

## AIR PERMIT REVIEW

APPLICANT Laneventure	SITE LOCATION Conover	COUNTY Catawba
CDS PLANT ID 3703500242		
CONTACT Joseph Bullis VP, CFO & Administration		PHONE (704) 279-6603
APPLICATION FOR Renewal		EXISTING P/N 04967T11
APP No. 1800242.04A 1800242.04B	REVIEWER Rahul P. Thaker	SIGNATURE  DATE October 28, 2004
RECOMMENDATION and COMMENT Issue Permit 04967T12		FEE CLASS Title V

### 1. Purpose of Application

The application (1800242.04A) is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (04967T11) was issued on September 4, 2003 and is currently scheduled to expire on November 30, 2004. The renewal application was received on March 1, 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.

Separately, the company has submitted an application (1800242.04B) for the construction and operation of a new surface coating operation for the touch-up of metal frames. The company has included a processing fee of \$834. This application was received on August 17, 2004 and was consolidated into the renewal application (1800242.04A).

### 2. Facility Description

Laneventure ("facility") manufactures and finishes upholstered furniture, wicker and rattan furniture, and occasional tables. Current hours of operation are 8 hours/day and 5 days/week.

This facility is a major source under the Title V of the Federal Clean Air Act (CAA). The implementing regulations for the Title of CAA have been written at 40 CFR 70 and included in NC State Implementation Plan (SIP) at 15A NCAC 2Q .0500. The potential to emit for the facility for emissions of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAP) are each greater than the major source threshold of 100 tons per year and 25 tons per year, respectively. Also note that for individual HAP, the largest emitting is toluene, whose emission rate exceeds the 10 tons threshold for major source for individual HAP.

### 3. Application Chronology

March 1, 2004 - Air permit application was received by the Division of Air Quality (DAQ), Mooresville Region Office (MRO) and was sent to Raleigh Central Office (RCO) for processing on the same day. Permit application was considered complete as of March 3, 2004.

March 11, 2004 - Received the region review for the renewal application.

August 17, 2004 - Received the application for a new equipment with the processing fee.

### 4. Permit Modification/Changes

Pursuant to 15A NCAC 2Q .0523, the following Section 502(b)(10) changes were made to the initial Title V permit (04967T08) by utilizing the Part II Construction Section of the Air Quality Permit:

- Four dip tanks (ID Nos. DT-7, DT-8, DT-9, and DT-10) were added under permit revision (04967T10) issued on 1/27/03.
- Six dip tanks (ID Nos. DT-11 through DT-16) were added under permit revision (04967T11) issued on 9/4/03.

As per the procedures of 15A NCAC 2Q .0514 "Administrative Permit Amendments", the following permit revision was also performed:

- One natural gas fired drying oven and one natural gas fired packaging heat shrink oven were added in the insignificant activity list under the permit revision (04967T09) issued on 7/2/01.

It should be noted that through this renewal application, company has requested to refurbish the existing seven water cascade spray booths (ID Nos. 1S, 2S, 6S, 11S, 13S, 15S, and 16S) so that these booths can have an option to use dry filters. Similarly the company also requests to install dry filters as an option on the existing four baffle spray booths (ID Nos. 1, 2, 3, and 4). The company states that the existing spray booths have reached their useful life and are developing leaks in water pans, and hence, wishes to refurbish these spray booths with dry filters. Finally, as per company, it wishes to make these changes over the time period of next 2-3 years based on availability of money and time. Hence, until it converts all water cascade filters and baffle filters to dry filters, it wishes to have them permitted for both options, water cascade/dry filters and baffle/dry filters.

DAQ believes that the dry filter media is more effective in control of particulate matter. Also, the maintenance of this type of filter is easier as compared to water pans or baffles. It is expected that due to better particulate control, the emissions will either remain the same or may be reduced after conversion to dry filters. These changes will be performed in the renewed permit.

