

## Air Permit Review

Permit Issue Date: TBD

**Region:** Raleigh Regional Office  
**County:** Chatham  
**NC Facility ID:** 1900039  
**Inspector's Name:** Steven Carr  
**Date of Last Inspection:** 01/14/2009  
**Compliance Code:** 3 / Compliance - inspection

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<p><b>Applicant (Facility's Name):</b> Moncure Plywood, LLC</p> <p><b>Facility Address:</b> Moncure Plywood, LLC 306 Corinth Road Moncure, NC 27559</p> <p><b>SIC:</b> 2436 / Softwood Veneer And Plywood <b>NAICS:</b> 321212 / Softwood Veneer and Plywood 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> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b></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> 1900039.06B &amp; 1900039.08A <b>Date Received:</b> 10/06/2006 &amp; 06/25/2008 <b>Application Type:</b> Renewal &amp; Modification <b>Application Schedule:</b> TV-Renewal &amp; TV-Minor</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 03424/T20 <b>Existing Permit Issue Date:</b> 09/25/2007 <b>Existing Permit Expiration Date:</b> 08/31/2012</p>
<p>Brian Van Gelder Project Manager (919) 542-2311 306 Corinth Road Moncure NC, 27559</p>	<p>Ernest Plaunty Plant Manager (919) 542-2311 306 Corinth Road Moncure NC, 27559</p>	<p>Robert Madison CPM / Technical Manager (919) 542-2311 306 Corinth Road Moncure NC, 27559</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> 03424/T21 <b>Permit Issue Date:</b> TBD <b>Permit Expiration Date:</b> TBD</p>	

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## I. Introduction and Purpose of Application

Moncure Plywood LLC (MP) manufactures plywood from hardwood (poplar) and pine veneer. The purpose of this review is threefold:

### 1. Address Application 1900039.06A as required by 2Q.0501(c)(2)

Emission Sources ES01 and ES03 were modified as requested in application no. **1900039.05B** as a 2Q .0501 (c)(2) change which allows the "...construction and operation permit following the procedures under Rule .0504 and filing a complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of this Section (TV permitting procedures)." The equipment modification as well as a condition (PART II SECTION 2 condition 2) requiring another application were placed into the revised air permit T18.

Application no. **1900039.06A** was submitted within 12 months after commencing operation of the modified sources ES01 and ES03 as required by condition 2 in PART II SECTION 2 of the permit to satisfy 2Q .0501(c)(2).

Thus, this modification will be reexamined to ensure it was implemented as originally requested and/or to incorporate any changes as presented in the application as necessary into the permit. The draft permit will go to public /EPA notice and upon subsequent approval the permit shield described in General Condition R of the permit will apply to these sources.

### 2. Address Renewal Application 1900039.06B

The current permit has an expiration date of 06/30/2007. The renewal application however, was submitted in a timely manner and the facility has been allowed to continue to operate as permitted via the application shield as described in 2Q .0512.

Since:

- the changes described in application 1900039.06A have already been implemented at the facility,
- the revised permit has to go through the relatively lengthy process of public notice and EPA review, and
- there is no real benefit of processing the application independently of the renewal application,

application no. **1900039.06A** will be consolidated with the renewal application **1900039.06B**.

### 3. Address Modification Application 1900039.08A

A letter was received on July 3, 2007 in the RCO describing plans to add a fan and ductwork to the current fan system to the fluidized Bed Wood Burner (ES01). The Permittee claims the project meets the requirements of Changes Not Requiring Permit Modifications, Section 502(b)(10) Changes per 2Q .0523(a). Upon review, it was deemed that a permit application was necessary. This application was received on June 25, 2008 and was assigned application no. 08A. Note that the facility completed this modification before receiving a permit.

This application will be addressed here as well.

## II. Chronology

Date	Description
July 20, 2005	Permit T18 issued in response to application no. <b>.05B</b> , that addressed modification of the fluidized bed wood burner, its multicyclone, and the transfer cyclone ES-03.
July 20, 2005	Permit T19 issued in response to application no. <b>.05C</b> , to revise the NSPS monitoring requirements (administrative application).

Date	Description
July 21, 2006	A significant modification application was received and assigned the ID No. <b>.06A</b> . This is the corresponding PART II of the PART I application no <b>.05B</b> .
July 21, 2006	A CAM plan for the wood-fired combustor was received in accordance with condition 2.3 in PART II of permit no. 03424T19.
October 6, 2006	A TV permit renewal application (assigned ID No. <b>.06B</b> ) was received stating there had been no changes to the "emission source status" since the last permit modification (July 21, 2006).
October 9, 2006	An acknowledgement/add info letter for <b>.06B</b> was sent requesting an authorized signature.
October 23, 2006	Form AA and Form E5 forms revised with an acceptable authorized signature (Dick Yarborough, CEO) was received. The cover letter also duly authorizes Francis Eck General Manager as the designated representative (authorized contact).
February 12, 2007	The modification application for the modification of the hot press (ES-13) and the addition of a spray booth (I-13) was received in the regional office.
February 19, 2007	The application received February 12, 2007 was forwarded and received in the RCO. It was assigned the ID <b>.07A</b> .
June 6, 2007	The permit applications <b>.06A</b> , <b>.06B</b> and <b>.07A</b> were assigned to Joe Voelker (JMV).
July 3, 2007	A letter is received in the RCO describing plans to add a cooling fan and ductwork to the current fan system to the fluidized Bed Wood Burner (ES01). Permittee claims the project meets the requirements of Changes Not Requiring Permit Modifications, Section 502(b)(10) Changes per 2Q .0523(a).
August 2, 2007	A request for an administrative amendment was received. The letter requests the inclusion of a permit condition stipulating that "our facility is a synthetic minor source" for HAPs to avoid any future question of the applicability of MACT conditions.
September 21, 2007	Permit T20 issued with changes requested in application no. <b>.07A</b> .
October 18, 2007	JMV accompanied Steve Hall of the RRO on a compliance inspection.
November 9, 2007	Letter received designating the new plant manager, Ernest Plaunty, as the responsible official and Robert Madison as the new Permit/Facility contact.
February 26, 2008	Joe Voelker of the RCO sent an additional information request regarding VOC emission estimates
March 28, 2008	Written response from Permittee regarding information requested on February 26, 2008
April 2, 2008	Revised process flow and emission source list received via email
April 11, 2008	Letter received in the RCO providing information requested in March 28, 2008 email.
May 28, 2008	JMV sent an add info letter requesting emission estimates based on softwoods, toxics and application for overfire air change discussed in letter received July 3, 2007.
June 25, 2008	Application received and assigned application no. <b>.08A</b> , addressing the modification made as described in letter received July 3, 2007
February 21, 2009	Sent email to consultant Amy Marshall to address CAM for the affected PM emitting sources
March 5, 2009	CAM plans requested on February 21 received via email.
March 18, 2009	Revised toxics modeling received by the RCO
April 3, 2009	Memo issued by the AQAB (Mark Yoder) stating "the modeling adequately demonstrates compliance with the respective AALs for all the modeled TAPs on a source by source basis."

Date	Description
MM-DD, 2009	Public Notice for the permit modification was published in the TBD.
MM-DD, 2009	Public comment period ended.
MM-DD, 2009	EPA comment period ended.

### III. Regulatory Review

#### 1. Address Application 1900039.06A as required by 2Q.0501(c)(2)

The modifications (discussed in application .06A) resulting in the issuance of permit no. T18 [which itself was issued as a result of permit application .05B under the NC State permitting rules (15A NCAC 2Q .0300)], were reviewed for compliance with all applicable State and Federal air quality regulations by the NC DAQ at that time.

To satisfy the NC Title V permitting rules (15 A NCAC 2Q .0500), the facility had to submit another application (application no. 06A) that would (upon verification that the modifications were performed as requested previously) be submitted to public and EPA notice for comments. The subsequent revised permit would as a result contain a permit shield for the new sources.

The Permittee has completed the modification as described in application .06A along with the modifications (application. no .07A) resulting in permit T20 (T19 was an administrative revision) and the addition of an overfire air fan (application no. .08A) to be discussed elsewhere in this review.

The permit review, which resulted in the issuance of T18 is included as an addendum as are the permit reviews for T19 and T20.

No further discussion on this aspect of the application .06A is necessary.

#### 2. Overfire Air Fan Operation Change Application

Upon review of the July 3, 2007 letter describing the addition of the overfire air fan project (see chronology) the DAQ determined that the project was a modification and an application was needed. This application was submitted June 25, 2008.

The modification is to add an extra fan to the combustion unit (ES-01). The purpose of the fan is to allow the introduction of sufficient blend air (excess air) or overfire air into the furnace to mitigate some of the ash slagging/softening issues that have been observed. This is of particular concern when firing sawdust. Another purpose is claimed to be by adding the overfire air fan, the mechanical load demand on the fluidizing air fan (the existing fan) can be decreased and hence an energy cost can be achieved.

The applicant maintains that the introduction of overfire air "typically" improves combustion which can decrease emissions on a per mmBTU heat input basis. This engineer concurs with this conclusion.

The applicant also maintains that the combustor and steam generating unit capacities are not increased with this change and also claims that this project does not increase the drying capacity. The dryers are operated with an average pressure drop across the multi-cyclones of 3 inches of water and 800°F inlet temperature. The dryer throughput is limited by product quality standards (final moisture content) and the workers manually feeding the veneer into the dryers.

Given that:

1. the facility is a PSD minor source (it has but one 250 tpy limit); and
2. this modification by itself would not in any reasonable way be expected to result in increases in emissions that could be considered major by themselves (250 tpy);

challenging the claims of no increases in emissions or change in capacities would not result in a different outcome with respect to the permit.

