

Air Permit Review

Permit Issue Date: **date, 2011**

Region: Fayetteville Regional Office
County: Montgomery
NC Facility ID: 6200015
Inspector's Name: Gregory Reeves
Date of Last Inspection: 01/07/2010
Compliance Code: 3 / Compliance - inspection

Facility Data			Permit Applicability (this application only)
<p>Applicant (Facility's Name): Jordan Lumber & Supply Co</p> <p>Facility Address: Jordan Lumber & Supply Co 1939 Highway 109 South Mt Gilead, NC 27306</p> <p>SIC: 2421 / Sawmills & Planing Mills General NAICS: 321912 / Cut Stock, Resawing Lumber, and Planing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>			<p>SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other: 15A NCAC 2D .1109 (112j Case-by-Case MACT)</p>
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 6200015.10A and 6200015.10B Date Received: 02/18/2010 and 02/19/2010 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 03469/T19 Existing Permit Issue Date: 03/18/2009 Existing Permit Expiration Date: 12/10/2010</p>
Jay Jordan Operations Manager (910) 439-8128 P O Box 98 Mt. Gilead, NC 27306	Robert Jordan III Co-Owner (910) 439-6121 P O Box 98 Mount Gilead, NC 27306	Jay Jordan Operations Manager (910) 439-8128 P O Box 98 Mt. Gilead, NC 27306	
Review Engineer: Mark Cuilla		Comments / Recommendations:	
Review Engineer's Signature: Date: date, 2011		<p>Issue 03469/T20 Permit Issue Date: date, 2011 Permit Expiration Date: date, 2015</p>	

I. Purpose of Application

This permitting action is twofold. The first is for renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (**03469T19**) was issued on **March 18, 2009**, with an expiration date of **December 31, 2010**. The renewal application was received on **February 18, 2010**, or at least nine months prior to the expiration date. 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. As part of this permit renewal, the Permittee has requested the removal of NSPS-affected boiler (**ID No. B06**) as this source was never constructed.

The second action is the inclusion of 15A NCAC 2D .1109, 112(j) Case-by-Case MACT requirements. In response to DAQ requests, the Permittee submitted the Part II 112j application on **February 19, 2010** with an update on **October 20, 2010**. The Permittee is seeking a health based compliance approach (HBCA), via the look-up tables.

II. Facility Description

The facility operates two saw mills in Mt. Gilead. Southern yellow pine logs are trucked into the facility, debarked, and processed through the sawmills where logs are cut into dimensional lumber. The rough cut lumber from the sawmills is stacked and dried in lumber kilns. The kilns are heated by steam produced from wood-fired boilers as well as gasified wood combustion. Green woodwaste and some dry planer shavings are the primary fuels for the boilers. The dried lumber is finished by planing and trimming in two planer mills. Finished lumber is sorted by length, size, and grade, packaged and then shipped off site. The remaining green wood chips and planer shavings are sold and shipped off site as byproducts.

III. History/Background/Application Chronology

January 6, 2006 – Permit **03469T17** issued as a TV renewal.

March 17, 2006 – Permit **03469T18** issued as a 502(b)(10) modification to replace previously permitted (but not yet constructed) boiler and correct heat inputs on two permitted lumber drying kilns.

March 18, 2009 – Permit **03469T19** issued as an administrative amendment to remove all references to the vacated MACT (40 CFR 63, Subpart DDDDD).

January 7, 2010 – FRO completed annual inspection of facility. See Section IX of this Document for a list of needed permit modifications.

February 18, 2010 – Permit application **6200015.10A** received as a TV renewal application and assigned to David Putney for processing.

February 19, 2010 – Permit application **6200015.10B** received as a 112j Part II Case-by-Case MACT significant modification and assigned to Fern Paterson for processing. Application was consolidated into TV renewal application in process.

June 22, 2010 – Permittee submitted a request for PSD emission factor review for its permitted lumber drying kilns to the FRO for processing. The letter states that “the permit is up for renewal this year and we would like to request a review and modification to reflect the standard emission factors recognized by NCDENR.”

