

TITLE V APPLICATION REVIEW

Facility Name: **Seminole Marine, Inc.**

City: Cairo

County: Grady

AIRS #: 04-13-131-00021

Application #: TV- 11926

Date Application Received: December 22, 1999

Date Application Deemed

Administratively Complete: February 20, 2000

Date of Draft Permit: May 1, 2000

Permit No: 3732-131-0021-V-01-0

Program	Review Engineers	Review Managers
SSPP/ASU	Matthew Page	Terry Johnson
SSCP/ASU	n/a	n/a
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Introduction

This narrative is being provided to assist the reader in understanding the content of the attached draft Title V operating permit. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being proposed pursuant to: (1) Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The primary purpose of this permit is to consolidate and identify existing state and federal air requirements applicable to Seminole Marine, Inc. and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the methods for determining compliance with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name: Seminole Marine, Inc.

2. Parent/Holding Company Name

Seminole Marine, Inc.

3. Previous and/or Other Name(s)

None

4. Facility Location

2501 Milestone Industrial park
Cairo, Georgia 31728
Grady County

5. Attainment or Non-attainment Area Location

The facility is located in an attainment area (Grady County) for ground level ozone and all other criteria pollutants.

6. Class I Area Impacts

The facility is located within 100 km of a Class I area.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Seminole Marine, Inc. is an unpermitted existing major source. The facility does not have a Georgia Air Quality Permit at this time. The Part 70 operating permit will be the first air quality permit issued to this facility.

Table 1: List of Current Permits, as Amended

Permit Number and/or Purpose of Issuance	Date of Issuance and Date of Amendments (if any)	Comments	
		Yes	No
None Applicable			

D. Process Description

1. SIC Code

3732 - Fiberglass Products

2. Description of Product

The facility manufactures fiberglass boats that are 15 to 23 feet in length.

3. Overall Facility Process Description

The molds (hulls) are cleaned and waxed, and a layer of gel coat is sprayed on the molds and is allowed to cure. A thin layer of resin (skin coat) is then applied over the first layer of gel coat. The skin coat aids in the adhesion of the gel coat to the resin. The boat hulls enter the lamination process. Layers of unfilled resin, chopped fiberglass strands, and glass mat are applied to the bottom and the sides of the boat. Usually several layers of resin/fiberglass make up the laminate. Once the layers of lamination have cured, a layer of foam is applied to the sides and corners of the boat hull. The molded piece is then removed from the mold and trimmed. The boat deck and hulls are then assembled, and the motor and all necessary wiring and furniture are installed. No wood coating operations are performed at the facility, only installation. The facility produces about eight to ten boats per week.

The emissions from the resin and gel coat operations will be styrene (VOC/HAP). The foam operation will emit trace amounts of isocyanate. There will be very minor amounts of particulate emissions from the trimming booth. There are various space heaters located throughout the facility.

4. Overall Process Flow Diagram

Diagrams of the facility can be found as part of Title V Application No. 11926.

5. Facility Wide Emissions

The emissions in Table 2 below were calculated based upon information provided in the SSCP inspection report for the facility dated January 26, 2000. Styrene is the only VOC and HAP emitted by the facility in significant amounts. The emissions of any isocyanate should be below 10 pounds per year.

Table 2: Facility Wide Emissions Summary for Seminole Marine, Inc.

Pollutant	Potential Emissions - Uncontrolled (tpy)	Potential Emissions - with Permit Limits (tpy)	Anticipated Actual Emissions (tpy)
VOC	> 100	100.0	14.4
Combined HAP	> 100	100.0	14.4
Styrene	> 100	100.0	14.4

The styrene emissions were calculated from facility usage records and utilizing USEPA’s FRP model. The calculations for the gel coat and resin operations are as follows:

Gel coat Emissions (styrene):

$$\text{Styrene Emissions} = (\text{gel coat usage, pounds/yr}) * (\text{styrene content in gel coat}) * (\text{emission factor})$$

$$\text{Styrene Emissions} = (45,000 \text{ lbs/yr}) * (0.299 \text{ lbs styrene/1.0 lb gel coat}) * (0.494 \text{ lbs styrene emitted/1.0 lb styrene})$$

$$\text{Styrene Emissions} = 6,647 \text{ lbs/yr} = 3.32 \text{ tpy}$$

Resin Emissions (styrene):

$$\text{Styrene Emissions} = (\text{resin usage, pounds/yr}) * (\text{styrene content in resin}) * (\text{emission factor})$$

$$\text{Styrene Emissions} = (308,900 \text{ lbs/yr}) * (0.379 \text{ lbs styrene/1.0 lb gel coat}) * (0.189 \text{ lbs styrene emitted/1.0 lb styrene})$$

$$\text{Styrene Emissions} = 22,127 \text{ lbs/yr} = 11.1 \text{ tpy}$$

$$\text{Total styrene emissions} = 14.42 \text{ tpy}$$

The usages and styrene contents for resin and gel coat can be found in the SSCP inspection report for Seminole Marine dated January 26, 2000. Particulate emissions are very minimal and almost no particulate matter ever leaves the manufacturing building.

