

NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review (Renewal)

Permit Issue Date: **August ____ 2006**

Region: Wilmington Regional Office
County: Columbus
NC Facility ID: 2400125
Inspector's Name: Lynette Bryan
Date of Last Inspection: 08/10/2005
Compliance Code: C/In Compliance With Procedural Reqr

Facility Data			Permit Applicability (this application only)		
Applicant (Facility's Name): International Paper - Armour Lumber Mill Facility Address: International Paper - Armour Lumber Mill 361 Federal Road Riegelwood, NC 28456 SIC: 2421 / Sawmills & Planing Mills General NAICS: 321912 / Cut Stock, Resawing Lumber, and Planing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: 15A NCAC 2Q .0513 NSPS: N/A NESHAP: N/A PSD: N/A PSD Avoidance: N/A NC Toxics: N/A 112(r): N/A Other: N/A CDS ID# 3704700125		
Contact Data			Application Data		
Facility Contact	Authorized Contact	Technical Contact	Application Number: 2400125.05B Date Received: 03/29/2005 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 02248T18 Existing Permit Issue Date: June 14, 2006 Existing Permit Expiration Date: May 31, 2006		
Michelle Potter EHS Coordinator (910) 655-4106 P. O. Box 57 Riegelwood NC, 28456 Cell: 910-612-4605	Daniel Alford Plant Manager (910) 655-4106 P O Box 57 Riegelwood NC, 28456	Michelle Potter EHS Coordinator (910) 655-4106 P. O. Box 57 Riegelwood NC, 28456 Cell: 910-612-4605			
Review Engineer: Booker Pullen Regional Engineer: Dean Carroll Review Engineer's Signature:			Comments / Recommendations: Issue: 02248T19 Permit Issue Date: August ____ 2006 Permit Expiration Date: May 31, 2006		
Begin Date: June 7, 2006					

I. Introduction/Description

The Division of Air Quality received a copy of this application (2400125.05B) on March 29, 2005, and was considered complete on that date. This application is required to go through a 30 day public notice/comment period, and an EPA 45 day review/comment period.

The IP Amour Plant is an existing lumber mill located in Riegelwood, Columbus County, North Carolina. The primary product manufactured at this facility is southern yellow pine dimensional lumber. Other products formed as a result of this operation include wood chips, sawdust, bark and shavings. Pine logs are trucked in, debarked, and cut into appropriate dimensions in the sawmill. The green lumber is dried and planed. Five steam-fired kilns are used to dry the lumber from 50 to 20 percent moisture content. Steam will be provided by two wood-fired boilers. The dried lumber is sorted by length, size, and grade and transported by truck or rail for delivery to the customer.

II. Purpose of the Application:

The purpose of this application is to apply for a renewal of the Title V Air Permit. No new sources are being added with this renewal application.

III. Changes to existing Title V Air permit No. 02248T18 per this Renewal Application (2400125.05B):

Old Page No.	New Page No.	Condition No.	Changes
Cover Letter			
Page 1	Page 1	Heading and body of letter	Revised issue date, revised permit number to T19, changed modification received date, changed the type of permit procedure in the first paragraph to "renewal"
Page 2	Page 2	Heading and body of letter	Revised date in heading, changed the effective date of the Air Permit, revised the PSD tracking sentences to reflect total sulfur dioxide and nitrogen dioxide emissions
Body Of The Permit			
Page 1	Page 1	Information page of permit	Revised: permit no., "replaces permit date", effective date, application no., complete application date, issue date of permit, changed the "Chief" name to Donald R. van der Vaart
All Pages	All Pages	Heading	Revised permit no. to T19
Page 4	Page 4	Specific Limitations and Conditions	Added CAM regulation (15A NCAC 2D .0614) to existing boiler ES-BW-1 table of regulated pollutants
Page 6	Page 6	Specific Limitations and Conditions	Added CAM regulation language to permit for PM10 emissions from boiler ES-BW-1
Page 21	Page 21-22	Multiple Emissions	Replaced item 3 with language from 15A NCAC 2Q. 0705

IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. On its latest inspection, performed on August 10, 2005 by Ms. Lynette Bryan of the Wilmington Regional Office (WiRO), the facility was in compliance with all applicable requirements.

