



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

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July 15, 2011

Rob Harris
P.O. Box 206
Laurel, MT 59044

Dear Mr. Harris:

Montana Air Quality Permit #3821-01 is deemed final as of July 15, 2011, by the Department of Environmental Quality (Department). This permit is for a reinforced fiberglass production facility at Fiberglass Structures, Inc. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department.

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Jenny O'Mara
Environmental Engineer
Air Resources Management Bureau
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VW:JO:JH
Enclosures

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #3821-01

Fiberglass Structures, Inc.
1202 E. Railroad Avenue
P.O. Box 206
Laurel, MT 59044

July 15, 2011



MONTANA AIR QUALITY PERMIT

Issued To: Fiberglass Structures, Inc.
Tank Division
P.O. Box 206
Laurel, MT 59044

MAQP #3821-01
Application Complete: 04/25/2011
Preliminary Determination Issued: 05/24/2011
Department Decision Issued: 06/29/2011
Permit Final: 07/15/2011
AFS #111-0036

A Montana air quality permit (MAQP), with conditions, is hereby granted to Fiberglass Structures, Inc. (FSI) for their Tank Division, pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

FSI's Tank Division is located in Section 16, Township 2 South, Range 24 East, in Yellowstone County. The physical address is 1202 E. Railroad Avenue, in Laurel, Montana.

B. Current Permit Action

FSI operates a manufacturing facility that produces tanks and other products made from fiberglass. The current permit action is to add two chopper guns and one chop hoop winder to the existing equipment at FSI. In addition to these changes, this permit action updates current rule references, the permit format, and the emissions inventory. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

Section II: Conditions and Limitations

A. Operational and Emission Limitations

1. Volatile Organic Compound (VOC) emissions from the facility shall be limited to 96.27 tons during any rolling 12-month time period (ARM 17.8.752).
2. FSI shall not exceed the applicable organic Hazardous Air Pollutant (HAP) emission limit listed in Table 3 of 40 CFR 63, Subpart WWWW on a 12-month rolling basis. For operations characterized as open molding – corrosion resistant and/or high strength, the following limits apply (ARM 17.8.342, 40 CFR 63 Subpart WWWW):
 - Mechanical resin application 113 pounds HAP/ton resin (lb/ton)
 - Manual resin application 123 lb/ton
3. FSI shall comply with all applicable standards and limitations contained in 40 CFR 63, Subpart WWWW, including the work practice standards specified in Table 4 (ARM 17.8.342, 40 CFR 63, Subpart WWWW).
4. FSI shall use high volume/low pressure (HVLP) non-atomizing spray systems on the Chop Hoop Winders and the Chopper Guns (ARM 17.8.752).
5. FSI shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

6. FSI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
7. FSI shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.6 (ARM 17.8.749).

B. Testing Requirements

1. All compliance source tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. FSI shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. FSI shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit*, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
3. FSI shall document, by month, the VOC and HAP emissions from the facility. By the 25th day of each month, FSI shall total the VOC and HAP emissions from the facility during the previous 12-months. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1 and II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

For the fiberglass resin applications, the calculation of VOC and HAP emissions shall be based on the amount of each resin used, and the percentage of VOC and HAP in each resin. The emissions for the fiberglass process are to be calculated in accordance with the requirements of 40 CFR 63, Subpart WWWW.

For painting or other processes emitting VOCs and HAPs, the emissions will be based on the amount of raw material used (such as paint and thinner) and the percent VOC and HAP in each raw material.

4. FSI must document any change in the raw materials, or VOC and HAP contents, with new or updated product information. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
5. FSI shall maintain, on-site, records demonstrating compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart WWWW. All records compiled in accordance with this permit shall be maintained by FSI as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

D. Notification

FSI must submit to the Department all notifications and reports in accordance with the requirements of 40 CFR 63, Subpart WWWW.