E. Regulatory Status

1. PSD/NSR

The facility is a minor source with respect to PSD regulations. The facility will have a VOC limitation of 100 tpy to ensure that it is minor for PSD. The facility is considered a true minor source for all other criteria pollutants.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility’s Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	yes			T
PM ₁₀	yes			T
SO ₂	yes			T

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
VOC	yes		T	
NO _x	yes			T
CO	yes			T
TRS	n/a			
H ₂ S	n/a			
Individual HAP	yes	T		
Total HAPs	yes	T		

The facility will take a synthetic minor limit on VOC of 100 tpy in order to be considered a minor VOC source and to lower emission fees.

3. MACT Standards

The facility is a major source with respect to hazardous air pollutants (HAP) because the facility has potential HAP emissions of greater than 10 tpy of styrene (an individual HAP) and will be subject to any applicable NESHAP. USEPA will be supposed to promulgate a MACT standard for the fiberglass boat manufacturing industry by November 15, 2000. The facility will likely be considered an existing source upon promulgation and will have to comply with the NESHAP by the compliance date specified in the standard. The facility is currently not compliant with preliminary standards of the NESHAP. The facility is still using a high styrene content resin (37.9 %, by weight). The MACT floor for the styrene content of the production resin will be 35 %, by weight. The gel coat styrene content (29.9 %, by weight) should be in compliance (34 %, by weight, will be considered MACT compliant). The facility is still using atomized spray application techniques while the NESHAP will likely call for flow coaters to be used for resin operations and other non-atomized techniques (FIT) for gel coat operations.

4. Program Applicability

Program Code	Applicable (Yes/No)
Program Code 6 - PSD	No
Program Code 8 - Part 61 NESHAP	No
Program Code 9 - NSPS	No
Program Code M - Part 63 NESHAP	No
Program Code V - Title V	Yes

Regulatory Analysis

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The following permit conditions discussed below will be federally enforceable by both the Georgia Environmental Protection Division and the US Environmental Protection Agency.

II. Facility Wide Requirements

A. Emission and Operating Caps:

1. The facility will have a 100 tpy VOC limitation to avoid any PSD issues. The facility will also take a lower limit (well below 249 tpy) in order to reduce emission fees. The facility has potential VOC of a little over 140 tpy. The facility only plans to emit 50 to 80 tpy as their maximum emissions in the next five years, therefore, the facility can easily accept this emission limitation.

B. Applicable Rules and Regulations

! Rules and Regulations Assessment:

None Applicable.

! Emission and Operating Standards:

None Applicable.

C. Compliance Status

The facility is currently in compliance. Section 11.0 of the facility's Title V application does not note any compliance issues nor does the Division files.

D. Operational Flexibility

The facility has not requested any operational flexibility in their Title V application. There are no new rules, regulations, or work practices that will be applicable to this source for the purpose of operational flexibility.

E. Permit Conditions

1. Condition No. 2.1.1 limits the facility wide VOC emissions to less than 100 tons per any twelve consecutive month period.

III. Regulated Equipment Requirements

A. Brief Process Description

The molds (hulls) are cleaned and waxed, and a layer of gel coat is sprayed on the molds and is allowed to cure. A thin layer of resin (skin coat) is then applied over the first layer of gel coat. The skin coat aids in the adhesion of the gel coat to the resin. The boat hulls enter the lamination process. Layers of unfilled resin, chopped fiberglass strands, and glass mat are applied to the bottom and the sides of the boat. Usually several layers of resin/fiberglass make up the laminate. Once the layers of lamination have cured, a layer of foam is applied to the sides and corners of the boat hull. The molded piece is then removed from the mold and trimmed. The boat

deck and hulls are then assembled, and the motor and all necessary wiring

and furniture are installed. No wood coating operations are performed at the facility just installation. The facility produces about eight to ten boats per week.

