

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: **date, 2007**

Region: Wilmington Regional Office
County: Brunswick
NC Facility ID: 1000102
Inspector's Name: Mark Hedrick
Date of Last Inspection: 08/18/2006
Compliance Code: 3/In Compliance - Inspection

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): KCS International, Inc. Facility Address: KCS International, Inc. 100 Quality Drive Navassa, NC 28451 SIC: 3732 / Boat Building And Repairing NAICS: 336612 / Boat Building Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 1000102.07A Date Received: 02/21/2007 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 08882/T01 Existing Permit Issue Date: 12/30/2002 Existing Permit Expiration Date: 11/30/2007
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Review Engineer: Mark Cuilla Review Engineer's Signature: Date: date, 2007		Comments / Recommendations: Issue 08882/T02 Permit Issue Date: date, 2007 Permit Expiration Date: date, 2007	

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 (**08882T01**) was issued on **December 30, 2002**, and is currently scheduled to expire on **November 30, 2007**. The renewal application was received on **February 21, 2007**, 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 is a fiberglass boat manufacturer, producing primarily larger (30-60 foot) "Rampage" sport fishing yachts. Current permitted equipment includes spray booths for painting and varnish, laminating and gel coating operations, and miscellaneous woodworking operations.

III. History/Background/Application Chronology

April 12, 2000 – Permit application **1000102.00A** was received as title V Greenfield application.

July 13, 2000 – WIRO requested via letter that the Permittee submit more refined toxics modeling for styrene emissions.

August 10, 2000 – Permittee submitted refined modeling in response to WIRO request.

August 22, 2000 – Permit **08882R00** issued as a Greenfield Title V facility requiring the submittal of a complete title V application within one year of permit issuance.

August 22, 2001 – Permit application **1000102.01A** received as first-time title V application.

December 30, 2002 – Permit **08882T01** issued as a first time title V.

February 21, 2007 – Permit application **1000102.07A** was received for renewal of current title V permit and was deemed complete for processing.

March 23, 2007 – DRAFT permit sent to Permittee, Title V Coordinator, and Regional Office for comment prior to the public notice and EPA review periods. Comments were received April 6, April 4, and March 27, respectively. All suggested changes were made.

Date, 2007 – 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	Description of Change(s)
Attachment	Insignificant Activities	-added equipment
Cover	-	-amended all dates and permit revision numbers
All	Header	-amended permit revision numbers
3	Equipment table 2.1 A 2.1 A (table)	-added MACT notation for applicable equipment -added bagfilter descriptor -consolidated “old” 2.1 A and 2.1 B into same section -corrected cross reference and rule citations
4	2.1 A.1.a 2.1 A.1.b 2.1 A.1.c 2.1 A.1.d 2.1 A.1.e 2.1 A.1.f 2.1 A.2.a	-added ID Nos. -updated shell language -updated shell language and added ID Nos. -updated shell language -updated shell language -updated shell language -updated shell language and added ID Nos.
5	2.1 A.2.c 2.1 A.2.d 2.1 A.2.e 2.1 A.2.f 2.1 B 2.1 B (table)	-updated shell language and added ID Nos. -updated shell language -updated shell language -updated shell language -updated shell language -renamed “old” 2.1 C -corrected cross reference and rule citations

Page(s)	Section	Description of Change(s)
6	2.1 B.1.a 2.1 B.1.b 2.1 B.1.c 2.1 B.1.d 2.1 B.2.a 2.1 B.2.b 2.1 B.2.c	-added ID Nos. -updated shell language -updated shell language -added “no reporting” statement -updated shell language and added ID Nos. -corrected cross reference -updated shell language and added ID Nos.
7	2.1 B.2.e	-updated shell language
7-15	2.1 B.3	-added specific MACT language
15	2.1 C	-renamed “old” 2.1 D
16	2.1 C.1.b 2.1 C.1.c 2.1 C.1.d 2.1 C.2.a 2.1 C.2.c	-added ID Nos. -added ID Nos. -added ID Nos. -updated shell language and added ID Nos. -updated shell language and added ID Nos.
17	2.1 C.2.e 2.2 (table) 2.2 A.2	-updated shell language -corrected cross reference -added reference to 2Q .0705 -corrected rule citation
18	2.2 A.2.c 2.2 A.2.d	-updated shell language -updated shell language
19	2.2 A.3.e	-updated shell language
20	2.2 A.5.c 2.2 A.6	-changed reporting requirements from annually to quarterly -added 2Q .0705 language
21-29	General Conditions	-updated shell conditions version 2.20

