

**Statement of Basis
Fiber Glass Systems L.P. Grand Bay Facility
Mobile County
Facility No. 503-0084**

Introduction:

On March 28, 2023, the Department received applications from Fiber Glass Systems L.P. (formerly Containment Solutions), for a renewal of the Title V Major Source Operating Permit (MSOP) for their fiberglass facility in Grand Bay, AL.

This renewal was originally noticed on July 15, 2024. Public comments were received, and it was determined that changes to the permit, Statement of Basis, and application required a new notice period. An updated application was received on October 23, 2024. A brief summary of the changes from the July 15, 2024 draft permit and Statement of Basis are noted below.

1. Changes to the Statement of Basis include:
 - The Emissions section now includes additional information on how emissions are calculated and an additional chart detailing the emissions factors for each operation. Also, the existing tables have been updated to reflect the potential emissions from the updated application and the actual emissions from 2023.
 - Annual source testing was addressed at the end of the Monitoring section.
 - Additional background information related to the original Air Permits for the facility has been added.
 - A statement regarding the facility's ability to switch between compliance options was added to the MACT subsection of the Requirements section.
 - Language was added to the MACT subsection of the Requirements section to explain why the facility is classified as an existing source.
2. Changes to the draft permit include:
 - The statement regarding add-on controls was removed from the Tank Mandrel requirements in Proviso 1 of Section 3. Language was also changed in the same proviso for each fiber glass unit to improve accuracy.
 - Added additional language was added to Section 2, Proviso 3 for each fiber glass unit indicating which formulas should be used to determine emissions for each operation.
 - A proviso was added to Section 3 for each fiber glass unit requiring the retention of a certified statement of compliance with the work practice requirements of the MACT.
 - Additional language was included in Section 5, Proviso 1.(f) for the fiber glass units and Section 4, Proviso 2 for the boiler unit regarding the summing of VOC emissions.

Fiber Glass Systems manufactures tanks, pipes, lids, and fittings using fiberglass reinforced plastics. The facility is a major source with respect to Title V for volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).

The facility originally began operations in 1985. The initial Title V MSOP was issued on May 30, 2007, and this is the third renewal. The current MSOP expired on October 4, 2023, but a renewal application was received on March 28, 2023. ADEM Admin. Code r. 335-3-16-12(c) states “If a timely and complete application for a permit renewal is submitted, but the Department fails to take final action to issue or deny the renewal permit before the end of the term of the previous permit, then the permit shall not expire until the renewal permit has been issued or denied and any permit shield granted for the permit shall continue in effect during that time”; therefore, the current MSOP was administratively continued.

Since the last issuance of the MSOP, the filament winding process has been removed, and a Tank Mandrel Layup Process was added in 2020. A small boiler was also added in 2020. Applications to incorporate these modifications and the name change into the MSOP were submitted on January 4, 2022, and an addendum was submitted on April 25, 2022.

The facility is located in Mobile County, which is in compliance with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against Fiber Glass Systems L.P. Grand Bay Facility necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at <https://echo.epa.gov/> (Search using Facility ID AL0000000109700084).

Operations:

Mechanical Layup Process:

Glass fiber is wetted with catalyzed resin and applied with non-atomized (impingement) spray equipment to molds to form parts such as tank lids. The spray gun station has the potential to apply 115 pounds of resin per hour.

Manual Layup Process:

Glass fiber is manually placed on molds and wetted with catalyzed resin, which is then applied with a bucket and brush to form fittings and join larger parts. The manual layup process has the potential to apply 38 pounds per hour of resin.

Tank Mandrel Layup Process:

Activated resin, fibrous glass, and silica sand are gravity fed onto a spinning mandrel. The tank mandrel layup process has the potential to apply 355 pounds of resin per hour.

Boiler:

A 1.24 mmBTU/HR boiler burns natural gas for fuel.

The operations from this facility are subject to the requirements of 40 CFR 63, Subpart WWWW. The boiler is subject to 40 CFR 63, Subpart DDDDD.

Emissions:

Most of the facility's emissions are styrene emissions from the resins. Styrene is both a VOC and HAP. Additional VOC and HAP emission sources would include catalysts and a promoter used in the manufacturing processes. The facility would also produce particulate matter (PM) from trimming and grinding. The potential to emit for styrene is based on EPA emission factors found in 40 CFR 63, Subpart WWWW. Fiber Glass Systems has a plant-wide emission limit of 240 tons per year of VOC emissions. This limit was established in the facility's original Air Permits issued on February 13, 2006, and subsequently incorporated into the Title V permit that was issued on May 30, 2007. VOC emissions were determined using the emissions factors from 40 CFR 63, Subpart WWWW for VOCs that are also HAPs and using mass balance calculations for other materials. The tables below list Fiber Glass Systems L.P.'s calculated emission factors and potential emissions. The emission factors used to calculate potential emissions were determined based on the resin with the highest styrene content for each operation. Each emission factor was also determined assuming no vapor suppression. When the facility calculates actual emissions, an appropriate emission factor is determined based off the styrene content of the specific resin used in the operation. The potential emissions for nonorganic HAPs and VOCs not from resins or gelcoats, as well as particulates, were calculated using mass balance calculations. The potential emissions were estimated based on operating at maximum capacity 24 hours per day, 7 days per week.

