

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: DRAFT October 11, 2007

Region: Raleigh Regional Office
County: Person
NC Facility ID: 7300061
Inspector's Name: Jeff Twisdale
Date of Last Inspection: 09/22/2006
Compliance Code: 3/In Compliance - Inspection

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Louisiana-Pacific Corp - Roxboro Facility Address: Louisiana-Pacific Corp - Roxboro 10475 Boston Road Roxboro, NC 27573 SIC: 2493 / Reconstituted Wood Products NAICS: 321219 / Reconstituted Wood Product Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: CAM 2D .0614 NSPS: n/a NESHAP: Plywood MACT (Subpart DDDD) & Boiler MACT (Subpart DDDDD) - VACATED PSD: n/a PSD Avoidance: PM, PM10, CO, NOx & VOC NC Toxics: Last MACT Toxics 2Q .0705 112(r): n/a Other: n/a
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 7300061.05A & 7300061.06A Date Received: 05/26/2005 & 11/01/2006 Application Type: Renewal & Significant Mod Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 07760/T14 Existing Permit Issue Date: 10/15/2004 Existing Permit Expiration Date: 02/28/2006
Ross Reed Plant Environmental Manager (336) 599-8080 10475 Boson Road Roxboro NC, 27573	Jeff Wagner VP of OSB Operations (336) 599-8080 10475 Boson Road Roxboro NC, 27573	Ross Reed Plant Environmental Manager (336) 599-8080 10475 Boson Road Roxboro NC, 27573	
Review Engineer: Judy Lee Review Engineer's Signature: _____ Date: _____		Comments / Recommendations: Issue 07760/T15 Permit Issue Date: _____ Permit Expiration Date: _____	

I. Purpose of Application

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The initial Title V permit (07760T06) was issued on March 5, 2001 and has been modified several times since issuance (see below for summary). The current Title V permit (07760T14) was issued on October 15, 2004, and is currently scheduled to expire on February 28, 2006. The original renewal application was received on May 26, 2005, or at least nine months prior to the expiration date, with an amendment to the application received on March 16, 2007. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

II. Facility Description

At the Roxboro plant, Louisiana-Pacific manufactures oriented strand board (OSB). The typical size of OSB is 4 feet by 8 feet. The thickness of the boards ranges from 1/4 inch to 1 1/8 inches. The OSB manufacturing process consists of the following steps: (i) tree length logs are delivered to the mill and are debarked, (ii) waferizers reduce the logs into thin wafers that are dried in large triple pass rotary dryers heated by the bark burner and thermal oil

heaters (TOH), (iii) wafers are blended with resins and wax, (iv) a large heated hydraulic press compresses the boards to the desired thickness, and (v) boards are trimmed to specification, labeled and packaged. The OSB is sold to domestic clients including Lowes, Home Depot and other building supply stores.

The facility operates 24 hours/day, 7 days/week, and 50 weeks/year. The facility shuts down operation once every week or two for approximately four hours to perform routine maintenance on the plant's equipment. Currently 143 employees work at the plant. [from Mr. Stephen Hall's September 29, 2005 inspection report and Mr. Jeff Twisdale's September 22, 2006 inspection report]

III. Application Chronology

Please see the attached Comprehensive Application Reports for 7300061.05A and 7300061.06A for more details.

IV. Permit Modifications/Changes and ESM Discussion

The initial Title V permit has been modified eight times since issuance on March 25, 2001. The following changes were made to the initial Title V (permit number 07760T06):

Modified Permit Number	Type of Permit Modification	Changes Made	Issued Permit Number
07760T06	Compliance demonstration	Stack test results placed in permit under 15A NCAC 2D .0530 & rule updates (2D .0958 & .1806)	07760T07
07760T07	Administrative amendment	Initiated by Permittee to clarify existing PSD Avoidance language, Condition 2.2.B.1.e.ii.	07760T08
07760T08	502(b)(10) Modification	Add Toxics & Compliance demonstration w/TPERS	07760T09
07760T09	501(c)(2) Significant Modification	Projects: Crane modernization, Waferization infeed modification, Bark burner, Green fuel screening, Saw trim entry, Thermal oil heaters, Rotary dryers, and Regenerative thermal oxidizers	07760T10
07760T10	501(d)(2) Significant Modification	Removed 5 multicyclones and 2 oil heaters and replaced with 2 wet electrostatic precipitators (WESPs)	07760T11
07760T11	Administrative amendment	Modification of ESP operating parameters and removal of hourly limitation under toxics condition 2-2.A.2.a.iii.	07760T12
07760T12	502(b)(10) Modification	Modify sander system – replace existing sander and bagfilter Replace feeder/stacker equipment to handle 8' product	07760T13
07760T13	Administrative amendment	Correcting errors due to conversion from Word Perfect to Word - stipulations for 2.1.E. were placed under 2.1.D.	07760T14