The facility utilizes a gel coat spray booth (Emission Unit ID No. GC01) for the application of the various gel coats. The facility utilizes a laminate spray resin system (Emission Unit ID No. LR01) for the application of the resin skin coat and lamination layers. HVLP type spray guns are the applicators used in the gel coat and resin operations. The hull trimming and grinding is performed in the trimming booth (Emission Unit ID No. TR01). The emissions from the resin and gel coat operations will be styrene (VOC/HAP). The foam operation will emit trace amounts of isocyanate. There will be very minor amounts of particulate emissions from the trimming booth. All of the operations above take place in an enclosed building. The emissions for the resin operations vent out of three exhaust fans which are equipped with glass fiber filters (Air Pollution Control Device ID Nos. FR01, FR02, and FR03). The gel coat booth has a filter (Air Pollution Control Device ID No. FG01) to control any over spray from the gel coat. The trimming booth has a fiber filter (Air Pollution Control Device ID No. FT01) to control any particulate emissions. All filters will be required to be changed out at least once per week.

B. Equipment List for the Process

Table 4: Equipment List for Seminole Marine, Inc.

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements / Standards	Corresponding Permit Conditions	ID No.	Description
GC01	Gel coat spray booth	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	2.1.1, 3.4.1, 3.4.2, 3.5.1, 6.2.1, 6.2.2, 6.2.3, and 6.2.4	FG01	Two Gel coat spray booth filters
LR01	Lamination spray resin operation	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	2.1.1, 3.4.1, 3.4.2, 3.5.1, 6.2.1, 6.2.2, 6.2.3, and 6.2.4	FR01	Three wall filters in lamination area
TR01	Trimming booth	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.1, 3.4.2, 3.5.1, and 6.2.4	FT01	Filter in trimming booth

* Generally Applicable Requirements contained in this permit may apply also to emission units listed above.

C. Equipment & Rule Applicability

! Emission and Operating Caps:

None Applicable.

! Applicable Rules and Regulations -

Rules and Regulations Assessment:

Equipment at the facility is subject to the following Georgia Rules.

- 391-3-1-.02(2)(b) Visible Emissions
- 391-3-1-.02(2)(e) Particulate Emissions from Manufacturing Processes

The Emission Unit ID Nos. GC01, LR01, and TR01 are subject to Georgia Rule 391-3-1-.02(2)(b) because it applies to all sources that are subject to at least one other emission limitation and not subject to any other, more stringent, opacity standard.

The Emission Unit ID Nos. GC01, LR01, and TR01 are subject to Georgia Rule 391-3-1-.02(2)(e) because these emission units are considered new equipment, constructed after July 2, 1968. Therefore, particulate matter emissions allowable is based on the following equation:

$E = 4.1 * (P)^{0.67}$ where E equals the allowable particulate emissions rate in lb/hr and P equals the process input weight rate in tons/hr. This equation applies only to process input rates up to and including 30 tons/hr. The emission units above will have very minor particulate emissions. The uncontrolled potential particulate emissions from the trimming booth could exceed 25 tpy, therefore, this emission unit is listed in Table 3

Emission and Operating Standards:

391-3-1-.02(2)(b) Visible Emissions: Limits opacity of an air contaminant source to less than 40 %. The emission units of the facility will not exceed this standard.

391-3-1-.02(2)(e) Particulate Emissions from Manufacturing Processes: Limits emissions of particulate matter from the Emission Unit ID Nos. GC01, LR01, and TR01 based upon $E = 4.1(P)^{0.67}$, E = emission rate in pounds per hour, P= process input weight rate in tons per hour. The controlled potential PM emissions are incredibly minimal.

D. Compliance Status

The facility is currently in compliance. Section 11.10 of the facility's Title V application does not note any compliance issues nor do the Division files.

E. Operational Flexibility

The facility has not requested any operational flexibility in their Title V application. There are no new rules, regulations, or work practices that will be applicable to this source for the purpose of operational flexibility

F. Permit Conditions

1. Condition No. 3.4.1 subjects Emission Unit ID Nos. GC01, LR01, and TR01 to Rule (b). This limits opacity from the above emission units to no greater than forty percent.
2. Condition No. 3.4.2 subjects Emission Unit ID Nos. M001 through M008 to Rule (e). This limits particulate matter emissions derived from $E = 4.1(P)^{0.67}$.
3. Condition No. 3.5.1 requires the facility to replace the filters for Emission Unit ID Nos. GC01, LR01, and TR01 at least once per operating week.

IV. Testing Requirements (with Associated Record Keeping and Reporting)

A. General Testing Requirements

None of the applicable regulations requires performance testing; therefore, this permit does not contain any conditions to require specific testing for any sources. The permit specifies that a performance test may be required to determine compliance with the emission limits in Part 3.0, and the test methods to be used to determine compliance are listed. A general condition to require notification of any test and for the submission of a test plan is included.

B. Specific Testing Requirements

None Applicable.