November 1, 2010 – Permit application transferred from David Putney to Mark Cuilla for processing.

October 20, 2010 – Supplemental information on 112j Part II application received from Permittee and added to file for processing.

date, 2010 – DRAFT permit sent to Permittee and RRO for comment prior to public notice and EPA review.

date, 2010 – DRAFT permit sent to 30-day public notice and 45-day EPA review.

IV. Permit Modifications/Changes and ESM Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page(s)	Section(s)	Description of Change(s)
Attachment	Insignificant activities	-amended permit revision number -added emergency generator per FRO inspection report -updated shell language
Cover	-	-amended permit revision numbers and all dates
All	Header	-amended permit revision number
3	Equipment table	-added 112j Case-by-Case and MACT DDDD designations where needed -added "direct" clarifier to descriptions of kilns 1 and 2 -removed reference to boiler (ID No. B06) per Permittee request
4	2.1 A (table)	-added NSPS emission limits -added Case-by-Case MACT emission limits
5	2.1 A.1.c 2.1 A.1.d 2.1 A.1.e	-added testing requirement per FRO request -added ID numbers and updated shell language -updated shell language
6	2.1 A.2.b 2.1 A.2.c 2.1 A.3.b 2.1 A.3.c	-corrected testing rule cross reference -added ID numbers -added testing requirement per FRO request -added ID numbers and updated shell language
6-7	2.1 A.3.d	-updated shell language
7	2.1 A.4	-added NSPS recordkeeping requirements
7-9	2.1 A.5	-added Case-by-Case MACT permit language
9	2.1 B.1.b 2.1 B.1.c	-updated shell language -updated shell language
10	2.1 B.2.b 2.1 B.2.c 2.1 B.2.d	-corrected testing rule cross reference -added ID numbers and updated shell language -updated shell language
-	2.1 C	-removed permit Section for boiler (ID No. B06) and renumbered subsequent sections accordingly
11	2.1 C (table) 2.1 C.1.b 2.1 C.2.a	-added MACT title -added monitoring/recordkeeping/reporting requirements for PSD BACT condition -modified MACT language to require submittal of initial notification of kiln 8 start up
12	2.1 D (table) 2.1 D.1.a 2.1 D.1.b 2.1 D.1.c 2.1 D.2.a	-added MACT reference -added ID numbers -corrected testing rule cross reference -added ID numbers -added ID numbers

Page(s)	Section(s)	Description of Change(s)
13	2.1 D.2.b 2.1 D.2.c 2.1 D.3.a 2.1 D.3.b 2.1 D.3.c 2.1 D.4.b	-corrected testing rule cross reference -added ID numbers -added ID numbers -corrected testing rule cross reference -added ID numbers -added monitoring/recordkeeping/reporting requirements for PSD BACT condition
14	2.2 A.2.a 2.2 A.2.b 2.2 A.2.c	-reformatted paragraph -corrected testing rule cross reference -reformatted paragraph and added ID numbers
15	2.2 A.2.d 2.2 A.2.e 2.2 B	-reformatted paragraph and added ID numbers -reformatted paragraph and added ID numbers -clarified equipment description
16	2.2 B.1	-combined tables for source-by-source modeled emission rates -converted lb/hour annual limits to lb/yr annual limits by multiplying existing limits by 8760 hours/year (confirmed in modeling report)
17-26	General conditions	-updated general conditions (v3.3)
27	List of Acronyms	-added acronyms for CAIR, NAA, and RACT per current shell

There were only minor, non-significant modifications to the equipment descriptions needed in ESM.