Changes to LP's current permit (**permit number 07760T14**) for this renewal (application number 7300061.05A) and significant modification (application number 7300061.06A) are summarized in the table below:

Old Page Number	New Page Number	Condition Number	Change
--	Entire permit, where applicable		Removed reference to "Air Quality Title V Operation Permit" and "Air Quality Construction and Operation Permit" Updated language with current shell guidance Removed asterisks and footnotes for previously permitted new and modified sources
--	Attachment	Table of Changes	Added for this renewal
Page 3	Attachment	Insignificant Activities	Added six volatile organic liquid storage tanks from permit (2.1-D) to insignificant activities list due to Subpart Kb exemption (10/15/2003) Modified MDI storage tank to allow for storage of soybean oil per 7/2006 emails and renumbered tanks per September 2006 inspection report.

Old Page Number	New Page Number	Condition Number	Change
Pages 4&5	Pages 3&4	Part I, Section 1 - Equipment Table	Removed CP-009 and CYC9 controlled by B-9 because facility is not going to construct this source Moved six volatile organic liquid storage tanks from permit to insignificant activities list Added POS & AOS to account for exhausting the TOH to the atmosphere while firing natural gas only Removed “wood fuel/recycled resinated wood fuel” capabilities from the wafer dryers per facilities request Modified descriptions and control scenarios where applicable
Pages 6-10	Pages 6-7	Part I, Section 1 – Condition 2.1-A.1.	Modified to account for entire wafer drying process weight by adding equation $E=55.0(P)^{0.11} - 40 (P>30)$ and updated where applicable
Pages 6-10	Page 7	Part I, Section 1 – Condition 2.1-A.1.f.&i.	Modified “2.1-A.f.” to include the language from “2.1-A.i.” for the exit gas temperature and eliminate duplication in the permit language
--	Page 10	Part I, Section 1 – Condition 2.1-A.5.	Added Start-up and Shutdown condition for the bark burner per facility’s request.
--	Pages 10-11	Part I, Section 1 – Condition 2.1-A.6.&7.	Added Alternative Operating Scenario condition per facility’s request. Added new applicable regulation, 2D .0503, while firing natural gas only
Page 10	Pages 11-13	Part I, Section 1 – Condition 2.1-B.	Modified press vent descriptions to include “total enclosure” and board pressing operation
Pages 12-13	Pages 14-15	Part I, Section 1 – Condition 2.1-C.	Modified description by adding “wood product forming and finishing operations” then processes and updated control scenarios Removed CP-009 and CYC9 controlled by B-9
Page 14	Attachment	Part I, Section 1 – Condition 2.1-D.	Moved six volatile organic liquid storage tanks to insignificant activities list due to Subpart Kb exemption (10/15/2003)
Page 14	Page 17	Part I, Section 1 – Condition 2.1-E.	Renumbered previous Conditions and added requirements under Bark Handling fugitives (ID F-1)
Pages 15-18	Pages 19-21	Part I, Section 2 – Condition 2.2-A.2.&3.	Updated footnotes for insignificant activities Updated/corrected table based on application submittal
Pages 19-20	Pages 22-29	Part I, Section 2 – Condition 2.2-B.	Updated PSD Avoidance condition to include MRRR, equations and interim mass emission rates and operating parameters with testing required
--	Pages 29-37	Part I, Section 2 – Condition 2.2-C	Added section for CAM requirements for applicable PSEU’s
--	Pages 37-38	Part I, Section 2 – Condition 2.2-D	Added section for new regulations for MACT affected sources
Pages 21-30	Pages 39-47	Part I, Section 3	Updated with most recent General Conditions & List of Acronyms
Pages 31–33	--	Part II	Removed Part II because all sources have been constructed and placed into operation and the complete Title V application has been submitted

V. Regulatory Review

- No new equipment or change in emissions were requested with this renewal application (7300061.05A).
- Facility requested to remove the ability to burn wood in the dryers.
- Facility requested addition of a Startup and Shutdown plan for the Bark burner.
- Facility requested an Alternative Operating Scenario (AOS) for the TOH.
- Significant modification (application #7300061.06A) – this is a second step to a previous significant modification for Crane modernization, Waferization infeed modification, Bark burner, Green fuel screening, Saw trim entry, Thermal oil heaters, Rotary dryers, and Regenerative thermal oxidizers

For the significant modification updates to the monitoring, recordkeeping and reporting for the bark burner and modernization project are being added to the permit where necessary. RTO’s will have reporting requirements added and the minimum temperature values placed under the monitoring requirements.