V. Monitoring Requirements (with Associated Record Keeping and Reporting)

A. General Monitoring Requirements

Condition 5.1.1 requires that all monitors be operated continuously except during breakdowns, repairs, and quality assurance activities. Any repairs or maintenance should be completed in an expeditious manner so downtime is minimized. All data should also be recorded during any calibration activity to help verify that the calibration was performed and completed properly.

B. Specific Monitoring Requirements

The fuel burning sources at the facility include various process heaters. These units are all natural gas fired and have a combined maximum heat input rating of under 10 MMBTU/hr. These sources are subject to Georgia Rule (b) and (d). Particulate matter emissions and visible emissions from the natural gas fired units are negligible, so no monitoring is required. No monitoring is required for Opacity or Particulate Matter listed in Condition Nos. 3.4.1 and 3.4.2. The facility uses only natural gas combustion processes, typically producing insignificant opacity and particulate emissions. The organic VOC and HAP used likewise have insignificant levels of opacity and particulate matter emissions.

C. Record Keeping and Reporting Requirements

None Applicable

VI. Other Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The standard general requirements for the maintenance of all records for a period of five years and for the prompt reporting of excess emissions from process malfunctions or improper maintenance are included (Condition Nos. 6.1.1, 6.1.2, and 6.1.3).

The Permittee is required in Condition 6.1.4 to submit a semiannual report. This report should contain information on deviations (described in exceedences) which occurred during the reporting period. The required information is enumerated in the Condition. Condition 6.1.5 requires any analysis or sampling records to be kept. All records should be maintained for at least five years according to Condition 6.1.6.

Condition No. 6.1.7 details deviations which are to be included in the semiannual report required in Condition No. 6.1.4. Exceedences would occur if the facility exceeded the VOC limit specified in Condition No. 2.1.1 for any twelve consecutive month period. Excursions would occur if the facility failed to perform a filter change as required by Condition No. 3.5.1.

B. Specific Record Keeping and Reporting Requirements

Condition No. 6.2.1 requires the facility to maintain monthly usage records of all VOC containing compounds utilized at the facility. Condition No. 6.2.2 requires the facility to calculate the monthly VOC emissions per Division Guidelines and notify the Division if the VOC emissions for any month exceed 8.33 tons. The facility must utilize the procedures for calculating styrene emissions specified in Appendix H of the Division's Procedure for Testing and Monitoring Sources of Air Pollutants. Condition No. 6.2.3 requires the facility to calculate the twelve month rolling total VOC emissions for each month and notify the Division when the VOC emissions exceed 100 tons during any consecutive twelve month period. Notification must be submitted within 15 days. Styrene is the only VOC emitted by the facility and is also the only HAP emitted by the facility (isocyanate emissions are de minimus). Therefore, HAP records are not required.

Condition No. 6.2.4 requires the facility to keep a log of the filter replacement for Emission Unit ID Nos. GC01, LR01, and TR01 in order to verify compliance with Condition No. 3.5.1. Air pollution Device No. FG01 consists of the two filters for the gel coat booth. Air Pollution Device No. FR01 consists of the three wall filters in the resin lamination area. Air Pollution Device No. TR01 is the trimming booth filter.

VII. Specific Requirements

A. Operational Flexibility

None Applicable

B. Alternative Requirements

None Applicable

C. Insignificant Activities

The insignificant activities are listed in Appendix B of the Title V operating permit. This list was created from Section 4.10 of the facility's application. The facility indicated that they have some machining, sawing, and surface grinding operations. The facility also indicated that they have a few 550 gallon drums and a chemical storage tank (listed in Table 4.10 of the Title V application). The facility also operates a urethane foam application operation for use in the boat hulls. As specified before, the emissions from the foam operations will be minimal. The facility also has a 6,000 gallon resin storage tank as well as several small pieces of fuel burning equipment (space heaters).

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D. Temporary Sources

Not Applicable

E. Short-Term Activities

Not Applicable

F. Compliance Schedule/Progress Reports

Not Applicable

G. Emissions Trading

Not Applicable

H. Acid Rain Requirements

Not Applicable

I. Prevention of Accidental Releases

The facility did not indicate applicability in §12.10 of the their Title V permit application.

J. Stratospheric Ozone Protection Requirements

The facility has indicated that they are not subject to Title VI per Section 3.11 of their Title V permit application.

K. Pollution Prevention

Not Applicable

L. Specific Conditions

None

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

TITLE V APPLICATION REVIEW

Closing Block: We have reviewed and recommend issuance of draft Permit No. 3732-131-0021-V-01-0

Program	Review Engineers	Dates	Review Managers	Dates
SSPP/ASU				
SSCP/ASU				
ISMP				
TOXICS				

Stationary Source Permitting Program Manager

Date