Separately, as indicated in Section 1 above, the Permittee has made a request to construct and operate a new surface coating operation, consisting of touch-up pens and non-refillable spray aerosol cans. The Permittee states that the imported metal frames sometimes need to be touched-up due to imperfections and scratching. It expects that the proposed touch-up operation would be accomplished in the inspection area of the furniture of the facility. Emissions of particulate and VOC are expected from this emission operation. As per company, the actual usage of the coating materials may be between 5-10 gallons per year. However, the Permittee has estimated the potential emissions using the 1,000 gallons of coating material usage. The potential emissions are based upon the finishing material formulation used and the actual emissions of various pollutants in 2003. The following is an emission summary for this equipment:

Pollutant	Potential Emission Rate tons per year
VOC	1.37
TSP	0.035
Total HAP	0.16
Total NC Air Toxics	0.11

As such, this emission source can be deemed an insignificant activity as per 2Q .0503(8) as the emission rates of criteria (VOC) and HAP pollutants are less than the respective 5 tons/yr and 1000 lbs/yr thresholds.

It will be included in the renewed permit as an insignificant activity.

## 5. Regulatory Review

The existing permitted sources are subject to the following regulations:

2D .0512 "Particulates from Wood Products Finishing Plants"

2D .0515 "Particulates from Miscellaneous Industrial Processes"

2D .0516 "Sulfur Dioxide Emissions from Combustion Sources"

2D .0521 "Control of Visible Emissions"

2D .1111 "Maximum Achievable Control Technology (40 CFR 63 Subpart JJ)"

2Q .0317 "Avoidance Conditions (for 15A NCAC 2D .0530 Prevention of Significant Deterioration)"

No regulatory review is required at this time for the existing permitted sources, since there are no new applicable regulations affecting this renewal.

For the new insignificant activity, the surface coating operation consisting of touch-up pens and non-refillable spray aerosol cans, the following regulatory analysis can be stated:

### MACT Subpart JJ "Wood Furniture MACT"

The new coating operation is for surface coating of metal frames. These metal frames are not components of wood furniture, made at this facility. Hence, this emission source cannot be deemed subject to MACT Subpart JJ. Please also refer to the attached e-mail from EPA, stating that this surface coating operation is not subject to the MACT Subpart JJ.

### MACT Subpart RRRR "Metal Furniture Surface Coating MACT"

The new coating operation does not meet the definition of "coating operations" in this Subpart. Specifically, the proposed surface coating operation includes non-refillable aerosol cans and touch-up markup pens, which are explicitly exempted from the definition of "coating operation" in this Subpart. Hence, this emission source is not subject to the requirements of MACT Subpart RRRR.

### NSPS Subpart EE "Metal Furniture Surface Coating NSPS"

The new coating operation does not meet the definition of "surface coating operation" in this Subpart. The NSPS defines that the surface coating operations comprise of coating application stations(s), flash-off area, and curing oven.

As indicated above, the proposed surface coating is not really a coating station as defined in this Subpart. It consists of handheld non-refillable spray aerosol cans or touch-up markup pens to rectify the imperfections of metal frames. There are not any curing ovens involved for this emission source. Moreover, the worst-case potential application rate for coating is 1000 gallons/yr (or 3785 liters/yr), which is less the exemption criteria of 3,800 gallons/yr for this Subpart. Hence, the NSPS Subpart EE is also not subject to this emission source.

#### NC Air Toxics

The emissions of NC air toxics from the proposed surface coating operation; specifically, ammonia, ethyl acetate, methyl ethyl ketone, toluene, and xylene do not exceed the respective toxic pollutant emissions rates (TPER). Note that the emissions from the existing wood furniture manufacturing operation are exempt from the review under 2Q .0711.

## **6. NSPS, NESHAPS, PSD, Attainment Status, 112(r), CAM**

### NSPS

New Source Performance Standards (NSPS) do not apply to this facility.

### NESHAP/MACT

This facility is currently subject to National Emission Standard for Wood Furniture Manufacturing Operations, as codified at 40 CFR 63 Subpart JJ.

### PSD

This facility falls under the "250 tons" major source category for Prevention of Significant Deterioration (PSD) for regulated pollutants. The facility has avoided becoming a major source for PM-10 and VOC, by accepting federally enforceable permit limits. Hence, the facility has been deemed minor source for PSD purpose.