In addition to requirements provided in Section 3 – General Conditions, the facility is currently subject to the following regulations:

- 15A NCAC 2D .0503, Particulates from Fuel Burning Indirect Heat Exchangers (TOH AOS)
- 15A NCAC 2D .0512, Particulates from Miscellaneous Wood Products Finishing
- 15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes
- 15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources
- 15A NCAC 2D .0521, Control of Visible Emissions
- 15A NCAC 2D .0524, New Source Performance Standards (40 CFR Part 60 Subpart Dc & Subpart Kb)
- 15A NCAC 2D .0958, Work Practices for Sources of Volatile Organic Compounds
- 15A NCAC 2D .1100, Control of Toxics Air Pollutants
- 15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions
- 15A NCAC 2Q .0317, Avoidance Conditions for 15A NCAC 2D .0530, PREVENTION OF SIGNIFICANT DETERIORATION
- 15A NCAC 2Q .0711, Emission Rates Requiring a Permit

Regulations added/updated/modified significantly as part of this renewal and significant modification are:

15A NCAC 2D .0503, Particulates from Fuel Burning Indirect Heat Exchangers

The allowable emissions of particulate matter from the two thermal oil heaters (ID Nos. TOH-1 and TOH-2), when operating under the Alternative Operating Scenario (AOS) added during this permit revision, shall be calculated by the following:

$$E=1.090(Q)^{-0.2594}$$

where E = allowable emission rate in pounds per MMBTU
Q = maximum heat input in MMBTU per hour

The maximum heat input shall be the total heat content of all fuels, which are burned in a fuel burning indirect heat exchanger, of which the combustion products are emitted through a stack or stacks. The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site shall be considered when determining the allowable emissions; therefore, for the two thermal oil heaters (40 million Btu per hour heat input rate each), the maximum heat input of 80 MMBTU per hour was used to calculate the allowable emissions. Emissions of particulate matter from the combustion of natural gas from the thermal oil heaters (**ID Nos. TOH-1 and TOH-2**) while exhausting through their individual stacks into the atmosphere, shall not exceed **0.35** pounds per million BTU heat input.

15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes

The allowable emissions are based on the entire wafer drying process; therefore, the process throughput, “P” in tons per hour is greater than 30 tons per hour and the allowable emissions will be calculated using the following equation, replacing the less than 30 ton per hour equation in their current permit:

$$E=55.0(P)^{0.11} - 40$$

where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

The total process throughput in tons per hour is 90.9 tons per hour based on the following process inputs:

- Dryers = 75 ODT/hr for all five (15 ODT/hr each)
- Bark Burner = 11.18 tons/hr
- TOHs = 4.71 tons/hr

Using $E = 55.0P^{0.11} - 40$, when $P > 30$ tph, E (lb/hr) = $55.0(90.9)^{0.11} - 40 = 50.3$ lb/hr. The maximum process rate of 90.9 ton/hr for the wafer drying system yields an allowable particulate matter emission limit, E, equal to **50.3** lb/hr.

Maximum potential PM emissions from the wafer drying system after controls are calculate using the following emission factors and heat ratings:

Emission Source	Emission Factor	Heat Rating		lb/hr
Bark Burner	0.3 lb/MMBTU	190	MMBTU/hr	57
2-TOH	0.577 lb/MMBTU	80	MMBTU/hr	46.16
5-Dryers	5.6 lb/ODT	75	ODT/hr	420
		Uncontrolled	Total	523.16
		WESP	80%	104.63
Potential pound per hour emission rate		RTO	66%	35.5749

The potential emissions rate of 35.6 lb/hr is below the allowable emission limit of 50.3 lb/hr; therefore, compliance is expected.

Per the facilities comments received on October 1, 2007, the original equation is being put back in the permit to account for process throughput, “P” in tons per hour less than 30 tons per hour to cover aborts through dryer abort cyclones. Therefore, the allowable emissions will be calculated using the following equation during periods when the process throughput is less than 30 tons per hour:

$$E=4.10(P)^{0.67}$$

where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

15A NCAC 2D .0524, New Source Performance Standards (40 CFR Part 60 Subpart Kb)

Six volatile organic liquid storage tanks (12,000 gallon capacity each) will now be insignificant due to new Subpart Kb exemptions October 15, 2003, Federal Register (Volume 68, No. 199). During the last inspection it was noted that some of the Tank ID’s were incorrect. The correct ID Nos. are PF-5, PF-6, MDI-3, MDI-4, WE-1, and WE-2. The facility requested to have MDI-4 changed to store soybean oil, but they may use this tank to store melamine urea formaldehyde, so the description will be modified to allow for either liquid.

