitations can not be determined.
- iv. For volatile organic compounds from the dryers, a regenerative thermal oxidizer has been installed, because an agreement with the Federal authorities not to meet the PSD/BACT VOC limit. However the emissions reductions attributable to the RTO are used to show compliance with the 1 hour BACT VOC limit (12 month rolling average).
- v. No control measures were required for emissions of nitrogen dioxide or carbon monoxide.
- vi. For visible emissions, fabric filters and a wet electrostatic precipitator are utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units at the facility. If visible emissions are observed at the fabric filters or the wet electrostatic precipitator, the control devices may not be functioning properly. To ensure proper operation of the fabric filters and the wet electrostatic precipitator and in turn compliance with this requirement, weekly observations for visible emissions are necessary.
- vii. The Permittee is subject to a Federal Only Requirement for the Regenerative Thermal Oxidizer [RTO]. The RTO shall be capable of demonstrating a minimum of 90 percent efficiency in reducing the emissions of volatile organic compound emissions from controlled sources. The extended shutdowns periods as they appear in the previous 300 permit were also included.
- viii. In the most recent air permit (Air Permit No. 05678R24) the following requirement was specified

in Specific Conditions and Limitations No. 8(b)(ii): "The permittee shall use the following averaging times, along with operating hours and OSB production, as calculated above, to calculate emissions for compliance with the BACT limits specified. These calculations shall be maintained in a log book and be made available to Division of Air Quality Personnel upon request."

POLLUTANT	EMISSION LIMIT	AVERAGING PERIOD
PM	lb/hour	Daily Divided by 24
PM <sub>10</sub>	lb/hour	Daily Divided by 24
NO <sub>x</sub>	lb/hour	12 Month Rolling Average
CO	lb/hour	Daily Divided by Operating Hours Per Day
VOC	lb/hour	12 Month Rolling Average

No factor was included in the permit for determining the emissions of any pollutants on an annual basis using the production figures provided in response to the previous condition in the permit (Specific Conditions and Limitations No. 8(b)(i)). Therefore this calculation was not included in this review and is not part of this permit document.

**Regulatory Requirements**

- i. For PSD purposes, the following "Best Available Control Technology" (BACT) emission rates shall not be exceeded:

Source	Pollutants	Emission Limits
Drum Dryer No. 1 (ID No. 1611)	PM/PM <sub>10</sub>	40.3 lbs/hr, 24-hour averaging period
Drum Dryer No. 2 (ID No. 1621)		(Note: Before Control (RO) Emissions Rate)
Drum Dryer No. 3 (ID No. 1631)	Volatile Organic Compounds	514.6 lbs/hr as C, 12-month rolling averaging period
Suspension Burner No. 1 (ID No. 3811)		(Note: Before Control (RO) Emissions Rate)
Suspension Burner No. 2 (ID No. 3821)	Visible emissions	20 percent opacity
Suspension Burner No. 3 (ID No. 3831)		
Wet Cell Burner No. 1 (ID No. 3311)	Carbon Monoxide	498.3 lbs/hr, daily divided by operating hours per day averaging period
Wet Cell Burner No. 2 (ID No. 3321)		(Note: Before Control (RO) Emissions Rate)
Wet Cell Burner No. 3 (ID No. 3331)		Nitrogen Oxides
	(Note: Before Control (RO) Emissions Rate)	
<b><u>Alternative Operating Mode when operating in idle run mode</u></b>	PM/PM <sub>10</sub>	22.34 lbs/hr, 24-hour averaging period
Wet Cell Burner No. 1 (ID No. 3311)		(Note: Wood combustion emission rate)
Wet Cell Burner No. 3 (ID No. 3331)		16.61 lbs/hr, 24-hour averaging period
		(Note: Oil combustion emission rate)

Source	Pollutants	Emission Limits
	Visible emissions	20 percent opacity
<b><u>Alternative Operating Mode when operating in idle mode</u></b>  Wet Cell Burner No. 2 (ID No. 3321)	PM/PM <sub>10</sub>	11.17 lbs/hr, 24-hour averaging period  (Note: Wood combustion emission rate)
		7.38 lbs/hr, 24-hour averaging period  (Note: Oil combustion emission rate)
	Visible emissions	20 percent opacity

**For Emissions of Carbon Monoxide, Nitrogen Oxides and Volatile Organic Compounds**

- i. Testing was considered to verify compliance with the PSD BACT limits however since there is a history of stack tests which demonstrate compliance further testing is not required at this time for these pollutants.

**Monitoring/Recordkeeping**

- ii. To ensure compliance, the Permittee shall establish an inspection and maintenance schedule/checklist and perform such inspections and maintenance on suspension burners No. 1, 2, and 3 (ID Nos. 3811, 3821, and 3831) and the wet cell burners Nos. 1, 2, and 3 (ID Nos. 3311, 3321, and 3331). As a minimum, the inspection and maintenance program will include once per calendar month inspection of the burners, fans, and duct work for leaks and to ensure structural integrity. In addition, the Permittee shall perform maintenance and cleaning at least once per year. The Permittee shall be deemed in noncompliance if the burners are not inspected, cleaned, and maintained.
- iii. The results of inspection and maintenance for the suspension burners No. 1, 2, and 3 (ID Nos. 3811, 3821, and 3831) and the wet cell burners Nos. 1, 2, and 3 (ID Nos. 3311, 3321, and 3331) shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following
  - (a) the date and time of each recorded action;
  - (b) the results of each inspection;
  - (c) the results of any maintenance performed on the burners, fans, and duct work; and
  - (d) any corrections made.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

**Reporting**

- v. The Permittee shall submit the results of any maintenance performed on suspension burners Nos. 1, 2, and 3 (ID Nos. 3811, 3821, and 3831) and the wet cell burners Nos. 1, 2, and 3 (ID Nos. 3311, 3321, and 3331) within 60 days of a written request by the DAQ.
- vii. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**For Emissions of Particulate Matter**

The following testing is required to verify compliance with the PSD BACT limits.

viii. Under the provisions of NCGS 143-215.108, **the Permittee shall demonstrate compliance with the emission limits, above by testing (at the common stack after the wet ESP control device) the combined drum dryers Nos. 1, 2, and 3 (ID Nos. 1611, 1621, and 1631), the suspension burners Nos. 1, 2, and 3 (ID Nos. 3811, 3821, and 3831), and the wet cell burners Nos. 1, 2, and 3 (ID Nos. 3311, 3321, and 3331) when burning wood for particulate matter in accordance with a testing protocol approved by the DAQ.** Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted within one year of issuance of permit, by **XXX** unless an alternate date is approved by the DAQ. **Thereafter, testing shall be performed every 10 years or 7,000 hours of emissions exiting the wet ESP stack, whichever occurs first.** If the results of this test are above the limit given in Section 2.1 A. 7. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

- ix. Under the provisions of NCGS 143-215.108, **the Permittee shall demonstrate compliance with the emission limits, above by testing one of the wet cell burners Nos. 1, 2, or 3 (ID Nos 3311, 3321, or 3331) while operating in the Alternative Operating Mode when burning wood for particulate matter in accordance with a testing protocol approved by the DAQ. If the results of the test are greater than 80% of the limit testing shall be performed every 5 years, if the results of the test are less than or equal to 90% of the limit future testing shall not be required.** Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted within one year of issuance of permit, by **XXX** unless an alternate date is approved by the DAQ. If the results of this test are above the limit given in Section 2.1 A. 7. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

#### **Monitoring/Recordkeeping**

- x. Particulate matter emissions shall be controlled as follows:
- < Emissions from the following units shall be combined and controlled by a simple cyclone (ID No. 1611-150) in series with a wet electrostatic precipitator (ID No. 3450).
    - i. Drum Dryer No. 1 (ID No. 1611)
    - ii. Suspension Burner No. 1 (ID No. 3811)
    - iii. Wet Cell Burner No. 1 (ID No. 3311)
  - < Emissions from the following units shall be combined and controlled by a simple cyclone (ID No. 1621-150) in series with a wet electrostatic precipitator (ID No. 3450).
    - v. Drum Dryer No. 2 (ID No. 1621)
    - vi. Suspension Burner No. 2 (ID No. 3821)
    - vii. Wet Cell Burner No. 2 (ID No. 3321)
  - < Emissions from the following units shall be combined and controlled by a simple cyclone (ID No. 1632-150) in series with a wet electrostatic precipitator (ID No. 3450).
    - ix. Drum Dryer No. 3 (ID No. 1631)
    - x. Suspension Burner No. 3 (ID No. 3831)
    - xi. Wet Cell Burner No. 3 (ID No. 3331)
  - < **Alternative Operating Mode** During times when dryers are not operational the particulate emissions from the Wet Cell burners shall be controlled as follows:
    - xiii. Particulate emissions from Wet Cell Burner No. 1 (ID No. 3311) shall be controlled by a multi-cyclone (ID No. 3340-100).
    - xiv. Particulate emissions from Wet Cell Burner No. 2 (ID No. 3321) shall be controlled by a multi-cyclone (ID No. 3340-200).
    - xv. Particulate emissions from Wet Cell Burner No. 3 (ID No. 3331) shall be controlled by a multi-cyclone (ID No. 3340-300).

For the cyclones (ID Nos. 1611-150, 1621-150, 1632-150)

- iv. To ensure compliance and effective operation, the Permittee shall perform inspections and maintenance. The inspection and maintenance requirement shall include a monthly external visual inspection of the cyclones, system duct work, and material collection unit for leaks. The Permittee

shall be deemed in noncompliance with 15A NCAC 2D .0530 if the cyclones and duct work are not inspected and maintained.

v. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection;
- (c) the results of any maintenance performed on the work area enclosures, cyclones, and duct work; and
- (d) any variance from manufacturer's recommendations, if any, and corrections made.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the cyclones. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

For the multi-cyclones (**ID Nos. 3340-100, 3340-200, and 3340-300**):

vi. To ensure compliance and effective operation, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include:

- (a) a monthly external visual inspection of the multicyclones, the system duct work, and the material collection unit for leaks and
- (b) an annual (for each 12 month period from initial inspection) internal inspection of the multicyclone's structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the multi-cyclones and duct work are not inspected and maintained.

vii. The results of inspection and maintenance of the multi-cyclones shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection;
- (c) the results of any maintenance performed on the multi-cyclones and duct work; and
- (d) any variance from manufacturer's recommendations, if any, and corrections made.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the cyclones. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

For the wet electrostatic precipitator (**ID No. 3450**)

vii. To ensure compliance and effective operation of the wet electrostatic precipitator (**ID No. 3450**), the Permittee shall perform inspections and maintenance which shall include the following:

- (a) once per calendar month external visual inspection of critical components of the wet electrostatic precipitator such as voltmeters, quench inlet temperature gauges, outlet temperature gauges, nozzles, pumps, and piping;
- (b) a once per calendar month check for any equipment that does not generate an alarm in the turned-off state, to ensure it is switched on;
- (c) a once per calendar month check for signs of plugging and buildup; and
- (d) once per calendar month external visual inspection of the system ductwork and material collection unit for leaks and corrosion.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the wet electrostatic precipitator and duct work are not inspected and maintained.