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

Current Description	Change resulting from permit renewal
One cut-off booth for laminated parts,	One cut-off booth for laminated parts (ID No. I-ES-CB-1)
One Lamination Operation (ID No. ES-L1),	Laminating and gel coating operations (Building 3) (ID No. ES-L-1) [MACT, Subpart VVVV]
One Bottom Paint Booth (ID No. ES-PB-1),	One paint spray booth with dry-filters (ID No. ES-PB-1)
One Varnish Booth (ID No. ES-V-1),	One varnish booth with dry-filters (ID No. ES-V-1)
one Woodworking Operation (ID No. ES-WW-1),	One woodworking operation (ID No. ES-WW-1)
ASSEMBLY BLD	Assembly building (ID No. I-ES-A1)
One Bagfilter (1,725 square feet of fabric filter area) installed on one Woodworking Op. (ES-WW-1)	One bagfilter (1,725 square feet of filter area; ID No. CD-1)

V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 2D .0512, Particulates from Miscellaneous Wood Products Finishing Plants
15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes
15A NCAC 2D .0521, Control of Visible Emissions
15A NCAC 2D .0958, Work Practices for Sources of Volatile Organic Compounds
15A NCAC 2D .1100, Control of Toxic Air Pollutants
15A NCAC 2D .1111, Maximum Achievable Control Technology (40 CFR 63, Subpart VVVV)
15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions
15A NCAC 2Q .0317, Avoidance Conditions (for 15A NCAC 2D .0530, Prevention of Significant Deterioration)
15A NCAC 2Q .0711, Emission Rates Requiring a Permit

A regulatory review for these existing requirements will not be included in this document. However, as part of this permit renewal the following regulation has been added:

15A NCAC 2Q .0705, Existing Sources and SIC Calls

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

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

NESHAPS/MACT – The facility is currently subject to the National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing (40 CFR 63, Subpart VVVV). The current permit only contains the generic placeholder language requiring compliance with this Subpart by August 23, 2004 for the laminating and gel coat operations (**ID No. ES-L-1**). As part of this permit renewal, the following language has been included as Section 2.1 B.3:

3. **15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

For all sources located at this facility, 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 Part 63, Subpart VVVV, “National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing”.

Emission Limits

- a. *40 CFR 63.5698 Open Molding Resin And Gel Coat Operations*
 - i. *Excluding those processes listed in Section 2.1.B.3.a.iv below, the Permittee shall limit organic HAP emissions from any of the following open molding operations to the limit specified in Section 2.1 B.3.a.ii below:*
 - A. *Production resin.*
 - B. *Pigmented gel coat.*
 - C. *Clear gel coat.*
 - D. *Tooling resin.*
 - E. *Tooling gel coat.*
 - ii. *The Permittee shall limit organic HAP emissions from affected open molding operations to the limit specified by the following equation, based on a 12-month rolling average.*

$$HAP\ Limit = [46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})]$$

Where:

HAP Limit = total allowable organic HAP that can be emitted from the open molding operations, kilograms.

M_R = mass of production resin used in the past 12 months, excluding any materials exempt under Section 2.1 B.3.a.iv below, megagrams.

M_{PG} = mass of pigmented gel coat used in the past 12 months, excluding any materials exempt under Section 2.1 B.3.a.iv below, megagrams.

M_{CG} = mass of clear gel coat used in the past 12 months, excluding any materials exempt under Section 2.1 B.3.a.iv below, megagrams.

M_{TR} = mass of tooling resin used in the past 12 months, excluding any materials exempt under Section 2.1 B.3.a.iv below, megagrams.

M_{TG} = mass of tooling gel coat used in the past 12 months, excluding any materials exempt under Section 2.1 B.3.a.iv below, megagrams.

- iii. *The open molding emission limit is the same for both new and existing sources.*
- iv. *The following materials are exempt from the open molding emission limit specified in Section 2.1 B.3.a.ii above.*
 - A. *Production resins (including skin coat resins) that shall meet specifications for use in military vessels or shall be approved by the U.S. Coast Guard for use in the construction of lifeboats, rescue boats, and other life-saving appliances approved under 46 CFR Subchapter Q or the construction of small passenger vessels regulated by 46 CFR Subchapter T. Production resins for which this exemption is used shall be applied with nonatomizing (non-spray) resin application equipment. A record shall be kept of the resins, which are being used for this exemption.*
 - B. *Pigmented, clear, and tooling gel coat used for part or mold repair and touch up. The total gel coat materials included in this exemption shall not exceed 1 percent by weight of all gel coat used at the facility on a 12-month rolling-average basis. A record shall be kept of the amount of gel coats, which are being used for this exemption and copies of calculations showing that the exempt amount does not exceed 1 percent of all gel coat used.*
 - C. *Pure, 100 percent vinylester resin used for skin coats. This exemption does not apply to blends of vinylester and polyester resins used for skin coats. The total resin materials included in the exemption cannot exceed 5 percent by weight of all resin used at the facility on a 12-month rolling-average basis. A record shall be kept of the amount of 100 percent vinylester skin coat resin used per month that is eligible for this exemption and copies of calculations showing that the exempt amount does not exceed 5 percent of all resin used.*

