

**Air Permit Review**

**Permit Issue Date: DRAFT**

**Region:** Fayetteville Regional Office  
**County:** Richmond  
**NC Facility ID:** 7700087  
**Inspector's Name:** Tien Nguyen  
**Date of Last Inspection:** 08/21/2008  
**Compliance Code:** 3 / In Compliance - Inspection

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> Viking Pools LLC - Rockingham Facility  <b>Facility Address:</b> Viking Pools LLC - Rockingham Facility Enterprise Road Rockingham, NC 28379  <b>SIC:</b> 3949 / Sporting & Athletic Goods Nec <b>NAICS:</b> 33992 / Sporting and Athletic Goods 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> 2D .0515, .0521 .1806 <b>NSPS:</b> <b>NESHAP:</b> Subpart WWWW <b>PSD:</b> <b>PSD Avoidance:</b> Yes <b>NC Toxics:</b> <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> 7700087.08A <b>Date Received:</b> 01/14/2008 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-1st Time <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 09686/R00 <b>Existing Permit Issue Date:</b> 02/02/2007 <b>Existing Permit Expiration Date:</b> 01/31/2012
Henry Davis Plant Manager (910) 410-9555 162 Enterprise Drive Rockingham NC, 28379	Jeff Dryja Vice President (304) 884-6954 439 Industrial Parkway Jane Lew WV, 26378	Diana Marra Mgr Environmental and Safety (304) 884-6700 439 Industrial Parkway Jane Lew WV, 26378	
<b>Review Engineer:</b> Kevin Godwin  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____		<b>Comments / Recommendations:</b> Issue 09686/T01 <b>Permit Issue Date:</b> <b>Permit Expiration Date:</b>	

**I. Introduction and Purpose of Application**

- A. Viking Pools, LLC manufactures fiberglass swimming pools at this Rockingham, Richmond County site. Swimming pools are manufactured similarly to fiberglass boats using a reinforced plastic composite operation. The reinforced plastic composite operation at Viking Pools is subject to 15A NCAC 02D .1111, "Maximum Achievable Control Technology" - Subpart WWWW [40 CFR 63.5790].
- B. Viking Pools is an existing Title V facility that was issued a state construction permit on February 2, 2007 under 15A NCAC 02Q .0300 with a requirement to submit an application for a Title V permit within 12-months of commencing operation. This application for a Title V permit was received on January 14, 2008.

C. Table of Emission Sources and Description

The following table provides summary of permitted emission sources:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-01 MACT	Production area	N/A	N/A

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-02 MACT	Mold maintenance area	N/A	N/A
F-01 MACT	Raw material storage area	N/A	N/A
F-02 MACT	Finishing area	N/A	N/A

1. Production area (ES-01) – Viking applies gel coat to swimming pool molds. Using non-atomized chopper guns and hand lay-up, Viking applies layers of fiberglass reinforced liquid polyester resin to the gel coat layer to develop structural integrity.
2. Mold maintenance area (ES-02) – Viking manufactures and repairs molds used in the lamination area using tooling gel coats, resins, and fiberglass.
3. Finishing area (F-02) – Viking uses this area to trim and cosmetically repair swimming pools. A small amount of fugitive PM emissions result from this process.

## II. Statement of Compliance

Viking Pools was last inspected on September 21, 2008 by Mr. Tien Nguyen of the Fayetteville Regional Office (FRO). According to the inspection report, the facility was closed upon arrival for inspection. The facility has no Notices of Violation (NOV) since operation began.

## III. Regulatory Review – Specific Emission Source Limitations

- A. 15A NCAC 2D .0515 “Particulates From Miscellaneous Industrial Processes” – This regulation applies to any industrial process for which no other emission control standards are applicable. The allowable particulate matter emission rate from any stack, vent, or outlet shall not exceed the level calculated using the following equations:

$$E = 4.10 * P^{0.67} \quad \text{for } P \leq 30 \text{ tons per hour}$$

$$E = 55.0 * P^{0.11} - 40 \quad \text{for } P > 30 \text{ tons per hour}$$

Where E = allowable emissions (lb/hr)  
P = process throughput rate (tph)

Process rate means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. For a batch operation, the process rate is derived by dividing the total process weight by the number of hours in one complete operation.

This is a batch process. Viking estimates a future production level of 2,800 pools and related products per year. The input materials for each product weigh approximately 1,567 pounds.

Thus,  $P = [(2,800 \text{ pools/year}) * (1,567 \text{ pounds/pool}) / 2,000 \text{ hr/year}] / 2,000 \text{ lb/ton} = 1.1 \text{ tph}$

Based on the process rate, E calculates to 4.3 lb/hr.