viii. To ensure compliance and the effective operation of the wet electrostatic precipitator (**ID No. 3450**), the Permittee shall:

- (a) operate the wet electrostatic precipitator (**ID No. 3450**) with a minimum of two of the

- possible three fields, excluding periods when one of the two fields is in a wash cycle;
- (b) monitor and record the primary voltage drop to obtain a daily average.  
The primary voltage drop readings shall be recorded, maintained on-site, and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance if the wet electrostatic precipitator (**ID No. 3450**) is not operated with a minimum of two fields, excluding wash cycle periods. The Permittee shall be deemed in noncompliance if the monitoring device is not properly calibrated, operated, and maintained and if the primary voltage drop is not maintained.
- ix. The Permittee shall establish a minimum value for primary voltage drop readings for the wet electrostatic precipitator (**ID No. 3450**) in the first 30 days following the effective date of the permit. The Permittee shall evaluate, on a daily basis, the recorded voltage drop readings. If the primary voltage drop readings are observed to be below the minimum value during operations, the Permittee shall inspect the wet electrostatic precipitator for malfunctions and repair, as necessary. The Permittee shall be deemed in noncompliance if the inspections and repairs are not performed.
- x. The results of inspection and maintenance activities, discussed above for the wet electrostatic precipitator, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) the results of each inspection;
  - (c) the causes for any variance from the normal operating range for the wet electrostatic precipitator; and
  - (d) corrective actions taken.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained

**Reporting**

- xi. The Permittee shall submit the results of any maintenance performed on the cyclones (**ID Nos. 1611-150, 1621-150, and 1632-150**), the multi-cyclones (**ID Nos. 3340-100, 3340-200, and 3340-300**), and the wet electrostatic precipitator (**ID No. 3450**) within 60 days of a written request by the DAQ.
- xii. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**h. Control of Volatile Organic Compounds (Federal Only Requirement)**

**Statement of Basis**

- i. The company agreed with the Federal authorities to install VOC emissions controls as a result of discovering emissions of VOCs from the wood dryers were higher than previously estimated.
- ii. The installation of a Regenerative Thermal Oxidizer to reduce anthropogenic VOCs was agreed to be appropriate. The RTO was tested and demonstrated compliance with the required 90% control efficiency.
- iii. The extended shutdowns periods were incorporated into the title V permit from the State 300 permit, thereby ensuring Federal authority in enforcing these conditions.

**Federal Only-Requirements**

- iv. Volatile organic compound emissions from drum dryers No. 1, 2, and 3 (**ID Nos. 1611, 1621, and 1631**) shall be controlled by the regenerative oxidizer (**ID No. 3460**), which shall be capable of demonstrating a minimum of 90 percent destruction efficiency in reducing the emissions of volatile organic compounds captured from controlled sources.

**Federal Only- Monitoring and Recordkeeping Requirements**

v. Weyerhaeuser submitted a proposal defining appropriate periods for shutdown of the device for maintenance that was approved under a previous State 300 permit.

**i. ALTERNATIVE OPERATING SCENARIOS**

**Regulatory Requirements**

The Permittee, contemporaneously with making a change from one alternate operating scenario to another, shall record in a logbook (written or electronic format) the scenario under which it is operating. [15A NCAC 2Q .0508(p)]

**B. Oriented Strand Board (OSB) Production**

1. Description

Logs entering the facility are sent to the debarking units, then on to flakers. Flakes exiting the flakers are stored in storage bins, then routed to the dryers to dry the green flakes.

Dry flakes are conveyed to rotary screens and then stored in dry storage bins similar to the green flake bins. Flakes are metered from the storage bins into a blender where resin and wax are mixed with the flakes. The resinated material moves to the forming line where the flakes are oriented. The mat formed on the traveling caul screen is then carried through the mat saws. The mats are placed in the OSB press where the resin is cured with heat and pressure to form a stable panel. The panels exiting the press are finished according to customer specifications and package.

All wood residuals, such as bark, sawdust, and board trim generated during the board production operations are collected and pneumatically conveyed to storage for subsequent use as fuel or is recycled as furnish. The particulate generated during the various processes is collected for safety and hygiene purposes and conveyed to cyclones and baghouses to control emissions.

The process rates for the units that comprise the OSB production facilities are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
<b>Press</b>		
OSB Press <sup>2</sup>	4301	47.25 tons/hour

<sup>1</sup> Permit Application (July 25, 1996) Section B

<sup>2</sup> Calculated rate based on annual production limit of 450 million square feet equivalent per year (permit 05678R24)

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the oriented strand board (OSB) production. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 2D .0521(d)

<p>particulate matter volatile organic compounds visible emissions</p>	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitations shall not be exceeded:</p> <ul style="list-style-type: none"> <li>&lt; 11.71 lb/hr PM/PM<sub>10</sub>, 24-hour averaging period</li> <li>&lt; 99.44 lb/hr VOC, 12-month rolling averaging period</li> <li>&lt; 20% opacity</li> <li>&lt; 450,000,000 square feet equivalent (3/8 inch basis at 42 pounds per cubic foot) per year</li> </ul>	<p>15A NCAC 2D .0530</p>
<p>volatile organic compounds</p>	<p>Work Practice Standards Note discussion in Section 2.2 B.1 - Facility Wide Affected Emission Sources</p>	<p>15A NCAC 2D .0958</p>
<p>toxic air pollutants</p>	<p>Permit limits for toxic air pollutants shall not be exceeded. See Section 2.2 B.2 Facility Wide Affected Emission Sources <b>State-enforceable only</b>.</p>	<p>15A NCAC 2D .1100</p>
<p>odors</p>	<p>Odorous emissions must be controlled - Section 2.2 B.3 Facility Wide Affected Emission Sources; <b>State-enforceable only</b></p>	<p>15A NCAC 2D .1806</p>

**a. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the oriented strand board production were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 4).
- ii. For visible emissions, no control are used or required for OSB press. Fabric filters are utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units involved in the production of oriented strand board.
- iii. As discussed in the most recent inspection report, dated August 16, 2002, no violations of requirements were observed.

**Regulatory Requirements**

- iv. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from the units involved in the production of oriented strand board manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- v. Visible emissions shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
	<b>Press</b>		
OSB Press ( <b>ID No. 4301</b> )	4301	Visible Emissions	20%
	4302		
	4303		
	4304		
	4305		
	4306		
	4307		
	4308		

**Monitoring/Recordkeeping/Reporting**

vii. See Section VI.B.2. for monitoring, record keeping, and reporting requirements. If the required records are not maintained as given in Section VI.B.2. below, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

**2. 15A NCAC 2D .0530: Prevention of Significant Deterioration**

**Statement of Basis**

- i. Requirements regarding “prevention of significant deterioration” for the affected emission points were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 8).
- ii. A production limit for the OSB press (ID No. 4301) was provided in Air Permit No. 05678R24 (Specific Conditions and Limitations Nos. 8(b)(i)), which indicated that “The Permittee shall limit total press production to 450 million square feet equivalent (3/8 inch basis at 42 pounds per cubic foot) per year annual press production ...” Compliance with this limit should result in compliance with the BACT limits.
- iii. For the OSB press (**ID No. 4301**), no controls are necessary to meet BACT requirements. For particulate matter emissions from the units involved in the production of OSB, cyclones followed by fabric filters are used to meet the BACT requirements. For emissions from the dryers, cyclones are used to remove large particles and the cyclone exhausts are vented to a wet electrostatic precipitator for further cleaning.
- iv. No control measures were required for visible emissions or of nitrogen dioxide, carbon monoxide.
- v. In the most recent air permit (Air Permit No. 05678R24) the following requirement was specified in Specific Conditions and Limitations No. 8(b)(ii): "The permittee shall use the following averaging times, along with operating hours and OSB production, as calculated above, to calculate emissions for compliance with the BACT limits specified. These calculations shall be maintained in a log book and be made available to Division of Air Quality Personnel upon request."

<b>POLLUTANT</b>	<b>EMISSION LIMIT</b>	<b>AVERAGING PERIOD</b>
PM /PM <sub>10</sub>	lb/hour	Daily Divided by 24
VOC	lb/hour	12 Month Rolling Average

No factor was included in the permit for determining the emissions of any pollutants on an annual basis using the production figures provided in response to the previous condition in the permit (Specific Conditions and Limitations No. 8(b)(i)). Therefore this calculation was not included in this review and is not part of this permit document.

**Regulatory Requirements**

vi. For PSD purposes, the following "Best Available Control Technology" (BACT) emission rates and Oriented Strand Board production and operation limitations shall not be exceeded:

Source	Pollutants	BACT Emission Limits	Production/Operation Limit
OSB Press (ID No. 4301)	PM/PM <sub>10</sub>	11.71 lbs/hour	Annual press production on the OSB press (ID No. 4301) shall be limited to 450,000,000 square feet on a 3/8 inch basis
	Opacity	20 percent	N/A
	Volatile organic compounds	99.44 lbs/hour	Annual press production on the OSB press (ID No. 4301) shall be limited to 450,000,000 square feet on a 3/8 inch basis

**Monitoring/Record Keeping for Production/Operation Limits**

vii. To ensure compliance with the above BACT emissions limits for volatile organic compounds, particulate matter, carbon monoxide, and nitrogen dioxide annual press production for the OSB press (ID No. 4301) shall be limited to **450,000,000 square feet on a 3/8 inch basis**. The Permittee shall maintain monthly records of the total amount of oriented strand board produced, in a logbook (written or in electronic format). The total press production shall be calculated as follows:

$$E_{(i' 1, n)} P_{ai} \times \frac{T_i}{3/8} \times \frac{D_i}{42} = P_t$$

Where:

P<sub>ai</sub> = actual gross production footage (MMSF) for different thickness/density combinations

T<sub>i</sub> = actual thickness (inch) for specific production run

D<sub>i</sub> = actual density (lb/ft<sup>3</sup>) for specific production run

P<sub>t</sub> = total normalized production at 3/8 inch and 42 lb/ft<sup>3</sup>

Such records shall indicate the amount of oriented strand board produced during the preceding month and the total amount of oriented strand board produced over the preceding 12 month period. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the oriented strand board production records are not recorded and maintained or the production limit is exceeded.

**Monitoring/Recordkeeping for Visible Emissions**

vii. To ensure compliance, the Permittee shall observe, on a once per calendar month basis, the emission points for the OSB press (ID Nos. 4301, 4302, 4303, 4304, 4305, 4306, 4307, and 4308), for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points for the OSB press are observed to be above normal, the Permittee shall either:

- (a) take appropriate action to correct the above normal emissions prior to the end of the once per calendar month monitoring period or

(b) demonstrate that the visible emissions from the emission points for the OSB press, in accordance with 15A NCAC 2D .0501(c)(8), are below 20 percent opacity.