Monitoring and Work Practice Standards

- b. *40 CFR 63.5731 Standards For Resin And Gel Coat Mixing Operations*
 - i. *Except during periods when material is being manually added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container, the Permittee shall cover all resin and gel coat mixing containers with a capacity equal to or greater than 208 liters, including those used for on-site mixing of putties and polyputties.*
 - ii. *To demonstrate compliance with the work practice standard in Section 2.1 B.3.b.i above, the Permittee shall visually inspect all mixing containers subject to this standard at least once per month. The inspection should ensure that all containers have covers with no visible gaps between the cover and the container, or between the cover and equipment passing through the cover.*
 - iii. *The Permittee shall keep records of which mixing containers are subject to this standard and the results of the inspections, including a description of any repairs or corrective actions taken. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the above requirements are not met.*
- c. *40 CFR 63.5734 Standards For Resin And Gel Coat Application Equipment Cleaning Operations*
 - i. *For routine flushing of resin and gel coat application equipment (e.g., spray guns, flowcoaters, brushes, rollers, and squeegees), the Permittee shall use a cleaning solvent that contains no more than 5 percent organic HAP by weight. For removing cured resin or gel coat from application equipment, no organic HAP content limit applies.*

- ii. *The Permittee shall store organic HAP-containing solvents used for removing cured resin or gel coat in containers with covers. The covers shall have no visible gaps and shall be in place at all times, except when equipment to be cleaned is placed in or removed from the container. For containers with a capacity greater than 7.6 liters, the distance from the top of the container to the solvent surface shall be no less than 0.75 times the diameter of the container. Containers that store organic HAP-containing solvents used for removing cured resin or gel coat are exempt from the requirements of 40 CFR Part 63, Subpart T (National Emission Standards for Halogenated Solvent Cleaning). Cured resin or gel coat means resin or gel coat that has changed from a liquid to a solid.*

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the above requirements are not met.

d. **40 CFR 63.5701 Complying With The Open Molding Emission Limit**

The Permittee shall use one or more of the options listed below to meet the emission limit in 40 CFR 63.5698 for the resins and gel coats used in open molding operations at the facility.

- i. *MACT model point value averaging (emissions averaging) option.*
 - A. *Demonstrate that emissions from the open molding resin and gel coat operations that are averaged meet the emission limit in 40 CFR 63.5698 using the procedures described in 40 CFR 63.5710. Compliance with this option is based on a 12-month rolling average.*
 - B. *Those operations and materials not included in the emissions average shall comply with Section 2.1 B.3.d.ii below.*
- ii. *Compliant materials option. Demonstrate compliance by using resins and gel coats that meet the organic HAP content requirements in the following table. Compliance with this option is based on a 12-month rolling average.*

<i>For this operation</i>	<i>And this application method</i>	<i>You shall not exceed this weighted-average organic HAP content (weight percent) requirement</i>
<i>1. Production resin operations</i>	<i>Atomized (spray)</i>	<i>28 percent</i>
<i>2. Production resin operations</i>	<i>Nonatomized (nonspray)</i>	<i>35 percent</i>
<i>3. Pigmented gel coat operations</i>	<i>Any method</i>	<i>33 percent</i>
<i>4. Clear gel coat operations</i>	<i>Any method</i>	<i>48 percent</i>
<i>5. Tooling resin operations</i>	<i>Atomized (spray)</i>	<i>30 percent</i>
<i>6. Tooling resin operations</i>	<i>Nonatomized (nonspray)</i>	<i>39 percent</i>
<i>7. Tooling gel coat operations</i>	<i>Any method</i>	<i>40 percent</i>

The Permittee will be deemed in noncompliance with 15A NCAC 2D .1111 if it fails to demonstrate compliance with the MACT standard using one or more of these methods.

e. **40 CFR 63.5704 General Requirements For Complying With The Open Molding Emission Limit.**

- i. *Emissions averaging option. For those open molding operations and materials complying using the emissions averaging option, compliance shall be demonstrated by performing the following steps:*
 - A. *Use the methods specified in 40 CFR 63.5758 to determine the organic HAP content of resins and gel coats.*
 - B. *Complete the calculations described in Section 2.1 B.3.g below to show that the organic HAP emissions do not exceed the limit specified in Section 2.1 B.3.a.iii above.*
 - C. *Keep the following records for each resin and gel coat.*
 - 1. *Hazardous air pollutant content.*
 - 2. *Amount of material used per month.*
 - 3. *Application method used for production resin and tooling resin. This record is not required if all production resins and tooling resins are applied with nonatomized technology.*
 - 4. *Calculations performed to demonstrate compliance based on MACT model point values, as described in Section 2.1 B.3.g below.*

