

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

Permit Issue Date: **date, 2006**

**Region:** Mooresville Regional Office  
**County:** Cabarrus  
**NC Facility ID:** 1300140  
**Inspector's Name:** Mohammed Madjinasab  
**Date of Last Inspection:** 02/17/2006  
**Compliance Code:** C/In Compliance With  
 Procedural Reqr

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>		
<b>Applicant (Facility's Name):</b> Carolina Counters Corporation  <b>Facility Address:</b> Carolina Counters Corporation 13570 Broadway Ave. Midland, NC 28107  <b>SIC:</b> 3088 / Plastics Plumbing Fixtures <b>NAICS:</b> 326191 / Plastics Plumbing Fixture 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> <b>NSPS:</b> <b>NESHAP:</b> 15A NCAC 2D .1111 (WWWW) <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> 15A NCAC 2Q .0705 <b>112(r):</b> <b>Other:</b>		
<b>Contact Data</b>			<b>Application Data</b>		
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 1300140.06A <b>Date Received:</b> 02/28/2006 <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 09070/T02 <b>Existing Permit Issue Date:</b> 12/07/2001 <b>Existing Permit Expiration Date:</b> 11/30/2006		
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<b>Review Engineer:</b> Mark Cuilla  <b>Review Engineer's Signature:</b> <b>Date:</b> <b>date, 2006</b>			<b>Comments / Recommendations:</b> <b>Issue</b> 09070/T03 <b>Permit Issue Date:</b> <b>date, 2006</b> <b>Permit Expiration Date:</b> <b>date, 2011</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 (**09070T02**) was issued on December 7, 2001, and is currently scheduled to expire on November 30, 2006. The renewal application was received on February 28, 2006, 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.

**II. Facility Description**

The facility operates a synthetic marble countertop manufacturing operation. Permitted equipment includes a gel booth, glue booth, and resin storage tank. The facility is title V because of its potential styrene emissions.

### III. History/Background/Application Chronology

**December 7, 2001** – Permit **09070T02** was issued as first time Title V.

**February 28, 2006** – Permit renewal application **1300140.06A** was received and deemed complete for processing. No permit amendments/modifications have been issued to the facility since its first time Title V permit was issued.

**March 21, 2006** – I sent an email to the Permittee and its consultant to get clarification of MACT applicability.

**March 23, 2006** – I received an email from Alissa Williams of URS Corp. indicating that the only operations at the facility are polymer casting operations and therefore, not subject to the MACT.

**April 26, 2006** – I sent an email to the Permittee questioning them on whether they wanted a condition added to their permit that specifically states that the MACT is a “nonapplicable regulation”.

**May 2, 2006** – I again spoke with Alissa Williams of URS Corp. concerning the applicability of MACT Subpart WWW. Upon further review, the facility WILL BE subject to the MACT for its gel coating processes and storage tank. All other operations are specifically exempt from applicability. Ms. Williams provided me with applicable sections of the MACT. In addition, she provided me with verification that the facility has completed its requirements for compliance with NC Air Toxics. See Sections VI and VII of this Document for a discussion of the MACT and air toxics.

**May 11, 2006** – DRAFT permit sent to Title V Coordinator, Regional Office, and Permittee for comment prior to public notice and EPA review.

**May 16, 2006** – Comments were received on the DRAFT permit from the MRO. See Section X of this Document for a discussion.

**May 25, 2006** – Comments were received on the DRAFT permit from the Permittee. See Section X of this Document for a discussion.

**date, 2006** – DRAFT permit sent to public notice and EPA review prior to issuance.

### 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	Description of Change(s)
Attachment	Insignificant Activities	-put in tabular form -added equipment per RO inspection report
Cover	-	-updated permit revision number and all dates
All	Header	-updated permit revision number
3	Equipment Table	-updated equipment description per RO inspection report -added MACT Subpart reference
4	2.1 A (table) 2.1 A.1.a 2.1 A.1.b 2.1 A.1.c 2.1 A.2.a 2.1 A.2.c	-added Last MACT/air toxics citation -added MACT citation -added equipment ID Nos. -updated shell language -updated shell language -added equipment ID Nos. and updated shell language -added equipment ID Nos. and updated shell language
5	2.1 A.2.d 2.1 A.2.e	-updated shell language -updated shell language

