

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

Permit Issue Date: **date, 2006**

**Region:** Mooresville Regional Office  
**County:** Iredell  
**NC Facility ID:** 4900230  
**Inspector's Name:** Bill Bass  
**Date of Last Inspection:** 08/17/2005  
**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> Piedmont Fiberglass Inc<br><br><b>Facility Address:</b><br>Piedmont Fiberglass Inc<br>2425 Statesville Highway 115<br>Mooresville, NC 28115<br><br><b>SIC:</b> 3089 / Plastics Products, Nec<br><b>NAICS:</b> 326121 / Unlaminated Plastics Profile Shape Manufacturing<br><br><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V<br><b>Fee Classification: Before:</b> Title V <b>After:</b> Title V |   |  | <b>SIP:</b><br><b>NSPS:</b><br><b>NESHAP:</b> 15A NCAC 2D .1111 (Subparts PPPP and WWWW)<br><b>PSD:</b><br><b>PSD Avoidance:</b><br><b>NC Toxics:</b> 15A NCAC 2Q .0705<br><b>112(r):</b><br><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> 4900230.06A<br><b>Date Received:</b> 01/31/2006<br><b>Application Type:</b> Renewal<br><b>Application Schedule:</b> TV-Renewal<br><b>Existing Permit Data</b><br><b>Existing Permit Number:</b> 07881/T05<br><b>Existing Permit Issue Date:</b> 11/07/2001<br><b>Existing Permit Expiration Date:</b> 10/31/2006 |  |  |
| Terry Davis<br>Plant Manager<br>(704) 664-3475<br>P.O. Box 538<br>Mooresville NC, 28115  | Douglas Caudle<br>President<br>(800) 877-5996<br>P O Box 538<br>Mooresville NC, 28115 | Randall Mayberry<br>Environmental Assistant<br>(704) 664-3475<br>P.O. Box 538<br>Mooresville NC, 28115 |   |  |  |
| <b>Review Engineer:</b> Mark Cuilla<br><br><b>Review Engineer's Signature:</b><br><b>Date:</b>   |   |  | <b>Comments / Recommendations:</b><br><b>Issue</b> 07881/T06<br><b>Permit Issue Date:</b> <b>date, 2006</b><br><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 (**07881T05**) was issued on November 7, 2001, and is currently scheduled to expire on October 31, 2006. The renewal application was received on January 31, 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 is a fiberglass manufacturer specializing in church steeples, baptisteries, and a small number of specialized components for sailing yachts. Currently permitted equipment includes both lamination and surface coating operations and their associated dry filters for particulate control. The facility operates 5 days per week, 9 hours per day, 50 weeks per year (2250 hours per year total).

### III. History/Background/Application Chronology

**November 7, 2001** – Permit **07881T05** issued as first time Title V.

**January 31, 2006** – Permit application **4900230.06A** received and deemed complete for processing.

**July 26, 2006** – DRAFT permit sent to Permittee, Regional Office, and Title V Coordinator for comment prior to public notice and EPA review.

**August 9, 2006** – Received comments from Permittee and Regional Office on DRAFT permit. See Section IX of this Document for a discussion.

**Date, 2006** – 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            | -placed information in tabular format   |
| Cover      | -                                   | -amended permit revision number and all dates<br>-amended MRO address   |
| All        | Header                              | -amended permit revision number   |
| 3          | Equipment Table                     | -added MACT citations to equipment ID Nos.  |
| 3-4        | 2.1 A (table)                       | -added MACT references and toxics reference   |
| 4          | 2.1 A.1.a<br>2.1 A.1.c<br>2.1 A.2.a | -added equipment ID numbers<br>-added equipment ID numbers<br>-added equipment ID numbers                         |
| 5          | 2.1 A.2.c                           | -added equipment ID numbers and updated shell language  |
| 6          | 2.1 A.3.c<br>2.1 A.3.d<br>2.1 A.3.e | -added regulatory citation<br>-added regulatory citation<br>-added regulatory citation and updated shell language |
| 6-8        | 2.1 A.4                             | -added regulatory language for MACT Subpart WWW   |
| 8          | 2.1 A.5                             | -added regulatory placeholder for MACT Subpart PPPP   |
| 9          | 2.1 A.6                             | -added regulatory placeholder for last MACT/air toxics  |
| 9-17       | 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                  | -added dry filters ( <b>ID Nos. F-001 and F-002</b> ) to the description of laminating operation ( <b>ID No. 002</b> ) |
| NA                  | -added dry filters ( <b>ID No. F-003</b> ) to the description of surface coating operation ( <b>ID No. 004</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 .0958, Work Practices for Sources of Volatile Organic Compounds