- D. Prepare and submit the implementation plan described in Section 2.1 B.3.f below to the Division and keep it up to date.
- E. Submit semiannual compliance reports to the Division as specified in Section 2.1 B.3.o below.
- ii. Compliant materials option. For each open molding operation complying using the compliant materials option, compliance shall be demonstrated by performing the following steps:
 - A. Use the methods specified in 40 CFR 63.5758 to determine the organic HAP content of resins and gel coats.
 - B. Complete the calculations described in Section 2.1 A.3.h below to show that the weighted-average organic HAP content does not exceed the limit specified in Section 2.1 B.3.d.ii above.
 - C. Keep the following records for each resin and gel coat:
 - 1. Hazardous air pollutant content;
 - 2. Application method for production resin and tooling resin. This record is not required if all production resins and tooling resins are applied with nonatomized technology;
 - 3. Amount of material used per month. This record is not required for an operation if all materials used for that operation comply with the organic HAP content requirements; and
 - 4. Calculations performed, if required, to demonstrate compliance based on weighted-average organic HAP content as described in Section 2.1 B.3.h below.
 - D. Submit semiannual compliance reports to the Division as specified in Section 2.1 B.3.o below.
- f. 40 CFR 63.5707 Implementation Plan For Open Molding Operations
 - i. An implementation plan shall be prepared for all open molding operations that show compliance by using the emissions averaging option described in Section 2.1 B.3.e.i above.
 - ii. The implementation plan shall describe the steps that will be taken to bring the open molding operations covered by this Subpart into compliance. For each operation included in the emissions average, the Permittee's implementation plan shall include the following elements:
 - A. A description of each operation included in the average.
 - B. The maximum organic HAP content of the materials used, the application method used (if any atomized resin application methods are used in the average), and any other methods used to control emissions.
 - C. Calculations showing that the operations covered by the plan will comply with the open molding emission limit specified in Section 2.1 B.3.a.ii above.
 - iii. The Permittee shall submit the implementation plan to the Division with the notification of compliance status specified in 40 CFR 63.5761.
 - iv. The Permittee shall keep the implementation plan on site and provide it to the Division when asked.
 - v. If the Permittee revises the implementation plan, the revised plan shall be submitted with the next semiannual compliance report specified in Section 2.1 B.3.o below.
- g. 40 CFR 63.5710 Demonstrating Compliance Using Emissions Averaging
 - i. Compliance using the emissions averaging option is demonstrated on a 12-month rolling-average basis and is determined at the end of every month (12 times per year). The first 12-month rolling-average period begins on **August 23, 2004**.
 - ii. At the end of the twelfth month after the Permittee's compliance date and at the end of every subsequent month, use the following equation to demonstrate that the organic HAP emissions from those operations included in the average do not exceed the emission limit in Section 2.1 B.3.a.ii above calculated for the same 12-month period. (Include terms in the equation in Section 2.1 B.3.a.ii above and the following equation for only those operations and materials included in the average.)

$$\text{HAP emissions} = [(PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})]$$

Where:

HAP emissions = Organic HAP emissions calculated using MACT model point values for each operation included in the average, kilograms.

PV_R = Weighted-average MACT model point value for production resin used in the past 12 months, kilograms per megagram.
 M_R = Mass of production resin used in the past 12 months, megagrams.
 PV_{PG} = Weighted-average MACT model point value for pigmented gel coat used in the past 12 months, kilograms per megagram.
 M_{PG} = Mass of pigmented gel coat used in the past 12 months, megagrams.
 PV_{CG} = Weighted-average MACT model point value for clear gel coat used in the past 12 months, kilograms per megagram.
 M_{CG} = Mass of clear gel coat used in the past 12 months, megagrams.
 PV_{TR} = Weighted-average MACT model point value for tooling resin used in the past 12 months, kilograms per megagram.
 M_{TR} = Mass of tooling resin used in the past 12 months, megagrams.
 PV_{TG} = Weighted-average MACT model point value for tooling gel coat used in the past 12 months, kilograms per megagram.
 M_{TG} = Mass of tooling gel coat used in the past 12 months, megagrams.

iii. At the end of every month, use the following equation to compute the weighted-average MACT model point value for each open molding resin and gel coat operation included in the average.

$$PV_{OP} = \frac{\sum_{i=1}^n M_i PV_i}{\sum_{i=1}^n M_i}$$

Where:

PV_{OP} = weighted-average MACT model point value for each open molding operation (PV_R , PV_{PG} , PV_{CG} , PV_{TR} , and PV_{TG}) included in the average, kilograms of HAP per megagram of material applied.

