

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: TBD**

**Region:** Winston-Salem Regional Office  
**County:** Surry  
**NC Facility ID:** 8600108  
**Inspector's Name:** Ray Stewart  
**Date of Last Inspection:** 10/28/2008  
**Compliance Code:** 3 / In Compliance - Inspection

<b>Facility Data</b>	<b>Permit Applicability (this application only)</b>
<p><b>Applicant (Facility's Name):</b> Weyerhaeuser Company - Elkin Plant</p> <p><b>Facility Address:</b>  Weyerhaeuser Company - Elkin Plant  184 Gentry Road  Elkin, NC 28621</p> <p><b>SIC:</b> 2439 / Structural Wood Members, Nec  <b>NAICS:</b> 321213 / Engineered Wood Member (except Truss) Manufacturing</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>	<p><b>SIP:</b> 2D .0521, .0530  <b>NSPS:</b>  <b>NESHAP:</b> Subpart DDDD  <b>PSD:</b>  <b>PSD Avoidance:</b> yes  <b>NC Toxics:</b>  <b>112(r):</b>  <b>Other:</b> included SOC for 2008-001</p>

<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<p><b>Application Number:</b> 8600108.09A  <b>Date Received:</b> 01/27/2009  <b>Application Type:</b> Modification  <b>Application Schedule:</b> TV-Significant</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 05678/T34  <b>Existing Permit Issue Date:</b> 02/09/2009  <b>Existing Permit Expiration Date:</b> 08/31/2010</p>
<p>Billie Caudill  Environmental Specialist  (336) 526-6422  184 Gentry Road  Elkin NC, 28621</p>	<p>Jeffrey Fickett  Plant Manager  (336) 526-6482  184 Gentry Road  Elkin NC, 28621</p>	<p>Billie Caudill  Environmental Specialist  (336) 526-6422  184 Gentry Road  Elkin NC, 28621</p>	

<p><b>Review Engineer:</b> Joseph Voelker</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>	<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 05678/T35  <b>Permit Issue Date:</b> TBD  <b>Permit Expiration Date:</b> 08/31/2010</p>
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**I. Introduction and Purpose of Application**

Weyerhaeuser Company - Elkin Plant is an oriented strand board (OSB) manufacturing facility. The purpose of this application is as follows:

- A. Request change to the monitoring requirements for compliance with 2D .0521 and 2D.0530
- B. Request a change in the VOC calculation for PSD Avoidance based on recent source testing
- C. It will also be shown that it was necessary to revise the compliance date for the MACT Subpart DDDD condition.

**II. Chronology**

Date	Description
January 27, 2009	A TV permit application was received in the RCO.
January 27, 2009	An acknowledgement letter was sent to Jeffrey Fickett, Plant Manager. The application is accepted for processing.
	<del>JMV contacted .....</del>
MM DD YYY	<del>Public Notice for the permit modification was published in the XYZ.</del>
MM DD, YYY	<del>Public comment period ended.</del>
MM DD, YYY	<del>EPA comment period ended. No comments received.</del>

**III. Modification Description**

**A. Request change to the monitoring requirements for compliance with 2D .0521 and 2D.0530**

The Permittee has identical monitoring requirements for 2D .0521 and 2D.0530 as presented in permit condition 2.1.A.7.u. in permit no. T34.

During the creation of the draft permit no. T33 the permit engineer revised the subject-monitoring requirement to require the Permittee to reestablish normal for the dryers within the first 30 days following days following the operation of the replaced dryers ID (No. 1611 and 1621). During the inclusion of this requirement the permit engineer inadvertently removed the following language:

*The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation.*

This language will be placed back into the permit. No other changes were noted by the Permittee.

**Applicable Regulations**

No other regulatory applicability discussion is necessary

**B. Request a change in the VOC calculation for PSD Avoidance based on recent source testing**

The Permittee would like to change the PSD avoidance monitoring condition in Condition 2.2.B.1. as follows:

**Revised Wet ESP outlet VOC data**

The facility had conducted testing on the wet ESP in May 2007 that resulted in the emission rate of VOCs increasing from 4.13 lb/ODT to 5.27 lb/ODT. The Permittee would like the calculation in the permit to be revised to reflect this change.