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

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

- 15A NCAC 2D .1111, Maximum Achievable Control Technology
- 15A NCAC 2Q .0705, Existing Facilities 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 not currently subject to any maximum achievable control technology standards. However, as part of this renewal, the facility was evaluated for applicability to the following subparts under 40 CFR 63:

1. Subpart WWWW – National Emission Standards for Hazardous Air Pollutants from Reinforced Plastic Composites Production; and
2. Subpart PPPP – National Emission Standards for Hazardous Air Pollutants from the Surface Coating of Plastic Parts and Products.

Applicability Statements –

1. Subpart WWWW (40 CFR 63.5785) – You are subject to this subpart if you own or operate a reinforced plastic composites production facility that is located at 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. This MACT applies to the processes at the facility; therefore, the following language has been added as Section 2.1 A.4 to the permit:

**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 (ID No. 002) to less than the following [63.5805(b) and Table 3]:*

| <b><i>If your operation is...</i></b>                              | <b><i>And you use...</i></b>        | <b><i>Your organic HAP emissions limit is...</i></b> |
|--|-------------------------------------|--|
| <i>Open molding – non-corrosion-resistant and/or high strength</i> | <i>Mechanical resin application</i> | <i>88 (lb/ton)</i>                                   |
|  | <i>Filament application</i>         | <i>188 (lb/ton)</i>                                  |
|  | <i>Manual resin application</i>     | <i>87 (lb/ton)</i>                                   |
| <i>Open molding – tooling</i>                                      | <i>Mechanical resin application</i> | <i>254 (lb/ton)</i>                                  |
|  | <i>Manual resin application</i>     | <i>157 (lb/ton)</i>                                  |

| <i>If your operation is...</i> | <i>And you use...</i>                        | <i>Your organic HAP emissions limit is...</i> |
|--------------------------------|--|---|
| <i>Open molding – gel coat</i> | <i>Tooling gel coating</i>                   | <i>440 (lb/ton)</i>                           |
|                                | <i>White/off white pigmented gel coating</i> | <i>267 (lb/ton)</i>                           |
|                                | <i>All other pigmented gel coating</i>       | <i>377 (lb/ton)</i>                           |
|                                | <i>Clear production gel coat</i>             | <i>522 (lb/ton)</i>                           |

b. *The Permittee shall perform the following work practice standards [63.5805(b) and Table 4]:*

| <i>For...</i>  | <i>You must...</i>   |
|--|--|
| <i>All cleaning operations</i>                         | <i>Not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin.</i>                                   |
| <i>All HAP-containing materials storage operations</i> | <i>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.</i>  |
| <i>All mixing operations</i>                           | <i>Use mixer covers with no visible gaps present in the mixing covers, except that gaps of up to one inch are permissible around the mixer shafts and any required instrumentation.<br/>Keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.</i> |

**Monitoring**

- c. *The Permittee shall demonstrate that, on average, you meet the individual organic HAP emission limits for each unique combination of operation type and resin application method or gel coat type shown in Section 2.1 A.4.a above by:*
- i. *grouping the process streams by operation type and resin application method or gel coat type listed in Section 2.1 A.4.a above and then calculate a weighted average emission factor based on the amounts of each individual resin or gel coat used for the last 12 months. To do this, sum the product of each individual organic HAP emission factor calculated in 63.5810(a)(1) and the amount of neat resin plus and neat gel coat plus usage that corresponds to the individual factors and divide the numerator by the total amount of neat resin plus and neat gel coat plus used in that operation type as shown in the following equation:*

$$\text{Average Organic HAP Emissions Factor} = \frac{\sum_{i=1}^n (\text{Actual process stream } EF_i)(\text{Material}_i)}{\sum_{i=1}^n \text{Material}_i}$$