Since this modification has already been completed, its impact on regulatory compliance (as necessary) will be addressed in context of the regulatory review associated with the renewal application.

### 3. Renewal Application 1900039.06B

#### Equipment List changes

At the request of the region, the Permitted equipment list (and insignificant activities) list was reviewed and revised to facilitate inspections.

The equipment list in permit no. T20 reads as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES01** (NSPS)	fluidized bed wood burner with blending chamber (80.0 million Btu/hr heat input capacity)**, a slipstream of the exhaust passes through an integrated boiler	CD02**	multicyclone (720 six-inch diameter tubes)**
ES09 ES10	veneer dryer veneer dryer		
ES03**  ES13***  ES14 ES15 ES16 ES17	Woodworking operations consisting of three string machine saws, a core saw, a strip saw, a panel sawing system and a core composer, saw, sander baghouse (ID No. CD-05)  glue mixing, application and hot press operations, including curtain coater, plywood spreader, 25 press and 40 press and paper overlay operation***  blow hog, tongue and groove operations, plywood hog, and shaker screen.	CD06	bagfilter (7,095 square feet of filter area)
ES04	wood sander	CD05	bagfilter (6,200 square feet of filter area)
ES11	wood fuel storage silo	n/a	n/a
ES12	dry wood residual storage silo that receives material from the dry wood residual system cyclone ES-03	CD21	cartridge filter (1,800 square feet of filter area)
ES18	transfer cyclone installed on the blow hog (ID No. ES14)	n/a	n/a
ES19	250 horsepower diesel-fired water pump	n/a	n/a
ES20	vat operations	n/a	n/a
ES21***	End sealer spray booth***	n/a	n/a

The revised equipment list was substantially revised after review of current process diagrams and discussions with the facility. Note that numerous ID numbers changed in addition to the descriptors. It should be noted that although new ID numbers were added, no new equipment was added during this renewal process.

The equipment list in the revised permit no. T21 will read as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES01-A	Fluidized bed wood burner with blending chamber and dedicated overfire air fan (80.0 million Btu/hr heat input capacity) <sup>1</sup>	CD02	Multicyclone (720 six-inch diameter tubes)
ES01-B (NSPS)	Boiler (29.79 million Btu/hr heat input capacity, based on slipstream gas from ID No. ES-01-A)		
ES09	Direct wood-fired veneer dryer M62 <sup>1</sup>	NA	NA
ES10	Direct wood-fired veneer dryer M72 <sup>1</sup>	NA	NA
ES20	Vat operations	NA	NA
ES21	End sealer spray booth	NA	NA
<b>Woodworking operations consisting of:</b>			
ES03-SMS-1, 2	Two string machines including saws	CD-03-WWTC,	Woodwaste transfer cyclone (154 inches in diameter)  Bagfilter (7,095 square feet of filter area)
ES03-CS	Core saw (green or dry veneer)	CD06	
ES03-SS	Strip saw		
ES03-CC	Core composer with saw		
ES03-PSS	Panel sawing system		
ES16	Plywood waste hog		
ES17	Green wood sizing operations including sizing screens and bins		
ES14	Rechip blow hog (green wood only)	CD-18	Cyclone (60 inches in diameter)
		CD-03-WWTC,	Woodwaste transfer cyclone (154 inches in diameter)
		CD06 <sup>2</sup>	Bagfilter (7,095 square feet of filter area)
ES04	Wood sander	CD05	Bagfilter (6,200 square feet of filter area)
		CD-03-WWTC,	Woodwaste transfer cyclone (154 inches in diameter)
		CD06	Bagfilter (7,095 square feet of filter area)
ES12	Dry wood residual storage silo	CD21	Cartridge filter (1,800 square feet of filter area)
<b>Layup operations consisting of:</b>			

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
ES-13-GMO	Glue mixing operations consisting of two resin storage tanks and four mixed glue tanks	NA	NA
ES-13-CC	Curtain coater	NA	NA
ES-13-PO	Paper overlay operation	NA	NA
ES-13-PS	Plywood spreader	NA	NA
ES-13-25HP	25 panel hot press	NA	NA
ES-13-40HP	40 panel hot press	NA	NA

The insignificant activities list in T20 reads as follows:

<b>Emission Source ID</b>	<b>Emission Source Description</b>
I-1	Bark hogging operations with two saws
I-2	Core chipping and handling
I-3	Green veneer hogging
I-4 and I-5	Logo painting and ink marking
I-6	Plywood surface patching
I-7	Maintenance parts washers
I-8	Veneer diverter exhaust cyclone
I-9 and I-10	two green wood veneer stackers No.1 and No. 2
I-11	hammer hog truck dump
I-12	dry waste truck dump

The list in the revised permit no. T21 will read as follows:

<b>Emission Source ID</b>	<b>Emission Source Description</b>
I-1	Bark hogging operations with two saws
I-2	Tree Core chipping and handling
I-3	Green veneer hogging
I-4 and I-5	Logo painting and ink marking
I-6	Plywood surface patching
I-7	Maintenance parts washers
I-8	Veneer diverter exhaust cyclone
I-9 and I-10	two green wood veneer stackers No.1 and No. 2
I-11	hammer hog truck dump
I-12	dry waste truck dump
IES-GWS	Green wood fuel storage silo
IES19	Diesel-fired water pump (250 Horsepower maximum power output) for emergency purposes only

**Regulatory review**

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
ES01-A	Fluidized bed wood burner with blending chamber and dedicated overfire air fan (80.0 million Btu/hr heat input capacity) <sup>1</sup>	CD02	Multicyclone (720 six-inch diameter tubes)
ES01-B (NSPS)	Boiler (29.79 million Btu/hr heat input capacity, based on slipstream gas from ID No. ES-01-A)		
ES09	Direct wood-fired veneer dryer M62	NA	NA
ES10	Direct wood-fired veneer dryer M72	NA	NA

The above sources will be described in the revised air permit in Section 2.1.A.1 as follows to facilitate the understanding of the configuration of the emission sources:

- A. One fluidized bed wood burner with blending chamber and dedicated overfire air fan (80.0 million Btu/hr heat input capacity) (ID No. ES01-A) supplying heat to:**
- One Boiler (29.79 million Btu/hr heat input capacity, based on slipstream gas from fluidized bed wood burner)(ID No. ES-01-B),**
  - both controlled by a multicyclone (720 six-inch diameter tubes) (ID No. CD02), with the recombined gas stream supplying direct heat to:**
  - two direct wood-fired veneer dryers, M62 (ID no. ES09) and M72 (ID no. ES10)**

The following table provides a summary of limits and standards for the emission sources described above (with exceptions noted):

Individual discussion of the applicable regulations follow:

**15A NCAC 02D .0504 PARTICULATES FROM WOOD BURNING INDIRECT HEAT EXCHANGERS**

The current permit indicates this rule is applicable to the “boilers (ID Nos. ES-01, ES-09, and ES-10)”. This is incorrect. This rule, if applicable, would apply to the emissions from the wood combustion associated with the boiler. Note that at this facility a slipstream of the combustion gases are routed to the boiler. The facility maintains records under NSPS Subpart Dc to show that the heat exchanger (boiler) uses less than 30 mmbtu/hr. The wood burner is rated at 80 mmbtu/hr. Thus only 30/80 or 38% is used to generate heat/energy by indirect heat exchange.

2D.0504 states:

- (d) This Rule applies to installations in which wood is burned for the primary purpose of producing heat or power by indirect heat transfer.

It seems reasonable to assume that the primary purposes of this installation is to supply DIRECT heat to the veneer dryers. As such, 2D.0504 does not apply. However, 2D.0515 will now apply. This is consistent with other permitted direct wood fired dryers.

**15A NCAC 02D. 0515 PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**

The facility last conducted PM testing on the direct wood fired dryer in 1996. Since the test was not designed to demonstrate compliance with 2D.0515 (process rates on a weight basis were not determined, including solid fuel) or for 2D .0504 for that matter (heat input data was not collected), it is unclear whether or not the facility would comply with 2D.0515.

The facility in 2005 modified the multicyclone to add additional cyclones to the existing housing. It is unknown whether the air flow was increased. As a result it is unknown whether or not the gas velocity has dropped through each of the cyclones, possibly reducing the overall removal efficiency.

In addition, the facility added an additional overfire air fan as described in application 08B. Thus, it stands to reason that the airflow thorough the system may have changed, which has implications regarding the removal efficiency of the multicyclone.

Given that the dryer and wood burner have never demonstrated compliance with a PM standard, it has been 12 years since the last testing occurred, modifications have been made to the system that have unknown consequences regarding compliance with any applicable emission standard and the regional office is requesting it, a test condition will be placed into the air permit.

Typical M/R/R will be included in the permit.

#### **15A NCAC 02D .0516 SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

The combustion of wood has very low sulfur emissions. Continued compliance is expected with this regulation. A few minor changes were made to the condition to reflect a rule change. See the Table of Changes for additional details.

#### **15A NCAC 02D .0521 CONTROL OF VISIBLE EMISSIONS**

The ultimate emission point for this group of sources is the stacks on the dryers. Visible emissions have been noted during compliance inspections but none confirming any violations. Continued compliance is expected with this rule. A few minor changes were made to the condition to reflect a rule change and a clarification for one of the compliance options. See the Table of Changes for additional details.

#### **15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Dc**

This regulation affects the direct wood-fired "boiler". Note from previous review that it was determined that the boiler rating was determined based on the size of the heat exchanger, not the heat input rating of the combustor that supplies the heat. Given that the boiler is below 30 mmBtu/hr, it is exempt from the emission standards associated with Subpart Dc. The facility maintains records to demonstrate that this 30 mmBtu/hr limit is not exceeded. Continued compliance is expected.