If any corrective action under (vii) above does not correct the above normal emissions prior to the end of the once per calendar month monitoring period, the facility will be deemed in non-compliance; if any demonstration under (ii) above exceeds the prescribed limit, the facility will be deemed in noncompliance of .0521.

viii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each observation and/or test noting those sources with emissions that were observed to be above normal or in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

**Reporting**

ix. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**Monitoring/Recordkeeping for Emissions of Volatile Organic Compounds and Particulate**

The following testing is required to verify compliance with the PSD BACT limits.

x. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits, above by testing the emission points for the OSB press (**ID Nos. 4301, 4302, 4303, 4304, 4305, 4306, 4307, and 4308**) for particulate matter and volatile organic compounds in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted within one year of issuance of permit, by **XXX** unless an alternate date is approved by the DAQ. If the results of the test are within 90% of the limit testing shall be performed on a biennial basis thereafter, if the results of the test are less than 90% of the limit testing shall be performed every 5 years. If the results of this test are above the limit given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

xi. The Permittee calculate each month the yearly VOC emissions in pounds per hour for the previous 14 months based on the last accepted test data and the OSB throughput and hours of operation. The calculation of VOC emissions shall be maintain in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

The logbook shall record the following:

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

**Reporting**

xii. The Permittee shall submit a summary report of monitoring and record keeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September.

xiii. Within thirty (30) days after each calendar year quarter, the Permittee shall report the following to the Regional

- (a) the quarterly production rate from press operation in square feet (3/8 inch basis). The quarterly production rate must be calculated for each unit for each of the three-month periods over the previous 5 months and each of the three twelve month periods over the previous fourteen months.
- (b) A summary report of the monthly calculated VOC emissions compared to the limit. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the total oriented strand board production for any consecutive 12 month period exceeds 450,000,000 square feet on a 3/8 inch basis or the VOC PSD/BACT limit is exceeded.

**C. Dust Collection Systems:**

- **Dust Collection System (ID No. B2801)**
- **Dust Collection System (ID No. B2811)**
- **Dust Collection System (ID No. B2831)**
- **Sander Dust Collection System (ID No. B2841)**
- **Dust Collection System (ID No. B2807)**
- **Sander Dust Collection System (ID No. B2670)**
- **Dust Collection System (ID No. B2607-100)**

1. Description

Logs entering the facility are sent to the debarking units, then on to flakers. Flakes exiting the flakers are stored in storage bins, then routed to the dryers to dry the green flakes.

Dry flakes are conveyed to rotary screens and then stored in dry storage bins similar to the green flake bins. Flakes are metered from the storage bins into a blender where resin and wax are mixed with the flakes. The resinated material moves to the forming line where the flakes are oriented. The mat formed on the traveling caul screen is then carried through the mat saws. The mats are placed in the OSB press where the resin is cured with heat and pressure to form a stable panel. The panels exiting the press are finished according to customer specifications and package.

All wood residuals, such as bark, sawdust, and board trim generated during the board production operations are collected and pneumatically conveyed to storage for subsequent use as fuel or is recycled as furnish. The particulate generated during the various processes is collected for safety and hygiene purposes and conveyed to cyclones and baghouses to control emissions.

The process rates for the dust collection systems that support OSB production, material and wood fuel handling are as follows:

<b>Emission Source</b>	<b>Emission Source ID No.</b>	<b>Maximum Process Rate<sup>1</sup></b>
<b>Dust System B2801</b>		
Blender #1 Infeed Weight Belt	3212 <b>PSD</b>	Not provided
Blender #2 Infeed Weight Belt	3222 <b>PSD</b>	Not provided

Blender Discharge Conveyor	2736 <b>PSD</b>	Not provided
Blender Discharge Conveyor	2746 <b>PSD</b>	Not provided
Former Discharge Conveyor	2747 <b>PSD</b>	Not provided
Former Discharge Conveyor	2737 <b>PSD</b>	Not provided
No. 4 Flaker	1431-100 <b>PSD</b>	Not provided
No. 4 Flaker Discharge Conveyor	1431-200 <b>PSD</b>	Not provided
Former	2015 <b>PSD</b>	Not provided
Former	2018 <b>PSD</b>	Not provided
Former	2025 <b>PSD</b>	Not provided
Former	2028 <b>PSD</b>	Not provided
Woodroom	Not provided <b>PSD</b>	Not provided
Dryer No. 1 Infeed Conveyor	Not provided <b>PSD</b>	Not provided
Dryer No. 2 Infeed Conveyor	Not provided <b>PSD</b>	Not provided
Hammermill	Not provided <b>PSD</b>	Not provided
No. 1 Screen	1711 <b>PSD</b>	Not provided
No. 2 Screen	1721 <b>PSD</b>	Not provided
<b>Dust System B2811</b>		
S Flake Debris Collection crew	2068-100 <b>PSD</b>	Not provided
Wood Debris Collection Screw	2067-100 <b>PSD</b>	Not provided

Wood Debris Collections	2066-100 <b>PSD</b>	Not provided
Board Edge Pretrim Saw	2204-100 <b>PSD</b>	Not provided
Board Edge Pretrim Saw	2204-102 <b>PSD</b>	Not provided
End Pretrim Saw	2206-101 <b>PSD</b>	Not provided
End Pretrim Saw	2206-103 <b>PSD</b>	Not provided
Finish Trim Saw	2220-100 <b>PSD</b>	Not provided
Finish Trim Saw	2220-101 <b>PSD</b>	Not provided
Wood Debris Conveyor	2261-100 <b>PSD</b>	Not provided
Finishing Hog	1811-100 <b>PSD</b>	Not provided
T&G Machine	2240 <b>PSD</b>	Not provided
T&G Machine	2914-100 <b>PSD</b>	Not provided
Flake Recovery under Mat Side Trim Saws	2035 <b>PSD</b>	Not provided
Mat Cross Cut Saw	2036 <b>PSD</b>	Not provided
Mat Reject Bin Screw	2772-100 <b>PSD</b>	Not provided
Forming Collection Screw Conveyor	2037-100 <b>PSD</b>	Not provided
<b>Dust System B2831</b>		
Reject Bin	2042 <b>PSD</b>	Not provided
Wet Hog Infeed Conveyor	2762 <b>PSD</b>	Not provided
#1 Dry Bin Discharge Conveyor	2734 <b>PSD</b>	Not provided

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#2 Dry Bin Discharge Conveyor	2744 <b>PSD</b>	Not provided
#1 Dry Bin Dust Collection	1531 <b>PSD</b>	Not provided
#1 Dry Bin Dust Collection	1541 <b>PSD</b>	Not provided
Floor Sweeps	Not provided <b>PSD</b>	Not provided
Wet Hog Hammer Mill Discharge Blow Line	2821-100 <b>PSD</b>	Not provided
Dry Fines Hammermill	1822-100 <b>PSD</b>	Not provided
<b>Dust System B2841</b>		
Sander	2501 <b>PSD</b>	Not provided
<b>Dust System B2807</b>		
#3 Blender, Blender Infeed Conveyor	2786-100 <b>PSD</b>	Not provided
#3 Blender Discharge Conveyor	1931-300 <b>PSD</b>	Not provided
#3 Flaker Discharge Conveyor	#1 2707-101/2 <b>PSD</b>	Not provided
#3 Flaker	1331-100 <b>PSD</b>	Not provided
Dry Bin Distribution Conveyor	2729-302 #2 <b>PSD</b>	Not provided
Dry Bin Distribution Conveyor	2730-301 <b>PSD</b>	Not provided
#3 Flake Screens Discharge Conveyor	2729-300 #1 <b>PSD</b>	Not provided
Dry Bin	1561 <b>PSD</b>	Not provided
Dryer Cyclone Discharge Conveyor	2726-100 <b>PSD</b>	Not provided

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Dryer Cyclone Discharge Conveyor	2725-116 <b>PSD</b>	Not provided
#3 Flaker Screens	1741 <b>PSD</b>	Not provided
DS&E Conveyors	Not provided <b>PSD</b>	Not provided
<b>Dust System B2670</b>		
Sander	2651-100	Not provided
<b>Dust System B2607-100</b>		
Flake Recovery from: Press Pit Formline Primary Finishing DS&E and Woodroom	Not provided	Not provided

<sup>1</sup> Permit Application (July 25, 1996) Section B

<sup>2</sup> Calculated rate based on annual production limit of 450 million square feet equivalent per year (permit 05678R24)

Comments

- C Applicant grouped all emission sources within dust systems which were associated with fabric filters. Names and ID Nos. for individual emission sources were obtained from figures included with the application material.
- C Applicant did not provide process weight rates for individual emission sources. Only pollutant loadings to control devices were provided. The loading information that was provided appeared to be the amount of particulate matter going into the fabric filters. No information was provided indicating how the loads to the control devices were estimated.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the oriented strand board (OSB) production. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
particulate matter	adequate duct work and properly designed collectors	15A NCAC 2D .0512
visible emissions	20 percent opacity Note limits and discussion in Section VI.C.3.c	15A NCAC 2D .0521(d)

particulate matter visible emissions	For PSD purposes, "Best Available Control Technology" (BACT) permit limitations shall not be exceeded. See Section VII.B.2 Facility Wide Affected Emission Sources	15A NCAC 2D .0530
volatile organic compounds	Work Practice Standards Section VII.B.4 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section VII.B.5 Facility Wide Affected Emission Sources <b>State-enforceable only.</b>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section VII.B.6 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

3. Specific requirements and affected emission points

**a. 15A NCAC 2D .0512: PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS**

**Statement of Basis**

- i. The regulation applies to emissions of particulate matter from the working, sanding, and finishing of wood.
- ii. Provisions for the control of particulate matter from emissions from the above listed units were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations number 1).

**Regulatory Requirements**

- iii. The Permittee shall not cause, allow, or permit particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, adequate duct work and properly designed collectors. In no case shall the ambient air quality standards be exceeded beyond the property line.

**Monitoring/Recordkeeping/Reporting**

- iv. See Section VI.C.3 for monitoring, record keeping, and reporting requirements. If the required records are not maintained as given in Section VI.C.3 below, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512.

**b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the oriented strand board production were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 4).
- ii. For visible emissions, fabric filters are utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units involved in the production of oriented strand board. If visible emissions are observed at the fabric filters, the control devices may not be functioning properly. To ensure proper operation of the fabric filters and in turn compliance with this requirement, weekly observations for visible emissions are necessary.
- iii. As discussed in the most recent inspection report, dated August 16, 2002, no violations of requirements were observed.