Table 1. Fiber Glass Systems L.P. Emission Factor Used to Calculate Potential Emissions

	Mechanical Layup	Manual Layup	Tank Mandrel Layup
Emission Factor	104.22 lb/ton	156.75 lb/ton	104.22 lb/ton

Table 2. Fiber Glass Systems L.P. Potential Emissions (tons per year)

Pollutant	Mechanical Layup	Manual Layup	Tank Mandrel Layup	Boiler	Plant Wide
VOC	26.16	25.77	88.72	0.03	140.7
HAP	26.16	19.26	81.62	--	127.04
Styrene	26.16	18.5	81.55	--	126.22
NOx	--	--	--	0.53	0.9
CO	--	--	--	0.63	0.76
SO ₂	--	--	--	0.004	0.01
PM	--	--	--	0.04	0.07

*Synthetic minor limit with respect to PSD

The table below lists the actual emissions from all operations in 2023. These emissions are reasonably consistent with emissions from 2022, which was the first full year of production for the tank mandrel operation.

Table 3. Fiber Glass Systems L.P. 2023 Actual Emissions (tons)					
Pollutant	Mechanical Layup	Manual Layup	Tank Mandrel Layup	Boiler	Plant Wide
VOC	5.31	5.18	18.25	0.01	28.75
HAP	5.31	3.69	16.78	--	25.78
NO _x	--	--	--	0.09	0.09
CO	--	--	--	0.07	0.07
SO ₂	--	--	--	0.0005	0.0005
PM	--	--	--	0.01	0.01

Requirements:

The entire facility is subject to the Title V permitting program.

NSPS

There are no New Source Performance Standards (NSPS) in 40 CFR Part 60 that apply to the facility.

MACT

Fiber Glass Systems is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP): Reinforced Plastic Composites Production, as listed under 40 CFR Part 63, Subpart WWWW (RPC MACT). The facility is considered an existing facility under the conditions of §63.5795 because fiberglass manufacturing operations existed at the site prior to August 2, 2001. Because the facility is an existing facility and does not have any centrifugal casting or continuous lamination/casting operations, it is not required to calculate or report emissions according to §63.5799 and is not subject to the requirement to install any add-on controls should emissions meet or exceed 100 tons per year. Previous versions of the permit and Statement of Basis mistakenly categorized the facility as a new facility and included a requirement that operations demonstrate compliance with a 100 tons per year threshold for add-on controls. Under §63.5805 (b) of the RPC MACT, Fiber Glass Systems L.P. is required to meet the applicable emissions limits for organic HAP listed in Table 3 of the subpart and work practice standards listed in Table 4 of the subpart. Fiber Glass Systems L.P. uses various different resins and gelcoats; most of which have their own emissions limits. To demonstrate compliance with the various MACT emission limits, Fiber Glass Systems L.P. calculates weighted averages of emissions and the applicable emission limits on a monthly basis using the formulas found in §63.5810 (c). Fiber Glass Systems L.P. is currently demonstrating continuous compliance with the calculated emission limits. The work practice standards for this facility are for a cleaning operation and a HAP-containing materials storage operation. The facility is also subject to the applicable recordkeeping and reporting requirements of the RPC MACT.

X002: Mechanical Layup Process

The mechanical layup process is an open molding operation with corrosion-resistant and/or high strength and is therefore, according to Table 3 of Subpart WWWW, subject to a 113 lb/ton emission limit for HAP.

X003: Manual Layup Process

The manual layup process is an open molding operation with corrosion-resistant and/or high strength and is therefore, according to Table 3 of Subpart WWWW, subject to a 123 lb/ton emission limit for HAP.

X004: Tank Mandrel Layup Process

The tank mandrel layup process is an open molding operation with corrosion-resistant and/or high strength and is therefore, according to Table 3 of Subpart WWWW, subject to a 113 lb/ton emission limit for HAP.