V. Table of Permitted Sources at the Facility

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-BW-1 MACT	One wood (woodwaste and bark) -fired boiler (93 million Btu per hour maximum heat input)	CD-2 CD-3	One venturi wet scrubber (350 gallons per minute minimum liquid injection rate) with a cyclonic separator installed on: One multicyclone (72 tubes, each nine inches in diameter)
ES-BW-2 PSD/ NSPS/MACT	One wood (woodwaste and bark) -fired boiler (60 million Btu per hour maximum heat input)	CD-4	One electrostatic precipitator (ID No. CD-4)
ES-WW1	One woodwaste collection system	CD-A1-1	One simple cyclone (192 inches in diameter)
ES-WW2	One woodwaste collection system	CD-C1-1	One simple cyclone (96 inches in diameter)
ES-Fug-L1-1	Log debarking operation	N/A	N/A
ES-Fug-L1-2	Log sawing operation	N/A	N/A
ES-K1-1, ES-K1-2, and ES-K1-3 MACT	Three steam heated lumber drying kilns	N/A	N/A
ES-K1-4 and ES-K1-5 PSD/MACT	Two steam heated lumber drying kilns	N/A	N/A

VI. Emission Source-by-Source Evaluation

A. One wood-fired boiler without fly ash re-injection (93 mmBtu per hour heat input, ES-BW-1, MACT) and associated venturi wet scrubber (350 gallons per minute minimum liquid injection rate, CD-2) and one multicyclone (72 tubes, each nine inches in diameter, CD-3)

1. Applicable Regulatory Requirements:

This boiler is subject to the following regulations:

- 15A NCAC 2D .0504
- 15A NCAC 2D .0516
- 15A NCAC 2D .0521
- 15A NCAC 2D .1806
- 15A NCAC 2D .1100
- 15A NCAC 2D .1111 (40 CFR Part 63, Subpart DDDDD)

2. No regulatory review is required for the regulations listed above at this time since there are no new sources being added for this renewal application.

3. 15A NCAC 2D .0614 “Compliance Assurance Monitoring (CAM) for PM10 emissions

This boiler is subject to review under Regulation 15A NCAC 2D .0614 “Compliance Assurance Monitoring” because the before control emissions of PM10 are greater than 100 tons per year and because this boiler will not have to comply with the boiler MACT until September 13, 2007. Therefore, the DAQ will require CAM plan until this boiler has to comply with the boiler MACT.

a. Per 40 CFR 64 and 15A NCAC 2D .0614, the Permittee shall comply with the following:

b. Background

i. Emission Unit

One wood/bark-fired boiler with out fly ash re-injection (93 million Btu per hour heat input, ES-BW-1)

ii. Applicable Regulation, Emission Limit, and Monitoring Requirements.

(A) Regulations: 15A NCAC 2D .0521 and 15A NCAC 2D .0504

(B) Emission Limits: 20% Opacity and E = 0.43 lbs PM10 per million Btu heat input or (39.99 lbs PM10 per hour)

c. Control Technology: Multicyclone (ID No. CD-3) and wet venturi scrubber (ID No. CD-2)

d. **Monitoring Approach:** The key elements of the monitoring approach are presented in the following table. When the multicyclone is operating under normal conditions, the emissions of PM10 will be below the emission limit of 0.43 lbs PM10 per million Btu heat input without the use of the venturi scrubber.

Indicator Measurement Approach	<i>Pressure Drop –Indicator #1</i> Pressure drop across the multicyclone	<i>Visible Emissions –Indicator #2</i> Visible emissions from the scrubber
Indicator Range	An excursion is defined as a pressure drop greater than <u>4.8</u> inches of water or below <u>0.7</u> inches of water. If an excursion occurs, corrective action and preventative maintenance are performed on the multicyclone.	An excursion is defined as a deviation from “normal” opacity. “Normal” opacity has already been determined via 30 days of daily observations following issuance of the initial Title V air permit. Should an apparent excursion occur, the Permittee may demonstrate compliance with opacity limits via EPA Reference Method 9 (40 CFR Part 60 Appendix A).

