



Company Name: Elliott Sawmilling Company, Inc.
Permit Number: 1280-0004

Permit Writer: Mareesa Singleton
Date: 7/5/07

DATE APPLICATION RECEIVED: January 31, 2006; Updated June 15, 2007 and April 29, 2008.

DATE OF LAST INSPECTION: January 2, 2007; No Violations

FACILITY DESCRIPTION

Elliott Sawmilling Company owns and operates a pine lumber mill in Hampton County, South Carolina. The facility is located on Highway 321 in Estill, South Carolina and manufactures rough and dressed yellow pine lumber. The facility includes two separate lumber lines: 1) Logs 2) Pulp Wood.

1)Log Line

- Debarking Equipment: 180 tons/hr logs
- Cutting: 180 tons/hr logs
- Chipping Equipment: 7 tons/hr chips
- Sawmill: 180 tons/hr logs
- Chipper: 7 tons/hr chips

2)Pulp Wood Lumber Line

- Debarking Equipment: 86 tons/hr logs
- Sawmill: 86 tons/hr logs
- Chipper mill: 13.5 tons/hr chips

The log line feeds Kilns 1 through 3, the pulp wood line feeds Kiln 4, and the proposed Kiln 5 will be fed from both lumber lines. All of the kilns are direct-fired, using sawdust as the fuel. The lumber dried in the Kilns then proceeds to the planer for finishing. Emissions from the planer mill are controlled by a baghouse.

PROJECT DESCRIPTION

The facility is requesting renewal of its Title V Operating Permit and the incorporation of PSD Construction Permit 1280-0004-CK for the addition of a fifth kiln (see the construction permit for more details).

CHANGES SINCE LAST OP ISSUANCE

- Issuance of PSD/BACT/ NESHAP Part 63 construction permit CK for the installation of a fifth drying kiln (ID 11).
- Moved Unit IDs 03 and 06 to Insignificant Activities list because emissions are less than 5 TPY for PM and PM10
- Added Unit ID 12 for Road Fugitives.
- Added Waste Hog and Byproducts handling to the Insignificant Activities List.

SOURCE DESCRIPTION

OP ID	Equip ID	Equipment Description	Installation Date	Modification Date	Control Device ID	Stack ID
01	0009	Lumber Drying Kiln No. 1 (30.0x10 ⁶ Btu/hr wood waste fired, 53x10 ⁶ bd-ft/yr)	1990	N/A	N/A	5
02	0010	Lumber Drying Kiln No. 2 (15.0x10 ⁶ Btu/hr wood waste fired, 26x10 ⁶ bd-ft/yr)	1996	N/A	N/A	6
03	0001-0003	Cutting / Chipper Moved to Insignificant Activities	1997	N/A	N/A	7
04	0005 0008	Sawmill Cyclone	Pre-1984 N/A	1997	N/A	1
05	0016	Lumber Drying Kiln No. 3 (35.0x10 ⁶ Btu/hr wood waste fired, 53x10 ⁶ bd-ft/yr)	1999	N/A	N/A	8
06	0006-0007 0015	Sawmill Chipper Moved to Insignificant Activities	1999	N/A	N/A	2 & 9
07	0011 0020-0022	Planing Mill	2000	N/A	0023	10



STATEMENT OF BASIS
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 BAQ Engineering Services Division
 2600 Bull Street, Columbia, SC 29201
 Phone: 803-898-4123 Fax: 803-898-4079

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OP ID	Equip ID	Equipment Description	Installation Date	Modification Date	Control Device ID	Stack ID
08	0018-0019	Chipper Mill	2000	N/A	N/A	CM2
09	0004 0017	Log Debarking	Pre-1984 2000	N/A	N/A	Fugitive
10	KLN4	Lumber Drying Kiln No. 4 (35.0x10 ⁶ Btu/hr wood waste fired, 53x10 ⁶ bd-ft/yr)	2005	N/A	N/A	12
11	KLN5	Lumber Drying Kiln No. 5 (35.0x10 ⁶ Btu/hr wood waste fired, 53x10 ⁶ bd-ft/yr)*	Proposed	N/A	N/A	13
12	ROAD	Paved Roads	Pre-1984	N/A	N/A	Fugitive

*To be installed per construction permit CK.