M_i = mass of resin or gel coat i used within an operation in the past 12 months, megagrams.

n = number of different open molding resins and gel coats used within an operation in the past 12 months.

PV_i = the MACT model point value for resin or gel coat i used within an operation in the past 12 months, kilograms of HAP per megagram of material applied.

iv. The equations in the following table shall be used to calculate the MACT model point value (PV_i) for each resin and gel coat used in each operation in the past 12 months.

1. Production resin, tooling resin.	a. Atomized b. Atomized, plus vacuum bagging with roll-out. c. Atomized, plus vacuum bagging without roll-out. d. Nonatomized e. Nonatomized, plus vacuum bagging with roll-out. f. Nonatomized, plus vacuum bagging without roll-out.	$0.014 \times (\text{Resin HAP}\%)^{2.425}$ $0.01185 \times (\text{Resin HAP}\%)^{2.425}$ $0.00945 \times (\text{Resin HAP}\%)^{2.425}$ $0.014 \times (\text{Resin HAP}\%)^{2.275}$ $0.0110 \times (\text{Resin HAP}\%)^{2.275}$ $0.0076 \times (\text{Resin HAP}\%)^{2.275}$
2. Pigmented gel coat, clear gel coat, tooling gel coat.	All methods....	$0.445 \times (\text{Gel coat HAP}\%)^{1.675}$

Equations calculate MACT model point value in kilograms of organic HAP per megagrams of resin or gel coat applied. The equations for vacuum bagging with roll-out are applicable when a facility rolls out the applied resin and fabric prior to applying the vacuum bagging materials. The equations for vacuum bagging without roll-out are applicable when a facility applies the

vacuum bagging materials immediately after resin application without rolling out the resin and fabric. HAP% = organic HAP content as supplied, expressed as a weight-percent value between 0 and 100 percent.

- v. *If the organic HAP emissions, as calculated in Section 2.1 B.3.g.ii above, are less than the organic HAP limit calculated in Section 2.1 B.3.a.ii above for the same 12-month period, then the Permittee is in compliance with the emission limit for those operations and materials included in the average.*
- h. *40 CFR 63.5713 Demonstrating Compliance Using Compliant Materials.*
 - i. *Compliance using the organic HAP content requirements listed in Section 2.1 A.3.d.ii above based on a 12-month rolling average that is calculated at the end of every month. The first 12-month rolling-average period begins on **August 23, 2004**. If the facility is using filled material (production resin or tooling resin), the Permittee shall comply according to the procedure described in Section 2.1 B.3.i below.*
 - ii. *At the end of the twelfth month after the Permittee's compliance date and at the end of every subsequent month, review the organic HAP contents of the resins and gel coats used in the past 12 months in each operation. If all resins and gel coats used in an operation have organic HAP contents no greater than the applicable organic HAP content limits in the table above then the Permittee is in compliance with the emission limit specified in Section 2.1 B.3.a.ii above for that 12-month period for that operation. In addition, the Permittee does not need to complete the weighted-average organic HAP content calculation contained in Section 2.1 B.3.h.iii below for that operation.*
 - iii. *At the end of every month, the Permittee shall use the following equation to calculate the weighted-average organic HAP content for all resins and gel coats used in each operation in the past 12 months.*

$$\text{Weighted-Average HAP Content (\%)} = \frac{\sum_{i=1}^n M_i \text{HAP}_i}{\sum_{i=1}^n M_i}$$

Where:

M_i = mass of open molding resin or gel coat i used in the past 12 months in an operation, megagrams.

HAP_i = Organic HAP content, by weight percent, of open molding resin or gel coat i used in the past 12 months in an operation. Use the methods in 40 CFR 63.5758 to determine organic HAP content.

n = number of different open molding resins or gel coats used in the past 12 months in an operation.

- iv. *If the weighted-average organic HAP content does not exceed the applicable organic HAP content limit specified in the table above, then the Permittee is in compliance with the emission limit specified in Section 2.1 B.3.a.ii above.*
- i. *40 CFR 63.5714 Demonstrating Compliance if Using Filled Resins*
 - i. *If the facility is using a filled production resin or filled tooling resin, the Permittee shall demonstrate compliance for the filled material on an as-applied basis using the following equation:*

$$PV_F = PV_U \frac{100 - \% \text{ Filler}}{100}$$

Where:

PV_F = The as-applied MACT model point value for a filled production resin or tooling resin, kilograms organic HAP per megagram of filled material.

PV_u = The MACT model point value for the neat (unfilled) resin, before filler is added, as calculated using the formulas in Section 2.1 B.3.g.iv above.

% Filler = The weight-percent of filler in the as applied filled resin system.

