

## FIRST-TIME TITLE V AIR PERMIT REVIEW

<b>APPLICANT:</b> Braxton Culler Incorporated	<b>SITE LOCATION:</b> Sophia	<b>COUNTY:</b> Randolph	
<b>TECHNICAL CONTACT:</b> Mike O'Kelley	<b>PHONE:</b> (336) 885-9186	<b>RESPONSIBLE OFFICIAL:</b> Steve Greene	<b>TITLE:</b> Controller
<b>REVIEW ENGINEER:</b> Mark Cuilla	<b>SIGNATURE:</b>	<b>DATE:</b> Date, 2004	
<b>REGIONAL CONTACT:</b> Michael Gendy	<b>REGIONAL OFFICE:</b> WSRO	<b>SIC CODE:</b> 2519	
<b>APPLICATION NUMBER:</b> 7600311.04A	<b>EXISTING PERMIT NUMBER:</b> 06253R07	<b>NEW PERMIT NUMBER:</b> 06253T08	

### I. Introduction/Purpose of Application

This first time Title V Air Permit Application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the DRAFT Title V operating permit. The primary source of information used to construct the DRAFT permit is the above referenced air permit application.

In addition, the Permittee is also amending its permit to reduce the number of permitted spray booths from nine to seven; specifically, ES-8 and ES-9 are to be removed from the equipment list.

### II. History and Permit Application Background Information

**April 10, 2003** – Permit 06253R07 issued as a renewal of the existing permit.

**March 19, 2004** – Permit application 7600311.04A received requesting transition from a prohibitory small facility to a title V facility. Permit deemed complete for processing.

**April 15, 2004** – WSRO received a letter from the facility requesting that the facility be classified as title V for VOC emissions only. The Permittee states that “since projected actual usage of HAPs will be under 25 tons per year for total emissions and under 10 tons per year for a single HAP, we request that our status not be classified as title V for HAPs.”

### III. Facility Description

Braxton Culler, Incorporated finishes wood and rattan furniture. The facility is currently permitted to operate one wood and wicker furniture finishing operation consisting of nine dry filter type paint spray booths and one natural gas-fired bake oven. In addition, the permit lists nineteen natural gas-fired heaters as insignificant sources.

### IV. Statement of Compliance

On her latest inspection of the facility on October 16, 2002, Jodi Howard of the Winston-Salem Regional Office indicated that based on the inspection and data reviewed, the facility appeared to be in compliance with all applicable air regulations.

**V. Summary of Emission Sources and Control Devices**

The following table reflects the current permitted sources and control devices at the facility.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
NGFBO-1	One natural gas-fired bake oven (4.5 million Btu per hour maximum heat input)	NA	NA
ES-1 through ES-7	Seven dry filter type spray booths	NA	NA

**VI. Emission Source Evaluation**

**A. One natural gas-fired bake oven (4.5 million Btu per hour heat input; ID No. NGFBO-1)**

The bake oven is subject to the particulate matter emission limits described in 15A NCAC 2D .0515, the sulfur dioxide emission limits described in 15A NCAC 2D .0516, and the 20 percent opacity standard described in 15A NCAC 2D .0521.

15A NCAC 2D .0515 limits particulate matter emissions according to the following equation:

$$4.10 \times (P)^{0.67}$$

where P is the process weight rate in tons per hour for process weights less than 60,000 pounds per hour. According to the latest inspection report, the process weight of the furniture going through the bake oven is 1600 pounds per hour. The calculated emission limit is 3.53 pounds per hour. This permit action does not change these process rates. Using the AP-42 factor for particulate matter from natural gas combustion, 0.03 pounds per hour of particulate matter is emitted from the bake oven [(0.007 pounds per million Btu) x (4.5 million Btu per hour)]. The Permittee is required to maintain production records which specify types of materials and finishes processed. No reporting is required for particulate matter from this source. Continued compliance is expected.