V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 2D .0504, Particulates from Woodburning Indirect Heat Exchangers
15A NCAC 2D .0512, Particulates from Wood Products Finishing Plants
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 60, Subpart Dc)
15A NCAC 2D .0530, Prevention of Significant Deterioration
15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions
15A NCAC 2D .1100, Control of Toxic Air Pollutants
15A NCAC 2D .1111, Maximum Achievable Control Technology (40 CFR 63, Subpart DDDD)
15A NCAC 2Q .0317, Avoidance Conditions (for 15A NCAC 2D .0530, Prevention of Significant Deterioration)

A regulatory review for all but one of these current permit conditions will not be included in this document. The Permittee has requested that the BACT emission limits for its kilns under 15A NCAC 2D .0530 be reviewed for appropriateness and correctness. The Permittee notes in his letter that the emission limits in the permit are different than the current emission factors for similar sources used in the DAQ spreadsheets. However, the current BACT emission limits were placed into the permit as part of a PSD modification to add one new kiln and boiler in **2005**. These limits cannot be modified outside of a PSD modification. Therefore, the current emission limits will remain in the permit until such time as the Permittee submits a complete PSD permit modification application. See Section VI of this Document for a discussion.

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

NSPS – The Permittee is subject to NSPS Subpart Dc including initial notification of start-up [60.48c(a)] and recording the of amount of wood combusted during each day [60.48c(g)] for its wood-fired boilers (**ID Nos. B01 through B04**). This permit renewal does not affect this status except to update the daily recordkeeping requirements per Subpart Dc.

NESHAPS/MACT – The Permittee is currently subject to the Plywood MACT (40 CFR 63, Subpart DDDD) for its existing seven lumber drying kilns (**ID Nos. K-1 through K-7**). Per the Subpart, the only requirements applicable to these sources is initial notification. The Permittee has supplied these records and is therefore in compliance with the MACT. This permit renewal does not affect this status. An eighth kiln (**ID No. K-8**) has not been constructed as of yet but is permitted. The initial notification for this unit is required prior to startup of this unit in order to be in compliance. The renewed permit has been clarified to require the submittal of this notification.

As part of this permit renewal, the FRO has indicated that the Permittee operates one propane-fired emergency generator (105kW, 141 Hp). This source needs to be added to the list of insignificant sources and applicability to the recently modified MACT for Stationary Reciprocating Internal Combustion Engines (RICE) must be determined. According to the latest EPA spreadsheet summary, the following requirements are applicable to this existing, emergency spark ignition, less than 500 Hp source located at a major source of HAP emissions:

Date constructed – Before **June 12, 2006**

Compliance date – **October 19, 2013**

Emission Limitations – 63.6602 (Table 2c)

- change oil and filter every 500 hours of operation or annually whichever comes first,
- inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and
- inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Operating Limitations – NA

Fuel Requirements – NA

Performance Tests – NA

Monitoring/Installation/Collection/Operation/Maintenance Requirements – 63.6625(e), (f), (h), and (j)

Initial Compliance – NA

Continuous Compliance – 63.6605 and 63.6640

Notification Requirements – NA

Recordkeeping Requirements – 63.6655 (except 63.6655(c))

Reporting Requirements – 63.6650 (except 63.6655(g))

General Provisions – Yes

To address the cases where current insignificant activities subject to a MACT or GACT now have to be acknowledged in the permit as being applicable to the respective subpart, DAQ has created a new web page titled “Regulatory Guide for Insignificant / Permit Exempt Activities.” The link to this site is as follows:

<http://daq.state.nc.us/permits/insig/>

Asterisked language, including this link, has been added to the insignificant activities table of the renewed permit. Once the Permittee accesses this link he will be able to get the regulatory guide for

the subject MACT/GACT, NSPS, and/or NCAC affected sources (in this case, the emergency generator).

The second part of this application was for the addition of requirements for 15A NCAC 2D .1109 – CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters. On **July 20, 2007**, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General's office has determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA § 112(j), commonly referred to as the MACT "hammer" provisions, have been triggered. North Carolina regulations implementing the MACT hammer are found at 15A NCAC 2D .1109.

NC DAQ has developed this guidance to provide standards and compliance procedures that it has determined meet the requirements of § 112(j) (<http://daq.state.nc.us/permits/112j/>). Jordan Lumber & Supply Co. submitted a Part 2 MACT "Hammer" application (**6200015.10B**), which was received on **February 19, 2010**. An amendment to the application was received on **October 20, 2010**, including a demonstration of eligibility for a health-based compliance alternative emissions limitation. Affected sources at the facility include four wet wood and bark-fired boilers (**ID Nos. B01 through B04**), each with a heat input capacity of less than 30.0 MMBtu/hr.