- ii. If the filled resin is used as a production resin and the value of PV_F calculated by the equation in Section 2.1 B.3.i.i above does not exceed 46 kilograms of organic HAP per megagram of filled resin applied, then the filled resin is in compliance.
- iii. If the filled resin is used as a tooling resin and the value of PV_F calculated by the equation in Section 2.1 B.3.i.i above does not exceed 54 kilograms of organic HAP per megagram of filled resin applied, then the filled resin is in compliance.
- iv. If the Permittee is including a filled resin in the emissions averaging procedure described in Section 2.1 B.3.g above, then use the value of PV_F calculated using the equation in Section 2.1 B.3.i.i above for the value of the equation in Section 2.1 B.3.g.iii above.
- j. 40 CFR 63.5737 Demonstrating Compliance With The Resin And Gel Coat Application Equipment Cleaning Standards.
 - i. The Permittee shall determine and record the organic HAP content of the cleaning solvents subject to the standards specified in Section 2.1 B.3.c above using the methods specified in 40 CFR 63.5758.
 - ii. If the facility recycles cleaning solvents on site, the Permittee may use documentation from the solvent manufacturer or supplier or a measurement of the organic HAP content of the cleaning solvent as originally obtained from the solvent supplier for demonstrating compliance, subject to the conditions in 40 CFR 63.5758 for demonstrating compliance with organic HAP content limits.
 - iii. At least once per month, the Permittee shall visually inspect any containers holding organic HAP-containing solvents used for removing cured resin and gel coat to ensure that the containers have covers with no visible gaps. The Permittee shall keep records of the monthly inspections and any repairs made to the covers.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if it does not demonstrate compliance as provided above.
- k. 40 CFR 63.5740 Demonstrating Compliance with Carpet and Fabric Adhesive Operations.
 - i. The Permittee shall use carpet and fabric adhesives that contain no more than 5 percent organic HAP by weight.
 - ii. To demonstrate compliance with the emission limit in Section 2.1 B.3.k.i above, the Permittee shall determine and record the organic HAP content of the carpet and fabric adhesives using the methods in 40 CFR 63.5758.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if it does not demonstrate compliance as provided above
- l. 40 CFR 63.5758 Determine The Organic HAP Content Of Materials
 - i. The Permittee shall determine the organic HAP content for each material used. To determine the organic HAP content for each material used in the open molding resin and gel coat operations, or carpet and fabric adhesive operations, the Permittee shall use one of the following options.
 - A. Method 311 (Appendix A to 40 CFR Part 63). The Permittee may use Method 311 for determining the mass fraction of organic HAP. The Permittee shall use the following procedures when determining organic HAP content by Method 311.
 1. Include in the organic HAP total each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, the Permittee does not need to include it in the organic HAP total. Express the mass fraction of each organic HAP the Permittee measures as a value truncated to four places after the decimal point (for example, 0.1234).
 2. Calculate the total organic HAP content in the test material by adding up the individual organic HAP contents and truncating the result to three places after the decimal point (for example, 0.123).

- B. *Method 24 (Appendix A to 40 CFR Part 63). The Permittee may use Method 24 to determine the mass fraction of non-aqueous volatile matter of aluminum coatings and use that value as a substitute for mass fraction of organic HAP.*
- C. *ASTM D1259-85 (Standard Test Method for Nonvolatile Content of Resins). The Permittee may use ASTM D1259-85 (available for purchase from ASTM) to measure the mass fraction of volatile matter of resins and gel coats for open molding operations and use that value as a substitute for mass fraction of organic HAP.*
- D. *Alternative method. The Permittee may use an alternative test method for determining mass fraction of organic HAP if the Permittee obtains prior approval by EPA Region IV. The Permittee shall follow the procedure in 40 CFR 63.7(f) to submit an alternative test method for approval.*
- E. *Information from the supplier or manufacturer of the material. The Permittee may rely on information other than that generated by the test methods specified in Section 2.1 B.3.l.i.A through D above, such as manufacturer's formulation data, according to the following:*
 - 1. *Include in the organic HAP total each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, the Permittee does not have to include it in the organic HAP total.*
 - 2. *If the organic HAP content is provided by the material supplier or manufacturer as a range, then the Permittee shall use the upper limit of the range for determining compliance. If a separate measurement of the total organic HAP content using the methods specified in Section 2.1 B.3.l.i.A through D above exceeds the upper limit of the range of the total organic HAP content provided by the material supplier or manufacturer, then the Permittee shall use the measured organic HAP content to determine compliance.*
 - (a). *If the organic HAP content is provided as a single value, the Permittee may assume the value is a manufacturing target value and actual organic HAP content may vary from the target value. If a separate measurement of the total organic HAP content using the methods specified in Section 2.1 B.3.l.i.A through D above is less than 2 percentage points higher than the value for total organic HAP content provided by the material supplier or manufacturer, then the Permittee may use the provided value to demonstrate compliance. If the measured total organic HAP content exceeds the provided value by 2 percentage points or more, then the Permittee shall use the measured organic HAP content to determine compliance.*
- F. *Solvent blends. Solvent blends may be listed as single components for some regulated materials in certifications provided by manufacturers or suppliers. Solvent blends may contain organic HAP, which shall be counted toward the total organic HAP content of the materials. When detailed organic HAP content data for solvent blends are not available, the Permittee may use the values for organic HAP content that are listed in Table 5 or 6 as contained in 40 CFR 63 subpart VVVV. The Permittee may use Table 6 as contained in 40 CFR 63 Subpart VVVV, only if the solvent blends in the materials the Permittee use do not match any of the solvent blends in Table 5 as contained in 40 CFR 63 Subpart VVVV, and the Permittee know only whether the blend is either aliphatic or aromatic. However, if test results indicate higher values than those listed in Table 5 or 6 as contained in 40 CFR 63 Subpart VVVV, then the test results shall be used for determining compliance.*