#### **15A NCAC 2Q. 0317: PREVENTION OF SIGNIFICANT DETERIORATION AVOIDANCE CONDITION**

#### **15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

#### **15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

#### **15A NCAC 2Q .0711: EMISSION RATES REQUIRING A PERMIT**

#### **2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

See Section 2.2 review for these regulations.

#### **15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING [40 CFR 64]**

The wood burner, which utilizes multicyclone control, has a PTE of PM/PM10 over 100 tpy including the effect of controls, and is considered to be a large pollutant specific emissions unit (PSEU) per 40CFR64. This source was modified as described in application 190039.05B and permitted in permit no. T18 via the two step process allowed under 2Q.0501(c)(2), which in effect issues a construction and operation permit under 2Q.0300 and requires a TV application within 12 months of commencing operation of the modified source. The Permittee submitted the CAM plan with the TV application (application no. 05B) on July 21, 2006.

The CAM plan as submitted considered the applicable PM emission standard in the permit at the time of 2D.0504, which during this renewal application, has been deemed not applicable. The correct emission standard is 2D.0515. The information contained in the CAM plan was based on source testing in 1995. A source test occurred in 1996 that has been used as the basis for emissions estimates ever since, was ignored in the CAM plan. Additionally, no solid discussion on the expected removal efficiency of the multicyclone as it exists now was included.

The CAM plan did provide however the suggestion to utilize the monitoring of the pressure drop to ensure compliance. A photohelic gauge installed in the control room is used to monitor the pressure drop across the multicyclone. The CAM plan suggests that normal operation is between 3-5 inches wg. but suggest an excursion is not until the pressure drop increases to 15 inches w.g. In general, pressure drop is proportional to the flow rate (velocity) squared. Thus, a major problem would have to

exist for a pressure drop to increase by this magnitude. This is considered to be much too far out of the normal operation range to be considered the trigger as an excursion in this application.

A recent discussion with the technical contact suggests that normal operating conditions currently are in the range of 2-4 inches w.g. and at pressure drop of 8 inches w.g. is when the operators get concerned about the flowrate. The flowrate is indicative of the heat input rate into the dryers. Thus, when the operators see a drop in temperature in the dryers a major suspect is the heat supplied by the wood burner, hence its temperature and flowrate.

Note that in many CAM plans for PSEUs of PM, a daily method 22-like procedure is implemented. The Permittee simply makes a visible observation and if any visible emissions are noted inspections and corrective actions are instigated. This approach would not work in this situation given that visible emissions are common. The Permittee conducts a VE reading once per day for compliance with 2D .0521. It seems reasonable then that ensuring the multicyclone is experiencing normal pressure drops would ensure it is working properly. By linking the pressure drop readings obtained during a source test that was used to demonstrate compliance with the emission standard will justify the use of the pressure drop across the multicyclones as a useful indicator to assure compliance with the emission standard.

Thus, a CAM plan based on pressure drop readings across the multicyclones will be included in the revised permit. However, the Permittee will be required to submit the magnitude of the pressure drop readings to indicate normal operation and the excursion points for CAM purposes upon the completion of the source testing required in the 2D .0515 permit condition.

#### B. Wood working operations consisting of the equipment in Table 2.1.B.1

Table 2.1.B.1.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
<b>Woodworking operations consisting of:</b>			
ES03-SMS-1, 2	Two string machines including saws	CD-03-WWTC, CD06	Woodwaste transfer cyclone (154 inches in diameter)  Bagfilter (7,095 square feet of filter area)
ES03-CS	Core saw (green or dry veneer)		
ES03-SS	Strip saw		
ES03-CC	Core composer with saw		
ES03-PSS	Panel sawing system		
ES16	Plywood waste hog		
ES17	Green wood sizing operations including sizing screens and bins		
ES14	Rechip blow hog (green wood only)	CD-18	Cyclone (60 inches in diameter)
		CD-03-WWTC, CD06 <sup>2</sup>	Woodwaste transfer cyclone (154 inches in diameter)  Bagfilter (7,095 square feet of filter area)
ES04	Wood sander	CD05	Bagfilter (6,200 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		CD-03-WWTC, CD06 <sup>2</sup>	Woodwaste transfer cyclone (154 inches in diameter) Bagfilter (7,095 square feet of filter area)
ES12	Dry wood residual storage silo	CD21	Cartridge filter (1,800 square feet of filter area)

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

This regulation applies because of the PM generating aspects of these sources. Other than a change in the method used to reference the affected sources in the condition (replaced the individual ID numbers with a reference to table 2.1.B.1), no changes will be made to the existing stipulation as a result of this renewal review. Continued compliance is expected with this condition.

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

Changes to this include the method used to reference the affected sources in the condition (replaced the individual ID numbers with a reference to table 2.1.B.1), as well as some minor layout changes. A few minor changes were made to the condition to reflect a rule change and a clarification for one of the compliance options. See the Table of Changes for additional details as these changes affected other 2D.0521 conditions in the permit. No substantive changes were made however. Continued compliance is expected with this condition.

**15A NCAC 2Q .0317: PREVENTION OF SIGNIFICANT DETERIORATION AVOIDANCE CONDITION**

**15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

**15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

**15A NCAC 2Q .0711: EMISSION RATES REQUIRING A PERMIT**

**2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

See Section 2.2 review for these regulations.

**C. Diesel-fired water pump (ID No. ES19)**

During review it was discovered that this source is actually used only for emergency purposes. As such its potential to emit can be calculated at 500 hours per year. Its potential to emit for all pollutants is less than 5 tpy. This source will be moved to the insignificant activities list.

**D. End Sealer Spray Booth (ID No. ES21)**

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

This source was originally permitted as a minor modification in revision T20 and the review is included as an attachment to this review. This condition was reviewed and determined to be up to date. No changes will be made to the existing permit condition other than revising the descriptor to be consistent with the equipment list.

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

This source was originally permitted as a minor modification in revision T20 and the review is included as an attachment to this review. This condition was reviewed and determined to be up to date. A few minor changes were made to the condition to reflect a rule change and a clarification for one of the compliance options. See the Table of Changes for additional details as these changes affected other 2D.0521 conditions in the permit.

**15A NCAC 2Q .0317: PREVENTION OF SIGNIFICANT DETERIORATION AVOIDANCE CONDITION**

**15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

**15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

**15A NCAC 2Q .0711: EMISSION RATES REQUIRING A PERMIT**

**2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

See Section 2.2 review for these regulations.

## 2.2- Multiple Emission Source(s) Specific Limitations and Conditions

### A. Facility-wide:

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter and volatile organic compounds	PSD Avoidance Condition. Each of PM and VOC shall be less than 250 tons per year	15A NCAC 2Q .0317
volatile organic compounds	work practice standards	15A NCAC 2D .0958
toxic air pollutants	<b>State-enforceable only:</b> Acceptable Ambient Level Limits	15A NCAC 2D .1100
toxic air pollutants	<b>State-enforceable only:</b> Toxic Pollutant Exemption Rates	15A NCAC 2Q .0711
odorous emissions	<b>State-enforceable only:</b> odorous emissions must be controlled	15A NCAC 2D .1806

### 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

In 2007, the facility had 102,139,000 square feet of throughput. The current permit has the following limitation:

The maximum amount of plywood produced at the facility shall not exceed 170,000,000 square feet per year as determined on a 3/8 inch basis with a maximum of 60,000,000 square feet of pine usage

Thus, the 2007 throughput was approximately 102,139,000/170,000,000 or 60% of their throughput limit. The facility-wide VOC emissions were 19.5 tpy, which is 7.8% of the 250 ton PSD avoidance limit. The facility-wide PM emissions were 87 tpy, which is 35% of the 250 ton PSD avoidance limit. This, from this perspective, the current PSD avoidance limit appears satisfactory to ensure the 250 tpy emission limits will not be exceeded.

The Permittee has submitted various incarnations of emission estimates throughput this permitting process that were all incomplete or incorrect in one way or another. The permittee submitted the spreadsheet entitled **Moncure Potential Calculations.xls** that was appended by this engineer with additional calculations to represent various worst-case scenarios. In the end, the critical potential to emit calculations concern PM/PM10 and VOC.

With respect to PM/PM10 and VOC, which are primarily a function of product throughput, it was confirmed that the current throughput limits were sufficient to ensure PM/PM10 and VOC emissions below 250 tpy each. The worst case PM/PM10 emissions result from the assumption of 100% hardwood production using the emission factors developed in 1996 (1.65 lb/1000sf). The worst-case VOC emissions result from the assumption of 60,000,000 sf/yr softwood production (maximum permitted) with the remaining fraction being hardwood (110,000,000 sf/yr). The emission factors for softwood and hardwood are 1.07 and 0.24 lb VOC per 1000 sf respectively.

The Permittee submitted VOC calculations using the WPP1 protocol developed to standardize the reporting of VOC emissions from wood products facilities. However, in this case, the Permittee had 1996 source test data for total VOC and formaldehyde but did not have source test data for Methanol. The Permittee attempted to account for the larger than 1 response factor of FIDs for methanol by using AP42 emission factors for Methanol. Although the approach is not altogether unreasonable it was felt that using the existing data without the WPP1 conversion resulted in larger emissions estimates and hence was more conservative.

Continued compliance is expected with this regulation.

### 15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

The facility uses glues and adhesives throughout the facility and as such is subject to this regulation. No changes to this condition are necessary. Continued compliance with this condition is expected.

### STATE-ENFORCEABLE ONLY

#### **15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

During a comparison of the current permitted limits for benzene and the amounts reported in the 2007 emissions inventory, it was discovered that the facility based its permit limits on different emission factors than what it was using to report emissions, namely for benzene. There were also some existing historical questions regarding if the emission rates in the current permit were correct.