Four wet wood-fired boilers (**ID Nos. B01 through B04**) - The facility proposed to comply with mercury (Hg) and carbon monoxide (CO) emission limitations that are consistent with the NC DAQ application guidance (<http://daq.state.nc.us/permits/112j/>). NC DAQ has developed this guidance to provide standards and compliance procedures that it has determined meet the requirements of § 112(j). The facility has chosen to comply with a Health-Based Compliance Alternative (HBCA) for both manganese (Mn) and hydrogen chloride (HCl). A discussion of each proposed standard proposed pursuant to 15A NCAC 2D .1109 is provided below:

- a. **Total Selected Metals (TSM), including HBCA for Manganese** - In accordance with the 112(j) application guidance provided by NC DAQ, affected facilities may propose either a total selected metal (TSM) limit or a filterable PM limit. This facility has chosen to comply with the TSM limit. This facility has proposed a TSM limit of 0.0003 lbs/MMBtu, which is consistent with the NC DAQ application guidance.

In general TSM includes arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium. However, by showing it is eligible for the HBCA for Mn, the facility may comply with the TSM emission limitation without including manganese in the compliance demonstration.

This facility used the look-up table approach that is identical in substance to Appendix A of the vacated 112(d) standard. The look-up table approach to the HBCA requires the facility to determine the Allowable Manganese Emission Rate according to the following steps:

- Step 1. Determine the shortest minimum stack height (in m) from any affected source.
- Step 2. Determine the shortest distance to property boundary (in m) from any affected source.
- Step 3. Use the look-up table provided in Appendix A of the vacated 112(d) standard to determine the Allowable Manganese Emission Rate (in lbs/hr)
- Step 4. Determine the worst-case manganese emission rates from each affected source (in lbs/hr) and sum the values to determine the total manganese emission rate.

Step 5. Compare the allowable manganese emission rate to the total manganese emission rate. If the total manganese emission rate is less than the allowable emission rate provided in the table, the facility is eligible for the HBCA.

The summary of stack heights and distance of stacks from the property boundary for each affected source is provided in the following table:

Affected Source	Distance to Property Boundary (m)	Stack Height (m)	Potential Mn Emission Rate* (lbs/hr)
ES-B1	19.8	18.3	0.0576
ES-B2	16.7	17.7	0.0614
Total Manganese Emission Rate			0.119

* Potential Mn emissions are based on the heat input capacity of the boiler and the AP-42 emission factor for wood combustion (0.0016 lbs/MMBtu).

Step 1: The minimum stack height of any affected boiler at the facility is 40 feet, or 12.2 meters.

Step 2: The minimum distance to property boundary of any affected boiler at the facility is 374 meters.

Step 3: Using the look-up table, as provided below, the maximum allowable manganese emission rate is **0.47 lbs/hr**.

Table. Allowable Manganese Emission Rate (lbs/hr)

Stack Ht. (m)	Distance to Property Boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	0.29	0.29	0.29	0.29	0.29	0.29	0.36	0.72	0.93	0.93	0.93	0.94
10	0.47	0.47	0.47	0.47	0.47	0.47	0.49	0.82	1.08	1.08	1.08	1.08
20	0.97	0.97	0.97	0.97	0.97	0.97	0.97	1.06	1.45	1.51	1.51	1.51
30	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.09	1.49	1.72	2.02	2.04
40	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.12	1.53	1.79	2.08	2.42
50	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.15	1.58	1.87	2.15	2.51
60	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.18	1.62	1.95	2.21	2.61
70	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.22	1.67	2.03	2.28	2.72
80	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.25	1.71	2.12	2.35	2.84
100	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.32	1.81	2.29	2.50	3.10
200	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.71	2.30	2.92	3.48	4.81

Step 4: The potential manganese emission rate is calculated using the AP-42 emission factor of 0.0016 lb/MMBtu:

Affected Source	Maximum Heat Input Capacity (MMBtu/hr)	Potential Mn Emission Rate* (lbs/hr)
B1	26.8	0.0429
B2	26.8	0.0429
B3	26.8	0.0429
B4	28.8	0.0461
Total Manganese Emission Rate:		0.1748

Step 5: Because the total, potential manganese emission rate (0.17 lbs/hr) is less than the allowable manganese emission rate (0.47 lbs/hr), the facility is eligible to use the HBCA, and it need not include manganese emissions in its compliance demonstrations for TSM.

b. Mercury (Hg)

This facility has proposed a mercury limit of 5.0e-06 lbs/MMBtu, which is consistent with the NC DAQ application guidance.

c. Carbon Monoxide (CO)

This facility proposed a CO limit of 269 ppmvd, corrected to 7% oxygen, which is consistent with the NC DAQ application guidance.

d. HCl

The facility proposed to establish a facility-specific HCl-equivalent emission rate using this HBCA approach provided by U.S. EPA in Appendix A of the vacated 112(d) standard. A summary of the HBCA eligibility demonstration and resulting emissions limitations is provided below.

The look-up table approach to the HBCA requires the facility to determine the Allowable Toxicity Weighted Emission Rate in HCl-equivalent according to the following steps:

Step 1. Determine the worst-case HCl and Cl₂ emission rates (in lbs/hr) and calculate the toxicity-weighted emission rate in HCl-equivalents (in lbs/hr) using the following equation:

$$TW = E_{HCl} + E_{Cl_2} \left(\frac{RV_{HCl}}{RV_{Cl_2}} \right)$$

Where “RV” denotes the reference values. The reference value of HCl is 20 µg/m³. The reference value for Cl₂ is 0.2 µg/m³.

Step 2. Determine the shortest minimum stack height (in m) from any affected source.

Step 3. Determine the distance to property boundary (in m).

Step 4. Use the look-up table provided in the NC DAQ application guidance, which is identical to the look-up table provided in the vacated 112(d) standard, to determine the Allowable Toxicity Weighted Emission Rate in HCl-equivalent (in lbs/hr).

Step 5. Compare the Allowable Toxicity Weighted Emission Rate in HCl-equivalent to the maximum toxicity-weighted emission rate to determine eligibility.

Step 1: HCl-Equivalent Emission Rates - The calculation of the HCl-equivalent emission rates for the affected sources at this facility are provided below.

Boiler ID No.	Maximum Heat Input Capacity (MMBtu/hr)	HCl Emission Rate (lbs/hr)	Cl ₂ Emission Rate (lbs/hr)	HCl-Equivalent Emission Rate (lbs/hr)
B1	26.8	0.509	0.021	2.609
B2	26.8	0.509	0.021	2.609
B3	26.8	0.509	0.021	2.609
B4	28.8	0.547	0.023	2.847
Total HCl-Equivalent Emission Rate:				10.674

* Potential HCl and Cl₂ emissions are based on the heat input capacity of the boiler and the AP-42 emission factors for wood combustion (Cl₂: 0.00079 lbs/MMBtu, HCl: 0.019 lbs/MMBtu).

Step 2: Minimum Stack Height - The minimum stack height of any affected boiler at the facility is 40 feet, or 12.2 meters.

Step 3: Minimum Distance to Property Boundary - The minimum distance to property boundary of any affected boiler at the facility is 374 meters.

Step 4: Determine the Allowable Toxicity Weighted Emission Rate in HCl-Equivalents - Based on the following look-up table:

Table. Allowable Toxicity Weighted Emission Rate Expressed in HCl-Equivalents (lbs/hr)