Recordkeeping and Notifications

m. **40 CFR 63.5767 Records**

The Permittee shall keep the following records in addition to records specified in individual conditions of this Subpart:

- i. *a copy of each notification and report submitted to comply with this Subpart;*
- ii. *all documentation supporting any notification or report submitted;*
- iii. *if the facility is not controlled by an add-on control device (i.e., the Permittee is complying with organic HAP content limits, application equipment requirements, or MACT model point value averaging provisions), the following records:*

- A. *The total amounts of open molding production resin, pigmented gel coat, clear gel coat, tooling resin, and tooling gel coat used per month and the weighted-average organic HAP contents for each operation, expressed as weight-percent. For open molding production resin and tooling resin, the Permittee shall also record the amounts of each applied by atomized and nonatomized methods.*
 - B. *The total amount of each aluminum coating used per month (including primers, top coats, clear coats, thinners, and activators) and the weighted-average organic HAP content as determined in 40 CFR 63.5752.*
 - C. *The total amount of each aluminum wipedown solvent used per month and the weighted-average organic HAP content as determined in 40 CFR 63.5749.*
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the above records are not maintained.*
- n. *40 CFR 63.5761 Notifications. The Permittee shall submit all of the notifications in Table 7 as contained in 40 CFR 63 Subpart VVVV, that apply to the Permittee by the dates in the table. The notifications are described more fully in 40 CFR Part 63, Subpart A, General Provisions, referenced in Table 8 as contained in 40 CFR 63 Subpart VVVV. If the Permittee changes any information submitted in any notification, the Permittee shall submit the changes in writing to the Division within 15 calendar days after the change. The Permittee may switch between the compliance options (Emissions Averaging and Compliant Materials) in 40 CFR 63, Subpart VVVV per the following requirements. In all cases, the Permittee shall submit notification to change options, in writing, to the Division of Air Quality, 15 days prior to changing compliance options.*
 - o. *Changing from Compliant Materials (40 CFR 63.5713) to 12-month Emissions Averaging (40 CFR 63.5710): The Permittee shall begin collecting resin and gel coat usage data on the date the compliance option is switched. The source shall demonstrate compliance using the Emissions Averaging option for at least 12 consecutive months.*
 - p. *Changing from 12-month Emissions Averaging (40 CFR 63.5710) to Compliant Materials (40 CFR 63.5713): The Permittee shall begin complying with the Compliant Materials option on the date the compliance option is switched. Until the full 12-month compliance period has ended the Permittee shall continue to collect resin and gel coat usage data and calculate the 12-month emissions average. This permit contains compliance certification, monitoring, reporting, and record keeping requirements sufficient to assure compliance with the terms and conditions of this permit.*

Reporting

- q. *40 CFR 63.5764 What Reports Shall Be Submitted And When*
 - i. *In addition to any reporting requirements stated above, the Permittee shall submit a compliance report 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. All instances of deviations from the requirements of this permit shall be clearly identified. The compliance report shall include the following information:*
 - A. *Company name and address.*
 - B. *A statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the report.*
 - C. *The date of the report and the beginning and ending dates of the reporting period.*
 - D. *A description of any changes in the manufacturing process since the last compliance report.*
 - E. *A statement or table showing, for each regulated operation, the applicable organic HAP content limit, application equipment requirement, or MACT model point value averaging provision with which the Permittee is complying. The statement or table shall also show the actual weighted-average organic HAP content or weighted-average MACT model point value (if applicable) for each operation during each of the rolling 12-month averaging periods that end during the reporting period.*
 - F. *If the Permittee was in compliance with the emission limits and work practice standards during the reporting period, the Permittee shall include a statement to that effect.*
 - G. *If the Permittee deviated from an emission limit or work practice standard during the reporting period, the Permittee shall also include the following information in the semiannual compliance report.*