PM emissions result primarily from over-spray in the Production area with a small amount from Mold maintenance. Air from the Production area is routed through a fiberglass pad filter system oriented perpendicular to airflow and exhausted through a single stack. Based on engineering estimates, Viking reports PM emissions from the Production and Mold maintenance areas combined to be 3.5 lb/hr. Therefore, compliance is indicated.

Viking will be required to maintain production records. Due to the expected margin of compliance, no reporting is required.

- B. 15A NCAC 2D .0521 “Control of Visible Emissions” – This regulation applies to sources of particulate matter. For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. Compliance with this standard is expected.

Within thirty (30) days of the effective date of this new permit, the Permittee will be required to establish normal visible emissions. To ensure compliance, the Permittee shall observe the emission points of these sources monthly for comparison to normal. If visible emissions are observed to be above normal, the Permittee shall either:

1. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
2. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 (Method 9) for 12 minutes is below the limit.

The Permittee will record and report monitoring activities.

#### **IV. Regulatory Review – Multiple Emission Source Limitations**

- A. 15A NCAC 02D .0958 “Work Practices for Sources of VOC” – This regulation applies to all facilities that use VOC as solvents, carriers, material processing media, or industrial chemical reactants or other similar uses, or that mix, blend, or manufacture VOC or emit VOC as a product of chemical reactions. The regulation establishes work practice standards for such facilities. Monitoring, recordkeeping, and reporting of activities are required.
- B. 15A NCAC 02Q .0317 for avoidance of 15A NCAC 2D .0530 (PSD) – The PSD major source emission threshold for this facility is 250 tpy VOC. Viking has requested to be classified as a minor PSD source. In order to be classified as a minor PSD source, a federally enforceable avoidance condition is necessary to ensure VOC emissions do not exceed the major source threshold. An avoidance condition is included in this 1<sup>st</sup> Time Title V permit. Monitoring, recordkeeping, and semi-annual reporting are required.
- C. 15A NCAC 02D .1111 “Maximum Achievable Control Technology” – This regulation applies to major HAP sources. Subpart WWWW “Reinforced Plastic Composites” is the specific MACT that applies to Viking. A condition is placed in the permit stating all of the facility’s requirements under Subpart WWWW. All control options mentioned in the Subpart are included in the condition. Monitoring, recordkeeping, and reporting are required.
- D. 15A NCAC 02D .1100 “Control of Toxic Air Pollutants” – This regulation applies facility-wide to sources of any listed state-only toxic air pollutants (TAP). For Viking, styrene is the only TAP that is emitted at a rate greater than the toxic permit emission rate (TPER) as listed in 02Q .0711. For approval of the state construction permit, Viking evaluated facility-wide styrene emissions and performed air dispersion modeling. The modeling was approved by DAQ Air Quality Analysis Branch, and a limit of 328.9 lb/hr was included in the permit. In order to ensure compliance, Viking must calculate hourly styrene emissions on a daily basis. On a quarterly basis, Viking must submit to the FRO the highest hourly styrene emission rate.
- E. 15A NCAC 02Q .0711 “Emission Rates Requiring a Permit” – This regulation lists the TPER for state-only TAP emissions. Facility-wide Viking emits two other TAPs; methyl ethyl ketone and methyl isobutyl ketone at rates less than the respective TPER. Therefore, no further evaluation is necessary. Viking will be required maintain records of operational information demonstrating emission rates remain below the TPER.
- F. 15A NCAC 02Q .0705 “Existing Facilities and SIC Calls” – This regulation requires that a facility-wide TAP compliance demonstration be submitted as of the facility’s last applicable MACT. This requirement was satisfied with the state construction permit on February 2, 2007.

#### **V. Other Regulatory Considerations**

- An application fee is not required for this second step application under 15A NCAC 02Q .0501(c)(2).

- The appropriate number of application copies was received by DAQ on January 14, 2008.
- The application included the Reduction and Recycling Form (A4).
- A Professional Engineer's seal is not required for this application.
- A zoning consistency determination was included with the application for a state construction permit.
- Public notice and EPA review are required for this 1<sup>st</sup> Time Title V permit.
- According to the application, the facility does not store materials in quantities that exceed the 112r applicability threshold.
- IBEAM Emission Source Module (ESM) update was verified on ..
- The application was signed by Mr. Jeff Dryja, Vice President on January 29, 2008.

#### **VI. Recommendations**

This application for a 1<sup>st</sup> Time Title V Air Permit has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility appears to be complying or is expected to achieve compliance with all applicable requirements as specified in the permit. A draft was provided to the applicant and the FRO on February 13, 2009.