Because each of the above three processes are open molding, Fiber Glass Systems L.P. is required to use one of the compliance options listed in §63.5810 (a) through (d) to meet the emission limits. Fiber Glass Systems L.P. has chosen to use the facility-wide organic HAP limit averaging under §63.5810(c). Each month, a weighted average emission limit is calculated as well as an average weighted organic HAP emission factor. It should be noted that under §63.5810, Fiber Glass Systems L.P. is allowed to switch between compliance options. Because the NESHAP allows for switching between compliance options, doing so would not require a permit modification. Fiber Glass Systems L.P. is also required by §63.5905 to submit all notifications required by Table 13, which covers applicability and timing of notifications for various operating scenarios, and by §63.5910 to submit a compliance report that meets the requirements of Table 14.

X005: 1.24 mmBTU/HR Boiler

The boiler is subject to 40 CFR 63, Subpart DDDDD: Industrial, Commercial, and Institutional Boilers and Process Heaters. The facility is required to meet the work practice standards in Table 3 of the subpart as required in 40 CFR 63.7540(a). These requirements include a biennial tune-up and submitting an annual compliance report.

The boiler is also subject to ADEM Rules 335-3-4-.03, 335-3-4-.01, and 335-3-5-.01. The Department's observation, based on years of evidence, is that natural gas-fired combustion units should not have any opacity during normal operation. Therefore, the Department's consistent determination is that additional monitoring for opacity is not necessary on units such as this boiler. Since natural gas fired units have a low likelihood of exceeding the opacity standard, the Department's approach to assure compliance with the Alabama SIP opacity standard is to require the units to only burn natural gas as required by permit condition 4. of Section 2 and to require that a statement is included in the semiannual report that is certified by the responsible official, indicating that only natural gas was used during the reporting period (Unit 005 Section 4, proviso 1.c. and general proviso 21). However, should problems with opacity arise the Department could reinstitute this requirement. They are also required to comply with all monitoring and recordkeeping requirements related to the boiler. Table 4-1 in ADEM Rule 335-3-4-.03 limits allowable particulate emissions to 0.5 lb/million BTU.

Prevention of Significant Deterioration (PSD):

The operations at Fiber Glass Systems L.P. are not listed under ADEM Admin. Code 335-3-14-.04(2)(a), thus the applicable threshold for New Source Review (NSR) permitting is 250 tons per year. Since VOC emissions are being limited to 240 tons per year and the potential emissions of all other regulated NSR pollutants from this facility are below the major source threshold of 250 tons per year, Fiber Glass Systems L.P. is considered a synthetic minor source with respect to PSD. The emission limit is found in Section 2, proviso 1. for each unit of the permit.

Monitoring:

According to NESHAP 40 CFR 63, Subpart WWWW (63.5796), the facility “may also use the organic HAP emissions factors calculated using the equations in Table 1 to this subpart, combined with resin and gel coat use data, to calculate [its] organic HAP emissions.” A report of emissions of VOCs and HAPs will be required to be submitted to the Department on a quarterly basis as required by Section 5, proviso 2 of units 002-004 and Section 4, proviso 2 of unit 005. Given the extremely large compliance margins with the synthetic minor for PSD limitations (~25 tpy of actual emissions vs. a limit of 240 tpy), the Department finds that annual source testing at this facility is unnecessary.

CAM:

Compliance Assurance Monitoring (CAM) is not applicable because Fiber Glass Systems L.P. is subject to MACT standards that were promulgated after November 15, 1990. According to 40 CFR 64.2(b)(1)(i) on exemptions from CAM, emission limitations or standards proposed after November 15, 1990 pursuant to section 111 or 112 of the Clean Air Act are exempt from CAM requirements, and there are no other source specific standards applicable to this facility.

Fugitive Dust:

The fugitive dust potential was evaluated and is not expected to be of concern at this facility. The plant property is grassed, and travel areas are covered by asphalt, concrete, or gravel surfaces. No stockpiles of dust producing materials are planned. Therefore, it has been determined by the Department that a dust plan is not required at this time.

Recordkeeping and Reporting Requirements:

Fiber Glass Systems is required to keep records of the type and quantity of each VOC and HAP containing material used each calendar month, the quantity of VOCs and HAPs emitted each calendar month, and the rolling 12-month total of VOCs and HAPs emitted from fiber glass operations. These records will be evaluated by the Department during the annual inspection. The facility is required to submit a quarterly report detailing emission totals (Section 5, Proviso 2 of units 002-004 and Section 4, Proviso 2 of unit 005), a deviation report on a semi-annual basis (Section 5, Proviso 3 of units 002-004), and an Annual Compliance Certification (ACC) (General Proviso 12.).

Recommendation:

I recommend that after a public comment period and EPA review, Major Source Operating Permit 503-0084 be issued to Fiber Glass Systems L.P. for the mechanical layup, manual layup, and tank mandrel layup operations and the 1.24 mmBTU/hr boiler along with associated equipment.

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February 13, 2025
Date

JRG/jrg