CONTROL EQUIPMENT

Control Device ID	Control Device Description	Installation Date	Pollutant(s) Controlled	Efficiency Capture (%)	Efficiency Removal (%)
0023	Pneumafil Dust Collector (baghouse)	2007	PM/PM ₁₀	90	N/A

EXEMPT SOURCE/INSIGNIFICANT ACTIVITIES DESCRIPTION

Equip ID	Source Description (Date Listed)	Basis
WH	Waste Hog (2004)	Less than 5 TPY
BPH	Byproducts Handling (2009)	Less than 5 TPY
CC	Cutting / Chipper (2009)	Less than 5 TPY
SC	Sawmill Chipper (2009)	Less than 5 TPY

EMISSIONS

UNCONTROLLED POTENTIAL EMISSIONS (PROJECT ONLY)				
ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
01	PM	2.31	10.12	Source Test and AP-42
	PM ₁₀	1.08	4.73	Source Test and AP-42
	NO _x	6.60	28.9	AP-42 Table 1.6-2 (09/03)
	CO	18.0	78.8	AP-42 Table 1.6-2 (09/03)
	SO ₂	0.75	3.29	AP-42 Table 1.6-2 (09/03)
	VOC	27.2	119	NCASI/DHEC Guidance
	Acrolein (H, T, V)	0.05	0.24	NCASI TB845
	Acetaldehyde (H, T, V)	0.39	1.72	NCASI TB845
	Formaldehyde (H, T, V)	0.62	2.73	NCASI TB845
	Methanol (H, T, V)	0.97	4.27	NCASI TB845
	Propionaldehyde (H, T, V)	0.01	0.03	NCASI TB845
	MIBK (H, T, V)	0.01	0.03	NCASI TB845
	Toluene (H, T, V)	0.001	0.003	NCASI TB845
	Xylene (H, T, V)	0.001	0.001	NCASI TB845
	Total HAPS	2.06	9.02	NCASI TB845



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UNCONTROLLED POTENTIAL EMISSIONS (PROJECT ONLY)

ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
02	PM	1.16	5.06	Source Test and AP-42
	PM ₁₀	0.54	2.37	Source Test and AP-42
	NO _x	3.30	14.5	AP-42 Table 1.6-2 (09/03)
	CO	9.00	39.4	AP-42 Table 1.6-2 (09/03)
	SO ₂	0.38	1.64	AP-42 Table 1.6-2 (09/03)
	VOC	13.4	58.5	NCASI/DHEC Guidance
	Acrolein (H, T, V)	0.03	0.12	NCASI TB845
	Acetaldehyde (H, T, V)	0.19	0.85	NCASI TB845
	Formaldehyde (H, T, V)	0.31	1.34	NCASI TB845
	Methanol (H, T, V)	0.48	2.09	NCASI TB845
	Propionaldehyde (H, T, V)	0.003	0.01	NCASI TB845
	MIBK (H, T, V)	0.003	0.01	NCASI TB845
	Toluene (H, T, V)	0.0003	0.001	NCASI TB845
Xylene (H, T, V)	0.001	0.003	NCASI TB845	
Total HAPS	1.01	4.42	NCASI TB845	
CC-Exempt	PM	0.028	0.123	EIIP Uncontrolled Emission Factors and NCASI
	PM ₁₀	0.007	0.031	
04	PM	6.32	27.7	EIIP Uncontrolled Emission Factors
	PM ₁₀	3.61	15.79	
05	PM	2.70	11.8	Source Test and AP-42
	PM ₁₀	1.26	5.52	Source Test and AP-42
	NO _x	7.70	33.7	AP-42 Table 1.6-2 (09/03)
	CO	21.0	91.9	AP-42 Table 1.6-2 (09/03)
	SO ₂	0.88	3.83	AP-42 Table 1.6-2 (09/03)
	VOC	27.2	119	NCASI/DHEC Guidance
	Acrolein (H, T, V)	0.05	0.24	NCASI TB845
	Acetaldehyde (H, T, V)	0.39	1.72	NCASI TB845
	Formaldehyde (H, T, V)	0.62	2.73	NCASI TB845
	Methanol (H, T, V)	0.97	4.27	NCASI TB845
	Propionaldehyde (H, T, V)	0.01	0.03	NCASI TB845
	MIBK (H, T, V)	0.01	0.03	NCASI TB845
	Toluene (H, T, V)	0.001	0.003	NCASI TB845
Xylene (H, T, V)	0.001	0.005	NCASI TB845	
Total HAPS	2.06	9.02	NCASI TB845	
SC-Exempt	PM	0.16	0.70	NCASI
	PM ₁₀	0.04	0.18	
07	PM	152	668	NC DENR, baghouse design
08	PM	3.06	13.4	EIIP Uncontrolled Emission Factors and NCASI
	PM ₁₀	1.73	7.59	
09	PM	5.32	23.3	EIIP Uncontrolled Emission Factors
	PM ₁₀	2.93	12.8	