Page(s)	Section	Description of Change(s)
6	2.1 B (table) 2.2 A (table)	-added Last MACT/air toxics citation -added MACT citation -added Last MACT/air toxics citation -added MACT citation
7	2.2 A.1	-updated rule citation
7-8	2.2 A.2	-added pollutants below TPER per renewal application
8	2.2 A.3	-added LAST MACT/air toxics language
8-9	2.2 A.4	-added MACT requirements
10-18	General Conditions	-updated shell conditions

The following table indicates the modifications to ESM as a result of this permit renewal:

Current Description	Change resulting from permit renewal
NA	Woodworking operations associated with countertop manufacturing ( <b>ID No. I1</b> )
NA	Grinding operations associated with countertop manufacturing ( <b>ID No. I2</b> )
Gel booth with a propane-fired dryer ( <b>ID No. ES1</b> )	Gel booth ( <b>ID No. ES1</b> )
NA	One propane-fired space heater for comfort heat (1 million Btu per hour maximum heat input capacity; <b>ID No. I3</b> )

#### V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes  
15A NCAC 2D .0521, Control of Visible Emissions  
15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions  
15A NCAC 2D .0958, Work Practices for Sources of Volatile Organic Compounds  
15A NCAC 2D .1100, Control of Air Toxics  
15A NCAC 2Q .0711, Emission Rates Requiring a Permit

A regulatory review for these existing requirements will not be included in this document.

As a result of this permit renewal, the following requirements have been added:

15A NCAC 2D .1111, Maximum Achievable Control Technology  
15A NCAC 2Q .0705, Existing Sources and SIC Calls

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

**NSPS** – The Permittee is not currently subject to any New Source Performance Standards. This permit renewal does not affect this status.

**NESHAPS/MACT** – The facility is Title V because of its potential styrene emissions. Styrene is defined as a hazardous air pollutant, therefore; the facility is potentially subject to an applicable maximum achievable control technology (MACT) standard under Part 63 of the Clean Air Act. As part of this renewal, the facility was evaluated for applicability to 40 CFR 63, Subpart WWWW – National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production. You are subject to this Subpart if you own or operate a reinforced plastic composites production facility that is located a major source of HAP emissions. Reinforced plastic composites production is limited to operations in which reinforced and/or nonreinforced plastic composites or plastic molding compounds are manufactured using thermoset resins and/or gel coats that contain styrene to produce plastic composites (40 CFR 63.5785(a)). You are NOT subject to this Subpart if you perform the following type of operations: polymer casting (40 CFR 63.5785(c)). Polymer casting is defined as any process for fabricating composites in which composite materials are ejected from a casting machine or poured into an open, partially open, or closed mold and cured. After the composite materials are poured into the mold, they are not rolled out or worked while the mold is open. The composite materials may or may not include reinforcements. Products produced by the polymer casting process include cultured marble products and polymer concrete (40 CFR 63.5935). The Permittee has declared that based on the facility being:

1. an existing polymer casting operation with gel coat (atomized spray) as one step in their process; and
2. a major source for HAP with an annual emission less than 100 tons per year;

that the facility is subject to the emission limit in Table 3 “Organic HAP Emission Limits for Specific Open Molding, Centrifugal Casting, Pultrusion and Continuous Lamination/Casting Operations” of the August 25, 2005 amendment; specifically, open molding gel coat.

The following language has been included as Section 2.2 A.4 in the renewed permit for MACT compliance:

**4. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

*The Permittee shall comply with all applicable provisions contained in Environmental Management Commission Standard 15A NCAC 2D .1111, “Maximum Achievable Control Technology” (MACT) as promulgated in 40 CFR 63, Subpart WWWW, “National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production” as follows:*

**Emission Limits/Work Practice Standards**

- a. *The Permittee shall limit its organic HAP emissions from its open molding, gel-coating operations to less than 522 pounds per tons. [63.5805(b) and Table 3 - (6)(f)]*
- b. *The Permittee shall keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety. [63.5805(b) and Table 4]*

**Monitoring**

- c. *The Permittee shall demonstrate that an individual resin or gel coat, as applied, meets the emission limit in Section 2.2 A.4.a above by calculating the actual organic HAP emission factor for each different process stream within each operation type [63.5810(a)(1)] by using the following equations [Table 1]:*