1. *A description of the operation involved in the deviation.*
2. *The quantity, organic HAP content, and application method (if relevant) of the materials involved in the deviation.*
3. *A description of any corrective action the Permittee took to minimize the deviation and actions the Permittee has taken to prevent it from happening again.*
4. *A statement of whether or not the Permittee was in compliance for the 12-month averaging period that ended at the end of the reporting period.*

It should be noted that the facility was reviewed for potential 40 CFR 63 Subpart P (Plastic Parts Coating MACT) applicability. This Subpart specifically exempts from applicability those sources that are required to comply with Subpart V. However, not included as part of this exemption, are painting operations used in the manufacturing of personal watercraft. These operations would be subject to P. However, this facility does not engage in this type of manufacturing; therefore, Subpart P does not apply.

PSD – The facility is currently subject to a facility-wide volatile organic compound (VOC) emission limit of less than 250 tons per year. The following language is included as Section 2.2 A.2 of the permit. No modifications, other than minor shell language changes, were necessary as part of this permit renewal.

**2. 15A NCAC 2Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. *In order to avoid applicability of this regulation, facility-wide affected sources shall discharge into the atmosphere less than 250 tons of volatile organic compounds (VOCs) per consecutive 12-month period.*

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- b. *Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of VOC containing materials are not monitored and recorded.*
- c. *Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the VOC emissions exceed this limit.*

Reporting [15A NCAC 2Q .0508(f)]

- d. *The Permittee shall submit a summary report of the monitoring and recordkeeping activities 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. All instances of deviations from the requirements of this permit must be clearly identified.*

112(r) – The facility is not subject to the 112(r) “Prevention of Accidental Releases” requirements because it does not store any chemicals in amounts greater than the applicability threshold.

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. The following equipment currently employs a control device for particulate control:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-WW-1	One woodworking operation	CD-1	One bagfilter (1,725 square feet of filter area)

Per the previously submitted first time title V permit application, the Permittee estimated particulate emissions from the facility as:

Maximum throughput = 1000 pounds per hour
Maximum loss to air handler = 50 pounds per hour (**219 tons per year total PM**)
Efficiency of control device = 99.9%
Maximum loss to atmosphere = 0.05 pounds per hour
Anticipated annual loss (@ 4240 hours) = 0.1 tons per year
Maximum potential loss (@ 8760 hours) = 0.2 tons per year

The Permittee noted that the estimated maximum throughput was a worst-case estimate based on maximum utilization of the woodworking equipment, which would generate the highest level of emissions.

As shown above, the worst-case total PM emissions are estimated at **219 tons per year** uncontrolled. Using the DAQ spreadsheets for woodworking operations and the worst-case operation (sanding @23.8% PM₁₀/total PM) yields approximately **52.12 tons PM₁₀ per year**. This level is below the 100 tons PM₁₀ per year major source threshold for CAM applicability; therefore, CAM will not be required at this time.

VII. Facility Wide Air Toxics

The facility is subject to both 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit" for methyl ethyl ketone, methyl isobutyl ketone, toluene and xylene and 15A NCAC 2D .1100 "Control of Air Toxics" for styrene. These levels were established as part of the original Greenfield permit application and represent modeling for all toxics facility-wide; therefore, meeting the requirements of 15A NCAC 2Q .0705 "Existing Sources and SIC Calls". Permit **08882R00** was issued on **August 22, 2000**. The emission rates were the result of refined modeling requested by the WIRO during the drafting of the original permit. No subsequent modeling has been performed. This permit renewal does not affect this status.

However, as part of this permit renewal, the permit has been modified to include language demonstrating that the Permittee is in compliance with 15A NCAC 2Q .0705 as a result of the original modeling demonstration submitted and incorporated into the Greenfield title V permit **08882R00**. The following language has been included as Section 2.2 A.6:

6. 15A NCAC 2Q .0705: EXISTING SOURCES AND SIC CALLS

- a. *As of August 22, 2000, 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 2 Q.0711 "Emission Rates Requiring a Permit" on the TAPs are in compliance with 15A NCAC 2D .1100 "Control of Toxic Air Pollutants" as described in Section 2.2 A.5 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 "Exemptions"), 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.4 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 years emission inventory from the facility:

Pollutant(s)	2005 Actual Emissions (tpy)
PM ₁₀	0.04
VOC	96.90
Total HAP/TAP	72.03

IX. Stipulation Review

WIRO did not specify any needed permit modifications. Nor does the latest inspection report indicate any necessary changes at this time.

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 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 is an affected State 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.

WIRO recommends issuance of the permit and was presented with a DRAFT permit prior to notice and issuance.

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