To resolve these questions, the Permittee decided to do a revised facility-wide TAP analysis. The Permittee utilized the source testing emission factors for formaldehyde from the 1996 source testing. "AP-42, Fifth Edition, Volume I, Chapter 10: Wood Products Industry" was the primary source for the other TAP emission factors. The Permittee took the approach of estimating TAPS not included in "AP-42 Chapter 10" from "AP 42, Fifth Edition, Volume I, Chapter 1.6: External Combustion Sources Wood Residue Combustion in Boilers". The NCASI document (Technical Bulletin No. 768, January 1999) was not utilized explicitly. However, AP-42 references the NCASI document and incorporates the data into its emission factors.

If one reviews the NCASI report, which presents the most explicit way (outside of specific facility source testing) to review the emissions of a plywood mill, HAP and TAP emissions are present to some degree in all tested gas streams including typical woodworking operations (sawing) and the vat operations. However, the fraction associated with these operations appears to be on the order of 10% of total HAP/TAP emissions. Additionally, for softwood in particular, the NCASI data, would suggest that processing softwoods would emit more HAP/TAPs on a per square foot basis than hardwood. However, the NCASI report (and as a result, the AP-42 document), lacks some HAP/TAP data for a dryer arrangement like the one at Moncure Plywood (a wood-fired direct heated dryer).

In the end, it could be debated how and to what degree data from similar sources should be extrapolated to the situation at hand. In this case, the Permittee chose to model the TAPS indicated as "below detection limits" in AP-42 for the dryers and TAP estimates not available for wood-fired direct-heated softwood drying in AP-42 by using the TAP emission estimates in AP-42 from woodwaste combustion. To see why this has been deemed acceptable consider the following.

The Permittee estimates the dryers will emit **500 pounds per year (0.057 lb/hr)** of acrolein when operating at the maximum PSD avoidance throughput of 170,000,000 sq.ft./yr, with a fraction of softwood being 60,000,000 sq.ft./yr. If the NCASI data for a natural gas-fired direct heated dryer is used, the acrolein number is predicted to be **931 pounds per year (0.106 lb/yr)**. The results of the modeling exercise (AERMOD) showed that the acrolein emission rate would need to be **4.8 lb/hr or 84 times greater** than the original estimate before an impact of 98% of the AAL guideline would be reached. Similar results are shown below for all the modeled TAPS.

TAP	Averaging Period	Potential Facility-wide Emission Rate, (lb/averaging period)	% of AAL	Emission Rate to Achieve a 98% of AAL Impact	Optimization Factor
Acrolein	1-Hour	0.06	1.16%	4.80	84.23
Arsenic	Annual	0.52	17.15%	2.96	5.71
Benzene	Annual	293.000	18.58%	1545.84	5.2759
Beryllium	Annual	0.77	1.43%	52.82	68.52
Cadmium	Annual	2.87	4.00%	70.40	24.50
Chlorine	24-Hour	1.52	0.73%	202.26	133.35
	1-Hour	0.06	0.11%	54.03	854.97
Formaldehyde	1-Hour	0.39	3.83%	9.87	25.58
Hydrogen Chloride	1-Hour	1.52	3.544%	42.03	27.65
Manganese	24-Hour	3.072	1.80%	167.20	54.43
Nickel (metal)	24-Hour	0.06	0.19%	32.37	510.86
Phenol	1-Hour	0.31	0.73%	42.10	134.08

Vinyl Chloride	Annual	80.600	0.10%	77312.89	959.22
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Thus,

- given the most of the HAP/TAPs are emitted from the dryer and presses; and
- And the margin of compliance appears to be large for all TAPS,

it was deemed unnecessary to pursue the nuances of which data to use any further.

The Permittee assumed all TAP to be emitted from the veneer dryer stacks (8 stacks, 4 stacks per dryer) and the press vent which also serves as the exhaust for the glue operations. The vat operations is also a source of TAPS but none above the TPER (acetaldehyde).

Given the large margin of compliance, no recordkeeping or reporting will be required by the facility at this time.

#### **STATE-ENFORCEABLE ONLY**

##### **15A NCAC 2Q .0711: EMISSION RATES REQUIRING A PERMIT**

This condition will be revised based on recently submitted facility-wide TAP modeling demonstration. The list will be expanding to include those TAPs identified as being emitted but below the respective TPER.

#### **STATE-ENFORCEABLE ONLY**

##### **2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

No changes will be made to this condition. Continued compliance is expected with this condition.

#### **Other PM sources**

40CFR64 requires non-PSEUs subject to CAM to submit CAM plans upon the next permit renewal. During a review of the emissions estimates supplied by the Permittee it was discovered that a number of other sources had a PTE for PM/PM10 greater than 100 tpy. The CAM plans were subsequently requested and were received on March 5, 2009.

Current DAQ policy allows for a minimum of one indicator to be used for purposes of CAM on PM control devices such as bagfilters and cyclones. The Permittee shall use the standard "M22-like" procedure once a day at the emission point for each source subject to CAM. The CAM plan recently developed for the JELD-Wen permit (permit no. Permit No. 06486T14) was used as a template for these CAM plans.

#### **15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

Based on the supplied potential to emit calculations which show the facility is not major for HAP, Subpart DDDD—National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products does not apply.

### **IV. General Conditions**

The general conditions from the current permit shell document (2.22.1) were placed into the permit. The main changes were new conditions addressing:

- MM, which is for 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources", a state enforceable only condition and
- NN, which addresses application guidance for modifications made pursuant to 15A NCAC 2Q .0501(c)(2), 15A NCAC 2Q .0501(d)(2), and 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C)

### **V. Compliance History**

<b>Date</b>	<b>Comments</b>
01/14/2009	Compliance inspection. Facility appeared to be in compliance with all applicable regulations

Date	Comments
11/01/2007	NOV issued for violation of general Condition F (proper operation and maintenance of the multicyclone CD-02) and improper recordkeeping per condition 2.1.A.4.b.
06/07/2007	NOV/NRE issued in response to, "several incidences during calendar year 2006 where facility personnel failed to conduct and/or record daily visible emission (VE) observations for the fluidized bed wood burner (ID No. ES01) and the veneer dryers (ID Nos. ES09 and ES10)." In addition, "some of the violations occurred in the 1st half of 2006 but were not documented as permit deviations in your 1 <sup>st</sup> half 2006 compliance summary report."
04/11/2007	Compliance inspection in which it was discovered that the facility had failed to conduct some of their daily visible emission observations for the fluidized bed wood burner and veneer dryers.
01/30/2007	2006 annual compliance certification received. In compliance with the submittal requirement.
06/14/2006	NOV issued for violations discovered in 03/16/2006 inspection and 2005 annual compliance certification.
03/16/2006	Compliance inspection in which, "it was discovered that the facility had failed to conduct their required annual internal bagfilter inspections and was unable to locate some of their daily visible emission observation records. It is recommended that a Notice of Violation be sent to the facility addressing the observed permit violations."
01/30/2006	2005 annual compliance certification received. In violation.
02/25/2005	2004 annual compliance certification received. In compliance with the submittal requirement.
02/10/2005	Compliance inspection conducted. No violations found.
03/12/2004	2003 annual compliance certification received. In compliance with the submittal requirement.
02/19/2004	Compliance inspection conducted. No violations found.
09/03/2003	Compliance inspection conducted. No violations found.
02/28/2003	2002 annual compliance certification received. In compliance with the submittal requirement.
04/26/2002	Compliance inspection conducted. No violations found.

## VI. Permit History

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T20	September 25, 2007	MP is submitting a permit modification application (no. 1900039.07A) to request the addition of an edge sealing spray booth and the modification of the glue mixing/hot process operation (ID No. ES-13). It will be shown that this modification application is eligible to be processed per 15A NCAC 2Q .0515 "Minor Permit Modifications."
T19	July 20, 2005	The Permittee requested that the NSPS, Subpart Dc language stipulation be made more specific.
T18	June 21, 2005	Id No. ES01, a fluidized bed wood burner with a blending chamber needs to be rebuilt. This will result in an increase in steam production from efficiency only. The maximum heat input will remain at 80 million Btu per hour. Addition of another string machine to the existing saw operations (ID No. ES03).

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T17	March 24, 2005	<p>Application is made for an ownership change. According to the written request, Wood Resources, LLC has contracted to purchase the Weyerhaeuser Company plywood products facility in Moncure, North Carolina. The facility will continue operations under the name Moncure Plywood, LLC.</p> <p>While the permit is open, the facility wishes to include a new insignificant activity. The new insignificant activity is a plywood spreader and, for clarification purposes is included in the permitted equipment list under hot press operations (ID No. ES-13). Information provided by the facility indicates that the plywood spreader will not increase toxic air pollutant emissions above currently permitted limits, will not cause an increase in production capacity in the hot press operations, and does not in and of itself trigger any rules requiring a permit modification. Therefore, installation of the plywood spreader will meet the requirements of 15A NCAC 2Q .0523 "Changes Not Requiring Permit Revisions" paragraph (a) "Section 502(b)(10) changes," provided the facility notifies EPA at least seven days prior to making the change.</p>
T16	May 18, 2004	<p>Weyerhaeuser has requested to add the existing vat operations (ID No. ES20) to the permit. These sources were originally determined not to be emissions sources. However, the Permittee has recently found via NCASI documents that the vat operations do emit VOCs in the form of formaldehyde. The emission rate of 0.003 pounds per hour was modeled with "SCREEN 3" to determine the formaldehyde impact at 300 meters (closest property line) from the vat operations.</p>
T15	July 19, 2002	Initial Title V Air Permit

## VII. Emission Source Module (IBEAM)

The emission source module was reviewed to ensure consistency with the permitted equipment list and the insignificant activities list.