15A NCAC 2D .0614 “Compliance Assurance Monitoring” (40 CFR 64)

This facility is a Title V facility with potential emissions that exceed the Title V major source levels without considering controls. A Compliance Assurance Monitoring (CAM) determination is required for this permit renewal because this facility has several emission sources with potential pre-controlled emissions greater than 100 tons per year. See Section VI - CAM below.

15A NCAC 2D .1111 “Maximum Achievable Control Technology (40 CFR 63, Subpart DDDD)”

The OSB manufacturing sources located at the LP-Roxboro facility are subject to the Plywood and Composite Wood Products NESHAP. The compliance date for this MACT standard was October 1, 1007. See Section VI - NESHAP below.

15A NCAC 2Q .0317, Avoidance Conditions for 15A NCAC 2D .0530, PREVENTION OF SIGNIFICANT DETERIORATION The PSD Avoidance condition in LP-Roxboro’s current permit was modified significantly to incorporate:

- appropriate monitoring, recordkeeping and reporting requirements for the RTO; and
- equations for calculating monthly emissions using the pound per hour (lb/hr) emission rate for controlled and uncontrolled operations to demonstrate compliance with the less than 250 tons per year avoidance conditions for TSP, PM₁₀, NO_x, CO, and VOC.

The renewal of this permit does not require PSD analysis because no emissions increase was requested. See Section VI below.

The renewed permit condition has calculations for each criteria pollutant with a PSD Avoidance limit and allows for operating without the oxidizers. However, for VOC emissions, based on the information submitted and the literature available, we can not accept the conversion from an "as carbon basis" to an "as propane basis" presented in the application submittals because it is based on M25A testing performed in January 2005. Emissions information provided in Table 5-6 and 5-10 of the application indicates that VOC emissions from press operations are over 50% methanol. Literature available, including AP-42 and the EPA letter dated July 12, 2006, indicates that VOC emission rates based on EPA Method 25A testing will be biased low if oxygenated compounds are present in significant concentrations. In order to use the pound per hour rates, the response factors and molecular weight issues inherent to M25A testing performed when oxygenated compounds are present in the gas stream must be addressed or the facility must perform speciated testing (such as Method 18) for the predominant VOC present in the gas stream (in this case methanol). Based on the information available, we do not feel that the conversion provided in the application is appropriate for determining VOC emissions. Therefore, for the interim we are using a VOC pounds per hour mass emission rate as measured on an "as carbon" basis adjusted using the EPA's Interim VOC Measurement Protocol for the Wood Products Industry – July 2007 referred to as "WPP1 VOC" (Wood Products Protocol 1 VOC).

The facility performed engineering testing in April 2006 that will be used in the interim for the pound per hour emissions rates as specified in the permit. Previous tested pound per hour emission rates were determined prior to installation of the bark burner and are therefore not representative. DAQ feels that the engineering testing is more representative than AP-42 factors as supplied in the application. The only exception is the Bark burner during "IDLE Mode," AP-42 emission factors on a "dry" basis will be used as specified in the permit (per conversation with Mr. Ross Reed, LP Roxboro on August 8, 2007, the majority of the wood fuel is dry). Based on the application submittal, the majority of the wood burned in the bark burner will have a moisture content of approximately 60%, dry basis. Typical fuels will be bark (37% moisture, wet basis) and wet wood (50% moisture, wet basis).

CO and NO_x emissions are formed as a product of combustion; therefore, an emissions reduction percentage was not used in the equations, instead the pound per hour rates based on the April 2006 engineering testing were used when the affected sources are exhausted through the RTO and the pound per hour rate at the WESP outlet was used when the RTO is bypassed or "deemed not in operation." Based on EPA guidance we expect some reduction in CO, per AP-42 (10.6.1-4), "thermal oxidizers reduce CO emissions in direct-fired dryer exhausts by oxidizing the CO in the exhaust to CO₂ (a by product of complete combustion). Based on the application submittals the facility indicates a 66% reduction in CO based on the original submittal (5/2005) and a 90% reduction in CO based on the second submittal (3/2007), yet DAQ did not feel there was adequate data to support this assumption.