### Attainment Status

This facility is located in Catawba County, which has been designated in non-attainment for 8-hr ozone standard. However, this non-attainment area is participating in a voluntary Early Action Compact (EAC) program and the implementation time for this standard has been deferred until December 2007. Until that time, PSD permitting rule apply in this County.

### 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.

### CAM

Compliance Assurance Monitoring (CAM) requirements of 40 CFR Part 64 do not apply to any of the permitted emission sources at this facility.

In order to be subject to the Part 64 requirement, the following three criteria must be satisfied:

- (i) pollutant specific emission unit (e.g. woodworking operation, spray booth etc.) shall be subject to an emission limitation or a standard other than the exempt limitations or standards (e.g. post-1990 federal standards such as MACT, NSPS etc.),
- (ii) the pollutant specific emission unit shall use an active control device to achieve compliance with the applicable requirement, and
- (iii) potential precontrol device emission rate for the pollutant specific emission unit for any regulated pollutant shall be greater than major source threshold.

Only wood working consisting of rough/finish machining and sanding operations (ID No. WD-1) is required to be reviewed for Part 64 applicability, because this is the only source, which has active control devices.

For wood working (ID No. WD-1), the applicable requirement is 2D .0512. The emission source has rough sawing, fine sawing, and sanding operations. The particulate loading from this equipment is directed to a total of three simple cyclones (in series) in different proportions. Based on the applicant provided estimate, the pre-control potential PM-10 emission rate is approximately 10.2 tons per year. Because the pre-control emission rate for PM-10 for this source is less than 100 tons per year, the CAM does not apply to the wood working (ID No. WD-1). The company provided estimate and methodology are reasonable, and are also representative to the actual configuration at the facility. Please refer the application for details. Finally, it should be noted here that based on the current EPA policy on describing emission unit, which has undergone CAM applicability, the descriptor of this emission unit (ID No. WD-1) will now be revised as following in the renewed permit:

"One wood material collection system (ID No. WD-1) consisting of separate group processes controlled by three simple cyclones (11 feet, 11 feet, and 8.5 feet in diameter, ID Nos. CDC-7a, CDC-7b, and CDC-7c), as per CAM demonstration"

Separately, note that the wood furniture finishing operations (ID No. WF-1) is subject to 40 CFR 63 Subpart JJ MACT (post 1990 MACT) and hence, for HAP emissions, it is not required to be reviewed for CAM requirement.

## **7. Facility Wide Air Toxics**

The NC air toxics does not apply to this facility per 15A NCAC 2Q .0702(a)(23).

## **8. Facility Compliance Status**

The facility was inspected on 6/24/04 by Bruce Ingle and Angela Hall of MRO. The facility was found to be in compliance with the permit requirements at that time.

## **9. Statement of Compliance**

The DAQ has reviewed the compliance status of this facility. The applicant has certified through a submittal of E5 form that the facility is in compliance with all applicable requirements.

## **10. Facility Emissions Review**

There is no change in emissions for this renewal.

## **11. Stipulation Review**

Existing air permit 04967T11 will be revised as following:

- Revise source descriptors for emission sources; WD-1, 1S, 2S, 6S, 11S, 13S, 15S, 16S, 1, 2, 3, 4 in Section 1 Table, Section 2.1 A., Section 2.1 B., and Section 2.2 A. & B.
- Include a footnote for emission sources DT-10 through DT-16 for 15-day notification to MRO in Section 1 Table.
- Revise Section 2.1 A. Table to clarify that 2D .0515 applies only when cement board or PVC board is processed.
- Revise Section 2.1 A.3.c. and Section 2.1 B.2.c. for visible emission monitoring.
- Revise Section 2.1 B.4.d and Section 2.2 A. & B. 1.f. to include semi-annual reporting.
- Include latest version of General Conditions.
- Remove Part II of the permit.

## **12. Public Notice / EPA and Affected State Review**

Pursuant to 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 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 states as specified by 15A NCAC 2Q .0503(1) and 40 CFR 70.8(b) are; North Carolina local air pollution control programs for Mecklenburg County.

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

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

A consistency determination was not required for this renewal.