Stack Ht. (m)	Distance to Property Boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	114.9	114.9	114.9	114.9	114.9	114.9	144.3	287.3	373.0	373.0	373.0	373.0
10	188.5	188.5	188.5	188.5	188.5	188.5	195.3	328.0	432.5	432.5	432.5	432.5
20	386.1	386.1	386.1	386.1	386.1	386.1	386.1	425.4	580.0	602.7	602.7	602.7
30	396.1	396.1	396.1	396.1	396.1	396.1	396.1	436.3	596.2	690.6	807.8	816.5
40	408.1	408.1	408.1	408.1	408.1	408.1	408.1	448.2	613.3	715.5	832.2	966.0
50	421.4	421.4	421.4	421.4	421.4	421.4	421.4	460.6	631.0	746.3	858.2	1002.8
60	435.5	435.5	435.5	435.5	435.5	435.5	435.5	473.4	649.0	778.6	885.0	1043.4
70	450.2	450.2	450.2	450.2	450.2	450.2	450.2	486.6	667.4	813.8	912.4	1087.4
80	465.5	465.5	465.5	465.5	465.5	465.5	465.5	500.0	685.9	849.8	940.9	1134.8
100	497.5	497.5	497.5	497.5	497.5	497.5	497.5	527.4	723.6	917.1	1001.2	1241.3
200	677.3	677.3	677.3	677.3	677.3	677.3	677.3	682.3	919.8	1167.1	1390.4	1924.6

For a stack height of 10 meters and a distance to boundary of 374 meters, the allowable toxicity weighted emission rate is **188.5 lbs/hr**.

Step 5: Compare the Allowable Toxicity Weighted Emission Rate in HCl-equivalent to the Maximum Toxicity-Weighted Emission Rate - The maximum HCl-equivalent emission rate (10.67 lbs/hr) is less than 6% of the allowable toxicity-weighted emission rate determined using the look-up table approach. Based on this large compliance margin, NC DAQ had determined that the facility is eligible to use the HBCA compliance option for HCl for its four wood-fired boilers.

PSD – The Permittee is subject to BACT for each of its eight lumber drying kilns (**ID Nos. K-1 through K-8**). Specifically, kilns 3 through 8 are subject to a volatile organic compound emission rate of less than 3.97 pounds per thousand board feet, as pinene, and kilns 1 and 2 are subject to a volatile organic compound emission rate of less than 4.29 pounds per thousand board feet, as pinene. The current permit does not require any monitoring/recordkeeping/reporting for volatile organic compounds as part of these permit conditions. These conditions were placed into the permit as part of a PSD modification for the construction of one steam heated drying kiln and natural gas/landfill gas fired boiler in **November 2005**.

At that same time, the permit was also modified to include a PSD avoidance condition for PM, PM₁₀, NO_x, and CO. Section 2.2 A.2 contains these requirements. The avoidance condition emission limits represent the then actual baseline amounts plus PSD significance levels for each respective pollutant. The permit also contains specific monitoring, recordkeeping, and reporting requirements. This permit renewal does not affect this status.

The following email discussion took place on the Permittee's request to modify its BACT limits as part of this permit renewal:

From: Cuilla, Mark
Sent: Tuesday, December 21, 2010 2:30 PM
To: Reeves, Gregory W
Cc: Vozzo, Steven
Subject: Jordan Lumber TV Renewal

Greg,

I was recently reassigned the processing of the renewal for the subject facility with the departure of David Putney. I am well on my way to having a draft to you for review. However, the issue of the kiln emission factors/BACT limits currently in the permit is the "big" issue left for me. I see that Jordan Lumber requested that we look into this as part of the renewal in a June 22, 2010 letter to Steve.

Here is what I know:

- 1. The current permit has PSD BACT for VOC in two places (2.1 D.1 for kilns K3 through K8 and 2.1 E.1 for kilns K1 and K2).*
- 2. Both permit conditions are written exactly the same (paragraph a. contains the emission limits on a pound per thousand board feet basis and paragraph b. contains a statement of "no MRR requirements for VOC for these sources.")*
- 3. The current limits are 3.97 and 4.29 lbs/MBF for steam heated kilns and gasified wood fired kilns, respectively.*
- 4. The DAQ spreadsheets have current emission factors of 4.09 and 4.34 lbs/MBF for steam heated kilns and gasified wood fired kilns, respectively.*

Here is what Jordan wants:

- 1. A review and modification of the permit conditions to reflect the current standard emission factors.*

Here is my question:

- 1. Given the lack of permitted MRR for these sources, how is the Permittee certifying compliance with these emission limits?*

I discussed this with Don and John and it was decided that all I can currently do for permit renewal is bolster our MRR requirements to include say speciated wood recordkeeping/throughput records, etc. This is part of the renewal process (to fix inadequacies, etc.) I cannot change the emission limits in the permit without the Permittee going through a PSD modification permit process. We will have to let the Permittee know of this decision as well as assure ourselves that they are in compliance with their current permit until those limits are changed in the permit modification process.