During a significant permit revision (to permit No. 07760T09) the facility submitted a request for the addition of a bark burner and the modernization project. The Permittee was issued a construction and operation permit pursuant to the provisions of 2Q .0300 and they were required to submit a new application within 12 months of commencing operation to satisfy the requirements of 2Q .0500. At that time, it was determined that "any testing/monitoring/recordkeeping/reporting requirements (MRR) to assure compliance with Part 70 requirements, specifically for the applicable requirement, avoidance of PSD, will be included in the future when the permit is processed through 2Q .0500 provisions [per Mr. Rahul Thaker's air permit review dated May 28, 2004]. The Permittee submitted the significant modification satisfying the requirements placed in issued Permit No. 07760T10, Part II, Specific Condition 2.3 and in their current permit on November 1, 2006 (Application No. 7300061.06A). This significant modification was consolidated into this renewal application. The current permit required monitoring of *setpoint* temperatures arrived at based on recent performance testing per the facility's request (letter from Ms. Kimberly Yates, LP Roxboro) on February 4, 2002. The setpoint temperature replaced the minimum temperatures that were in the previous permit. Typically, for PSD Avoidance conditions we require a minimum temperature and use the setpoint temperatures as a means for the facility to monitor the temperatures and ensure that they do not go below the minimum temperature requirements in order to ensure the destruction efficiency or mass emission rate required to meet the avoidance limits. The setpoint temperatures will be used as part of the CAM requirements for this facility. During this modification/renewal, the minimum chamber temperatures will be added to the PSD Avoidance condition along with the appropriate

MRR. The following temperatures provided by Mr. Ross Reed, LP Roxboro, during a telephone conversation on April 17, 2007 will be placed in the revised permit:

RTO	Setpoint Temperature	Minimum Temperature
RTO-1	1560 degrees Fahrenheit	1530 degrees Fahrenheit
RTO-2	1560 degrees Fahrenheit	1530 degrees Fahrenheit
RTO-3	1520 degrees Fahrenheit	1500 degrees Fahrenheit

Per the application, the facility will determine the 3-hour block average of all recorded readings, calculated after ever 3 hours of operation as the average of evenly spaced recording readings in the previous 3 hours.

15A NCAC 2Q .0705 – Existing Facilities and SIC Calls

Once sources at a facility subject to a MACT standard trigger their “last MACT”, the Permittee must submit a permit application that includes an evaluation for all toxic air pollutants covered under 15A NCAC 2D .1104 for all sources at the facility, excluding those sources exempt from evaluation under 15A NCAC 2Q .0702. The last MACT for LP-Roxboro will be the Plywood and Composite Wood Products NESHAP, which triggers applicability to this regulation. The compliance date for the last MACT has not passed; therefore, at this time a placeholder for this regulation will be placed in the permit along with the placeholder for the future “last MACT” standard. See Section VII - Toxics below.

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS – The facility is currently subject to NSPS, Subpart Dc requirements for two thermal oil heaters (ID Nos. TOH-1 and TOH-2). The renewal of this permit does not require NSPS analysis for TOH-1 and TOH-2. However, the facility is currently subject to NSPS, Subpart Kb requirements for six volatile organic liquid storage tanks (12,000 gallon capacity each), which will now be considered insignificant due to new Subpart Kb exemptions October 15, 2003, Federal Register (Volume 68, No. 199).

NESHAPS/MACT – The facility is currently NOT required to comply with any MACT Standard. The potential emissions of HAP exceeds the major source thresholds of 25 tpy of any combination of HAPs and 10 tpy of any single HAP; therefore, as stated in Section V above, 40 CFR 63 - Subpart DDDD and “last MACT” placeholder language was added during this permit renewal.

Based on the facility’s current operations, the following sources will be subject to MACT standards:
 Dryers meet the definition of an affected source under the Plywood MACT;
 Thermal oil heaters (TOH-1 & TOH-2) meet the definition of an affected source under the Plywood MACT, as currently permitted. An Alternative Operating Scenario (AOS) was added to permit for the TOHs to allow the exhaust to bypass the dryers/bark burner when firing natural gas only. For the AOS, there are no requirements when firing natural gas under the Plywood MACT.

15A NCAC 2D .1111 [40 CFR Part 63 Subpart DDDD]: National Emission Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products Manufacture

The Permittee shall comply with all applicable provisions contained in Environmental Management Commission Standard 15A NCAC 2D .1111, “Maximum Achievable Control Technology” (MACT) as promulgated in 40 CFR Part 63, Subpart DDDD by **October 1, 2007** for existing affected source(s) as per 40 CFR 63.2233 or as amended by the rule or as extended by compliance extension request.