**Regulatory Requirements**

- iv. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from

the units involved in the production of oriented strand board manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:

- (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- v. Visible emissions shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
<b>Dust System B2801</b>			
Blender #1 Infeed Weight Belt (ID No. 3212)	2801	Visible Emissions	20%
Blender #2 Infeed Weight Belt (ID No. 3222)			
Blender Discharge Conveyor (ID No. 2736)			
Blender Discharge Conveyor (ID No. 2746)			
Former Discharge Conveyor (ID No. 2747)			
Former Discharge Conveyor (ID No. 2737)			
No. 4 Flaker (ID No. 1431-100)			
No. 4 Flaker Discharge Conveyor (ID No. 1431-200)			
Former (ID No. 2015)			
Former (ID No. 2018)			
Former (ID No. 2025)			
Former (ID No. 2028)			
Woodroom (ID No. Not provided)			
Dryer No. 1 Infeed Conveyor (ID No. not provided)			
Dryer No. 2 Infeed Conveyor (ID No. not provided)			
Hammermill (ID No. not provided)			
No. 1 Screen (ID No. 1711)			
No. 2 Screen (ID No. 1721)			
<b>Dust System B2811</b>			
Flake Debris Collection Screw (ID No. 2068-100)	2811-100	Visible Emissions	20%
Wood Debris Collection Screw (ID No. 2067-100)			
Wood Debris Collections (ID No. 2066-100)			
Board Edge Pretrim Saw (ID No. 2204-100),			
Board Edge Pretrim Saw (ID No. 2204-102)			

- End Pretrim Saw (ID No. 2206-101)
- End Pretrim Saw (ID No. 2206-103)
- Finish Trim Saw (ID No. 2220-100)
- Finish Trim Saw (ID No. 2220-101)
- Wood Debris Conveyor (ID No. 2261-100)
- Finishing Hog (ID No. 1811-100)
- T&G Machine (ID No. 2240)
- T&G Machine (ID No. 2914-100)
- Flake Recovery under Mat Side Trim Saws (ID No. 2035)
- Mat Cross Cut Saw (ID No. 2036)
- Mat Reject Bin Screw (ID No. 2772-100)
- Forming Collection Screw Conveyor (ID No. 2037-100)

**Dust System B2831**

- Reject Bin (ID No. 2042) 2831 Visible Emissions 20%
- Wet Hog Infeed Conveyor (ID No. 2762)
- #1 Dry Bin Discharge Conveyor (ID No. 2734)
- #2 Dry Bin Discharge Conveyor (ID No. 2744)
- #1 Dry Bin Dust Collection (ID No. 1531)
- #1 Dry Bin Dust Collection (ID No. 1541)
- Floor Sweeps (ID No. not provided)
- Wet Hog Hammer Mill Discharge Blow Line (ID No. 2821-100)
- Dry Fines Hammermill (ID No. 1822-100)

**Dust System B2841**

- Sander (ID No. 2501) 2841 Visible Emissions 20%

**Dust System B2807**

- #3 Blender, Blender Infeed Conveyor (ID No. 2786-100) 2807-100 Visible Emissions 20%
- #3 Blender Discharge Conveyor (ID No. 1931-300)
- #3 Flaker Discharge Conveyor (ID No. #1 2707-101/2)
- #3 Flaker (ID No. 1331-100).
- Dry Bin Distribution Conveyor (ID No. 2729-302 #2)



Dust Collection System ( <b>ID No. B2831</b> )	2831	PM/PM <sub>10</sub>	0.072 lbs/hour, 24-hour averaging period
		Visible Emissions	20 percent opacity
Sander Dust Collection System ( <b>ID No. B2841</b> )	2841	PM/PM <sub>10</sub>	0.138 lbs/hour, 24-hour averaging period
		Visible Emissions	20 percent opacity
Dust Collection System ( <b>ID No. B2807</b> )	2807	PM/PM <sub>10</sub>	0.37 lbs/hour, 24-hour averaging period
		Visible Emissions	20 percent opacity
Sander Dust Collection System ( <b>ID No. B2670</b> )	2670	PM/PM <sub>10</sub>	0.138 lbs/hour, 24-hour averaging period
		Visible Emissions	20 percent opacity
Dust Collection System ( <b>ID No. B2607-100</b> )	2607-100	PM/PM <sub>10</sub>	0.212 lbs/hour, 24-hour averaging period
		Visible Emissions	20 percent opacity

**Monitoring/Recordkeeping**

- vi. To ensure compliance, the Permittee shall observe, on a weekly basis, the emission points involved with the production of oriented strand board, listed above or **ID Nos. B2801, B2811-100, B2831, B2841, B2807-100, B2607-100, and B2670-100**, for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points involved with the production of oriented strand board are observed to be above normal, the Permittee shall either:
- (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the production units in the oriented strand board, in accordance with 15A NCAC 2D .0501(c)(8), is below 20 percent opacity.
- If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521 for all connected emission units.
- vii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the units listed as being involved in the production of oriented strand board and their air pollution control devices. The logbook shall record the following:
- (a) the date and time of each recorded action;
  - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
  - (c) the results of any corrective actions performed.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

**Reporting**

viii. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**Monitoring/Record keeping**

- iv. Particulate matter emissions from the units in the oriented strand board production shall be controlled as follows:
  - < In Dust System B2801, particulate emissions from Blender #1 Infeed Weight Belt (**ID No. 3212**), Blender #2 Infeed Weight Belt (**ID No. 3222**), Blender Discharge Conveyor (**ID No. 2736**), Blender Discharge Conveyor (**ID No. 2746**), Former Discharge Conveyor (**ID No. 2747**), Former Discharge Conveyor (**ID No. 2737**), No. 4 Flaker (**ID No. 1431-100**), No. 4 Flaker Discharge Conveyor (**ID No. 1431-200**), Former (**ID No. 2015**), Former (**ID No. 2018**), Former (**ID No. 2025**), Former (**ID No. 2028**), Woodroom (**ID No. Not provided**), Dryer No. 1 Infeed Conveyor (**ID No. Not provided**), Dryer No. 2 Infeed Conveyor (**ID No. not provided**) shall be combined and controlled by a fabric filter (**ID No. 2801**) with 9,187 square feet of filter surface area.
  - < In Dust System 2801, particulate emissions from the Hammermill (**ID No. not provided**) shall be controlled by a simple cyclone (**ID No. 2821-401**) with a diameter of 60 inches in series with a fabric filter (**ID No. 2801**) with 9,187 square feet of filter surface area.
  - < In Dust System B2801, particulate emissions from the No. 1 Screen (**ID No. 1711**), and No. 2 Screen (**ID No. 1721**) shall be combined and controlled by a simple cyclone (**ID No. 2803**) with a diameter of 126 inches in series with a fabric filter (**ID No. 2801**) with 9,187 square feet of filter surface area..
  - < In Dust System B2811, particulate emissions from the Flake Debris Collection Screw (**ID No. 2068-100**), the Wood Debris Collection Screw (**ID No. 2067-100**), Wood Debris Collections (**ID No. 2066-100**), Board Edge Pretrim Saw (**ID No. 2204-100**), Board Edge Pretrim Saw (**ID No. 2204-102**), End Pretrim Saw (**ID No. 2206-101**), End Pretrim Saw (**ID No. 2206-103**), Finish Trim Saw (**ID No. 2220-100**), Finish Trim Saw (**ID No. 2220-101**), Wood Debris Conveyor (**ID No. 2261-100**), Finishing Hog (**ID No. 1811-100**), T&G Machine (**ID No. 2240**), and T&G Machine (**ID No. 2914-100**) shall be controlled by a simple cyclone (**ID No. 2814**), which is 180 inches in diameter, in series with a fabric filter (**ID No. 2811-100**) with 9,187 square feet of filter surface area.
  - < In Dust System B2811, particulate emissions from the Flake Recovery under Mat Side Trim Saws (**ID No. 2035**) shall be controlled by a simple cyclone (**ID No. 2035-100**), which is 90 inches in diameter, in series with a fabric filter (**ID No. 2811-100**) with 9,187 square feet of filter surface area.
  - < In Dust System B2811, particulate emissions from the Mat Cross Cut Saw (**ID No. 2036**), the Mat Reject Bin Screw (**ID No. 2772-100**), and the Forming Collection Screw Conveyor (**ID No. 2037-100**) shall be controlled by a simple cyclone (**ID No. 2812**), which is 114 inches in diameter, in series with a fabric filter (**ID No. 2811-100**) with 9,187 square feet of filter surface area.
  - < In Dust System B2831, particulate emissions from the Reject Bin (**ID No. 2042**), Wet Hog Infeed Conveyor (**ID No. 2762**), #1 Dry Bin Discharge Conveyor (**ID No. 2734**), #2 Dry Bin Discharge Conveyor (**ID No. 2744**), #1 Dry Bin Dust Collection (ID No. 1531), #1 Dry Bin Dust Collection (**ID No. 1541**), and Floor Sweeps (**ID No. not provided**) shall be controlled by a simple cyclone (**ID No. 2813**), which is 90 inches in diameter, in series with a fabric filter (**ID No. 2831**) with 2,668 square feet of filter surface area.
  - < In Dust System B2831, particulate emissions from the Wet Hog Hammer Mill Discharge Blow Line (**ID No. 2821-100**) shall be controlled by a simple cyclone (**ID No. 2821-301**), which is 60 inches in diameter, in series with a fabric filter (**ID No. 2831**) with 2,668 square feet of filter surface area.
  - < In Dust System B2831, particulate emissions from the Dry Fines Hammermill (**ID No. 1822-**

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- 100) shall be controlled by a simple cyclone (ID No. 2832), which is 90 inches in diameter, in series with a fabric filter (ID No. 2831) with 2,668 square feet of filter area.
  - < In Dust System B2841, particulate emissions from the Sander (ID No. 2501) shall be controlled by a simple cyclone (ID No. 2842), which is 150 inches in diameter, in series with a fabric filter (ID No. 2841) with 4,801 square feet of filter surface area.
  - < In Dust System B2807, particulate emissions from the #3 Blender, Blender Infeed Conveyor (ID No. 2786-100), #3 Blender Discharge Conveyor (ID No. 1931-300), #3 Flaker Discharge Conveyor (ID No. #1 2707-101/2), #3 Flaker (ID No. 1331-100), Dry Bin Distribution Conveyor (ID No. 2729-302 #2), Dry Bin Distribution Conveyor (ID No. 2730-301), #3 Flake Screens Discharge Conveyor (ID No. 2729-300 #1), Dry Bin (ID No. 1561), Dryer Cyclone Discharge Conveyor (ID No. 2726-100), Dryer Cyclone Discharge Conveyor (ID No. 2725-116), #3 Flaker Screens (ID No. 1741), DS&E Conveyors (ID Nos. not provided) shall be controlled by a simple cyclone (ID No. 2804-500), which is 192 inches in diameter, in series with a fabric filter (ID No. 2807-100) with 6,040 square feet of filter surface area.
  - < In Dust System B2670, particulate emissions from the Sander (ID No. 2651-100) shall be controlled by a simple cyclone (ID No. 2675-100), which is 150 inches in diameter, in series with a fabric filter (ID No. 2670-100) with 4801 square feet of filter surface area.
  - < In Dust System B2607-100, particulate emissions from the Flake Recovery including: Press Pit, Formline, Primary Finishing, DS&E, and Woodroom (ID Nos. not provided) shall be controlled by a simple cyclone (ID No. 2607-110), which is 192 inches in diameter, in series with a fabric filter (ID No. 2607-100) with 6,040 square feet of filter surface area.
  - v. To ensure compliance, the Permittee shall perform inspections and maintenance of the particulate control devices as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:
    - (a) monthly external inspection of the duct work and cyclones, noting the structural integrity; and
    - (b) internal inspection of the fabric filters, every 12 months, noting the structural integrity and the condition of the filters,

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if the ductwork, cyclones and fabric filters are not inspected and maintained.
  - vi. The results of inspection and maintenance for the cyclones and fabric filters shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of the Division of Air Quality upon request. The logbook shall record the following:
    - (a) the date and time of each recorded action;
    - (b) the results of each inspection; and
    - (c) the results of maintenance performed on any control device.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if these records are not maintained.