## VIII. Table of Changes to Existing Air Permit

Condition No.	Changes
ALL	Removed reference to PART I as TV permits will no longer have a PART II.
Cover Letter	Updated permit revision numbers, issue and effective dates and language to current permit shell (v2.22.1) standards
Insignificant Activities List (IAL)	<p>Revised IAL to current DAQ standards</p> <p>Added the green wood fuel silo</p> <p>Added IES19, formerly ES19. See below.</p>
Equipment list	<ul style="list-style-type: none"> <li>• Extensively revamped the equipment list to facilitate inspection</li> <li>• Separated unit operations from larger grouped permitted sources</li> <li>• Removed ES19 since it is in reality used for emergency purposes only and at 500 hr/y has less than 5 tpy PTE.</li> </ul>
Permit cover	Revised information and layout to current permit shell (v2.22.1) standards
Table of Contents	Removed Part II
All 2.1 and 2.2 conditions	Revamped equipment identifiers to be consistent with the revamped equipment list
ALL 2D .0521 conditions	<p>For all 2D .0521 conditions ,the following condition</p> <p>ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section (as applicable) above.</p> <p style="text-align: center;">was replaced with :</p> <p>ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 (Method 9) for 12 minutes is below the limit given in Section(as applicable) above</p>

Condition No.	Changes
All Testing [15A NCAC 2D .0501 (c)(3), (4) and (8)] Conditions	For all Testing [15A NCAC 2D .0501 (c)(3), (4) and (8)] Conditions the regulatory citation was revised to 15A NCAC 2D .2601 to reflect rule changes since last permit issuance
2.1.A.	Revamped equipment identifiers to be consistent with the revamped equipment list
2.1.A.1	Removed 2D.0504 condition, as it does not apply to these sources. The correct regulation is 2D.0515. A condition was added to address 2D .0515. Source testing for the 2D.0515 affected sources will be required within 180 days of permit issuance.
2.1.A.5	Added a condition addressing CAM (2D.0614) The Permittee will be required to submit parameters upon completion of source test required in condition 2.1.A.1
2.1.B	Revamped equipment identifiers to be consistent with the revamped equipment list
2.1.B.1	<ul style="list-style-type: none"> <li>▪ Revised the 2D .0512 condition to reflect changes in the permitted equipment list. No substantive changes were made to the intent of the conditions.</li> <li>▪ Individual references to equipment IDs were removed. Where necessary, reference to the equipment table 2.1.B. was inserted.</li> </ul>
2.1.B.2	<ul style="list-style-type: none"> <li>▪ Revised the 2D .0521 condition to reflect changes in the permitted equipment list. No substantive changes were made to the intent of the conditions.</li> <li>▪ Individual references to equipment IDs were removed. Where necessary, reference to the equipment table 2.1.B. was inserted.</li> </ul>
2.1.B.3	<ul style="list-style-type: none"> <li>▪ Added a condition addressing CAM (2D.0614).</li> </ul>
2.1.C (previous)	<ul style="list-style-type: none"> <li>▪ Removed the entire section since in reality this diesel-fired water pump is for emergency purposes only. As such its PTE can be calculated based on 500 hr/yr. At 500 hr/yr the PTE for all pollutants are less than 5 tpy.</li> </ul>
2.1.C.	<ul style="list-style-type: none"> <li>▪ 2.1.C is now the former 2.1.D</li> </ul>
2.1.C.1	<ul style="list-style-type: none"> <li>▪ Individual references to equipment IDs were removed. Where necessary, reference to "this emission source" was inserted.</li> </ul>
2.1.C.2	<ul style="list-style-type: none"> <li>▪ Removed the phrase "the Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit" No substantive changes were made to the intent of the conditions.</li> <li>▪ Individual references to equipment ID were removed. Where necessary, reference to "this emission source" was inserted.</li> </ul>
2.2.A.1	<p>The PSD avoidance condition was revised by:</p> <ul style="list-style-type: none"> <li>▪ Condition b was revised/corrected from "the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515" to "the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530."</li> <li>▪ Condition c was reworded. No change in original intent.</li> <li>▪ Condition d was reworded. No change in original intent.</li> <li>▪ The reporting condition e. was reworded to clarify and simplify the quantities and reporting deadlines. No change in original intent.</li> </ul>
2.2.A.3	This condition was substantially revised based on the compliance demonstration submitted on March 18, 2009.
2.2.A.4	This condition was substantially revised based on the compliance demonstration submitted on March 18, 2009.
General Conditions	<p>Updated to version v.2.22.1, which includes the new conditions:</p> <ul style="list-style-type: none"> <li>• MM, which is for 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources", a state enforceable only condition and</li> <li>• NN, which addresses application guidance for modifications made pursuant to 15A NCAC 2Q .0501(c)(2), 15A NCAC 2Q .0501(d)(2), and 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C)</li> </ul>
<b>PART II</b>	
ALL	Removed Part II since the TV permit is going to public notice.

## IX. Public Notice

TBD

**X. Recommendations**

TBD

Attachment A  
Permit Review for Permit No. T20

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

Permit Issue Date: September 21, 2007

**Region:** Raleigh Regional Office  
**County:** Chatham  
**NC Facility ID:** 1900039  
**Inspector's Name:** Steve Hall  
**Date of Last Inspection:** 04/11/2007  
**Compliance Code:** W/In Violation W/regard To Proc Compliance

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>	
<b>Applicant (Facility's Name):</b> Moncure Plywood, LLC  <b>Facility Address:</b> Moncure Plywood, LLC 306 Corinth Road Moncure, NC 27559  <b>SIC:</b> 2436 / Softwood Veneer And Plywood <b>NAICS:</b> 321212 / Softwood Veneer and Plywood Manufacturing  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> 2D .0512, .0521, .0958, 1806, .1100, .0711 <b>NSPS:</b> NA <b>NESHAP:</b> NA , minor for HAP <b>PSD:</b> minor modification <b>PSD Avoidance:</b> existing facility-wide limit unchanged <b>NC Toxics:</b> yes <b>112(r):</b> NA <b>Other:</b>	
<b>Contact Data</b>			<b>Application Data</b>	
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 1900039.07A <b>Date Received:</b> 02/12/2007 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Minor <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 03424/T19 <b>Existing Permit Issue Date:</b> 07/20/2005 <b>Existing Permit Expiration Date:</b> 06/30/2007	
Michael Clea Environmental Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559	Francis Eck General Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559	Michael Clea Environmental Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559		
<b>Review Engineer:</b> Joseph Voelker  <b>Review Engineer's Signature:</b> _____		<b>Date:</b> September 21, 2007	<b>Comments / Recommendations:</b> Issue 03424/T20 <b>Permit Issue Date:</b> September 21, 2007 <b>Permit Expiration Date:</b> August 31, 2012	

**I. Introduction and Purpose of Application**

Moncure Plywood LLC (MP) manufactures plywood from hardwood (poplar) and pine veneer. MP is submitting a permit modification application to request the addition of an edge sealing spray booth and the modification of the glue mixing/hot process operation (ID No. ES-13).

Two other permit applications (**1900039.06A** and **1900039.05B**) are active and were submitted prior to this application but will not be considered at this time.

It will be shown that this modification application is eligible to be processed per 15A NCAC 2Q .0515 "Minor Permit Modifications."

**II. Chronology**

Date	Description
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Date	Description
July 21, 2006	A significant modification application was received and assigned the ID 1900039.06A. This application is still in house.
October 6, 2006	A renewal application was received and assigned the ID 1900039.06B. This application is still in house.
February 12, 2007	The modification application for the modification of the hot press (ES-13) and the addition of a spray booth (I-13) was received in the regional office.
February 19, 2007	The application was forwarded and received in the RCO. It was assigned the ID <b>1900039.07A</b> .
February 22, 2007	An acknowledgment letter was sent to Jay Goodenbour, General Manager (at that time) stating the application had been accepted for processing.
June 6, 2007	Application assigned to Joe Voelker (JMV)
July 25, 2007	JMV discussed the emissions calculations with Tim Monroe of Bensinger and Garrison (consultants). It turns out that the source I-13 should be considered a significant source based on total VOC emissions. He agreed to resubmit all relevant application pages.
July 31, 2007	JMV had a phone conversation with Micheal Clea , Environmental Manager. Mr. Clea stated that the emissions from the sources known as ES-13 are routed through a transfer cyclone before the bagfilter (CD-06). This is not presented on the permitted equipment list in this manner. Since a permit renewal application is in house, this should be addressed during that review. Mr. Clea was also aware of the situation with the emissions calculations raised on July 25, 2007.
August 13, 2007	Additional application pages requested on July 25, 2007 were received in the RCO.
September 4, 2007	Email correspondence received from Tim Monroe (consultant) explaining spray booth filter media efficiencies and composition of edge sealer.
September 14, 2007	Draft permit sent to Charles McEachern and Steve Hall of the RRO for comments and recommendations
September 20, 2007	Comments received from the RRO. The only suggestion was to revise the equipment descriptions in Section 2.1.B. See section V for discussion.

### III. Modification Description

MP is requesting to:

1. Modify the glue mixing and application and hot press operations (ID No. ES-13) to allow the application of paper overlay to plywood products made from hardwood; and
2. Add an end sealer spray booth (ID no. ES-21).

Each modification will be discussed separately.

#### Modification of the glue mixing and application and hot press operations (ID No. ES-13)

MP, would like to modify the following existing source to allow the application of paper overlay to plywood products made from hardwood.