The data has been submitted to the DAQ Stationary Source Compliance Branch but has not been reviewed and approved.

**Revised RO DRE data**

The facility had conducted testing in October 2008 that suggests that 94% destruction removal efficiency can be achieved at an RO temperature of 1275°F. The Permittee is currently required to operate at 1450°F. The Permittee would like to change this operating temperature to achieve significant cost savings.

The data has been submitted to the DAQ Stationary Source Compliance Branch but has not been reviewed and approved.

Although the facility's data suggests a 94% DRE, the facility chooses to modify the permit to reflect only a 90% DRE.

Given the practicality of reviewing and approving source tests the DAQ will permit these changes on the basis that the application was submitted in good faith and in fact once the source tests reports are reviewed, will support the requested changes. The DAQ reserves the right to change the emission rates and RO temperature administratively. Note that if the source test(s) DO NOT support this permit application, nothing precludes the DAQ from pursuing enforcement action for non-compliance with 2D .0530.

The current permit calculation in 2.2.B.1 is as follows:

VOC tons per month shall be determined by the sum of the following:

$$[18.17 \times t_{RO} + 181.7 \times t_{WESP}] \times 1/2000 = E_{VOC}$$

where:

- 18.17 = pounds of VOC per hour calculated by 44 ODT / hour x 4.13 lb VOC / ODT x (1-90%)
- $t_{RO}$  = hours when RO is not bypassed and RO temperature is greater than or equal to 1450F (hourly block average temperatures)
- 181.7 = pounds of VOC per hour calculated by 44 ODT / hour x 4.13 lb VOC / ODT
- $t_{WESP}$  = hours when RO is bypassed or hourly periods when the RO temperature is less than 1450F (hourly block average temperatures including hourly RO periods of start-up, shutdown, and malfunction)
- $E_{VOC}$  = number of tons of VOC emissions per month

This condition will be revised to read as follows:

VOC emissions will be calculated as follows:

$$E_{VOC} = [23.18^* \times t_{RO} + 231.8^* \times t_{WESP}] \times 1/2000$$

where:

- $E_{VOC}$  = tons of VOC emissions per month
- 23.18\* = pounds of VOC per hour calculated by 44 ODT / hour x 5.27 lb VOC / ODT x (1-90%)
- $t_{RO}$  = hours per month when the RO is not bypassed and RO temperature is greater than or equal to 1275°F\*\* (hourly block average temperatures)
- 231.8\* = pounds of VOC per hour calculated by 44 ODT / hour x 5.27 lb VOC / ODT
- $t_{WESP}$  = hours per month when the RO is bypassed or hourly periods when the RO temperature is less than 1275°F\*\* (hourly block average temperatures, including hourly RO periods of start-up, shutdown, and malfunction)

\*These VOC emission rates may be revised administratively pending final review of the source test report by the DAQ.

\*\* These hourly block average temperatures may be revised administratively pending final review of the source test report by the DAQ.

**Applicable Regulations**

No other regulatory applicability discussion is necessary

### C. Revised MACT Subpart DDDD compliance date

Like many Subpart DDDD affected facilities, Weyerhaeuser received a compliance date extension until October 1, 2008, via a letter from the DAQ dated August 20, 2007.

The facility however was unable to meet that schedule, particularly for the OSB press, which had been installed with a biofilter. The Permittee entered into a Special Order of Consent to bring the facility to full compliance with MACT Subpart DD by October 1, 2009. The SOC addresses ONLY the OSB press. It does not address other aspects of the facility's MACT compliance.

The current permit states the Permittee shall comply with the MACT by October 1, 2009. This is incorrect as it effectively gives a facility-wide compliance extension date for the MACT until October 1, 2009.

The compliance date in the permit will be changed from October 1, 2009 to of October 1, 2008. A schedule of compliance based on the Special Order of Consent 2008-001 will be placed into the permit. The permit will now be consistent with MACT Subpart DDDD requirements.