#### **Reporting**

- vii. The Permittee shall submit the results of any maintenance performed on the cyclones (ID Nos. 2821-401, 2803, 2814, 2035-100, 2812, 2813, 2821-301, 2832, 2842, 2804-500, 2675-100, and 2607-110) and fabric filters (ID Nos. 2801, 2811-100, 2831, 2841, 2807-100, 2670-100, and 2607-100) within 30 days of a written request by the DAQ.
- viii. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

#### **D. Engines and Generators**

1. Description

None

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The process rates for the engines and generators are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Firewater Pump (Diesel fired) - Cummins Model No. NT855-F3	5000-100 <b>PSD</b>	290 horsepower, 2.226 million Btu/hour heat input
Woodyard Hog Engine	1100-306 <b>PSD</b>	750 horsepower, 5.46 million Btu/hour heat input
Standby Generator (Diesel fired)	4763-100 <b>PSD</b>	760 horsepower, 5.32 million Btu/hour heat input

<sup>1</sup> Permit Application (July 25, 1996) Section B

<sup>2</sup> Air Permit No. 05678R24.

#### Comments

As part of application, Permittee requested that the Firewater pump (**ID No. 5000-100**) be considered as insignificant sources. As such sources emit pollutants which are to be included in plant wide emission limitations under 15A NCAC 2D.1100 and 15A NCAC 2D.0530, they cannot be considered as insignificant.

## 2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for emission units listed above. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516(a)
visible emissions	20 percent opacity	15A NCAC 2D .0521(d)

<p>carbon dioxide, particulate matter, volatile organic compounds, visible emissions</p>	<p>For PSD purposes, the following "Best Available Control Technology" (BACT) permit limitations shall not be exceeded:</p> <p>Fire Water Pump Engine (<b>ID No. 5000-100</b>):</p> <ul style="list-style-type: none"> <li>&lt; 0.5 pounds PM/PM<sub>10</sub> per hour, 24-hour averaging period</li> <li>&lt; 1.6 pounds CO per hour, daily divided by operating hours per day averaging period</li> <li>&lt; 0.6 pounds VOC per hour, 12-month rolling averaging period</li> <li>&lt; 20 percent opacity</li> <li>&lt; 500 hours per year of operation</li> </ul> <p>Woodyard Hog Engine (<b>ID No. 5000-100</b>):</p> <ul style="list-style-type: none"> <li>&lt; 1.3 pounds PM/PM<sub>10</sub> per hour, 24-hour averaging period</li> <li>&lt; 4.0 pounds CO per hour, daily divided by operating hours per day averaging period</li> <li>&lt; 1.5 pounds VOC per hour, 12-month rolling averaging period</li> <li>&lt; 20 percent opacity</li> <li>&lt; 2,600 hours per year of operation</li> </ul> <p>Standby Generator (<b>ID No. 5000-100</b>):</p> <ul style="list-style-type: none"> <li>&lt; 4,330 hours per year of operation</li> </ul>	<p>15A NCAC 2D .0530</p>
<p>sulfur dioxide</p>	<p>For PSD purposes, "Best Available Control Technology" (BACT) permit limitations shall not be exceeded. See Section 2.2 A.1 Facility Wide Affected Emission Sources</p>	<p>15A NCAC 2D .0530</p>
<p>volatile organic compounds</p>	<p>Work Practice Standards Section 2.2 B.1 Facility Wide Affected Emission Sources</p>	<p>15A NCAC 2D .0958</p>
<p>toxic air pollutants</p>	<p>Permit limits for toxic air pollutants shall not be exceeded. See Section 2.2 B.2 Facility Wide Affected Emission Sources <b><u>State-enforceable only</u></b>.</p>	<p>15A NCAC 2D .1100</p>
<p>odors</p>	<p>Odorous emissions must be controlled - Section 2.2 B.3 Facility Wide Affected Emission Sources; <b><u>State-enforceable only</u></b></p>	<p>15A NCAC 2D .1806</p>

Other regulations considered for emissions from the units listed above:

- C 15A NCAC 2D .0503: Particulate Emissions from Fuel Burning Indirect Heat Exchangers. The firewater pump (**ID No. 5000**), the standby generator (**ID No. 4763**), and the woodyard hog engine (**ID No. 1100**) are stationary internal combustion engines and are not considered indirect heat exchangers as defined in 15A NCAC 2D .0503(a)(2).
- C 15A NCAC 2D .2100: Risk Management Program. The flammable substances are used as fuel. Thus facility is not subject to requirements.
- C 40 CFR 68: Chemical Accident Prevention Provisions. The flammable substances are used as fuel. Thus facility is not subject to requirements.

## 3. Specific requirements and affected emission points

a. **15A NCAC 2D .0516: Sulfur Dioxide Emissions from Combustion Sources****Statement of Basis**

- i. The existing permit includes a sulfur dioxide emission limit of 2.3 lb per million Btu heat input prescribed in the existing permit (Air Permit No. 05678R24, Specific Conditions and Limitations No. 1). Diesel fuel is utilized in the firewater pump (**ID No. 5000-100**), the standby generator (**ID No. 4763-100**), and the woodyard hog engine (**ID No. 1100-306**).
- ii. Both the firewater pump (**ID No. 5000-100**) and the standby generator (**ID No. 4763-100**) are stationary internal combustion engines operated on a standby basis.

**Regulatory Requirements**

- iii. Emissions of sulfur dioxide from the firewater pump (**ID No. 5000-100**), the standby generator (**ID No. 4763-100**), and the woodyard hog engine (**ID No. 1100-306**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516(a)].

**Monitoring/Recordkeeping/Reporting**

- iv. The fuels fired are inherently low in sulfur therefore the limit cannot be exceeded. No monitoring, record keeping, or reporting is required for sulfur dioxide emissions from the firing of Diesel fuel oil in the firewater pump (**ID No. 5000-100**), the standby generator (**ID No. 4763-100**), and the woodyard hog engine (**ID No. 1100-306**).

b. **15A NCAC 2D .0521: Control of Visible Emissions****Statement of Basis**

- i. Emission limits for visible emissions from the above listed units were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 4).
- ii. As no compliance issues have been noted, the facility has no history of violations, no monitoring, recordkeeping, or reporting is necessary.

**Regulatory Requirements**

- iii. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period

**Monitoring/Recordkeeping**

- iv. To ensure compliance, the Permittee shall observe, on a monthly basis, the emission points for the firewater pump (**ID No. 5000**), the standby generator (**ID No. 4763**), and the woodyard hog engine (**ID No. 1100**) for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the firewater pump, the standby generator, or the woodyard hog engine are observed to be above normal, the Permittee shall either:
  - (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the firewater pump, the standby generator, or the woodyard hog engine, in accordance with 15A NCAC 2D .0501(c)(8), are below 20 percent opacity.
 If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in

noncompliance with 15A NCAC 2D .0521.

- vi. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the above listed units and their air pollution control devices. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
  - (c) the results of any corrective actions performed.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

**Reporting**

- viii. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**c. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

**Regulatory Requirement**

- a. For PSD purposes, the following "Best Available Control Technology" (BACT) emission rates shall not be exceeded:

Source	Emission Point ID No.	Pollutants	Emission Limits
Firewater Engine (ID No. 5000-100)	PM/PM <sub>10</sub>	0.5 lbs/hour	500 hours per consecutive 12 month period
	Carbon monoxide	1.6 lbs/hour	500 hours per consecutive 12 month period
	Volatile organic compounds	0.6 lbs/hour	500 hours per consecutive 12 month period
	Opacity	20 percent	N/A
Yard Hog Engine (ID No. 1100-100)	PM/PM <sub>10</sub>	1.3 lbs/hour	2,600 hours per consecutive 12 month period
	Carbon monoxide	4.0 lbs/hour	2,600 hours per consecutive 12 month period
	Volatile organic compounds	1.5 lbs/hour	2,600 hours per consecutive 12 month period
	Opacity	20 percent	N/A
Emergency Generator (ID No. 4763-100)	NA	NA	4,300 hours per consecutive 12 month period

**Monitoring/Recordkeeping**

- vi. To ensure compliance, the Permittee shall observe, on a weekly basis, the emission points

involved with the production of oriented strand board , listed above or **ID Nos. B2801, B2811-100, B2831, B2841, B2807-100, B2607-100, and B2670-100**, for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points involved with the production of oriented strand board are observed to be above normal, the Permittee shall either:

- (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
- (b) demonstrate that the visible emissions from the production units in the oriented strand board, in accordance with 15A NCAC 2D .0501(c)(8), is below 20 percent opacity.

If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521 for all connected emission units.

- vii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the units listed as being involved in the production of oriented strand board and their air pollution control devices. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
  - (c) the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

#### **Reporting**

- viii. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

#### **Monitoring/Record keeping**

- iv. Particulate matter emissions from the units in the oriented strand board production shall be controlled as follows:
  - < In Dust System B2801, particulate emissions from Blender #1 Infeed Weight Belt (**ID No. 3212**), Blender #2 Infeed Weight Belt (**ID No. 3222**), Blender Discharge Conveyor (**ID No. 2736**), Blender Discharge Conveyor (**ID No. 2746**), Former Discharge Conveyor (**ID No. 2747**), Former Discharge Conveyor (**ID No. 2737**), No. 4 Flaker (**ID No. 1431-100**), No. 4 Flaker Discharge Conveyor (**ID No. 1431-200**), Former (**ID No. 2015**), Former (**ID No. 2018**), Former (**ID No. 2025**), Former (**ID No. 2028**), Woodroom (**ID No. Not provided**), Dryer No. 1 Infeed Conveyor (**ID No. Not provided**), Dryer No. 2 Infeed Conveyor (**ID No. not provided**) shall be combined and controlled by a fabric filter (**ID No. 2801**) with 9,187 square feet of filter surface area.
  - < In Dust System 2801, particulate emissions from the Hammermill (**ID No. not provided**) shall be controlled by a simple cyclone (**ID No. 2821-401**) with a diameter of 60 inches in series with a fabric filter (**ID No. 2801**) with 9,187 square feet of filter surface area.
  - < In Dust System B2801, particulate emissions from the No. 1 Screen (**ID No. 1711**), and No. 2 Screen (**ID No. 1721**) shall be combined and controlled by a simple cyclone (**ID No. 2803**) with a diameter of 126 inches in series with a fabric filter (**ID No. 2801**) with 9,187 square feet of filter surface area..
  - < In Dust System B2811, particulate emissions from the Flake Debris Collection Screw (**ID No. 2068-100**), the Wood Debris Collection Screw (**ID No. 2067-100**), Wood Debris Collections (**ID No. 2066-100**), Board Edge Pretrim Saw (**ID No. 2204-100**), Board Edge Pretrim Saw (**ID No. 2204-102**), End Pretrim Saw (**ID No. 2206-101**), End Pretrim Saw (**ID No. 2206-103**), Finish Trim Saw (**ID No. 2220-100**), Finish Trim Saw (**ID No. 2220-**