Where:

Actual Process Stream  $EF_i$  = actual organic HAP emissions factor for process stream  $i$  (lbs/ton)

Material $_i$  = neat resin plus or neat gel coat plus used during last 12 calendar months for process stream (tons)

$n$  = number of process streams where you calculated an organic HAP emissions factor.

- ii. comparing each organic HAP emission factor calculated in Section 2.1 A.4.c.i above with its corresponding organic HAP emission limit in Section 2.1 A.4.a above. If all emission factors are equal to or less than their corresponding emission limits, then the Permittee is in compliance [63.5810(b)].
- d. **Initial Compliance Certification [63.5860(a)]** – The Permittee shall demonstrate initial compliance with each organic HAP emission and work practice standard by:
  - i. meeting the appropriate organic HAP emissions limit for each operation as calculated using the procedures in Section 2.1 A.4.c above on a 12-month rolling average by **April 21, 2007** [Table 8]; and
  - ii. submitting a certified statement in the notice of compliance status that:
    - A. all cleaning materials, except styrene contained in closed systems, or materials used to clean cured resin from application equipment contain no HAP;
    - B. 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;
    - C. mixer covers are closed during mixing except when adding materials to the mixers, and that gaps around mixer shafts and required instrumentation are less than one inch; and
    - D. mixers are closed except when adding materials to the mixing vessels [Table 9].
- e. **Continuous Compliance Certification** – The Permittee shall demonstrate continuous compliance with each organic HAP emission and work practice standard by:
  - i. maintaining an organic HAP emissions factor value less than or equal to the appropriate organic HAP emissions limit listed in Section 2.1 A.4.a above, on a 12-month rolling average; and
  - ii. 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:
  - i. 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
  - ii. certified statement that the Permittee is in compliance with the work practice requirements listed in Section 2.1 A.4.b above.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.

#### **Reporting**

- g. The Permittee, complying with organic HAP emissions limit averaging provisions, shall submit a notification of compliance status as specified in 63.9(h) no later than **May 21, 2007** per 63.5905(a).
- h. 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"
  - i. 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

- ii. *the information in 63.5910(d) if there was a deviation from any emission limit or work practice standard during the reporting period.*
2. Subpart PPPP (63.4481(a)) – The paragraph states that “Except as provided in paragraph (c) of this Section, the source category to which this Subpart applies is the surface coating of any plastic parts or products, as described in paragraph (a)(1) of this Section, and it includes the subcategories listed in paragraphs (a)(2) through (5) of this Section. (63.4481(c)(6)) This Subpart does not apply to surface coating or a coating operation that meets any of the criteria of paragraphs (c)(1) through (1) of this Section....In-mold coating operations or gel coating operations in the manufacture of reinforced plastic composite parts that meet the applicability criteria for reinforced plastics composites production (Subpart WWWW of this Part).” The facility has indicated that they coat plastic parts, other than those applicable to Subpart WWWW, and therefore are subject to this MACT. It should be noted that 99% of the facilities emissions come from WWWW applicable processes. The remaining emissions are subject to PPPP because they are located at a major source of HAPs. The following language has been added as Section 2.1 A.5 to the permit:

**5. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

- a. *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 PPPP, “National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products” by April 19, 2007 for your existing affected sources (ID No. 004).*

**PSD** – The facility is not currently subject to any prevention of significant deterioration requirements. This permit renewal does not affect this status.

**112(r)** – In the renewal application, the Permittee states that the facility is not subject to the 112(r) “Prevention of Accidental Releases” requirements because he does not store any chemicals in amounts greater than the applicability threshold.