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ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
10	PM	2.70	11.8	Source Test and AP-42
	PM ₁₀	1.26	5.52	Source Test and AP-42
	NO _x	7.70	33.7	AP-42 Table 1.6-2 (09/03)
	CO	21.0	91.9	AP-42 Table 1.6-2 (09/03)
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	Acrolein (H, T, V)	0.05	0.24	NCASI TB845
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	Toluene (H, T, V)	0.001	0.003	NCASI TB845
	Xylene (H, T, V)	0.001	0.005	NCASI TB845
Total HAPS	2.06	9.02	NCASI TB845	
11*	PM	2.70	11.8	Source Test and AP-42
	PM ₁₀	1.26	5.52	Source Test and AP-42
	NO _x	7.70	33.7	AP-42 Table 1.6-2 (09/03)
	CO	21.0	92.0	AP-42 Table 1.6-2 (09/03)
	SO ₂	0.88	3.83	AP-42 Table 1.6-2 (09/03)
	VOC	27.2	119	NCASI/DHEC Guidance
	Acrolein (H, T, V)	0.05	0.24	NCASI TB845
	Acetaldehyde (H, T, V)	0.39	1.72	NCASI TB845
	Formaldehyde (H, T, V)	0.62	2.73	NCASI TB845
	Methanol (H, T, V)	0.97	4.27	NCASI TB845
	Propionaldehyde (H, T, V)	0.01	0.03	NCASI TB845
	MIBK (H, T, V)	0.01	0.03	NCASI TB845
	Toluene (H, T, V)	0.001	0.003	NCASI TB845
	Xylene (H, T, V)	0.001	0.005	NCASI TB845
Total HAPS	2.06	9.02	NCASI TB845	
12	PM	4.81	21.07	AP-42, Section 13.2.1, Paved Roads, 11/06
	PM ₁₀	0.94	4.11	

*Proposed source.

CONTROLLED POTENTIAL EMISSIONS (PROJECT ONLY)

ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
07	PM	1.41	6.19	NC DENR, baghouse design
11	NO _x	7.00	30.7	Standard 5.2 Limit



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FACILITY WIDE EMISSIONS		
Pollutant	Uncontrolled Emissions	Controlled Emissions
	TPY	TPY
PM	810*	148
PM ₁₀	66.4*	---
NO _x	144	141
CO	394	---
SO ₂	16.4	---
VOC	536	---
Acrolein (H, T, V)	1.07	---
Acetaldehyde (H, T, V)	7.74	---
Formaldehyde (H, T, V)	12.3	---
Methanol (H, T, V)	19.2	---
Propionaldehyde (H, T, V)	0.12	---
MIBK (H, T, V)	0.12	---
Toluene (H, T, V)	0.12	---
Xylene (H, T, V)	0.024	---
Total HAPs	40.5	---

*Contains emissions from exempt sources: 4.64 TPY PM and 2.19 TPY PM₁₀ of byproducts handling emissions, 0.22 TPY PM and 0.05 TPY PM₁₀ from the waste hog, 0.12 TPY PM and 0.03 TPY PM₁₀ from cutting/chipping, and 0.70 TPY PM and 0.18 TPY PM₁₀ from sawmill chippers.