- 101), Wood Debris Conveyor (**ID No. 2261-100**), Finishing Hog (**ID No. 1811-100**), T&G Machine (**ID No. 2240**), and T&G Machine (**ID No. 2914-100**) shall be controlled by a simple cyclone (**ID No. 2814**), which is 180 inches in diameter, in series with a fabric filter (**ID No. 2811-100**) with 9,187 square feet of filter surface area.
- < In Dust System B2811, particulate emissions from the Flake Recovery under Mat Side Trim Saws (**ID No. 2035**) shall be controlled by a simple cyclone (**ID No. 2035-100**), which is 90 inches in diameter, in series with a fabric filter (**ID No. 2811-100**) with 9,187 square feet of filter surface area.
  - < In Dust System B2811, particulate emissions from the Mat Cross Cut Saw (**ID No. 2036**), the Mat Reject Bin Screw (**ID No. 2772-100**), and the Forming Collection Screw Conveyor (**ID No. 2037-100**) shall be controlled by a simple cyclone (**ID No. 2812**), which is 114 inches in diameter, in series with a fabric filter (**ID No. 2811-100**) with 9,187 square feet of filter surface area.
  - < In Dust System B2831, particulate emissions from the Reject Bin (**ID No. 2042**), Wet Hog Infeed Conveyor (**ID No. 2762**), #1 Dry Bin Discharge Conveyor (**ID No. 2734**), #2 Dry Bin Discharge Conveyor (**ID No. 2744**), #1 Dry Bin Dust Collection (**ID No. 1531**), #1 Dry Bin Dust Collection (**ID No. 1541**), and Floor Sweeps (**ID No. not provided**) shall be controlled by a simple cyclone (**ID No. 2813**), which is 90 inches in diameter, in series with a fabric filter (**ID No. 2831**) with 2,668 square feet of filter surface area.
  - < In Dust System B2831, particulate emissions from the Wet Hog Hammer Mill Discharge Blow Line (**ID No. 2821-100**) shall be controlled by a simple cyclone (**ID No. 2821-301**), which is 60 inches in diameter, in series with a fabric filter (**ID No. 2831**) with 2,668 square feet of filter surface area.
  - < In Dust System B2831, particulate emissions from the Dry Fines Hammermill (**ID No. 1822-100**) shall be controlled by a simple cyclone (**ID No. 2832**), which is 90 inches in diameter, in series with a fabric filter (**ID No. 2831**) with 2,668 square feet of filter area.
  - < In Dust System B2841, particulate emissions from the Sander (**ID No. 2501**) shall be controlled by a simple cyclone (**ID No. 2842**), which is 150 inches in diameter, in series with a fabric filter (**ID No. 2841**) with 4,801 square feet of filter surface area.
  - < In Dust System B2807, particulate emissions from the #3 Blender, Blender Infeed Conveyor (**ID No. 2786-100**), #3 Blender Discharge Conveyor (**ID No. 1931-300**), #3 Flaker Discharge Conveyor (**ID No. #1 2707-101/2**), #3 Flaker (**ID No. 1331-100**), Dry Bin Distribution Conveyor (**ID No. 2729-302 #2**), Dry Bin Distribution Conveyor (**ID No. 2730-301**), #3 Flake Screens Discharge Conveyor (**ID No. 2729-300 #1**), Dry Bin (**ID No. 1561**), Dryer Cyclone Discharge Conveyor (**ID No. 2726-100**), Dryer Cyclone Discharge Conveyor (**ID No. 2725-116**), #3 Flaker Screens (**ID No. 1741**), DS&E Conveyors (**ID Nos. not provided**) shall be controlled by a simple cyclone (**ID No. 2804-500**), which is 192 inches in diameter, in series with a fabric filter (**ID No. 2807-100**) with 6,040 square feet of filter surface area.
  - < In Dust System B2670, particulate emissions from the Sander (**ID No. 2651-100**) shall be controlled by a simple cyclone (**ID No. 2675-100**), which is 150 inches in diameter, in series with a fabric filter (**ID No. 2670-100**) with 4801 square feet of filter surface area.
  - < In Dust System B2607-100, particulate emissions from the Flake Recovery including: Press Pit, Formline, Primary Finishing, DS&E, and Woodroom (**ID Nos. not provided**) shall be controlled by a simple cyclone (**ID No. 2607-110**), which is 192 inches in diameter, in series with a fabric filter (**ID No. 2607-100**) with 6,040 square feet of filter surface area.
- v. To ensure compliance, the Permittee shall perform inspections and maintenance of the particulate control devices as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:
- (a) monthly external inspection of the duct work and cyclones, noting the structural integrity; and
  - (b) internal inspection of the fabric filters, every 12 months, noting the structural integrity and the condition of the filters,
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if the ductwork, cyclones and fabric filters are not inspected and maintained.

- vi. The results of inspection and maintenance for the cyclones and fabric filters shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of the Division of Air Quality upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection; and
- (c) the results of maintenance performed on any control device.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if these records are not maintained.

#### **Reporting**

- vii. The Permittee shall submit the results of any maintenance performed on the cyclones (**ID Nos. 2821-401, 2803, 2814, 2035-100, 2812, 2813, 2821-301, 2832, 2842, 2804-500, 2675-100, and 2607-110**) and fabric filters (**ID Nos. 2801, 2811-100, 2831, 2841, 2807-100, 2670-100, and 2607-100**) within 30 days of a written request by the DAQ.

- viii. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

#### **For Carbon Monoxide, Particulate Matter, Volatile Organic Compounds, and Operating Limit Monitoring/Recordkeeping**

- ix. To ensure compliance, the Permittee shall record the operating hours for the fire water pump engine (**ID No. 5000-100**), the woodyard hog engine (**ID No. 1100-306**), and the standby generator (**ID No. 4763-100**) by recording the monthly hours of operation for each unit in a logbook (written or electronic format). Such logbook shall be made available to an authorized representative of the DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the operating hours are not recorded.

#### **Reporting**

- x. For compliance purposes, by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June, the following shall be reported to the Regional Supervisor, Division of Air Quality:
- xi. the monthly operating hours for the fire water pump engine (**ID No. 5000-100**), the woodyard hog engine (**ID No. 1100-306**), and the standby generator (**ID No. 4763-100**). The operating hours must be calculated for each unit for each of the six twelve-month periods over the previous seventeen months.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the fire water pump engine (**ID No. 5000-100**) is operated more than 500 hours per consecutive twelve-month period. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the woodyard hog engine (**ID No. 1100-306**) is operated more than 2,600 hours per consecutive twelve-month period. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the standby generator (**ID No. 4763-100**) is operated more than 4,330 hours per consecutive twelve-month period.

#### **For Visible Emissions**

##### **Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]

- xii. To ensure compliance, the Permittee shall observe, on a once per calendar month basis if the unit is operated during the calendar month, the emission points for the fire water pump engine (**ID No. 5000-100**) and the woodyard hog engine (**ID No. 1100-306**) for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points for the engines are observed to be above normal, the Permittee shall either:
- (a) take appropriate action to correct the above normal emissions prior to the end of the once

per calendar month monitoring period or  
 (b) demonstrate that the visible emissions from the emission point for the unit, in accordance with 15A NCAC 2D .0501(c)(8), are below 20 percent opacity.

If any corrective action under (i) above does not correct the above normal emissions prior to the end of the once per calendar month monitoring period, the facility will be deemed in non-compliance; if any demonstration under (ii) above exceeds the prescribed limit, the facility will be deemed in noncompliance.

xiii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each observation and/or test noting those sources with emissions that were observed to be above normal or in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

**Reporting**

xiv. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**E. Storage Tanks:**

- **Diesel Fuel Storage Tank - 75,000 gallons capacity (ID No. 4030-100) NSPS**
- **Resin Storage Tank - 20,758 gallons capacity (ID No. 4011-100) NSPS**
- **Resin Storage Tank - 20,758 gallons capacity (ID No. 4012-100) NSPS**
- **Wax Storage Tank - 20,758 gallons capacity (ID No. 4050-100) NSPS**

1. Description  
None

The process rates for the storage tanks are as follows:

<b>Emission Source</b>	<b>Emission Source ID No.</b>	<b>Maximum Process Rate<sup>1</sup></b>
Above ground Diesel fuel storage tank - 75,000 gallons capacity	4030-100 <b>NSPS</b>	860 gallons per hour
Resin Storage Tank 20,758 gallons capacity	4011-100 <b>NSPS</b>	Not provided
Resin Storage Tank 20,758 gallons capacity	4012-100 <b>NSPS</b>	Not provided
Wax Storage Tank 20,758 gallons capacity	4050-100 <b>NSPS</b>	Not provided

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of applicable limits and standards:

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	Maintain records of storage tank dimensions and capacity.	15A NCAC 2D .0524 (40 CFR 60.110b, Subpart Kb -Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (60.110b--60.117b)
volatile organic compounds	Work Practice Standards Section 2.2 B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section 2.2 B.2 Facility Wide Affected Emission Sources <b>State-enforceable only</b> .	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section 2.2 B.3 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the units listed above:

- C 15A NCAC 2D .2100: Risk Management Program. The flammable substances are used as fuel. Thus facility is not subject to requirements.
- C 40 CFR 68: Chemical Accident Prevention Provisions. The flammable substances are used as fuel. Thus facility is not subject to requirements.

3. Specific requirements and affected emission points

- a. **15A NCAC 2D .0524: New Source Performance Standards (also see Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 as promulgated in 40 CFR Part 60 (60.110b--60.117b))**

**Statement of Basis**

- New source performance standards for the Diesel tank (**ID No. 4030-100**) and the resin and wax tanks (**ID Nos. 4011-100, 4012-100, and 4050-100**) were listed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 6).
- The Diesel tank (**ID No. 4030-100**) has a capacity of 75,000 gallons or 284 cubic meters and the resin and wax tanks (**ID Nos. 4011-100, 4012-100, and 4050-100**) have a capacity of 20,758 gallons or 79 cubic meters. Construction was commenced for all tanks after July 23, 1984. The requirements of 40 CFR 60.110b(a) are applicable to the Diesel tank and the resin and wax tanks.

- As indicated by the Permittee in the application, the maximum vapor pressure for the Diesel tank (ID No. 4030-100) is 0.0077 psia or 0.053 kPa and for the resin and wax tanks (ID Nos. 4011-100, 4012-100, and 4050-100) is 0.0002 psia or 0.0014 kPa. As the maximum true vapor pressures for each tank are less than the values listed in 40 CFR 60.110b(c), the tanks are exempt from the provisions of 40 CFR Subparts A and Kb.
- Permittee must comply with the monitoring and notification requirements of 40 CFR 60.116b.

**Regulatory Requirements**

- Under provisions of 40 CFR 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and as specifically stated in 40 CFR 60.116b(c): "... the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range."
- Terms used throughout this segment [Section VI.A.3.d] are defined in the Clean Air Act as amended in 1990 and in 40 CFR 60.2 and 60.111b.

**Monitoring/Recordkeeping/Reporting**

The Permittee is required to maintain record on site showing the dimensions of the tanks. Reporting is not required.