$EF = 0.445 \times \%HAP \times 2000$	<i>for materials with <math>\leq 33\%</math> organic HAP</i>
$EF = ((1.03646 \times \%HAP) - 0.195) \times 2000$	<i>for materials with <math>&gt; 33\%</math> organic HAP</i>

- d. **Initial Compliance Certification [63.5860(a)]** – *The Permittee shall demonstrate initial compliance with each organic HAP emission and work practice standard by:*
  - i. *demonstrating that any individual resins or gel coats, as applied, meet their applicable emission limits in Section 2.2 A.4.a above [Table 8]; and*
  - ii. *submits a certified statement in the notice of compliance status that all HAP-containing storage containers are kept closed or covered except when adding or removing materials, and that any bulk storage tanks are vented only as necessary for safety [Table 9].*

- e. Continuous Compliance Certification– The Permittee shall demonstrate continuous compliance with each organic HAP emission and work practice standard by:
- maintaining an organic HAP emissions factor value less than or equal to the appropriate organic HAP emissions limit listed in Section 2.2 A.4.a above [63.5900(a)(2)]; and*
  - by performing the work practices required for your operation [63.5900(a)(4)].*

**Recordkeeping**

- f. *The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:*
- all data, assumptions, and calculations used to determine organic HAP emission factors including records of resin and gel coat use, organic HAP content, and operation where the resin is used. Resin use records may be based on purchase records if the Permittee can reasonably estimate how the resin is applied. The organic HAP content records may be based on MSDS or on resin specifications supplied by the resin supplier [63.5895(c)]; and*
  - certified statement that the Permittee is in compliance with the work practice requirements listed in Section 2.2 A.4.b above.*
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.*

**Reporting**

- e. *The Permittee shall submit a summary report of the monitoring and recordkeeping requirements 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. In addition, the report shall contain”*
- a statement that there were no deviations during the reporting period if there were no deviations from any emission limitation and that there were no deviations from the requirements for work practice standards; and*
  - the information in 63.5910(d) if there was a deviation from any emission limit or work practice standard during the reporting period.*

**PSD** – The Permittee is not currently subject to any Prevention of Significant Deterioration requirements. This permit renewal does not affect this status.

**112(r)** – The Permittee has indicated that it is not subject to Section 112(r) of the Federal Clean Air Act because “it does not operate processes that contain more than a threshold quantity of a regulated substance which is required to prepare and implement a Risk Management Plan (RMP)”.

**CAM** – 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 Permittee does not operate any control devices on its permitted equipment; therefore, CAM does not apply.

**VII. Facility Wide Air Toxics**

The facility is currently subject to both TPER limits per 15A NCAC 2Q .0711 and modeled emission rates per 15A NCAC 2D .1100.

**15A NCAC 2Q .0711:** The Permittee has demonstrated that facility-wide actual emissions of methylene chloride, methyl ethyl ketone, n-hexane, and toluene do not exceed the toxic permit emission rate (TPER) listed in 2Q .0711. A permit application is needed in order for the Permittee to emit these pollutants in any quantity greater than the TPER. As part of this renewal, the Permittee has indicated that two new TAPs are being emitted below the TPER value. The permit has been modified to include **ethyl acetate** and **MIBK** at their respective TPER levels.

15A NCAC 2D .1100: In accordance with an approved application for an air toxics compliance demonstration, the Permittee is subject to the following emission limits for styrene:

gel booth	11.68 pounds per hour
glue booth	8.62 pounds per hour
resin tank	0.868 pounds per hour.

To ensure compliance with these limits, the Permittee is restricted to both usage limitations and styrene content limitations of the gel coat, solid surface resin, marble resin, and joint glue. The Permittee is also required to submit quarterly reporting of the maximum hourly application rates, maximum styrene content, and total styrene emissions. The Permittee has indicated as part of this renewal that a change in the material used at the currently permitted equipment source (**ID ES2**) will no longer use styrene containing solid surface resin. However, ES2 and associated emission point ES2-EP-1 will continue to operate as originally permitted, using a less toxic joint adhesive. The Permittee estimates that this modification will have a net decrease of styrene of 1.71 pounds per hour (still under current emission limit).

It should be noted that the Regional Office has indicated that the modeling demonstration for this facility submitted on **May 21, 2001**, represented a facility-wide demonstration. Therefore, the following language is being included as Section 2.2 A.3 of the renewed permit to indicate that the Permittee has completed the requirement to be in compliance with NC Air Toxics at the same time it is required to be in compliance with the last MACT applicable to the facility. The facility has indicated that it is only subject to 40 CFR 63, Subpart WWW (Reinforced Plastic Composites Production). This Subpart's compliance date for existing facilities was April 21, 2006.