15A NCAC 2D .0516 limits sulfur dioxide matter emissions from combustion sources to 2.3 pounds per million Btu. The 4.5 million Btu per hour bake oven has a calculated allowable of 10.35 pounds per hour. Using AP-42 emission factors for sulfur dioxide from natural gas combustion, 0.006 pounds per million Btu is emitted from the bake oven [(0.6 pounds per million cubic feet of natural gas) x (1 cubic foot of natural gas per 1030 Btu)]. Continued compliance is expected. The Permittee is not required to complete monitoring, recordkeeping, or reporting for this source because of the combustion of natural gas.

15A NCAC 2D .0521 limits visible emissions from the combustion of natural gas in this source to 20 percent opacity. The Permittee has not had a history of exceedances of this standard; therefore continued compliance is expected. The Permittee is not required to complete monitoring, recordkeeping, or reporting for this source because of the combustion of natural gas.

**B. Seven dry-filter type spray booths (ID Nos. ES-1 through ES-7)**

These sources are subject to the particulate emission limit described in 15A NCAC 2D .0512, and the 20 percent opacity standard described in 15A NCAC 2D .0521.

15A NCAC 2D .0512 prohibits the emissions of particulate matter from the working, sanding, or finishing of wood without providing adequate ductwork and properly designed collectors. The seven paint spray booths are each equipped with dry filters in order to control particulate emissions. The facility is noted in the latest inspection report to use HVLP guns in the spray booths. These guns have a transfer efficiency of 60 percent and the filters provide a capture efficiency of 99 percent. The Permittee is required to conduct weekly inspections of the spray booths filters and annual inspections of the system ductwork for structural integrity. Records of these inspections must be maintained and submitted semi-annually in reports. Failure to monitor and record shall deem the Permittee in noncompliance with 15A NCAC 2D .0512. Continued compliance is expected.

15A NCAC 2D .0521 limits visible emissions from the spray booths to 20 percent opacity. The Permittee has not had a history of exceedances of this standard; therefore continued compliance is expected.

**VII. Multiple Emission Source Limits**

The facility is subject to the work practice standards for sources of volatile organic compounds per 15A NCAC 2D .0958, the state-enforceable only standards for odor and toxic air pollutants per 15A NCAC 2D .1806 and 2Q .0711, respectively, and maximum achievable control technology standards avoidance per 15A NCAC 2Q .0317 (for 15A NCAC 2D .1111).

15A NCAC 2D .0958 is applicable to the facility to all sources of volatile organic compounds. The permit condition as it applies requires that the Permittee perform work practice standards for the storage, clean up, transfer, and mixing of volatile organic compound materials. The permit condition also requires that the Permittee monitor these activities monthly and record the results of the inspections in a logbook. The Permittee is also required to submit summary reports on a semi-annual basis. At the latest inspection it was noted that no open containers of solvents or rags were observed, indicating compliance with 2D .0958. Continued compliance is expected.

15A NCAC 2D .1806 is applicable facility wide as a State-enforceable only requirement. The permit condition states “the Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility’s boundary.” At the latest inspection it was noted that no odors were noticed outside the facility and no odor complaints have been received indicating compliance with 2D .1806. Continued compliance is expected.

15A NCAC 2Q .0711 is applicable facility wide as a State-enforceable only requirement. The permit condition limits emissions for the following toxic air pollutants to below the toxic pollutant emission rate (TPER).

<b>Pollutant</b>	<b>Limit</b>
Methyl ethyl ketone (78-93-3)	78 pounds per day 22.4 pounds per hour
Toluene (108-88-3)	98 pounds per day 14.4 pounds per hour
Xylene (1330-20-7)	57 pounds per day 16.4 pounds per hour
Ethyl acetate (141-78-6)	36 pounds per hour

<b>Pollutant</b>	<b>Limit</b>
Manganese and compounds	0.63 pounds per day
Methyl isobutyl ketone (108-10-1)	52 pounds per day 7.6 pounds per hour

A comparison of these limits with the actual emissions presented in the facility's 2002 emissions inventory indicate compliance with the standard. Continued compliance is expected.