PROJECT REGULATORY APPLICABILITY REVIEW			
Regulation	Applicable		Comments
	Yes	No	
South Carolina Regulation 61-62.1 through 62.99: Air Pollution Regulations (PROJECT ONLY)			
Section II(E): Synthetic Minor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This is a Title V Facility with no synthetic minor sources.
Section II(G): Conditional Major	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This is a Title V Facility.
Standard 1: Fuel Burning Operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	All five (5) kilns (Unit IDs 01, 02, 05, 10, and 11) are direct fired.
Standard 2: Ambient Air Quality Standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	This facility has demonstrated compliance through modeling; see modeling summary dated 01/02/09.
Standard 3: Waste Combustion/Reduction (state only)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility does not contain waste combustion or reduction sources.
Standard 3.1: HMI Waste Incinerators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility does not contain HMI waste incinerators.
Standard 4: Emissions from Process Industries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	This facility is subject to the general process industry's emissions for PM (Section VIII) and Opacity (Section IX) for Unit IDs 01-08 and 10-11 and Section X for Unit IDs 09 and 12. See Standard 4 below for additional information.
Standard 5: Volatile Organic Compounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None of the processes, which are regulated by the regulation, apply.



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PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments																								
	Yes	No																									
Standard 5.1: BACT/LAER For VOC (state only)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The facility is subject to BACT (construction or modifications permitted after 06/25/2004)/LAER(construction or modifications permitted before 06/25/2004). As such, the following emission sources have BACT/LAER requirements:</p> <table border="1"> <thead> <tr> <th>OP ID</th> <th>Equipment ID</th> <th>CP Issue Date</th> <th>VOC Emission Limitation</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>0009</td> <td>1990</td> <td>119.25 (LAER)</td> </tr> <tr> <td>02</td> <td>0010</td> <td>1996</td> <td>58.5 (LAER)</td> </tr> <tr> <td>05</td> <td>0015</td> <td>1999</td> <td>119.5 (LAER)</td> </tr> <tr> <td>10</td> <td>KLN4</td> <td>2004/2005</td> <td>123.5 (LAER)</td> </tr> <tr> <td>11</td> <td>KLN5</td> <td>2009</td> <td>119.25 (BACT)</td> </tr> </tbody> </table> <p>The BACT/LAER analysis determined that good operating practices constitute BACT/LAER for the lumber drying kilns.</p>	OP ID	Equipment ID	CP Issue Date	VOC Emission Limitation	01	0009	1990	119.25 (LAER)	02	0010	1996	58.5 (LAER)	05	0015	1999	119.5 (LAER)	10	KLN4	2004/2005	123.5 (LAER)	11	KLN5	2009	119.25 (BACT)
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01	0009	1990	119.25 (LAER)																								
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10	KLN4	2004/2005	123.5 (LAER)																								
11	KLN5	2009	119.25 (BACT)																								
Standard 5.2: Control of Oxides of Nitrogen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unit ID 11 is subject to this regulation. The facility is required to limit NO _x emissions from the kiln to 0.2 lb/MMBTU. The design of the kiln gasifier will enable compliance with this limit.																								
Standard 7: Prevention of Significant Deterioration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The facility is a major source for PSD for the following pollutants: PM, CO, and VOC. Additionally, the facility contains emission sources that are subject to a BACT or Synthetic Minor Emission Limitation:</p> <table border="1"> <thead> <tr> <th>OP ID</th> <th>Equip ID</th> <th>CP Issue Date</th> <th>Pollutant</th> <th>Emission Limitation (TPY)</th> <th>BACT or Synthetic Minor (SM)</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>KLN4</td> <td>2004/2005</td> <td>VOC</td> <td>123.5</td> <td>BACT</td> </tr> <tr> <td>11</td> <td>KLN5</td> <td>2009</td> <td>VOC</td> <td>119.25</td> <td>BACT</td> </tr> </tbody> </table>	OP ID	Equip ID	CP Issue Date	Pollutant	Emission Limitation (TPY)	BACT or Synthetic Minor (SM)	10	KLN4	2004/2005	VOC	123.5	BACT	11	KLN5	2009	VOC	119.25	BACT						
OP ID	Equip ID	CP Issue Date	Pollutant	Emission Limitation (TPY)	BACT or Synthetic Minor (SM)																						
10	KLN4	2004/2005	VOC	123.5	BACT																						
11	KLN5	2009	VOC	119.25	BACT																						
Standard 7(II): Minor Source Increment Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are no baselines established for PM ₁₀ , SO ₂ , or NO _x for Hampton County.																								
Standard 7.1: Standards for Non Attainment Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The facility is not in a non attainment area.																								
Standard 8: Toxic Air Pollutants (state only)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility is in compliance with 40CFR63, Subparts A and DDDD and is exempt from Standard 8 modeling.																								
Regulation 61-62.6: Control of Fugitive Particulate Matter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The fugitive PM (Dust) emissions are controlled in a manner that should not produce undesirable levels of PM (Dust) emissions.																								
Regulation 61-62.60: SC Designated Facility Plan and NSPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This process does not contain sources subject to this standard.																								
Regulation 61-62.61: NESHAP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility does not emit the pollutants subject to this standard																								
Regulation 61-62.63: NESHAP For Source Categories	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Plywood MACT (PCWP, Subpart DDDD) for kilns is promulgated; therefore 112g does not apply.																								
Regulation 61-62.68: Chemical Accident Prevention	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This process does not store or use chemicals subject to 112r above the threshold quantities.																								
Regulation 61-62.70: Title V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The facility is a major source and has submitted the appropriate applications.																								
Regulation 61-62.72: Acid Rain	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A																								
Regulation 61-62.96: Nitrogen Oxides (NO _x) Budget Trading Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A																								