From: Reeves, Gregory W
Sent: Wednesday, December 22, 2010 8:15 AM
To: Cuilla, Mark
Subject: RE: Jordan Lumber TV Renewal

Mark, your question is a very good one. It is exactly the question I have been asking also. The best available emission factor information, as far as I can find, is what is currently used in the DENR spreadsheets, which is 4.09 and 4.34 lb/MBF for steam and wood fired kilns, and that is what Jordan has been using for reporting. There is no site-specific test data to indicate any different factors for their kilns.

What I do not understand is how the BACT limits in the permit were arrived at in the first place, given the standard factors for kilns available at the time and the lack of any specific stack test data for Jordan. I am looking for guidance here to understand the process. I could find no indication in the PSD review to indicate where these factors came from. Any ideas?

Would be happy to discuss with you at your convenience.

Greg

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From: Cuilla, Mark
Sent: Wednesday, December 22, 2010 8:28 AM
To: Reeves, Gregory W
Cc: Evans, John; Vandervaart, Donald
Subject: RE: Jordan Lumber TV Renewal

I believe that the factors in the permit came from NCASI. They have just been revised over the years and are now reflected in our spreadsheet.

If you look at the spreadsheet, under the tab for "revised summary spreadsheet values" in the lumber kilns documentation tab of our website, you can see the emission limits listed in the permit in the crossed out table and today's "current" emission limits you note below in the other table. You should also see that these current values were as of 2006 (shown above the crossed out table). So the PSD BACT permit issued in 2005 used the then appropriate values (those in the permit) as acceptable BACT limits.

If indeed the Permittee has been certifying compliance with the current numbers and not those in the permit I believe we do have a compliance issue. I will leave that up to you all to figure out. I will update the permit this renewal (minus changing the values) as I suggested in my earlier email.

Mark

From: Evans, John
Sent: Wednesday, December 22, 2010 8:44 AM
To: Cuilla, Mark; Reeves, Gregory W
Cc: Vandervaart, Donald
Subject: RE: Jordan Lumber TV Renewal

Another interesting case however I do not think we have non-compliance with the permit. The BACT limits are lb/board foot. We don't have a compliance method spelled out in the permit so I don't think we can say they are out of compliance with the permit. The fact that the emission factors have been updated isn't surprising and we do instruct companies to use the most recent emission factor in their inventories.

My recommendation would be to have Jordan apply to have the BACT revised. In re-BACT I think a work practice might be more appropriate than a numerical limitation. There are no controls and the already dry the highest VOC emitting species of wood. With a revised BACT in the form of a work practice we can then include compliance terms.

John C. Evans
NC DENR, Division of Air Quality
Permits Section
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone: [919 715-6236]
www.ncair.org

From: Vandervaart, Donald
Sent: Wednesday, December 22, 2010 8:49 AM
To: Evans, John; Cuilla, Mark; Reeves, Gregory W
Subject: RE: Jordan Lumber TV Renewal

While our failure to spell out a compliance method in the permit does not exonerate the source of demonstrating compliance per se, it does imply that the likelihood of non-compliance was sufficiently remote that we felt monitoring wasn't necessary. I think tracking good practices and wood species makes sense.