- As per response letter dated **August 24, 2007** from Mr. Lee A. Daniel, Chief, Technical Services Branch:
- A. the Permittee's compliance extension request qualifies as a late submittal as per 40 CFR 63.6(i)(4)(i)(C); and
 - B. the new compliance date shall be **October 1, 2008**; however, failure to meet the prescribed milestones, specified therein by the DAQ and as provided by 40 CFR 63.6(i)(14), may terminate the compliance extension.

15A NCAC 2Q .0705: Existing Facilities and SIC Calls

In accordance with 15 A NCAC 2Q .0705, for sources at a facility subject to a MACT standard, the Permittee shall submit a permit application that includes an evaluation for all toxic air pollutants covered under 15A NCAC 2D .1104 for all sources at the facility, excluding those sources exempt from evaluation under 15A NCAC 2Q .0702. The Permittee shall comply with 15A NCAC 2D .1100 by the same deadline that it is required to comply with the last MACT applicable to the facility (for existing affected source(s) subject to 40 CFR 63, Subpart DDDD, the deadline for submittal is by **October 1, 2007** or as amended by the rule or as extended by compliance extension request.)

Attainment Status

Based on the EPA’s boundary designation for 8-hour ozone standards for North Carolina (4/15/04), Person County has been designated as “basic” NONATTAINMENT. This facility is currently operating under federally enforceable PSD Avoidance conditions; therefore they are considered minor for PSD purposes and thus avoided PSD major source review. As a result of the 8-hour ozone nonattainment designation for Person County, the applicable major source thresholds for Nonattainment New Source Review (NNSR) are 100 tpy for NOx and VOC. The facilities current limits were accepted when the area was designated as attainment for ozone. The limits allow for the facility to exceed the 100 tpy NNSR major source thresholds; therefore, the facility is considered a major source for purposes of NNSR.

PSD – As stated above, prior to Person County’s nonattainment designation, the facility was considered minor for PSD purposes because they are operating under 250 tons per year PSD avoidance conditions for TSP, PM₁₀, NOx, CO, and VOC. The renewal of this permit does not require PSD analysis because no emissions increase was requested.

Person County has been triggered for PSD increment tracking for PM₁₀ and SO₂. However, there are NO increases in emissions for this renewal.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store, process or use any of the 112 (r) regulated substances in quantities above the thresholds in the Rule.

CAM – A Compliance Assurance Monitoring (CAM) (40 CFR Part 64) determination is required for this renewal because: (1) the facility is a Title V facility with potential emissions that exceed the Title V major source levels without considering controls; and (2) there are sources subject to an emission limitation or standard that require controls in order to comply with the emission limitation.

40 CFR 64 requires that a CAM plan be developed for all equipment located at a major facility, that have *pre-controlled emissions above the major source threshold*, and use a control device to meet an applicable standard. Therefore, the following Table indicates which emission sources listed in Air Quality Permit #07760T14 are subject to CAM or are exempt from CAM:

PSEU	Emission Source ID	Description	Control Device?	Pre-controlled Emissions (TPY)	CAM Affected?
Wafer Drying Process					
9, 10, 11	BARK1	Bark burner	Yes	PM ₁₀ >100 VOC >100 CO >100	Yes
	D-1 through D-5	Wafer dryers			Yes
	TOH-1 and TOH-2	Thermal oil heaters			Yes
3	CP-003, CP-004 and CYC3	Raw fuel bin transfer and loading system	Yes	PM ₁₀ >100	Yes
6	CP-007	Sanderdust bin transfer and loading system	Yes	PM ₁₀ >100	Yes
7	FUELPREP and CYC8	Metering bin transfer and loading system	Yes	PM ₁₀ >100	Yes
OSB Forming Process					
2	CP-002	Blender and forming	Yes	PM ₁₀ >100	Yes

PSEU	Emission Source ID	Description	Control Device?	Pre-controlled Emissions (TPY)	CAM Affected?
		bin aspiration systems			
4	CP-005 and CYC5	Mat reject and flying saw system	Yes	PM ₁₀ >100	Yes
	PF-1 and PF-2	Phenol-formaldehyde resin storage and distribution tanks (15,000 gallons)	No	N/A	Exempt
	MDI-1 and MDI-2	Diphenylmethane-diisocyanate resin storage and distribution tanks (24,000 gallons)	No	N/A	Exempt
	WE-1 and WE-2	Wax emulsion storage and distribution tanks (12,000 gallons)	No	N/A	Exempt
OSB Press					
	PV-1 and PV-2	Two press vents	Yes	PM ₁₀ <100 VOC <100	Exempt
Finishing Process					
1	CP-001 and CYC1	Sawtrim and finishing line clean-up	Yes	PM ₁₀ >100	Yes
5	CP-006 and CYC6	Tongue and groove and sanderdust aspiration system	Yes	PM ₁₀ >100	Yes
	ENG1	Diesel-fired emergency generator	No	N/A	Exempt
	F-1	Bark handling fugitives	No	N/A	Exempt

40 CFR 64 requires that a continuous assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, and use a control device to meet an applicable standard. CAM allows for the following exemptions:

§ 64.2 Applicability

(b) Exemptions —(1) Exempt emission limitations or standards. The requirements of this part shall not apply to any of the following emission limitations or standards:

(i) Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.