### IV. NSPS, NESHAP, PSD and CAM Applicability

All regulatory discussion is included in Section III.

### V. Changes to Existing Title V Air Permit No. 05678T34

Condition No.	Changes
Cover letter	<ul style="list-style-type: none"> <li>Updated, dates and other relevant information for this particular modification</li> <li>Left in the reminder statement to include TV permit applications as presented in cover letter for T34</li> </ul>
Insignificant Activities List	<ul style="list-style-type: none"> <li>General formatting was updated</li> </ul>
Table of Contents	<ul style="list-style-type: none"> <li>Added Section 2.4</li> </ul>
Equipment List	<ul style="list-style-type: none"> <li>The asterisked language addressing the minor modifications made as a result of permit application no. 8600108.05D was removed. The permit issued as a result of the minor modification was permit no. T30. Given that these minor modifications will now be subject to public and EPA review as required for the submitted significant permit modification (app no. 8600108.09A) pursuant to 2Q.0504, the modifications made pursuant to permit application no. 8600108.05D will now be covered under the permit shield as described in general condition R.</li> </ul>
2.1.A.7.u.	<ul style="list-style-type: none"> <li>The following language will be included in the revised permit. It was inadvertently removed during the permit modification resulting in the issuance of permit no. T33. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation</li> </ul>
2.2.B.1	<ul style="list-style-type: none"> <li>The PSD avoidance calculation for VOC was revised based on the current permit application and as described in the accompanying review.</li> </ul>
2.2.C.	<ul style="list-style-type: none"> <li>Changed the MACT Subpart DDDD compliance date to October 1, 2008. The Permit inadvertently indicated it as October 1, 2009. The Permittee is subject to a Special Order of Consent (SOC) requiring full compliance with Subpart DDDD by October 1, 2009. The SOC only addresses the facilities compliance issues with the MACT for the emissions from the OSB Press. The SOC was added to the permit in Section 2.4.</li> </ul>
2.2.D.4.	<ul style="list-style-type: none"> <li>Changed the MACT Subpart DDDD compliance date to October 1, 2008. See discussion for condition 2.2.C.</li> </ul>
2.4.	<ul style="list-style-type: none"> <li>A schedule of compliance addressing the Special Order of Consent no. 2008-001 was included in the revised permit.</li> </ul>
General Conditions	<ul style="list-style-type: none"> <li>Updated to version v.2.22.1. It was unclear if the General Conditions implemented in permit no. T33 reflected the current version</li> </ul>

### VI. Compliance History

During the last inspection conducted by Ray Stewart on 5/29/2008, Mr Stewart noted in his inspection report:

“ At the time of the inspection, the facility was operating in likely compliance with its Title V Air Permit and all DAQ regulations.”

The following compliance history was taken from Mr Stewart’s compliance report verbatim.

This facility has received a single NOV in the five years prior to this inspection. The facility was sent an NOV on August 4, 2006 due to a letter sent to DAQ/WSRO by Ms. Caudill that was received June 26, 2006. In her letter, Ms. Caudill detailed the circumstances involved with the phenol emission rate from the facility’s WESP when the facility’s was not operating and the formaldehyde emission rate from the facility’s firewater pump engine when it is operating. Condition 2.2.B.3.iv of the facility’s most recent previous Title V Air Permit limited the phenol emission rate from the facility’s WESP to 0.101 pounds per hour and limited the formaldehyde emission rate from the facility’s fire water pump engine to 0.000404 pounds per hour in order to help ensure the facility’s compliance with 15A NCAC 2D .1100 “Control of Toxic Air Pollutants.” However, based on the information in Ms. Caudill’s letter and the letter from URS Corporation to the facility that was attached to it, the average hourly phenol emission rate from the facility’s WESP is 0.470 pounds per hour when the facility’s RTO is not operating. Thus the periods of time when the facility operated it’s Wet ESP and dryers No. 1, 2, and 3 without the concurrent operation of it’s RTO was a violation of Condition 2.2.B.3.iv of Air Quality Permit 05678T30. Likewise, during the periods of time when the facility operated it’s fire water pump engine, it’s average hourly formaldehyde emission rate 0.000992 pounds per hour and was in violation of Condition 2.2.B.3.iv of Air Quality Permit 05678T30. The facility addressed the issue with the submittal of the permit application for Title V Air Permit revision T31. The facility modeled the facility’s new emission rates for phenol and formaldehyde and demonstrated compliance with 2D .1100. No further enforcement action was pursued.