Donald R. van der Vaart, Ph.D., P.E.
Chief, Air Permits Section
North Carolina Division of Air Quality
1641 Mail Service Center
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Phone: 919-715-6253
FAX: 919-733-5317
www.ncair.org

From: *Vozzo, Steven*
Sent: *Wednesday, December 22, 2010 9:12 AM*
To: *Vandervaart, Donald; Evans, John; Cuilla, Mark;*
CC: *Reeves, Gregory W; Moser, Jim; Hayden, Robert*
Subject: *RE: Jordan Lumber TV Renewal*

*Good discussion. And the summary plan is . . . ?
Note that there is a Regulatory Requirement in the Title V permit (page 11 T19) that states the facility shall not discharge more than 3.97 lbs/tbf, and by using our current spreadsheet they are emitting at 4.09. So this emission limit is hard wired into the permit and looks like an issue. We are in agreement to get that changed. FRO does not believe the company changed any of their methods of operation. But FRO discovered this difference on their Emission Inventory review. Please give us a call with the plan.
Thanks for the discussion.*

With this being said, the renewed permit will now include monitoring/recordkeeping/reporting requirements as part of the BACT conditions. To ensure compliance with the emission limits in the permit, the Permittee will be required to keep monthly records (made available upon request) of the specific species of wood processed in each kiln per month and the total amount of board feet processed per kiln each month. No reporting will be necessary. Through this renewal process the Permittee was made aware of DAQ's determination of need of PSD modification on this issue prior to any emission factor changes.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect this status.

CAM – 40 CFR 64 requires that a continuous compliance 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 non-applicability for the facility's control devices was established during the latest TV renewal cycle (See William Willet's **January 6, 2006** permit review for permit **03469T17**). As part of this permit renewal, the original CAM non-applicability determination was re-confirmed (boilers and planer/wood hog potential PM₁₀ emissions are each less than CAM threshold per DAQ spreadsheets). No new equipment has been added since the last permit renewal.

VII. Facility Wide Air Toxics

The Permittee is subject to modeled emission rates per 15A NCAC 2D .1100 for its lumber drying kilns (**ID Nos. K1 through K8**). The current permit includes source-by-source emission rates (both hourly and annual). This permit renewal does not affect this status except to combine the current tables into one table and convert the annual emission limits from pounds per hour to pounds per year by multiplying the hourly rates by 8760 hours per year. This was confirmed in the AQAB modeling files for correctness.

VIII. Facility Emissions Review

There is no change in emissions for this renewal.

The following table represents the latest years' emission inventories from the facility:

Pollutant(s)	2008 Actual Emissions (tpy)	2009 Actual Emissions (tpy)
CO	25.71	50.18
NO _x	64.81	50.59
PM ₁₀	29.45	64.25
SO ₂	7.31	5.88
VOC	319.40	297.27
Total HAPs/TAPs	9.26	10.05

IX. Stipulation Review

The facility was last inspected by Gregory Reeves of the FRO on **January 7, 2010**. Based on his observations the facility appeared to be in compliance with their Title V permit requirements.

However, he did request the following items be addressed as part of the permit renewal process:

1. that DAQ review the emission factors listed in 2D .0530 for accuracy and relevance. It would appear that the factors listed are more stringent than the NCASI factors for lumber kilns. *See discussion above on BACT emission limits;*
2. that a stipulation be placed in the permit for PM/VE source testing of one of the three pyrolytic boilers (**either B01 or B02**) during the first two years of this permit cycle. *Agree, permit has been modified to add testing requirement;*
3. that a stipulation be placed in the permit for PM/VE source testing of the stoker type boiler (**ID No. B04**) during the first two years of this permit cycle. *Agree, permit has been modified to add testing requirement; and*
4. that a reference to one propane-fired emergency generator (105kW, 141 Hp) be added to the list of insignificant activities as an existing source (manufactured 3/10/2006) along with any MACT requirements under 40 CFR 63, Subpart ZZZZ. *Agree, list of insignificant activities has been modified as requested.*

X. 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 at or before the time notice provided to the public under 2Q .0521 above. The State of South Carolina and The Mecklenburg County Local Program are affected areas within 50 miles of this facility.

XI. Conclusions, Comments, and Recommendations

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

A consistency determination was not required for this renewal.

FRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

RCO concurs with FRO's recommendation to issue the renewed air permit.