***State-enforceable only***

**3. 15A NCAC 2Q .0705: EXISTING FACILITIES AND SIC CALLS**

- a. *As of May 21, 2001, emissions of toxic air pollutants have been demonstrated on a facility-wide basis (excluding those sources exempt under 15A NCAC 2Q .0702 "Exemptions") that each of the toxic air pollutants (TAPs) emitted from all sources at the facility are either below its respective toxic permit emission rates (TPER) listed in 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit" or the TAPs are in compliance with 15A NCAC 2D .1100 "Control of Toxic Air Pollutants" as described in Section 2.2 A.1-2 above.*
- b. *The facility shall be operated and maintained in such a manner that any new, existing or increased actual emissions of any TAP listed in 15A NCAC 2Q .0711 or in this permit from all sources at the facility (excluding those sources exempt under 15A NCAC 2Q .0702), including fugitive emissions and emission sources not otherwise required to have a permit, will not exceed its respective TPER listed in 15A NCAC 2Q .0711 without first obtaining an air permit to construct or operate.*
- c. *PRIOR to exceeding any of the TPERs listed in 15A NCAC 2Q .0711, the Permittee shall be responsible for obtaining an air permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D .1100 "Control of Toxic Air Pollutants".*
- d. *The Permittee shall maintain at the facility records of operational information sufficient for demonstrating to the Division of Air Quality staff that actual TAPs are less than the rate listed in 15A NCAC 2Q .0711.*
- e. *The TPER table listed in Section 2.2 A.2 above, is provided to assist the Permittee in determining when an air permit is required pursuant to 15A NCAC 2Q .0711 and may not represent all TAPs being emitted from the facility. This table will be updated at such time as the permit is either modified or renewed.*

**VIII. Facility Emissions Review**

There is no change in emissions for this renewal.

The following table represents the latest year's emission inventory from the facility:

<b>Pollutant(s)</b>	<b>2004 Actual Emissions (tpy)</b>
VOC	11.63
HAPs/TAPs	9.11

## **IX. Stipulation Review**

MRO had the following permit stipulations/comments on this renewal application:

1. The glue booth has not been used for the past few years, but the facility would like to keep it permitted for future use. *Agree, permitted equipment will remain on the permit.*
2. The description of the 1 million Btu per hour propane fired dryer associated with the gel booth needs to be revised to a 1 million Btu per hour propane fired space heater. This unit is used by the operator for comfort heating during the winter and is not a dryer. *Agree, description will be modified.*
3. The 200,000 Btu per hour propane fired curing oven needs to be deleted from the exempt list. *Agree, equipment will be deleted. Note, the curing oven is not currently listed as an insignificant activity in ESM therefore; no ESM changes are needed for this source deletion.*
4. There is a counter top manufacturing operation, which involves woodworking, and emissions are not exhausted to the outdoor atmosphere. This source needs to be added under exempt sources. *Agree, equipment will be added.*
5. There is a grinding booth within the facility and its emissions are not exhausted to the outdoor atmosphere. This source needs to be added under exempt sources. *Agree, equipment will be added.*

## **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. South Carolina and Mecklenburg County are affected areas within 50 miles of this facility.

The following comments were received from the MRO on the DRAFT permit prior to notice:

1. Section 2.1 A.2.c – The permit should qualify what “normal” is and when it was established for visible emissions from the subject sources. *No change. The shell language has been approved by the DAQ permits workgroup as being sufficient.*
2. Section 2.2 A.4.f – “Table 4” is not inserted in the permit. Rather than referring to Table 4, the requirements need to be listed. *Agree, the permit language has been modified to remove the reference and substitute a cross-reference to the appropriate requirements.*

The Permittee noted two typos in the DRAFT permit prior to notice via email. Specifically, the Table of Changes had a misspelling and the cover page of the permit incorrectly listed the Regional Office address. *These changes have been made.*

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

- A professional engineer’s seal was not required for this renewal.
- A consistency determination was not required for his renewal.
- MRO recommends issuance of the permit and was presented with a DRAFT permit prior to notice and issuance.
- RCO concurs with MRO’s recommendation to issue the renewed air permit.