Per 64.2(b)(1)(i) - If an NSPS (or NESHAP) is proposed or modified after the 11/15/1990 date then it is CAM-approved (exempted from CAM applicability). In this case, NSPS Subpart Dc was modified; however, the TOHs were not affected by the modification. The TOHs were placed into operation prior to February 2005; hence the original NSPS limitations apply as published September 12, 1990. CAM only exempts MACT rule emissions limitations. The Plywood MACT regulates HAP emissions; therefore, CAM applies to the following Pollutant Specific Emission Units (PSEU):

- Wafer drying process - BARK Burner, TOH and Dryers controlled by five associated process cyclones, two WESPs, & two RTOs
- Wood product forming and finishing operations controlled by seven bagfilters and six cyclones

The wafer drying process requires CAM monitoring on the cyclones, WESP and RTO's. The cyclones are only controlling PM emissions and are generally used for collection of medium-sized and coarse particles. The

facility assumes that PM=PM10. Based on the application submittal and vendor data, the emissions at the bark burner exit are 1.7 pounds PM/PM10 per million BTU (lb/MMBTU), which results in a potential to emit of 1,414.7 tons per year of PM/PM10; therefore, CAM applies to the cyclones for PM/PM10. After exiting the primary cyclone, bark burner emissions are 0.3 lb PM/PM10/MMBTU, which results in a PTE of 249.66 tons per year of PM/PM10 emissions from the bark burner alone; therefore, CAM applies to the WESP. The WESP sees emissions from the entire wafer drying process. Using worst case emission estimates for PM/PM10 from the bark burner, TOH and dryers; the PTE is estimated at 2,291 tpy PM/PM10 emissions. The WESP reduces PM/PM10 emissions by approximately 80 percent. A reduction of 80% results in approximately 458 tpy PM/PM10 prior to the RTO; therefore, CAM applies to the WESP and RTO for PM/PM10 emissions.

The facility will be required to monitor visible emissions from the cyclones exhaust using a Method 22 like procedure because the primary performance indicator of cyclones is the outlet opacity per EPA CAM Guidance. The WESP will require monitoring of the secondary voltage, quench inlet gas temperature and exit gas temperature as currently required under Part 70 of their permit. The parameters were adjusted by approximately 10 percent for CAM monitoring to provide a reasonable assurance of compliance with the emissions limitations. The oxidizer chamber control temperature was selected because it is indicative of the thermal oxidizer's operation. By maintaining the operating temperature at or above a minimum value, a desired level of control efficiency can be expected.

LP requested that opacity data from the COMS be approved as a surrogate indicator of compliance for PM-10. This was approved for the TOHs, but since the RTOs are primarily for VOC control a CAM plan was developed based on EPA Guidance and LP's current operations.

For the TOHs, this indicator range was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a COM system is a well established monitoring technique for these sources.

The OSB forming process and finishing process are subject to 15A NCAC 2D .0512, which requires "adequate ductwork and properly designed collectors." 2D .0512 is an applicable standard; therefore a CAM analysis is required for these operations. The facility will be required to monitor visible emissions from the cyclones and bagfilters exhaust using a Method 22 like procedure. Pressure drop across the bagfilters will be measured using a differential pressure gauge. The OSB forming process and finishing process descriptions were modified during this permit renewal to account for the actual control scenarios of the bagfilters and cyclones used in the OSB forming process and finishing process. There are three different control scenarios: (1) the process is controlled only by a bagfilter exhausted to the atmosphere, (2) the process is controlled by a bagfilter, then exits to the atmosphere through a bypass cyclone [in the event of an upset, the bagfilter is bypassed and the cyclone becomes the primary control device], and (3) the process is controlled by a cyclone routed to a bagfilter and then a second cyclone exhaust to the atmosphere [in the event of an upset, the bagfilter is bypassed and the first cyclone is routed through the second cyclone, then exhausted to the atmosphere bypassing the bagfilter]. In an effort to cover the three scenarios and simplify the permit, CAM refers to bagfilters and cyclones exhaust.