Equipment ID No.	Equipment Description	Control System ID No.	Control System Description
ES-13	glue mixing, application and hot press operations, including curtain coater, plywood spreader, 25 press and 40 press	CD06	bagfilter (7,095 square feet of filter area)

As stated in the application,

“a paper overlay is periodically introduced onto veneer sheeting at intervals that will provide for a smooth finish to one side of the finished plywood. The overlay is used only for plywood with an end use in concrete forms. All concrete form plywood is made from hardwood and requires a specified thickness for structural integrity, which provides for a consistent rate of use of paper overlay.”

Note that the overlay process will only occur on hardwood plywood.

**Emissions associated with this modification**

According to the process diagram included as Figure 2 of the application, the paper overlay will occur between the composer and layup operations. The sheets are purchased from the manufacturer embedded with resin, thus no VOC/HAP/TAP emissions are expected except during the heating/press stage. All emissions are assumed to occur (and it is a reasonable assumption) at the presses where the heat is applied. The emissions from the press are captured and routed to the bagfilter (ID No. CD-06) via a transfer cyclone and are emitted from its stack. Note that the presses have a sawing operation and hence the use of PM control devices. Figure 2 does not show the airflow between the process equipment and the control devices explicitly.

Page 2 of Appendix A of the application details the air emissions associated with this modification and are summarized in the table below:

Maximum application rate: 3500 sheets (dimensions 50” X 99” and “weight” of 215 to 371 g/m2) per 8-hour shift

**Emission estimates associated with the addition of the paper overlay process ONLY**

<b>Pollutant</b>	<b>Maximum hourly rate, (lb/hr)</b>	<b>“Actual” Emissions at 6000 hours per year, lb/yr*</b>	<b>Potential Emissions, lb/year**</b>
Formaldehyde (TAP/HAP)	0.011	66	96.36
Phenol (TAP/HAP)	0.0023	13.8	20.15
Methanol (HAP)	0.205	1230	1795.8
VOC	0.218	1308	1909.7

\*Actual emissions assume the application of 3500 sheets per 8-hour shift.

\*\* Potential Emissions assume the application of 3500 sheets per 8-hour shift for 8760 hours per year.

Note that the emissions associated with this operation will most likely be much lower than this as the sheets are only to be used on plywood with an end use in concrete forms.

Form B included with the application includes the emission estimate above as well as the other operations that are included in ES-13.

**Toxic Air Pollutants (TAP) emissions**

***Formaldehyde (50-0-0)***

As a result of this modification the expected actual emission rate for formaldehyde is 0.07 lb/hr, which exceeds the TPER of 0.04 lb/hr. However, the facility has previously modeled formaldehyde from this source and has a permit limitation of 0.1 lb/hr of formaldehyde. 0.1 lb/hr is based on softwood (pine) processing. The overlay process will only occur with hardwood plywood processing.

Because the dispersion parameters will remain the same, a revised compliance demonstration with respect to 2D .1100 is not required. No modification to the existing permit language is necessary.

***Phenol (108-75-2)***

Potential facility-wide emissions of phenol (which, incidentally, are only are emitted from ES-13) are 0.12 tpy or 240 pounds/year. Dividing by 8760 hours per year the average hourly emission rate is 0.027 lb/hr, an order of magnitude less than the 0.24 lb/hr TPER.

No modification to the existing permit language to the stipulations addressing 2Q .0711 is necessary.

**Addition of edge sealing spray booth (ID No. ES-21)**

MP would like to add the following emission source to the air permit to apply edge sealer to plywood:

Equipment ID No.	Equipment Description	Control System ID No.	Control System Description
ES-21	Edge Sealing Spray Booth	NA	NA

Air is to be pulled from the bay end, across the plywood stacks being sprayed, and through two plenums on the entry end that hold multiple ply-panel filters. Airflow is provided by a fan mounted above the entry end of the booth.

The edge sealer is a product called Edge Flex 235, which is an acrylic co polymer emulsion that “ prevents the absorption of highly alkaline concrete bleed water into the edges of wood concrete forming panels, penetrates form edges and seals off wood fibers with an extremely durable and elastic film which expands and contracts with the forming panel.” The MSDS does not detail any VOC/HAP/TAP content. However, the Permittee has chosen to assume a VOC content to account for the possible future use of different products (see Emissions Calculations for further discussion).

The paint booth is an “off the shelf” paint booth produced by Auto Body Paint Mart (model 8601) and primarily designed for automotive painting. It is a packaged unit that comes with an integral blower. The panel filters have a total face area of 24.4 square feet and handle 12,220 cfm. The Permittee has chosen to use filters from a different manufacturer (Diffusion MAX) that are actually designed (marketed) as inlet filters to prevent contamination of the painted surface. However this is not critical in this particular application and it is unclear why they are specified in this application. In any case, the face velocity is approximately 500 fpm, which is higher than the velocities used to determine the removal efficiencies included in the application. For comparative purposes, calculations shown at lower efficiencies are included in the table below.

**Emissions associated with this modification**

Page 1 of 7 of Appendix A of the application details the air emissions associated with this modification and are summarized below.

***Assumptions:***

- Maximum VOC content : 100 grams/liter
- Maximum solids content: 30%
- Maximum production rate: 440 panels/hr
- Spray gun transfer efficiency: 65%
- Fallout: 50% (solids not transferred nor picked up by ventilation)
- Claimed removal efficiency: 97.5 %
- Arbitrary lower removal efficiency (based on discussion above): 80%

Pollutant	Uncontrolled emission rate, (lb/hr)	Controlled emissions @ 97.5% removal efficiency (tpy)	Controlled emissions @ 80% removal efficiency (tpy)	Potential uncontrolled emissions, tpy
PM/PM10	3.43	0.38	3	15
VOC	3.36	NA	NA	14.7
HAP/TAP	NA	NA	NA	NA

**IV. Regulatory Review**

**Emission Source Specific Stipulations for ES-13**

The following table (lifted directly from permit T19) provides a summary of limits and standards for the emission source ES-13. Note that no new regulations apply to this source as a result of this modification.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	adequate duct work and properly designed collectors	15A NCAC 2D .0512
visible emissions	20 percent opacity	15A NCAC 2D .0521
particulate matter and volatile organic compounds	See Section 2.2 A.-Multiple Emission Sources PSD Avoidance Condition	15A NCAC 2Q .0317
volatile organic compounds	See Section 2.2 B.-Multiple Emission Sources	15A NCAC 2D .0958
toxic air pollutants	<b>State-enforceable only:</b> See Section 2.2 C.-Multiple Emission Sources	15A NCAC 2D .1100
toxic air pollutants	<b>State-enforceable only:</b> See Section 2.2 D.-Multiple Emission Sources	15A NCAC 2Q .0711
odorous emissions	<b>State-enforceable only:</b> See Section 2.2 E.-Multiple Emission Sources	15A NCAC 2D .1806

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

The addition of the paper overlay operation is not expected to have any effect on the visible emissions.

No changes will be made to the existing stipulation as a result of this modification. See Section 5 for administrative changes to the stipulation.

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

This regulation applies to ES-13 because of the PM generating aspects of this source. The addition of the paper overlay will have minimal PM emissions associated with it. The will not require modification to the existing control strategy. This stipulation contains monitoring/recordkeeping/reporting requirements for the control devices.

No changes will be made to the existing stipulation as a result of this modification.

#### **15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

This regulation applies to ES-13 because of the VOC generating aspects of this source. The addition of the paper overlay will have VOC emissions associated with it. This stipulation contains monitoring/recordkeeping/reporting requirements for the control devices.

No changes will be made to the existing stipulation as a result of this modification.

#### **15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

#### **15A NCAC 2Q .0711: EMISSION RATES REQUIRING A PERMIT**

#### **2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

As shown in the discussion above, the existing language in the permit for these regulations does not need to be changed as a result of this modification.

#### **15A NCAC 2Q. 0317: PREVENTION OF SIGNIFICANT DETERIORATION AVOIDANCE CONDITION**

As shown in the discussion below (see NSPS, NESHAP, PSD and CAM Applicability) the existing language in the permit for this regulation does not need to be changed as a result of this modification.

#### **Emission Source Specific Stipulations for ES-21**

The following regulations are specifically applicable to the paint booth and will be discussed individually below.

- 15A NCAC 2D .0512 Particulates from Wood Products Finishing Plants
- 15A NCAC 2D .0521 Control of Visible Emissions
- 15A NCAC 2D .0958 Work Practices for Sources of Volatile Organic Compounds
- 15A NCAC 2D .1806 Control and Prohibition of Odorous Emissions

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

Based on previous experience with similar types of operations, compliance is expected with this regulation.

The following language will be placed into the air permit:

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

- a. Visible emissions from the spray booth (**ID No. ES21**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

##### **Testing** [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 D. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- c. To assure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either:
- take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
  - demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 D.2. a. above.  
If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

- d. The results of the monitoring 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:
- the date and time of each recorded action;
  - 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
  - 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** [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a summary report of the observations 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.

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

Based on the technical review presented above, it appears if the paint booth is installed and operated as expected, compliance can be expected with this regulation.

The following language will be placed into the air permit:

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

- a. 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** [15A NCAC 2Q .0508(f)]

- b. Particulate matter emissions from the spray booth (**ID No. ES21**) shall be controlled by adequate ductwork and properly designed collectors. To assure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance program shall include:
- i. weekly inspection of the spray booths' filters noting the condition; and
  - ii. annual (for each 12 month period following the initial inspection) inspection of the associated ductwork noting structural integrity.  
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if the filters are not inspected and maintained.

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

- c. The results of inspection and maintenance for the spray booths 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 recorded action;
  - ii. the results of each inspection; and
  - iii. the results of maintenance performed on any filters.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if these records are not maintained.

**Reporting** [15A NCAC 2Q .0508 (f)]

- d. The Permittee shall submit the results of any maintenance performed on the filters or ductwork within 30 days of a written request by the DAQ.
- e. The Permittee shall submit a summary report of monitoring and recordkeeping 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.