**F. Engines, Generators, Painting Operations, and Storage Tanks:**

- **Debarking unit (ID No. 1414)**
- **Debarking unit (ID No. 1134)**
- **Logs stored in log yard (ID No. 1100-100)**

Description

Logs entering the facility are sent to the debarking units, then on to flakers. Emissions from the debarking units and the log yard are fugitive.

The process rates for the debarking units are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Debarking unit	1201	92 tons/hour
Debarking unit	1134	92 tons/hour
Logs stored in log yard	1100-100	70.5 tons/hour

<sup>1</sup> Permit Application (July 25, 1996) Section B

<sup>2</sup> Air Permit No. 05678R24.

Comments

No controls were identified.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for emission units listed above. A review of the information

in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

PROPOSED

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 2D .0521(d)
volatile organic compounds	Work Practice Standards Section 2.2 B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section 2.2 B.2 Facility Wide Affected Emission Sources <b>State-enforceable only.</b>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section 2.2 B.3 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

3. Specific requirements and affected emission points

a. 15A NCAC 2D .0521: Control of Visible Emissions

**Statement of Basis**

- i. Emission limits for visible emissions from the above listed units were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations No. 4).
- ii. As no compliance issues have been noted, the facility has no history of violations, and the expected amount of emissions from each unit in the edge seal operation and the stamping operation is small (potential emissions of particulate matter from each emission point is less than 1 ton per year), no monitoring, recordkeeping, or reporting is necessary.

**Regulatory Requirements**

- iii. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period

**Monitoring/Recordkeeping**

- iv. To ensure compliance, the Permittee shall observe, on a monthly basis, the emission points for the debarking units (**ID Nos. 1134 and 1201**), and the log yard (**ID No. 1100-100**) for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the debarking units or the log yard are observed to be above normal, the Permittee shall either:
  - (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the debarking units or the log yard, in accordance with 15A NCAC 2D .0501(c)(8), are below 20 percent opacity.
 If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- v. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the above listed units and their air pollution control devices. The

logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

**Reporting**

- vi. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**VII. Facility-wide affected emission sources**

- **Drum Dryer No. 1 (ID No. 1611)**
- **Drum Dryer No. 2 (ID No. 1621)**
- **Drum Dryer No. 3 (ID No. 1631)**
- **Suspension Burner No. 1 - Wood/No. 2 fuel oil-fired (ID No. 3811)**
- **Suspension Burner No. 2 - Wood/No. 2 fuel oil-fired (ID No. 3821)**
- **Suspension Burner No. 3 - Wood/No. 2 fuel oil-fired (ID No. 3831)**
- **Wet Cell Burner No. 1 -Wood/No. 2 fuel oil/Alternative fuel-fired (ID No. 3311)**
- **Wet Cell Burner No. 2 -Wood/No. 2 fuel oil/Alternative fuel-fired (ID No. 3321)**
- **Wet Cell Burner No. 3 -Wood/No. 2 fuel oil/Alternative fuel-fired (ID No. 3331)**
- **Firewater Pump (ID No. 5000-100)**
- **Standby Generator (ID No. 4763-100)**
- **Woodyard Hog Engine (ID No. 1100-306)**

1. Description

See above Section VI for descriptions and process rates

Comments

None

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for emission units listed above. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
---------------------	------------------	-----------------------

volatile organic compounds	Maintain records of storage tank dimensions and capacity.	15A NCAC 2D .0524 (40 CFR 60.110b, Subpart Kb -Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (60.110b--60.117b)
volatile organic compounds	Work Practice Standards Section 2.2 B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. See Section 2.2 B.2 Facility Wide Affected Emission Sources <b>State-enforceable only.</b>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled - Section 2.2 B.3 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

B. Specific requirements and affected emission points

a. **15A NCAC 2D .0530: Prevention of Significant Deterioration**

**Statement of Basis**

- a. Provisions to avoid applicability of PSD requirements for sulfur dioxide were prescribed in Air Permit No. 05678R24 (Specific Conditions and Limitations numbers 9 and 10).

**Regulatory Requirements**

- b. To comply with this Permit and to avoid applicability of 15A NCAC 2D .0530, "Prevention of Significant Deterioration," as requested by the Permittee, sulfur dioxide emissions from the fuel combustion equipment shall be less than 40 tons per consecutive twelve (12) month period. [15A NCAC 2D .0530]

**Monitoring/Record Keeping**

- c. The maximum sulfur content of any Diesel fuel or No. 2 fuel oil received and burned in the dryers, the engines, and the regenerative thermal oxidizer shall not exceed 0.05 weight percent sulfur.
- d. The maximum number of gallons of Diesel fuel or No. 2 fuel oil combusted in any consecutive twelve month period shall not exceed 7.5 million gallons.
- e. To ensure compliance, the Permittee shall monitor the sulfur content of the Diesel oil and No. 2 fuel oil by using fuel oil supplier certification per shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a monthly basis and include the following information:
- i. the name of the fuel oil supplier;
  - ii. the maximum sulfur content of the fuel oil received during the month;
  - iii. the method used to determine the maximum sulfur content of the fuel oil; and
  - iv. a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the sulfur

- content of the oil is not monitored and recorded.
- f. In addition to any other recordkeeping requirements of the Environmental Protection Agency (EPA), the Permittee is required to maintain records as follows:
- i. the Permittee shall record and maintain records of the amounts of each fuel combusted during each month; and
  - ii. all records required under this section shall be maintained by the Permittee for a period of three years following the date of such record.
- The record of the amounts of fuel combusted during each month shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of fuel combusted during each month are not recorded.
- g. The operation of the diesel-fired engines shall be limited as follows:
- i. the fire-water pump engine (290 horsepower, **ID No. 5000**) shall not exceed a maximum of 500 hours per year of operation,
  - ii. the wood yard hog engine (750 horsepower, **ID No. 1100**) shall not exceed a maximum of 2,600 hours per year of operation, and
  - iii. the standby generator engine (760 horsepower, **ID No. 4763**) shall not exceed a maximum of 4,330 hours per year of operation.
- h. To ensure compliance, the Permittee shall record the operating times for the firewater pump engine (**ID No. 5000**), the wood yard hog engine (**ID No. 1100**), and the standby generator (**ID No. 4763**) by recording the startup and shut down times for each unit in a logbook (written or electronic format). Such logbook shall be made available to an authorized representative of the DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the operating times are not recorded.

#### **Reporting**

- i. For compliance purposes, within thirty (30) days after each calendar year quarter, the following shall be reported to the Regional Supervisor, Division of Air Quality:
  - i. the monthly sulfur dioxide emissions for the previous fourteen (14) months. The emissions must be calculated for each of the three twelve month periods over the previous fourteen months. The sulfur dioxide emissions in tons per month equals the total gallons of fuel oil combusted per month divided by 1,000 gallons times 142 pounds of sulfur dioxide times the maximum percent by weight fuel sulfur content divided by 2,000 pounds per ton.
  - ii. the monthly operating times for the firewater pump engine (**ID No. 5000**), the wood yard hog engine (**ID No. 1100**), and the standby generator (**ID No. 4763**). The operating times must be calculated for each unit for each of the three twelve month periods over the previous fourteen months.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if sulfur dioxide emissions from the fuel combustion equipment exceed 40 tons per consecutive twelve (12) month period. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the firewater pump engine (**ID No. 5000**) is operated more than 500 hours per consecutive twelve month period. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the wood yard hog engine (**ID No. 1100**) is operated more than 2600 hours per consecutive twelve month period. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the standby generator (**ID No. 4763**) is operated more than 4330 hours per consecutive twelve month period.
- j. Within thirty days after each calendar year quarter, the Permittee must submit in writing to the Regional Supervisor, Division of Air Quality, the following information:
  - i. the amount of fuel oil combusted during the previous quarter,
  - ii. the amount of fuel oil combusted for each of the three twelve month periods over the previous fourteen months, and
  - iii. the sulfur content of the fuel oil combusted in the previous quarter.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the sulfur content of the fuel oil exceeds 0.05 weight percent sulfur. The Permittee shall be deemed in

noncompliance with 15A NCAC 2D .0530 if the amount of fuel oil combusted in any consecutive twelve month period exceeds 7.5 million gallons.

PROPOSED

**B. Facility-wide affected emission sources**

1. Description  
See above Section VI for descriptions and process rates for individual sources
2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for emission units listed above. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	Work Practice Standards	15A NCAC 2D .0958
toxic air pollutants	Permit limits for toxic air pollutants shall not be exceeded. <b>State-enforceable only.</b>	15A NCAC 2D .1100
odors	Odorous emissions must be controlled; <b>State enforceable only</b>	15A NCAC 2D .1806

**4. 15A NCAC 2D .0958: Work Practices for Sources of Volatile Organic Compounds**

- i. Pursuant to 15A NCAC 2D .0958 and 2D .0902, for all sources that use volatile organic compounds (VOC) as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day; the Permittee shall:
  - i. store all material, including waste material, containing volatile organic compounds in tanks or in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
  - ii. clean up spills of volatile organic compounds as soon as possible following proper safety procedures,
  - iii. store wipe rags containing volatile organic compounds in closed containers,
  - iv. not clean sponges, fabric, wood, paper products, and other absorbent materials with volatile organic compounds,
  - v. transfer solvents containing volatile organic compounds used to clean supply lines and other coating equipment into closable containers and close such containers immediately after each use, or transfer such solvents to closed tanks, or to a treatment facility regulated under section 402 of the Clean Water Act, and
  - vi. clean mixing, blending, and manufacturing vats and containers containing volatile organic compounds by adding cleaning solvent and close the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be transferred into a closed container, a closed tank or a treatment facility regulated under section 402 of the Clean Water Act. [15A NCAC 2D .0958(c)]
- ii. When cleaning parts with a solvent containing a volatile organic compound, the Permittee shall:

- i. flush parts in the freeboard area,
- ii. take precautions to reduce the pooling of solvent on and in the parts,
- iii. tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
- iv. not fill cleaning machines above the fill line, and
- v. not agitate solvent to the point of causing splashing. [15A NCAC 2D .0958(d)]

**Monitoring**

- c. To ensure compliance with paragraphs (a) and (b) above, the Permittee shall, at a minimum, perform a visual inspection once per month of all operations and processes utilizing volatile organic compounds. The inspections shall be conducted during normal operations. If the required inspections are not conducted the permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

**Recordkeeping**

- d. The results of the inspections shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
  - i. the date and time of each inspection; and
  - ii. the results of each inspection noting whether or not noncompliant conditions were observed.