VII. Facility Wide Air Toxics

The facility must comply with the emission limitations and other requirements of 2D .1100 and 2Q .0711. Once sources at a facility that are subject to a MACT standard trigger their "last MACT", the Permittee must submit a permit application that includes an evaluation for all toxic air pollutants covered under 15A NCAC 2D .1104 for all sources at the facility, excluding those sources exempt from evaluation under 15A NCAC 2Q .0702. The last MACT for LP - Roxboro is the "National Emission Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products," 40 CFR 63, Subpart DDDD. For this permit renewal, placeholder language will be put in the renewed permit as indicated in Section V above.

The facility's permit currently has facility-wide emission limitations for toxic air pollutants based on previous modeling under 2D .1100, which will remain in the permit. However, under 2Q .0711 (TPER list) the following changes were made:

- ❖ pollutants were put in alphabetical order
- ❖ duplicates were removed

- ❖ Nickel metal (7440-02-0) was removed because it is not a TAP, but a HAP
- ❖ TAPs listed on the renewal application were added
- ❖ 2,3,7,8- prefix was added to tetrachlorodibenzo-p-dioxin

Based on the application submittal, the facility listed Dichloromethane and Methylene Chloride separately. This is the same compound, Methylene Chloride is the preferred name (CAS #75-09-2) under NC Air Toxics Program. Based on the information provided with the application for the modernization project and the renewal application the facility is still below the TPERs. The facility was made aware of this via a telephone message to Mr. Ross Reed on May 10, 2007. The following TAPs were added to the TPER table because they were reported on the 2005 Emissions Inventory: Di(2-ethylhexyl)phthalate (DEHP), n-Hexane, Methyl chloroform, and Trichloroethylene.

No increase in toxics was requested with this application submittal; therefore, no changes to toxics regulations are required for this permit renewal or significant modification.

VIII. Facility Emissions Review

There is no change in emissions for this renewal. The following table represents the latest years emissions based on Fees Module Data and potential emissions as provided in LP's application submittals:

Pollutant(s)	2005 Actual Emissions (tpy) based on Emissions Inventory	Potential Emissions (tpy) based on 3/2007 application amendment
CO	103.20	314.72
NO _x	150.94	373.59
PM	52.55	286.37
PM ₁₀	51.22	251.07
SO ₂	10.32	22.99
VOC	75.24	252.54
Total TAP*	15.68	34.6
Total HAP*	31.45	41.6

*Based on the application submittal HAP/TAP emissions have not been updated since the modernization project submitted in March 2004, issued permit number 07760T10. A comparison of the emission rates and TPER table submitted with this Renewal application is the same as the table in the review for the modernization project; therefore, please refer to the modernization project review for detail.

IX. Compliance History (from Compliance Inspection Report - September 20, 2006)

Louisiana-Pacific has been issued a Notice of Violation (NOV) in the last five years, but they have not been assessed any civil penalties. The NOV was for a late submittal of their 2005 annual compliance certification.

Based on observations made during the September 20, 2006 inspection, Louisiana-Pacific appeared to be in compliance with the requirements of their Title V permit. It is recommended that the facility be inspected again in one year.

LP was last inspected on September 12, 2007; however, the inspection report is not available at this time. Per email correspondence from Mrs. Jenny Kelvington, RRO, dated September 13, 2007, "Steve Hall and I inspected LP yesterday and found the facility operating in compliance with all applicable air quality requirements."

X. Stipulation Review

RRO had the following suggestions:

Email to Charles McEachern, RRO, on August 2, 2006 - no comments at this time.

A draft permit and review were sent to Mr. McEachern, RRO for review on August 15, 2007 and comments received on August 16, 2007.

All of Mr. McEachern's recommendations were taken into consideration during this review.

A draft permit was sent to Mr. Ross Reed, LP Roxboro for review on August 15, 2007 and comments received on October 1, 2007. On October 4, 2007, Mr. Reed and DAQ RCO staff [Mr. Donald van der Vaart, Mr. William Willets, Mr. Charlie Yirka, and Ms. Judy Lee] discussed several of LP's comments on the draft permit and a revised draft permit was sent to LP on October 11, 2007.

XI. Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the DRAFT Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State (Virginia) at or before the time notice provided to the public under 2Q .0521 above.

XII. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal or significant modification.

A consistency determination was not required for his renewal or significant modification.

RRO recommends issuance of the permit and DOES request a DRAFT permit prior to issuance.

RCO concurs with RRO's recommendation to issue the renewed air permit per Mr. McEachern's email dated September 18, 2007.