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**15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

Based on the facility's compliance history with this regulation, continued compliance is expected as applied to this emission source. Reference will be made in the permit to the language addressing this regulation in **Section 2.2- Multiple Emission Source(s) Specific Limitations and Conditions**.

**2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

Based on the facility's compliance history with this regulation, continued compliance is expected as applied to this emission source. Reference will be made in the permit to the language addressing this regulation in **Section 2.2- Multiple Emission Source(s) Specific Limitations and Conditions**.

## NSPS, NESHAP, PSD and CAM Applicability

### **NSPS**

These modifications are not subject to any NSPS standards. NSPS Subpart Dc does apply to the fluidized bed wood burner (ID No. ES01).

### **NESHAPS**

The facility's SIC code is covered under MACT Subpart DDDD. However, the current permit does not include any MACT DDDD stipulations. The current application includes facility-wide PTE estimates (Form D1) that show that the single largest HAP PTE to be 6.6 tpy for Hydrochloric acid (HCL) and the total HAP PTE to be 13.6 tpy. Thus, MACT DDDD is not applicable to this facility or this modification.

### **CAM**

These modifications do not result in the PTE for any pollutant being increased such that a particular source becomes a PSEU. CAM, however may apply to the fluidized wood burners or other sources, but the determination is beyond the scope of this modification.

### **PSD**

The facility has a facility-wide PSD avoidance stipulation for PM and VOC. Based on a cursory review of the facility-wide emissions and the submitted Form D1 it is unclear why the facility needs a PSD avoidance condition for VOCs. These modifications result in an increase of approximately 16 tpy of VOCs, in of itself is a minor PSD modification. In any case, according to Form D1 the facility wide PTE after the modification will be 72 tpy, which is well below the 250 tpy limit. As a result, no changes will be required or made to the existing PSD stipulation.

## **V. Changes to Existing Title V Air Permit No. 03424T19**

<b>Condition No.</b>	<b>Changes</b>
Cover Letter	Updated permit revision numbers, issue and effective dates and language to current permit shell (2.19) standards
Insignificant Activities List (IAL)	Revised IAL to current DAQ practice
Table of Contents	Revised layout to current permit shell (2.19) standards
Permit, page 1	Revised layout to current permit shell (2.19) standards
Equipment list	Added ES13 and ES21 Removed the footnote for the plywood spreader included in ES-13 requiring EPA notification. This was deemed unnecessary per review of the 2Q .0523 rule. Changed the descriptor for ES-03 from "transfer cyclone..." to "woodworking operations..."
2.1.A.3.c.i.	Added the language "as soon as practicable" to the 2D .0521 monitoring requirement.
2.1.B equipment description	The equipment description in section 2.1.B were revised to better reflect the equipment list as well as the true configuration at the facility based on the input from Steve Hall, assigned inspector for the facility. Permit renewal and significant modification applications are in house and the facility at large will be reviewed at that time.
2.1.D	Added a section for ES21 addressing all applicable regulations
General Conditions	Revised to current permit shell (2.19) language
PART II	Added a Part II Section for ES13 and ES21. Existing contents were left unchanged.
Part II, General Conditions	Revised to current permit shell (2.19) language

## **VI. Compliance History**

<b>Date</b>	<b>Comments</b>
06/07/2007	NOV/NRE issued in response to, "several incidences during calendar year 2006 where facility personnel failed to conduct and/or record daily visible emission (VE) observations for the fluidized bed wood burner (ID No. ES01) and the veneer dryers (ID Nos. ES09 and ES10)." In addition, "some of the violations occurred in the 1st half of 2006 but were not documented as permit deviations in your 1 <sup>st</sup> half 2006 compliance summary report."

Date	Comments
04/11/2007	Compliance inspection in which it was discovered that the facility had failed to conduct some of their daily visible emission observations for the fluidized bed wood burner and veneer dryers.
01/30/2007	2006 annual compliance certification received. In compliance.
06/14/2006	NOV issued for violations discovered in 03/16/2006 inspection and 2005 annual compliance certification.
03/16/2006	Compliance inspection in which, "it was discovered that the facility had failed to conduct their required annual internal bagfilter inspections and was unable to locate some of their daily visible emission observation records. It is recommended that a Notice of Violation be sent to the facility addressing the observed permit violations."
01/30/2006	2005 annual compliance certification received. In violation.
02/25/2005	2004 annual compliance certification received. In compliance.
02/10/2005	Compliance inspection conducted. No violations found.
03/12/2004	2003 annual compliance certification received. In compliance.
02/19/2004	Compliance inspection conducted. No violations found.
09/03/2003	Compliance inspection conducted. No violations found.
02/28/2003	2002 annual compliance certification received. In compliance.
04/26/2002	Compliance inspection conducted. No violations found.

## VII. Permit History

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T19	July 20, 2005	The Permittee requested that the NSPS, Subpart Dc language stipulation be made more specific.
T18	June 21, 2005	Id No. ES01, a fluidized bed wood burner with a blending chamber needs to be rebuilt. This will result in an increase in steam production from efficiency only. The maximum heat input will remain at 80 million Btu per hour. Addition of another string machine to the existing saw operations (ID No. ES03).
T17	March 24, 2005	Application is made for an ownership change. According to the written request, Wood Resources, LLC has contracted to purchase the Weyerhaeuser Company plywood products facility in Moncure, North Carolina. The facility will continue operations under the name Moncure Plywood, LLC. While the permit is open, the facility wishes to include a new insignificant activity. The new insignificant activity is a plywood spreader and, for clarification purposes is included in the permitted equipment list under hot press operations (ID No. ES-13). Information provided by the facility indicates that the plywood spreader will not increase toxic air pollutant emissions above currently permitted limits, will not cause an increase in production capacity in the hot press operations, and does not in and of itself trigger any rules requiring a permit modification. Therefore, installation of the plywood spreader will meet the requirements of 15A NCAC 2Q .0523 "Changes Not Requiring Permit Revisions" paragraph (a) "Section 502(b)(10) changes," provided the facility notifies EPA at least seven days prior to making the change.
T16	May 18, 2004	Weyerhaeuser has requested to add the existing vat operations (ID No. ES20) to the permit. These sources were originally determined not to be emissions sources. However, the Permittee has recently found via NCASI documents that the vat operations do emit VOCs in the form of formaldehyde. The emission rate of 0.003 pounds per hour was modeled with "SCREEN 3" to determine the formaldehyde impact at 300 meters (closest property line) from the vat operations.
T15	July 19, 2002	Initial Title V Air Permit

## VIII. Recommendations

It is recommended that permit no. 03424T20 be issued.

Attachment B  
Permit Review for Permit No. T19

<b>NORTH CAROLINA DIVISION OF AIR QUALITY</b>  <h2 style="text-align: center;">Air Permit Review</h2>		<b>Region:</b> Raleigh Regional Office <b>County:</b> Chatham <b>NC Facility ID:</b> 1900039 <b>Inspector's Name:</b> Steve Hall <b>Date of Last Inspection:</b> 02/10/2005 <b>Compliance Code:</b> 3/In Compliance - Inspection	
<b>Permit Issue Date:</b>		<b>Permit Applicability (this application only)</b>  <b>SIP:</b> 2D .0524. <b>NSPS:</b> Subpart Dc <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b>	
<b>Facility Data</b>  <b>Applicant (Facility's Name):</b> Moncure Plywood, LLC  <b>Facility Address:</b> Moncure Plywood, LLC 306 Corinth Road Moncure, NC 27559  <b>SIC:</b> 2436 / Softwood Veneer And Plywood <b>NAICS:</b> 321212 / Softwood Veneer and Plywood Manufacturing  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>  Mike Swanson Environmental Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559	<b>Authorized Contact</b>  Doug Haye Plant Superintendent (919) 542-2311 P. O. Box 230 Moncure NC, 27559	<b>Technical Contact</b>  Mike Swanson Environmental Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559	<b>Application Number:</b> 1900039.05C <b>Date Received:</b> 06/8/2005 <b>Application Type:</b> Admin <b>Application Schedule:</b> <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 03424/T18 <b>Existing Permit Issue Date:</b> 06/23/2005 <b>Existing Permit Expiration Date:</b> 06/30/2007
<b>Review Engineer:</b> Mike Benson  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____		<b>Comments / Recommendations:</b> <b>Issue</b> 03424/T19 <b>Permit Issue Date:</b> 7/20/05 <b>Permit Expiration Date:</b> 06/30/2007	

**1. Purpose of Application:**

The purpose of this application is to modify Air Permit No. 03424T18 for the following reason:

1. The Permittee requested that the NSPS, Subpart Dc language stipulation be made more specific.

**2. Facility Description**

This facility manufactures plywood products.

### 3. Application Chronology/History

June 30, 2005 – Request received per phone conversation, Mike Swanson, Moncure Plywood, LLC.

### 4. Permit Changes

The following changes were made between Permit No. 03424T18 and 03424T19.

Page	Section	Changes
Cover, all	throughout	Updated permit No., dates, etc.
6	2.1.A.4.b	NSPS Subpart Dc language made more specific.

### 5. New Equipment/Change in Emission and Regulatory Review

No changed to equipment or emissions were made as a result of this modification.

### 6. NSPS Issues:

The language regarding the Company's NSPS recordkeeping requirements were changed to make the condition more specific.

Old Language:

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

- b. In addition to any other recordkeeping required by 40 CFR § 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the Btu heat to the steam generating unit once per day. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

New Language:

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

- b. In addition to any other recordkeeping required by 40 CFR § 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the hourly average Btu heat input to the steam generating unit once per day. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

### 7. PSD/NAA Issues:

Chatham County has been triggered for PSD increment tracking for PM10, SO2 and NO2. This application for an administrative amendment does not effect emissions in any way. PSD increment tracking is not required.

