

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: DRAFT April 6, 2006**

**Region:** Asheville Regional Office  
**County:** Mitchell  
**NC Facility ID:** 6100092  
**Inspector's Name:** Patrick Ballard  
**Date of Last Inspection:** 10/18/2005  
**Compliance Code:** 4/In Compliance – Certification

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> Ethan Allen Operations Inc. - Spruce Pine Division  <b>Facility Address:</b> Ethan Allen Operations Inc. - Spruce Pine Division 200 Ethan Allen Drive Spruce Pine, NC 28777  <b>SIC:</b> 2511 / Wood Household Furniture <b>NAICS:</b> 337122 / Nonupholstered Wood Household Furniture Manufacturing  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> N/A <b>NSPS:</b> N/A <b>NESHAP:</b> N/A <b>PSD:</b> N/A <b>PSD Avoidance:</b> N/A <b>NC Toxics:</b> N/A <b>112(r):</b> N/A <b>Other:</b> N/A
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 6100092.04B <b>Date Received:</b> 12/29/2004 <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 06267/T11 <b>Existing Permit Issue Date:</b> 06/23/2003 <b>Existing Permit Expiration Date:</b> 09/30/2005
Bruce Ikard Environmental Coordinator (828) 765-1776 200 Ethan Allen Drive Spruce Pine, NC 28777	Ron Hartwell Plant Manager  P O Box 639 Old Fort, NC 28762	Michael Baker Environmental Engineer (828) 668-7686 P O Box 639 Old Fort, NC 28762	
<b>Review Engineer:</b> Judy Lee  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____		<b>Comments / Recommendations:</b> <b>Issue</b> 06267/T12 <b>Permit Issue Date:</b> <b>Permit Expiration Date:</b>	

**I. Purpose of Application**

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (06267T11) was issued on June 23, 2003, and is currently scheduled to expire on September 30, 2005. The renewal application was received on December 31, 2004, 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.

In addition, as part of this renewal, the Permittee has asked that the permit be modified to harmonize the reporting requirements to a semi-annual basis versus a quarterly basis. The facility has also provided supplemental information pertaining to insignificant emission sources located at the plant. The existing permit requires that the facility report hazardous air pollutant (HAP) emissions on a quarterly basis for avoidance of the maximum achievable control technology standards that would be required for a major source of HAPs. The facility request semi-annual reporting for HAP emissions. The facility has demonstrated over the past five years of operation that its emission limitations have not been exceeded for HAPs.

## II. Facility Description

The facility operates a wooden furniture manufacturing facility. Woodworking operations may include lumber drying, sawing, machining, and sanding. Fabricated furniture is finished in a multi-step process with a variety of stains, sealers, and lacquers. This facility has no kilns on site (no rough cut lumber only machine room).

## III. History/Background/Application Chronology

**June 4, 2004** – Permit Application 6100092.04A received – assigned to Laura Butler, RCO transferred to Judy Lee, RCO on March 15, 2005.

**December 29, 2004** – Permit Application 6100092.04B received – assigned to Judy Lee, RCO.

**July 15, 2005** – Permit Application 6100092.05A received – assigned to Judy Lee, RCO.

The three applications listed above were consolidated into one application and will be processed under the application request for renewal (Application 6100092.04B). Please see the attached Comprehensive Application Report for 6100092.04B for more details.

## IV. Permit Modifications/Changes and ESM Discussion

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

\*\*\*\*\*INSERT TABLE FROM PERMIT

Changes were made to the facility's entries in Emission Source Module (ESM) to correct descriptions, emission source ID Nos., and add new sources that were previously omitted.

## V. Regulatory Review

The facility is currently subject to the following regulations:

- 15A NCAC 2D .0503, Particulates from Fuel Burning Indirect Heat Exchangers
- 15A NCAC 2D .0504, Particulates from Wood Burning Indirect Heat Exchangers
- 15A NCAC 2D .0512, Particulates from Miscellaneous Wood Products Finishing
- 15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources
- 15A NCAC 2D .0521, Control of Visible Emissions
- 15A NCAC 2D .1111, Maximum Achievable Control Technology
- 15A NCAC 2Q .0317, Avoidance Conditions for 15A NCAC 2D .0530, PREVENTION OF SIGNIFICANT DETERIORATION for Volatile Organic Compounds
- 15A NCAC 2Q .0317, Avoidance Conditions for 15A NCAC 2D .1100, Control of Toxics Air Pollutants

*The following regulations were addressed at this time and no new applicable regulations will be added during this permit revision (renewal):*

15A NCAC 2D .1111 "Maximum Achievable Control Technology (40 CFR 63, Subpart DDDDD)"

See Section VI - NESHAP below

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

See Section VI - Toxics below

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

**NSPS** – The facility is not currently subject to any NSPS requirements. The renewal of this permit does not require NSPS analysis.