MRO recommends issuance of the permit per MRO (Angela Hall) review dated March 11, 2004. The draft permit was e-mailed to MRO on 10/19/04. The region comments and response are the following:

Comment 1:

Remove monitoring/record keeping/reporting requirements for spray booths in 2D .0521 as per Central Office suggestion.

Response:

DAQ believes that the compliance with the monitoring/reporting/reporting requirements for 2D .0512 for spray booths is sufficient to assure compliance with 2D .0521.

Hence, the existing monitoring/reporting/reporting requirements under 2D .0521 will be removed and will be referred to requiring compliance with 2D .0512 for spray booths.

Comment 2:

Revise MRO's address as following on page 1 of the permit: 610 East Center Avenue, Suite 301, Mooresville, NC 28115.

Response:

MRO mailing address will be corrected in the permit.

Comment 3:

Based on the guidance from EPA, MRO believes that the metal touchup pens are considered subject to the JJ MACT.

Response:

Per EPA (Paul Almodóvar), the proposed surface coating operation consisting of non-refillable aerosol cans and touch-up markup pens for touching up metal frames is not subject to MACT Subpart JJ. Please see attached e-mail from Paul.

Comment 4:

Under Item 4, in the bullet for discussion on spray booth filters, the last line of the 1st paragraph needs to be revised to read "water cascade/dry filters and baffle/dry filters".

Response:

DAQ will correct this statement.

Comment 5:

Include the after control emission rate derived through the May 2001 stack testing and remove the cyclone efficiency from the equation to estimate PM-10 emission for woodworking operation under the PSD avoidance permit condition.

Response:

The initial Title V permit (04967T08) required the permittee to test one of the cyclones (CDC-7b) for emissions from woodworking operation on a before and after control basis, and also required to determine cyclone efficiency.

The permittee performed the test on May 23 and 24, 2001 on a portion of the woodworking operation, which was a CNC router. The test indicated that the after control PM-10 (filterable and condensable) emission rate from this equipment was 0.183 lbs/hr or 0.8 ton/12 month period.

This test did not measure the before control emission rate nor did it determine the efficiency for PM-10 for the cyclone. Moreover, this stack test represented only the portion of the woodworking operation, which consists of rough and finish saws, and sanders.

Hence, the results of this test cannot be deemed representative and should not be concluded as the fulfillment of the required stack testing.

DAQ accepted this stack test result in spite of the inconclusiveness of the test results. DAQ then removed the testing requirement from the permit through the issuance of air permit 04967T11.

Separately, the permittee is using the control efficiency of 79% for PM-10 to estimate the emissions from the woodworking operation for monitoring/recordkeeping/reporting requirements under the PSD avoidance permit condition. In general, the simple cyclones can reduce particulate emissions

by 70-90%<sup>1</sup>, depending upon the size of particles, type of particles, and the diameter of cyclone. However, it should be noted that the efficiency for the removal of PM-10 is expected to be near the lower bound of the above stated range for simple cyclone.

This matter was discussed with Donald van der Vaart of this office. It was agreed that DAQ would not require a new stack test for the woodworking operation at this facility, in the renewed permit.

No change to the permit condition will be made.

Separately, the draft permit was e-mailed to company on 10/19/04 for review. The email of 10/28/04 from the company (Mike Smith) indicated the following comments:

Company Comments:

"Metal touch-up using non-refillable aerosol cans and touch up markers be listed as an Insignificant Activity."

"Remove the monitoring and reporting requirement for visible emissions from the spray booths under 2D .00521."

"Change the wording in section 2.3,B,1.c. from;"control efficiency=cyclone PM-10 removal efficiency as determined by testing" to " control efficiency=cyclone PM-10 removal efficiency of 79%."

Response:

All above comments have been implemented in the draft permit, except the comment on cyclone efficiency of 79%. DAQ has allowed using this control efficiency for cyclone for PM-10 emission calculations from the woodworking operation. There is no need to make this efficiency value explicitly included in the permit.

The RCO recommends issuance of the permit 04967T14, after the completion of 30-day public comment period and 45-day EPA review period.

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<sup>1</sup> Buonicore and Davis (eds.), *Air Pollution Engineering Manual*, page 77, Van Nostrand Reinhold, 1992.