-Table continued on the next page-

Indicator Measurement Approach	<i>Pressure Drop –Indicator #1</i> Pressure drop across the multicyclone	<i>Visible Emissions –Indicator #2</i> Visible emissions from the scrubber .
Performance Criteria /Data Representativeness	Pressure taps are located at the multicyclone inlet and outlet.	Observations are being made at the emission point (scrubber exhaust) during daylight hours when the boiler is in operation.
Verification of Operational Status	Pressure taps are located at the multicyclone inlet and outlet.	Observations are being made at the emission point (scrubber exhaust) during daylight hours when the boiler is in operation.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation using procedures that follow manufacturer’s specifications	Daily observation log or Method 9 report is required.
Monitoring Frequency	The boiler operator or observer reads the pressure gauge daily while the multicyclone is in operation.	Visible emissions observation is monitored daily
Data Collection Procedure	Pressure drop is recorded once per day.	Record results of reading once per day
Averaging Period	N/A	N/A

e.. **Justification:**

- i. Background. The pollutant specific emissions control unit at this facility is one wood/bark-fired boiler, 93 million Btu per hour heat input
- ii. Rationale for Selection of Performance Indicators and ranges. Differential pressure (i.e. pressure drop) was selected as the 1st performance indicator because it is indicative of proper flue gas flow resistance and uniform flow distribution across the multicyclone collector tubes. When the multicyclone is operating properly, the pressure drop across the tubes creates a flow vortex in each cyclone. Centrifugal forces generated by the flow vortex cause particulate matter to migrate to the wall of each collection tube. When the flow vortex reverses direction at the base of each tube, particulate matter drops out of the vortex, falls into the multicyclone collection hopper, and is removed via an air lock valve and fly ash conveying system.

In general, the pressure drop across a multicyclone increases in proportion to the square of flue gas flow rate; flow rate is a function of boiler heat load, combustion air flow rate, and flue gas temperature. The low end of the indicator range represents the expected pressure drop under minimum boiler load conditions. The high end of the range occurs at maximum boiler heat load.

Pressure drop readings above or below the specified range can indicate tube plugging, uneven flow distribution, or excessive tube wear. Instrument set points are established that allow for corrective action and maintenance prior to an excursion.

Visible emissions (opacity) were selected as the 2nd performance indicator because high opacity can indicate higher than allowable particulate emissions. Opacity is a rough predictor of particulate emissions, since it is a function of many other parameters, including particle size distribution, light path angle and distance, optical background, and particle optical properties.

However, significant changes in opacity can be a useful indicator pointing to possible multicyclone performance deficiencies. The opacity indicator limits coincide with emission limits in the existing air permit.

The 1st indicator range chosen for the multicyclone is 4.8 inches to 1.8 inches water column. The actual operating range of the multicyclone is 5.8 inches to 0.8 inches of water column. An excursion triggers an inspection and corrective action. The pressure drop is recorded daily. As the pressure drop approaches the extremes of the indicator range, a mechanical measurement is taken to confirm the reading because plugging may cause inaccurate readings.

The 2nd selected indicator range is above normal opacity. Should an apparent excursion occur, the Permittee may demonstrate compliance with opacity limits via EPA Reference Method 9 (40 CFR Part 60 Appendix A). All excursions will be documented.

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

The Permittee shall submit a summary report of all monitoring 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 for the requirements of this permit must be clearly identified.

B. One wood-fired boiler without fly ash re-injection (60 mmBtu per hour heat input, ES-BW-2) and associated electrostatic precipitator (CD-2)

1. Applicable Regulatory Requirements:

This boiler is subject to the following regulations:

- 15A NCAC 2D .0504
- 15A NCAC 2D .0516
- 15A NCAC 2D .0524 (40 CFR Part 60, Subpart Dc)
- 15A NCAC 2D .0530
- 15A NCAC 2D .1806
- 15A NCAC 2D .1111 (40 CFR Part 63, Subpart DDDDD)

2. No regulatory review is required for the regulations listed above at this time since there are no new sources being added for this renewal application. This boiler **is not** subject to review under Regulation 15A NCAC 2D .0614 "Compliance Assurance Monitoring" because it will have to meet the compliance standards of the boiler MACT upon startup. The boiler MACT is a federal regulation which was promulgated after 1990.