The facility currently has a 250 TPY facility-wide limit for each PM and VOC. The facility is in compliance and is expected to remain in compliance after this modification.

NAA does not apply to Chatham county.

### 8. MACT Issues:

This facility may be subject MACT, Subpart DDDD in the future. This should be evaluated at permit renewal.

### 9. 112(r) Issues:

This facility is not subject to 112(r) at this time.

**10. CAM Issues:**

**The wood burner will become subject to CAM. A CAM plan will be required within the next twelve months because the last modification was considered significant.**

**11. Facility Wide Air Toxic Air Pollutants:**

This application did not trigger toxics review. The facility is currently subject to both 2D .1100 and 2Q .0711.

**12. Facility Compliance Status:**


This facility was inspected on February 10, 2005. The facility was in operation at the time of the inspection, and was deemed to be in compliance with all applicable Air Quality regulations.

**13. Conclusions, Comments, and Recommendations:**

RRO recommends issuance of Permit No. 03424T19.

Recommend issuance of Permit No. 03424T19.

Attachment C  
Permit Review for Permit No. T18

NORTH CAROLINA DIVISION OF AIR QUALITY  <p style="text-align: center;"><b>Air Permit Review</b></p>		Region: Raleigh Regional Office County: Chatham NC Facility ID: 1900039 Inspector's Name: Steve Hall Date of Last Inspection: 02/10/2005 Compliance Code: 3/In Compliance - Inspection	
Permit Issue Date:		Permit Applicability (this application only)	
<b>Facility Data</b>  Applicant (Facility's Name): Moncure Plywood, LLC  Facility Address: Moncure Plywood, LLC 306 Corinth Road Moncure, NC 27559  SIC: 2436 / Softwood Veneer And Plywood NAICS: 321212 / Softwood Veneer and Plywood Manufacturing  Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V		SIP: 2D .0504, .0512, .0516, .0521, .0524. NSPS: Subpart Dc NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other: CAM required within 12 months.	
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>  Mike Swanson Environmental Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559	<b>Authorized Contact</b>  Doug Hays Plant Superintendent (919) 542-2311 P. O. Box 230 Moncure NC, 27559	<b>Technical Contact</b>  Mike Swanson Environmental Manager (919) 542-2311 P. O. Box 230 Moncure NC, 27559	Application Number: 1900039.05B Date Received: 05/12/2005 Application Type: Modification Application Schedule: TV-Sign-501(c)(2) Existing Permit Data <del>Existing Permit Number: 03424/T17</del> Existing Permit Issue Date: 03/29/2005 Existing Permit Expiration Date: 06/30/2007
Review Engineer: Mike Benson  Review Engineer's Signature: 		Comments / Recommendations: Issue 03424/T18 Permit Issue Date: 6/21/05 Permit Expiration Date: 06/30/2007	

**1. Purpose of Application:**

The purpose of this application is to modify Air Permit No. 03424T17 for the following reasons:

1. ID No. ES01, a fluidized bed wood burner with blending chamber (80.0 million BTU per hour maximum heat input) needs to be rebuilt. This will result in an increase in steam production from efficiency only. The maximum heat input will remain at 80.0 million BTU per hour.
2. Addition of another string machine to the existing string saw operations (ID No. ES03).

**2. Facility Description**

This facility manufactures plywood products.

### 3. Application Chronology/History

May 12, 2005 – Application and \$834 fee received RCO.

June 13, 2005 – Information received in regards to NSPS applicability.

### 4. Permit Changes

The following changes were made between Permit No. 03424T17 and 03424T18.

Page	Section	Changes
Cover, all	throughout	Updated permit No., dates, etc.
3	1, table	Added disclaimer language, added third string machine.
4	2, table	Added NSPS Subpart Dc
6	2.1.A.4	Added NSPS language.
22-24	Part II	Added Part II for ES01 and ES03.

### 5. New Equipment/Change in Emission and Regulatory Review

The following regulations are applicable to this modification.

- a. 15A NCAC 2D .0504: "Particulates from Wood Burning Indirect Heat Exchangers".

The allowable particulate emissions from the rebuilt fluidized bed wood burner (ID No. ES01) are determined by the formula  $E = 1.1698 \times Q^{-0.2230}$ , where Q is the maximum allowable heat input, in million Btu per hour, and E is the allowable particulate emission rate, in pounds per hour.

Allowable particulate emissions are:  $E = 1.11698 (80.0)^{-0.2230}$ , or 0.44 pounds per million Btu.

No before-controls emissions estimates were included in the application. However, estimated before-controls emissions are 288.5 lb/hr (based on a reported 90% control efficiency of the multicyclone). Particulate controls are needed for this process unit to be in compliance with 2D .0504.

Estimated after-controls particulate emissions are obtained from the application, and are expected to be 28.85 lb/hr, or 0.36 lb/MBtu. This is less than the allowable particulate emission rate, and the wood burner is expected to be in compliance with 2D .0504.

In addition, this facility was inspected by Mr. Steve Hall, of the RRO, on February 10, 2005. This boiler was determined to be in compliance at the time of the inspection. However, it was noted that the visible emissions from the boiler were very near the allowable limit. Visible emissions are an indicator of particulate emissions for this type of process. The air pollution control device on this equipment is being changed from a 560-tube multicyclone to a 720-tube multicyclone. This should decrease particulate/visible emissions significantly.

It should be noted that there is already a stipulation in the current permit limiting particulate emissions from the wood burner to 0.44 pounds per hour. Since the maximum heat input of the wood burner is not being changed (80.0 MBtu/hr), the particulate limit will not change.

Since this modification represents a total rebuild of the wood burner and multicyclone, the Permittee will be required to conduct particulate testing to demonstrate compliance with the standard.

This equipment is expected to be in compliance with 2D .0504.

- b. 15A NCAC 2D .0516: "Sulfur Dioxide Emissions from Combustion Sources".

The wood burner (ID No. ES01) is limited to 2.3 pounds of SO<sub>2</sub> emissions per million Btu heat input.

Estimated SO<sub>2</sub> emissions are obtained from the application as 2.00 pounds per hour. This equates to 0.025 pounds per million Btu heat input. The wood boiler is considered to be in compliance with 2D .0516.

- c. 15A NCAC 2D .0521: "Control of Visible Emissions".

- i. Wood Burner (ID No. ES01).

This equipment is limited to 20 percent visible opacity emissions. As noted above, this facility was inspected on February 10, 2005, and was determined to be in compliance with 2D .0521, albeit marginally. The upgrade to a 720-tube multicyclone should significantly reduce visible opacity emissions. This equipment is considered/expected to be in compliance with 2D .0521.

- ii. String Machine (ID No. ES03).

This equipment is limited to 20 percent visible opacity emissions. Similar equipment is already in operation with visible opacity emissions well below 20 percent, as noted in the last inspection. The proposed string machine is expected to be in compliance with 2D .0521.

- d. 15A NCAC 2D .0512: "Particulates from Miscellaneous Wood Products Finishing Plants".

This regulation states in part that 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..."

Similar equipment was inspected on February 10, 2005, and determined to be in compliance with Air Quality regulations. It is expected that the proposed string machine will be installed and operated with adequate ductwork and proper controls. Thus, the proposed string machine is expected to be in compliance with 2D .0512.

#### 6. NSPS Issues:

This facility is not currently subject to NSPS. The Division has determined that the proposed rebuild of the wood burner (ID No. ES01) does trigger NSPS, Subpart Dc (letter, D.R. van der Vaart, May 31, 2005). Upon closer inspection of the Company's actual process, it was determined that most of the heat generated from the wood boiler goes to the wood kiln. Only 29.79 MBtu/hour goes to the steam generating unit (letter, Doug Haye, Moncure Plywood, June 6, 2005). The appropriate stipulations were included in the permit for NSPS, Subpart Dc. It is important to note that normally the amount of fuel combusted each day is recorded, when it is a stand-alone steam generating unit. The heat produced at Moncure Plywood is split between a kiln and a steam generating unit. Thus, it was more appropriate to have the Company record the amount of Btu heat input to the steam unit each day.

**7. PSD/NAA Issues:**

Chatham County has been triggered for PSD increment tracking for PM10, SO2 and NO2. This application for a modification is not expected to increase emissions from the wood burner, as it is a rebuild/repair operation. It is most likely that particulate emissions will decrease slightly with the multicyclone being upgraded to 720 tubes. The proposed string machine gives an estimated increase in particulate emissions of 0.05 pounds per hour. PSD increment tracking is not required.

The facility currently has a 250 TPY facility-wide limit for each PM and VOC. The facility is in compliance and is expected to remain in compliance after this modification.

NAA does not apply to Chatham county.

**8. MACT Issues:**

This facility may be subject MACT, Subpart DDDD in the future. This should be evaluated at permit renewal.

**9. 112(r) Issues:**

This facility is not subject to 112(r) at this time.

**10. CAM Issues:**

The wood burner will become subject to CAM. Because this is a 501(c)(2) modification, a CAM plan for the wood burner (ID No. ES01) will be required within 12 months.

~~**11. Facility Wide Air Toxic Air Pollutants:**~~

This application did not trigger toxics review. The facility is currently subject to both 2D .1100 and 2Q .0711.

**12. Facility Compliance Status:**

This facility was inspected on February 10, 2005. The facility was in operation at the time of the inspection, and was deemed to be in compliance with all applicable Air Quality regulations.

**13. Conclusions, Comments, and Recommendations:**

The insignificant activity ID Nos. were changed/added in accordance with Office policy.

RRO recommends issuance of Permit No. 03424T18.

Recommend issuance of Permit No. 03424T18.