**NESHAPS/MACT** – The facility is currently required to comply with 40 CFR 63, Subpart JJ "Wood Furniture MACT". Applicable equipment includes spray booths, wash-off tanks, gluing operations, printers, and steam

heated drying ovens. Per regional review, the facility is in compliance with the MACT and continued compliance is expected.

The facility is also currently complying with 15A NCAC 2Q .0317, Avoidance Conditions, for any future maximum achievable control technology standards that may apply to the facility. The Permittee is required to monitor individual and facility-wide total HAP emissions and report those amounts. The Permittee has requested that the current quarterly reporting period be modified to semi-annually. ARO and RCO concur with this modification. Continued compliance is expected.

The Ethan Allen facility currently has two hybrid fire-tube/water-tube boilers that are greater than 10 MMBtu per hour. The boilers meet the definition of an affected unit under the boilers and process heaters NESHAP; however, since the facility has taken an avoidance condition to become a non-major source of HAPs the boiler MACT does not apply at this time. However, if the facility becomes a major source of HAPs the boiler MACT will need to be addressed at that time.

**PSD** – The facility is currently considered minor for PSD purposes because they are operating under a 250 ton per year volatile organic compounds (VOC) PSD avoidance condition. The renewal of this permit does not require PSD analysis because no emissions increase was requested.

Mitchell County has not been triggered for PSD increment tracking.

**Attainment** - Based on the EPA's boundary designation for 8-hour ozone standards for North Carolina (4/15/04), Mitchell County has been designated as attainment. Therefore, any facility modification will follow PSD regulations.

**112(r)** – The 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.

**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 exemptions apply:

- Wood Furniture Finishing Operations (ID Nos. ES-F1) are exempt because they are subject to 40 CFR Part 63 Subpart JJ, which is a Section 112 standard promulgated after 11/15/90.
- Woodworking operations (ID No. ES-W1) are exempt because potential uncontrolled PM<sub>10</sub> emissions prior to each control device (ID Nos. CD-BF1 through CD-BF6) are less than 100 tons per year.
- Boiler (ID No. ES-B1) is exempt because potential PM<sub>10</sub> emissions to the multicyclone are less than 100 tons per year pre-controlled.
- Boiler (ID No. ES-B2) is exempt because potential PM<sub>10</sub> emissions to the multicyclone are less than 100 tons per year pre-controlled.

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. The woodworking operations at the facility are controlled by bagfilters. Per DAQ guidance, CAM is required on those control devices that see pre-controlled PM<sub>10</sub> emissions of 100 tons per year or more. As stated above, CAM is required on control devices that are installed on an emission source in order to meet an applicable standard. The woodworking operations are all 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.

The Permittee has provided a CAM analysis based on DAQ guidance. The following table represents the results:

Equip ID	lbs/hr PM into device	Process Description	Percent Process	% PM10*	lbs/hr PM10 uncont.	tpy PM10
CD-BF1	35.0	Planing	25	0.0	0.0	0.0
	48.0	Molding	25	0.0	0.0	0.0
	45.0	Routing/Shaping	15	0.0	0.0	0.0
	8.0	Fine Sawing	20	0.37	0.3	0.13
	12.0	Rough Sawing	15	1.89	0.23	0.99
					<b>Total CD-BF1</b>	<b>1.12</b>
CD-BF2	129.0	Routing/shaping	80	0.0	0.0	0.0
	3.88	Sanding	20	23.8	0.92	4.04
					<b>Total CD-BF2</b>	<b>4.04</b>
CD-BF3	1344.7	Purchased wood fuel	100	1.50	20.2	88.4
					<b>Total CD-BF3</b>	<b>88.4</b>
CD-BF4	30.0	Fine sawing	80	0.37	0.11	0.49
	6.9	Shaping	20	0.0	0.0	0.0
					<b>Total CD-BF4</b>	<b>0.49</b>
CD-BF5	14.9	Fine sawing	55	0.37	0.06	0.24
	3.88	Sanding	10	23.8	0.92	4.04
	22.0	Routing/shaping	35	0.0	0.0	0.0
					<b>Total CD-BF5</b>	<b>4.29</b>
CD-BF6	14.0	Routing/shaping	50	0.0	0.0	0.0
	4.85	Fine sawing	40	0.37	0.02	0.08
	11.64	Sanding	10	23.8	2.77	12.1
					<b>Total CD-BF6</b>	<b>12.21</b>

%PM10 factors used were taken from NC wood working emissions spreadsheet DAQ website (planing-0.0, shaving/chipping-0.0, rough sawing-1.89, fine sawing-0.37, milling-0.0, molding-0.0, sanding-23.8)

Based on uncontrolled emissions supplied by the Permittee, CAM will not apply to any control device because all are less than the major source thresholds in the rule.