If the required records are not maintained the permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

**Reporting**

- e. The Permittee shall submit a summary report of the observations by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**5. 15 A NCAC 2D .1100: Control of Toxic Air Pollutants (State only requirement)**

- a. Pursuant to 15A NCAC 2D .1100 and in accordance with the approved applications for air toxic compliance demonstrations, the following permit limits shall not be exceeded:
  - i. The solid/liquid waste burned in the wet fuel furnaces installed on dryers Nos. 1611, 1621, and 1631 shall be limited to the following alternative fuels and periodic maximum throughputs:

ALTERNATIVE FUEL	HOURLY LIMIT	DAILY LIMIT	MONTHLY LIMIT	ANNUAL LIMIT
Post wet water	-	-	60 gallons (continuous mix with sump water)	720 gallons
Resinated material	0.5 cubic yards	-	-	624 cubic yards
Crank case oil	-	-	60 gallons (continuous mix with used oil)	720 gallons
Used oil	5 gallons	-	-	14,400 gallons
Stencil paint (water-based)	5 gallons	-	-	1,560 gallons
Ink (mineral oil-based)	5 gallons	-	-	360 gallons

ALTERNATIVE FUEL	HOURLY LIMIT	DAILY LIMIT	MONTHLY LIMIT	ANNUAL LIMIT
Edgeseal paint (water-based)	30 gallons	-	-	9,360 gallons
Resin sump water	-	112 gallons	-	31,278 gallons
Wet ESP sludge	750 pounds	-	-	3,285 tons

The Permittee shall retain records at the plant site, indicating the type and amount of waste fuel burned on a daily basis.

Within thirty (30) days after each calendar quarter of the year, the Permittee shall report in writing the following information:

- a. the maximum daily quantity of each type of solid/liquid waste burned (in gallons per day) for each 24-hour period.
- ii. the following emission sources shall limit toxic air pollutant emissions as specified below:

EMISSION UNITS	POLLUTANTS	LIMITS
1.a./wet ESP (3450) on dryers 1611, 1621, & 1631	acetaldehyde	1.63E+04 lb/hr
	acrolein	5.43E+01 lb/hr
	arsenic	1.81E+01 lb/yr
	benzene	1.49E+04 lb/yr
	benzo(a)pyrene	4.48E+03 lb/yr
	beryllium	4.10E+02 lb/yr
	cadmium	2.42E+02 lb/yr
	chlorine	6.18E+02 lb/hr
	chlorine	3.94E+03 lb/day
	chromium VI	7.65E+00 lb/yr
	formaldehyde	2.85E+01 lb/hr
	n-hexane	3.23E+04 lb/day
	hexane isomers	6.56E+04 lb/hr
	hydrogen chloride	1.18E+02 lb/hr
	manganese	5.36E+02 lb/day
	mercury, vapor	2.00E+01 lb/day
	mercury, alkyl	1.77E+00 lb/day
	methylene chloride	1.16E+03 lb/hr
	methylene chloride	1.02E+07 lb/yr
	methyl ethyl ketone	1.58E+04 lb/hr
	methyl ethyl ketone	3.80E+05 lb/day
	nickel	1.05E+02 lb/day
	phenol	1.01E-01 lb/hr
	styrene	6.98E+03 lb/hr
sulfuric acid mist	1.03E+01 lb/hr	
sulfuric acid mist	2.48E+02 lb/day	
toluene	2.00E+04 lb/hr	
toluene	4.80E+05 lb/day	

EMISSION UNITS	POLLUTANTS	LIMITS
	xylene	1.15E+04 lb/hr
	xylene	2.77E+05 lb/day
1.b.i./the multi-clone exhaust stack (ID No. 3340 on the Wellons wet fuel cells and No. 2 fuel oil auxiliary burners of dryers (ID Nos. 1611 &1631)	acetaldehyde	1.34E+01 lb/hr
	acrolein	2.19E+00 lb/hr
	arsenic	7.9E+00 lb/yr
	benzene	2.87E+03 lb/yr
	benzo(a)pyrene	1.27E+03 lb/yr
	beryllium	1.54E+02 lb /yr
	cadmium	8.65E+01 lb/yr
	chlorine	7.32E+01 lb/hr
	chlorine	5.56E+02 lb/day
	chromium VI	3.33E+00 lb/yr
	formaldehyde	6.50-01 lb/hr
	n-hexane	7.85E+03 lb/day
	hydrogen chloride	3.35E+01 lb/hr
	manganese	2.21E+02 lb/day
	mercury, vapor	4.86E+00 lb/day
	mercury, alkyl	5.03E-01 lb/day
	methylene chloride	1.38E+02 lb/hr
	nickel	4.59E+01 lb/day
	phenol	7.07E-03 lb/hr
	styrene	8.07E-04 lb/hr
	sulfuric acid mist	3.88E+00 lb/hr
	sulfuric acid mist	9.30E+01 lb/day
	toluene	1.27E-02 lb/hr
	xylene	8.70E-03 lb/hr
	acetaldehyde	6.72E+00 lb/hr
1.b.ii./the multi-clone exhaust stack (ID No. 3350 on the Wellons wet fuel cell and No. 2 fuel oil auxiliary burner of dryer (ID Nos. 1621)	acrolein	1.09E+00 lb/hr
	arsenic	3.95E+00 lb/yr
	benzene	1.43E+03 lb/yr
	benzo(a)pyrene	6.36E+02 lb/yr
	beryllium	6.82E+01 lb/yr
	cadmium	3.84+01 lb/yr
	chlorine	3.66E+01 lb/hr
	chlorine	2.78E+02 lb/day
	chromium VI	1.66E+00 lb/yr
	formaldehyde	3.20E-01 lb/hr
	n-hexane	3.49E+03 lb/day
	hexane isomers	7.12E+03 lb/hr
	hydrogen chloride	1.67E+01 lb/hr
	manganese	1.11E+02 lb/day
	mercury, alkyl	2.51E-01 lb/day
	mercury, vapor	2.16E+00 lb/day
	methylene chloride	6.91E+01 lb/hr
	nickel	2.29E+01 lb/day

EMISSION UNITS	POLLUTANTS	LIMITS
	phenol	3.53E-03 lb/hr
	styrene	4.32E-04 lb/hr
	sulfuric acid mist	1.72E+00 lb/hr
	sulfuric acid mist	4.13E+01 lb/day
	toluene	5.64E-03 lb/hr
	xylene	3.86E-03 lb/hr
7./eight board press vents (ID No. 4309)	acetaldehyde	5.40E+02 lb/hr
	acrolein	8.80E-01 lb/hr
	formaldehyde	1.11E+01 lb/hr
	phenol	7.63E+01 lb/hr
8./fire water engine (290 HP, ID No. 5000)	acetaldehyde	4.52E-02 lb/hr
	acrolein	1.22E-04 lb/hr
	arsenic	2.33E-01 lb/yr
	benzene	2.48E+02 lb/yr
	benzo(a)pyrene	1.19E+00 lb/yr
	beryllium	1.05E+00 lb/yr
	cadmium	1.95E+01 lb/yr
	chromium VI	5.75E-02 lb/yr
	formaldehyde	4.04E-04 lb/hr
	n-hexane	3.55E+02 lb/day
	hexane isomers	7.24E+02 lb/hr
	manganese	1.49E+01 lb/day
	mercury, vapor	2.42E-02 lb/day
	nickel	2.23E+00 lb/day
	sulfuric acid mist	1.75E-01 lb/hr
	sulfuric acid mist	4.20E+00 lb/day
	toluene	2.71E+00 lb/hr
	toluene	6.51E+01 lb/day
	xylene	1.79E+00 lb/hr
	xylene	4.30E+01 lb/day
9./wood yard hog engine (750 HP, ID No. 1100)	acetaldehyde	1.11E-01 lb/hr
	acrolein	2.99E-04 lb/hr
	arsenic	6.02E-01 lb/yr
	benzene	6.08E+02 lb/yr
	benzo(a)pyrene	3.09E+00 lb/yr
	beryllium	2.57E+00 lb/yr
	cadmium	5.05E+01 lb/yr
	chromium VI	1.48E-01 lb/yr
	formaldehyde	9.92E-04 lb/hr
	n-hexane	9.15E+02 lb/day
	hexane isomers	1.87E+03 lb/hr
	manganese	3.85E+01 lb/day
	mercury, vapor	5.94E-02 lb/day
	nickel	5.76E+00 lb/day

EMISSION UNITS	POLLUTANTS	LIMITS
10./standby generator (760 HP, ID No. 4763)	sulfuric acid mist	4.54E-01 lb/hr
	sulfuric acid mist	1.09E+01 lb/day
	toluene	6.64E+00 lb/hr
	toluene	1.59E+02 lb/day
	xylene	4.36E+00 lb/hr
	xylene	1.05E+02 lb/day
	acetaldehyde	1.08E-01 lb/hr
	acrolein	2.91E-04 lb/hr
	arsenic	6.10E-01 lb/yr
	benzene	5.93E+02 lb/yr
	benzo(a)pyrene	3.14E+00 lb/yr
	beryllium	2.50E+00 lb/yr
	cadmium	5.12E+01 lb/yr
	chromium VI	1.51E-01 lb/yr
	formaldehyde	9.68E-04 lb/hr
	n-hexane	9.28E+02 lb/day
	hexane isomers	1.89E+03 lb/hr
	manganese	3.90E+01 lb/day
	mercury, vapor	5.76E-02 lb/day
	nickel	5.83E+00 lb/day
11./eight board press vents (ID No. 4309, idle mode operation)	sulfuric acid mist	4.58E-01 lb/hr
	sulfuric acid mist	1.10E+01 lb/day
	toluene	6.44E+00 lb/hr
	toluene	1.55E+02 lb/day
	xylene	4.28E+00 lb/hr
	xylene	1.03E+02 lb/day
	acrolein	5.61E+00 lb/hr
	formaldehyde	1.25E+01 lb/hr

- a To ensure compliance with the above limits, the following restrictions shall apply:
- (1) The Permittee shall comply with the following limitations;
- A) BACT emission levels,
  - B) maximum amount of wood combusted,
  - C) maximum amount of No.2 fuel oil combusted,
  - D) maximum amount of alternative fuels combusted,
  - E) maximum capacities of the wood chip dryers, and
  - F) maximum hours of operation;

**6. 15A NCAC 2D .1806: Control and Prohibition of Odorous Emissions (State only requirement)**

- a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

**VIII. MACT Applicability and Requirements**

Based on a review of the facility's current operations and emission sources, it is determined that the

Permittee utilizes substances listed as hazardous air pollutants under the Clean Air Act. Though these hazardous substances are being utilized in the coating operations, the facility does not operate sources which are currently subject to any MACT standards.

PROPOSED

**IX. Permit Shield (including non-applicable requirements)**

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

**X. General Conditions**

The “General Conditions” section of the Title V Operating Permits lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

**XI. Insignificant Activities**

The insignificant activities listed in the application have been reviewed and verified. Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. Following are the items on the insignificant activities list:

- |                                  |                           |
|----------------------------------|---------------------------|
| Sawdust handling and transport   | Dry waste handling bin    |
| Sawdust storage                  | Three green flake bins    |
| Wet hog fuel handling operations | Press Building Vents      |
| Wet hog fuel storage operations  | Cooling Tower #1          |
| Hog infeed bypass dump operation | Cooling Tower #2          |
| Mulch system operation           | Wet cell burner ash dump  |
| Wet fuel hog operation           | Post wet operations       |
| Bark pile                        | Stencil operations        |
| Log marking                      | Log yard settling pond    |
| Wet fuel silo                    | Sanderdust/dry fines      |
| Dry waste silo                   | truck loading             |
| Sander dust silo                 | Peerless truck loading    |
|                                  | Storm water settling pond |

**XII. Public Notice**

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA.

**XIII. Recommendations**

The initial Title V application for Weyerhaeuser Company - Elkin Facility, has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.

PROPOSED