15A NCAC 2Q .0317 (for 15A NCAC 2D .1111) is applicable facility wide. The permit condition limits the emissions of any single HAP to levels below 10 tons per year and 25 tons per year for a combination of all HAPs. This restriction will keep the facility from having to comply with any current maximum achievable control technology standards that may apply to the facility. To assure compliance, the Permittee must track and record quantities of all individual HAPs and combined HAPs on monthly and rolling 12 month periods. The Permittee shall also be required to submit semi-annual reports of these records. Failure to maintain and record these quantities shall indicate noncompliance with 2D .1111.

### **VIII. MACT Applicability and Requirements**

The facility is not currently subject to any maximum achievable control technology standards (MACTs). This first-time title V application does not affect this status. The Permittee has requested that a MACT avoidance condition be placed in the permit to remain classified as a small source for HAP applicability. As discussed above, the Permittee shall track and record quantities of all individual HAPs and combined HAPs on monthly and rolling 12 month periods. The Permittee shall also be required to submit semi-annual reports of these records. Failure to maintain and record these quantities shall indicate noncompliance with 2D .1111.

### **IX. Permit Shield (including non-applicable requirements)**

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

### **X. Other Applicable Requirements**

#### **A. PSD**

The facility is not classified as a major source for PSD purposes since its potential emissions for each regulated pollutant does not exceed the 250 tons per year threshold value. There are no increases associated with this permitting activity; therefore, tracking of particulate emissions will not be required.

#### **B. North Carolina Air Toxics**

The facility currently operates under a facility-wide, state-enforceable only, requirement for the emission of toxic air pollutants. Pursuant to 15A NCAC 2Q .0711, the Permittee has made a demonstration that the facility-wide emissions do not exceed the toxic permit emission rates (TPERs) listed in 2Q .0711 for the following pollutants: methyl ethyl ketone, toluene, xylene, ethyl acetate, manganese and compounds, and methyl isobutyl ketone. The facility must be operated in such a way as to not exceed the TPER for each of the pollutants. The Permittee is required to submit a permit application for a modification if actual emissions from all sources will become greater than the corresponding TPER. Continued compliance is expected.

**C. Maximum Achievable Control Technology**

The facility is not currently subject to maximum achievable control technology standards promulgated under Section 112(d) of the Clean Air Act. The Permittee has requested that a MACT avoidance condition be placed in its permit to limit facility-wide emissions of all hazardous air pollutants to below the major source thresholds (10 tons per year for any single HAP and 25 tons per year for a combination of all HAPs). As discussed above, the Permittee shall track and record quantities of all individual HAPs and combined HAPs on monthly and rolling 12 month periods. The Permittee shall also be required to submit semi-annual reports of these records. Failure to maintain and record these quantities shall indicate noncompliance with 2D .1111.

**D. NSPS**

The facility is not subject to new source performance standards for any of the permitted equipment. The transition from prohibitory small to title V classification does not affect this status.

**XI. General Conditions**

The "General Conditions" section of the Title V Operating Permit lists additional applicable rule requirements that the Permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, severability, etc.

**XII. Insignificant Activities**

The insignificant activities listed in the application have been reviewed and verified. Although each insignificant activity is not listed in the Title V permit, a general condition is placed in the Title V permit stating that all insignificant activities shall comply with the applicable requirements. Those sources which qualify for exemption from permitting under regulation 2Q .0503(8) will be attached to the cover letter of the permit.

The following table represents all equipment listed as insignificant/exempt sources.

Emission Source	Insignificant Activity Regulation	Basis for Exemption
Nineteen natural gas-fired heaters (3.175 million Btu per hour maximum heat input, each; ID Nos. I-NGHH-1 through -19)	15A NCAC 2Q .0503(8)	Potential uncontrolled emissions no more than 5 tons per year

**XIII. Public Notice**

Pursuant to 15A NCAC 2Q. 0521, a notice of the draft Title V Operating 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.

**XIV. Recommendations**

The facility's first time Title V application has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the DRAFT permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.