**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 facility’s laminating and surface coating operations (**ID Nos. 002 and 004**) are each controlled by dry filters (**ID Nos. F-001, F002, and F-003**). These dry filters are for particulate control and are similar to filters found on spray booths. The latest emissions inventory indicates actual PM<sub>10</sub> emissions from these sources as 0.07 tons per year. Calculating for potential, PM<sub>10</sub> emissions are estimated at .27 tons per year, well below the threshold levels for CAM applicability. Therefore, CAM is not required.

## **VII. Facility Wide Air Toxics**

The facility is not currently subject to NC Air Toxics. This permit renewal does not affect this status. However, as part of this renewal and the fact that the facility is subject to applicable MACT standards, per 15A NCAC 2Q .0705, the Permittee is required to be in compliance with NC Air Toxics at the same time as it is required to be in compliance with the last MACT applicable to the facility. The last MACT for this facility is Subpart PPPP. The compliance date for existing operations is April 19, 2007. The following language has been added as Section 2.1 A.6 to the renewed permit indicating the requirements for submittal of a demonstration that the facility is in compliance with the toxics limitations:

***State-enforceable only***

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

- a. *Air Permit Application Submittal Requirements - In accordance with 15A NCAC 2Q .0705(b), for sources at a facility subject to a MACT standard, excluding the MACT for combustion sources, an air*

*permit application shall be required demonstrating compliance with 15A NCAC 2D .1100 "Control of Toxic Air Pollutants":*

- i. at the same time the facility submits an air permit application to comply with the last MACT; or*
- ii. at least six months prior to the same deadline date that the facility is required to be in compliance with the last MACT standard if an application is not required to comply with the last MACT. This will allow the Division time to process the application before the compliance deadline date. More than six month may be necessary to process an application if control devices are required to comply with either 2D .1100 or the last MACT.*
- b. The permit application demonstrating compliance with 15A NCAC 2D .1100 shall include an evaluation for all toxic air pollutants covered under rule 15A NCAC 2D .1104 for all sources at the facility, excluding those sources exempt from evaluation under 15A NCAC 2Q .0702. If the facility has already demonstrated facility-wide compliance with 2D .1100 the application should include the date of compliance demonstration, air permit number, and a list of applicable toxic pollutants.*
- c. Compliance Deadline Date Requirement - The facility shall be in compliance with the 15A NCAC 2D .1100 Toxic Air Pollutants rule by the same deadline date that it is required to be in compliance with the last MACT standard.*

### **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:

| <b>Pollutant(s)</b> | <b>2004 Actual Emissions (tpy)</b> |
|---------------------|------------------------------------|
| PM <sub>10</sub>    | 0.07                               |
| VOC                 | 13.97                              |
| Total HAP/TAP       | 10.59                              |

### **IX. Stipulation Review**

There are no noted stipulation modifications necessary at this time.

The Permittee and Regional Office were presented with a DRAFT permit prior to public notice. They had the following comments:

1. Jim Hafner of MRO commented via email that "Table 13 indicates a compliance status report with the 12-month rolling average is due no later than 1 year plus 30 days after compliance date." *Agree, the permit will be modified to add a reporting requirement that initial compliance be certified by May 21, 2007.*
2. Paul Zawila of Piedmont Fiberglass commented via email that "the way Section 2.1 A.4.a and c currently reads to me is that a 12-month rolling calculation (limit and actual) is completed for each category in the table in Section 2.1 A.4.a. Compliance is then determined for each category in the table in Section 2.1 A.4.a by comparing limit to actual for each category. Under 63.5810(b), the rule allows for the 12 month rolling calculation (limit and actual) to be for all open molding operations facility wide. The facility compare the weighted average HAP emissions limit for all open molding operations to the actual weighted average HAP emission for all open molding operations." *The renewed permit has been modified to include the language as EPA promulgated it. Specifically, the Permittee has chosen to meet the individual HAP emission limits for each combination of operation type and resin application method or gel coat type. To do this the Permittee shall sum the product of each individual organic HAP emission factor for each process stream to get an average organic HAP emission factor over the 12 month period. If this average meets the limits set in the rule, then the Permittee is in compliance.*

**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, Mecklenburg County and Forsyth County are affected areas 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 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.