Since that time the facility has entered into a Special Order of Consent (2008-001) with the EMC because they were not able to be in compliance with the MACT by the extended compliance date of October 1, 2008.

## VII. Permit History

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T34	February 9, 2009	This revision is for the ownership change of an existing Title V permit. The existing Title V permit 05678T33 was issued on August 27, 2008. Weyerhaeuser Company has requested a transfer of ownership to Weyerhaeuser NR Company.
T33	August 27, 2008	As part of this permit application, Weyerhaeuser Elkin proposes the following equipment changes: <ol style="list-style-type: none"> <li>1) Addition of a biofilter as control device to control emissions from the press (ID No. 4301).</li> <li>2) Replacement of Dryers No. 1 and No. 2 (ID No. 1611 and 1621) with single pass dryers. The throughput capacity of 61,440 pounds per hour maximum wet wood drying capacity per dryer will remain the same.</li> <li>3) Replacement of the pre-quench chamber and the wet electrostatic precipitator (Wet ESP) (ID No. 3450),</li> <li>4) Addition of natural gas as fuel for the existing oil-fired suspension burners (ID Nos. 3811, 3821, and 3831),</li> <li>5) Increase the annual limit for edgeseal paint as an alternative fuel from 9,360 gallons to 20,000 gallons.</li> <li>6) Replacement of the tongue and groove (T&amp;G) machine (part of the 2811 system) with a machine of the same capacity and throughput. The T&amp;G machine exhaust is currently routed to the 2814 cyclone, and then to the 2811 baghouse.</li> <li>7) Request removal of the 2670 Baghouse system from the permit. This baghouse system has never been built, and the mill does not plan to construct it.</li> </ol>
T32	August 24, 2007	This application is for a revision to the State-enforceable only toxic air pollutant (TAP) limits for acrolein, benzene, formaldehyde, and phenol emissions and is processed as a TV-State Only modification. The facility identified additional emissions from existing sources during their preliminary compliance assessment for the Plywood and Composite Wood Products (PCWP) MACT from stack tests performed on two baghouses and calculations of the wastewater and spray emissions using EPA WATER9 model. The

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
		application includes a dispersion modeling analysis for establishing new TAP limits.
T31	December 28, 2006	This application will be processed as TV-State Only modification. As explained in the permit application, this application is to revise the formaldehyde and phenol emission limits of Air permit 05678T30. The facility performed a detailed review to compare actual emission rates of each regulated compound to emission limitations contained in the existing permit. Based on the review, the facility found out that the average hourly phenol emission rate from WESP had exceeded its permit limit. Also the average hourly formaldehyde emission rate from firewater pump exceeded its permit limit. Hence the facility submitted this application to revise formaldehyde and phenol emission limits.
T30	March 24, 2006	<p>Weyerhaeuser requests a minor New Source Review (NSR) pursuant to 15A NCAC 2Q .0515 (Title V minor modification procedures) resulting from discussion with the DAQ Winston-Salem Regional Office in October 2004.</p> <p><b>Proposed Project Description:</b>  Wet Cell Nos. 1, 2, 3 (ID Nos. 3311, 3321, 3331) are being modified to address back pressure issues where the wet cell exhaust streams enter the dryer systems. Of note is the applicability of PSD/BACT limits to Wet Cells Nos. 1, 2, and 3 and NSPS Dc to Wet Cell No. 3.</p>

### VIII. Public Notice

See Chronology.

### IX. Comments and Conclusions

TBD

### X. Recommendations

TBD It is recommended that permit no. ~~05678/T34~~ be issued.