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PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments
	Yes	No	
Regulation 61-62.99: Nitrogen Oxides (NO _x) Budget Program Requirements for Stationary Sources Not In the Trading Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Federal Regulations (PROJECT ONLY)			
NSPS (Part 60) Subpart(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This process does not contain sources subject to this standard.
NESHAP (Part 61) Subpart(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility does not emit the pollutants subject to this standard
MACT (Part 63) Subpart(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The facility is major for HAPs and has submitted the Initial Notification for Subpart DDDD. However, lumber kilns are not subject to any other requirements under the PWCP, Subpart DDDD.
Area Source Standards (Part 63) Subpart(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This facility is not subject to any area sources.
Compliance Assurance Monitoring (CAM) (Part 64)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is a control device associated with the Planar Mill (ID 07) to control PM. However, CAM applicability is based on PM ₁₀ and the facility-wide PM ₁₀ emissions are less than 100 TPY. Therefore, CAM is not applicable.
Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

ADDITIONAL REGULATORY REVIEW

SC Regulations 61-62.5, Standard 4 - Emissions from Process Industries

Applicable The following emission sources have opacity limits (including any fugitives) and Particulate Matter (PM) allowable emissions rates (based on a process weight rate in tons per hour) imposed by this standard:

ID	Opacity (%)	PM Allowable (lb/hr)	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Controlled PM Emissions (lb/hr)	Monitoring
01	20	20.9	11.3	2.31	Same	N/A
02	20	12.9	5.6	1.16	Same	N/A
03	20	57.4	180	6.33	Same	N/A
04	20	57.4	180	6.30	Same	N/A
05	20	20.9	11.3	2.7	Same	N/A
06	20	42.5	40	0.16	Same	N/A
07	20	48.1	72.1	141	1.41	Pressure Drop and Gauges
08	20	51.3	100.5	3.1	Same	N/A
10	20	20.9	11.3	2.7	Same	N/A
11	20	20.9	11.3	2.7	Same	N/A

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.