## VII. Facility Wide Air Toxics

The facility must comply with the emission limitations and other requirements of 2D .1100 and 2D .1111 (40 CFR Part 63, Subpart JJ). 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 Ethan Allen was Subpart JJ, which has an exemption under 2Q .0702

The facility’s permit currently has facility-wide emission limitations for toxic air pollutants based on previous modeling, which will remain in the permit; therefore, no changes to toxics regulations are required for this permit renewal. However, the toxics condition is being revised to clarify the facility’s reporting requirements. The facility has requested semi-annual reporting for Air Toxics; however, toxics reporting frequency must be quarterly per a statutory requirement (GS 143-215.65).

RCO files did not go back any further than Air Permit # 06267R07, but during email correspondence from the region, Mr. Ballard responded that their records indicate that the MEK and toluene limits first showed up in Air Permit # 06267R05 and the review states that toxics was triggered during “modification of Air Permit No. 06267R4 to include the addition of two wash-off tanks (11' x 5' and 5' x 2' dimensions) and four bulk storage tanks (3,500 gallon capacity each). The four bulk storage tanks have been located at the facility since the facility was constructed in 1989 (JSF’s 2/28/97 phone conversation with Bud Herrick); however, the larger wash-off tank was installed in late 1993, thus triggering toxics. Modeling has been performed to show compliance with the AALs for toluene and MEK.”

### VIII. Facility Emissions Review

There is no change in emissions for this renewal. The following table represents the latest years emission inventory from the facility:

Pollutant(s)	2004 Actual Emissions (tpy)
CO	27.86
NO <sub>x</sub>	22.97
PM <sub>10</sub>	13.26
SO <sub>2</sub>	1.14
VOC	197.59
Total HAP	9.37

### IX. Compliance History (taken from Compliance Inspection Report - October 18, 2005)

A compliance history of the facility is as follows:

Date	Action	Comment
9/27/96	NOV	Open burning
4/9/99	NOV	Permit Requirement for Stack Testing – Overdue
8/16/04	NOV	MACT – Subpart JJ Violation

No other violations have been documented at the facility since 1996.

During the latest inspection, the facility appeared to be in compliance with MACT, Subpart JJ, and the current Title V air permit. As noted above, there were some minor compliance issues with the finishing operations. However, after consulting with the ARO compliance coordinator, these issues do not warrant enforcement action. The facility was verbally notified of these issues and corrective action has been or will be taken.

### X. Stipulation Review

ARO had the following condition suggestions:

1. Revise the reporting condition as requested by the Permittee.  
*Agree, modification was made.*
2. Since the facility has the 10/25 HAP limit, they have requested in their application cover letter to be removed from MACT Subpart JJ applicability if the EPA changes their “once-in-always-in” policy.  
*No change needed in permit at this time.*
3. Boiler stack testing – The required stack test was performed on December 16, 2004. Test results were submitted on February 11, 2005 and approved on April 25, 2005. Based on a memorandum from Ms. Paula Hemmer, the results are acceptable and demonstrate that ES-B1 and ES-B2 were operating in compliance with the particulate matter (PM) emissions standard during the testing period. This test was required by the initial Title V air permit (**No. 06267T08**) issued on October 4, 2000.  
*ARO requests that the five year testing condition for demonstrating compliance be relaxed to seven or eight years; therefore it will be removed during this permit renewal. Refer to email correspondence from Mr. Patrick Ballard, ARO on December 29, 2005. The permit has been amended with our standard testing language.*
4. Annual Inspection Comments/Corrections  
*The notes made during the annual compliance inspection performed by Mr. Ballard and Ms. Pitrolo on October 18, 2005 have been addressed during this permit renewal.*

**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 at or before the time notice provided to the public under 2Q .0521 above. The affected State and local program are Tennessee and Western North Carolina Regional Air Quality Agency, respectively.

*Public Notice of the DRAFT Title V Permit ran from XX/XX/2006 to XX/XX/2006.*

Comments Received on the Draft Permit – No public comments have been received to date.

*EPA's 45 Day Review period ran concurrent with the 30 day Public Notice from XX/XX/2006 to XX/XX/2006.*

The following Significant EPA Comments regarding the Draft Permit were received from Mr. Scott Miller, Environmental Engineer, U. S. EPA, Region 4,

DAQ response:

**XII. Conclusions, Comments, and Recommendations**

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

A consistency determination was not required for this renewal.

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

A draft permit and review were emailed to Mr. Patrick Ballard, ARO and comments received on February 27, 2006. A revised draft was sent on April 6, 2006.

A draft permit was emailed to Mr. Bruce Ikard, Ethan Allen, on February 27, 2006 for review and comments received on March 27, 2006. A revised draft permit was sent to Mr. Bruce Ikard on April 6, 2006 for review and comments received on XXXX, 2006

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