C. Woodworking operations including two woodwaste collection systems (ES-WW1 and ES-WW2) with associated cyclones (CD-A1-1 and CD-C1-1), one fugitive debarking operation (ES-Fug-L1-1), one fugitive log sawing operation (Ess-Fug-L1-2) and two planer mills (ES-Plane-1)

1. Applicable Regulatory Requirements:

This woodworking operation is subject to the following regulations:

- 15A NCAC 2D .0512
- 15A NCAC 2D .0521
- 15A NCAC 2D .1806

2. No regulatory review is required for the regulations listed above at this time since there are no new sources being added for this renewal application. The cyclones on these woodworking operations are not subject to review under Regulation 15A NCAC 2D .0614 "Compliance Assurance Monitoring" because they are used as equipment transfer and collection units that capture usable or saleable product such as wood chips and shavings, and not for the purpose of complying with an emission standard or limitation.

D. Three steam heated lumber drying kilns (ES-K1-1, ES-K1-2, ES-K1-3)

1. Applicable Regulatory Requirements:

The drying kilns are subject to the following regulations:

- 15A NCAC 2D .1806
- 15A NCAC 2D .1100
- 15A NCAC 2D .0711
- 15A NCAC 2D .1111 (40 CFR Part 63, Subpart DDDD)

2. No regulatory review is required for the regulations listed above at this time since there are no new sources being added for this renewal application. These kilns are not subject to review under Regulation 15A NCAC 2D .0614 "Compliance Assurance Monitoring" because they have no control devices.

E. Two steam heated lumber drying kilns (ES-K1-4, ES-K1-5)

1. Applicable Regulatory Requirements:

The drying kilns are subject to the following regulations:

- 15A NCAC 2D .1806
- 15A NCAC 2D .1100
- 15A NCAC 2D .0530
- 15A NCAC 2D .0711
- 15A NCAC 2D .1111 (40 CFR Part 63, Subpart DDDD)

2. No regulatory review is required for the regulations listed above at this time since there are no new sources being added for this renewal application. These kilns are not subject to review under Regulation 15A NCAC 2D .0614 "Compliance Assurance Monitoring" because they have no control devices.

VII. Other Requirements:

- A. A Professional Engineers Seal is not required because no new sources with control devices is being added in this renewal application.
- B. A consistency determination is not required for this renewal application.
- C. Section 112(r): This facility **is not subject** to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule.
- D. PSD: This facility is currently a major source for PSD. PSD does not apply to this renewal application because no new sources are being added.

VIII. An application fee **is not** required for this renewal application.

IX. The appropriate number of copies of the application were received by the DAQ on March 29, 2005.

X. The application contained the Reduction and Recycling Form.

XI. The application was signed by an authorized official as defined by 15A NCAC 2Q .0304(j).

XII. Air toxics do not apply to this renewal application because there are no sources being added and there are no new emissions increases.

The compliance date for the 40 CFR Part 63, Subpart DDDD, (MACT for kilns) is October 1, 2008. This MACT appears to be the "last MACT" for this facility. Application No. 2400125.03A (issued as Permit revision No. T18) included a facility wide toxics demonstration for all TAPs with facility-wide emissions in excess of the levels in 2Q .0711 and the facility requested that future toxic evaluations be done at this facility on a five year basis per 15A NCAC 2Q .0701(c). This provision provides that once a facility makes a facility wide demonstration of compliance with the acceptable ambient levels contained in 2D .1106, future demonstrations of compliance shall only be required on a five year basis.

This facility will also be subject to Regulation 15A NCAC 2Q .0705 which states that a facility wide toxics evaluation shall be due when the compliance date for the last MACT at the facility is due. The facility wide toxics evaluation done at this facility was evaluated and included in the previous permit 02248T18, issued on June 14, 2006. Regulation 15A NCAC 2Q .0705 will be placed in this permit (Revision T19) using the June 14, 2006 date of the previous permit as the date of compliance with the "last MACT" rule.

XIII. Public Notice

A thirty-day public notice **is required** for this renewal application. The notice will run in a newspaper of general circulation in this area called the _____.

Thirty day public notice period: _____ through _____
Public comments: None

EPA 45 day comment period: _____ through _____

EPA comments:

XIV. Recommendations:

A copy of this review, the permit, and other pertinent documents were sent via email to Mr. Dean Carroll of the Wilmington Regional Office. Mr. Carroll concurs with the issuance of this permit.

This renewal for the International Paper –Armour Lumber Mill, located in Riegelwood, Columbus County, North Carolina, has been reviewed by the DAQ to determine compliance with all procedures and requirements. The DAQ has determined that this facility is complying or will achieve compliance as specified in the permit with all applicable requirements.

ISSUE PERMIT No. 02248T19.