Section III: General Conditions

- A. Inspection - FSI shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as continuous emissions monitoring system (CEMS) or continuous emission rate monitoring system (CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if FSI fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving FSI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement - Violations of limitations, conditions, and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

- G. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Fiberglass Structures, Inc.
MAQP #3821-01

I. Introduction/Process Description

A. Permitted Equipment

Fiberglass Structures, Inc. (FSI) owns and operates a fiberglass manufacturing facility. The facility is located in Section 16, Township 2 South, Range 24 East, in Yellowstone County, Montana. The physical address is 1202 East Railroad Avenue, in Laurel, Montana. Equipment used at the facility includes, but is not limited to the following:

- Two Venus Chop Hoop Winders (High-Volume Low-Pressure (HVLP) non-atomizing);
- Three Venus Chopper Guns (HVLP non-atomizing);
- Spray Painting System;
- Three, Overhead Infra-red natural gas fired heaters (100,000 British thermal units each); and
- Associated Equipment.

B. Source Description

Fiberglass Structure's Tank Division includes a process building where fiberglass tanks and other fiberglass reinforced plastic (FRP) products are produced. The manufacture of FRP at FSI utilizes thermoset resins that contain styrene. Volatile Organic Compound (VOC) emissions, primarily styrene, result from the product manufacturing process. Styrene is a listed hazardous air pollutant (HAP). All materials/products produced at FSI were determined to be characterized as "corrosion-resistant and/or high strength" due to properties required for each product. The resins are non-suppressed.

Operations at FSI are considered "open mold" type production. The first step is fabrication of a plug, typically from wood. After generating the rough shape, the plug is coated with primer. A mold release compound (wax) is applied by hand. To make the mold, laminate (polyester resin, catalyst, and glass fibers) is then applied to the plug. The plug is removed, and the mold is then prepared for production by waxing the surface with the mold release wax.

To produce the tanks or other fiberglass products, laminate is applied to the mold. FSI conducts mostly mechanical applications, although manual applications are occasionally used. The Chop Hoop Winders are the predominant equipment used at FSI's Tank Division. Both are HVLP non-atomizing spray unit, used only for the manufacture of large and medium sized tanks. The Chopper Guns are also a HVLP non-atomizing unit, used for a variety of smaller products. Both spray a shaped stream of resin and catalyst, mixing externally with glass fibers fed through a chopper wheel. Depending upon the resin type and the product, the laminate is allowed to cure for 30 minutes to 24 hours before removal from the mold. Acetone, which is not a VOC, is used for cleaning the application equipment.

C. Permit History

On, September 28, 2006, FSI was issued MAQP #3821-00 to operate a manufacturing facility that produces tanks and other products made from fiberglass.

D. Current Permit Action

The current permit action adds two chopper guns and one chop hoop winder to the existing equipment at FSI. In addition to these changes, this permit action updates current rule references, the permit format, and the emissions inventory. **MAQP #3821-01** replaces MAQP #3821-00.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality-Air Resources Management Bureau (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

FSI shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of

air contaminant that would otherwise violate an air pollution control regulation.
(2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

FSI must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions are taken to control emissions of airborne particulate matter. (2) Under this rule, FSI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants (HAP) for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
 - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
 - b. 40 CFR 63, Subpart WWWW, National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production. Owners or operators of facilities that use thermoset resins and/or gel coats that contain styrene, and that are a major source of HAPs, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR 63, Subpart WWWW. Based on the information submitted by FSI, the facility is subject to the provisions of 40 CFR 63, Subpart WWWW because the facility uses thermoset resins and/or gel coats that contain styrene and therefore, the facility is a major source of HAPs.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. FSI submitted the appropriate permit application fee for the current permit action.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. FSI has a PTE greater than 25 tons per year of VOCs and HAPs; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification or use of a source. FSI submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. FSI submitted an affidavit of publication of public notice for the February 23, 2011, issue of the *Laurel Outlook*, a newspaper of general circulation in the city of Laurel in Yellowstone County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that Montana air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving FSI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
 13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
 14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since it is not a listed source and the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).
- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
 - a. PTE > 100 tons/year (tpy) of any pollutant;
 - b. PTE > 10 tpy of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tpy of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #3821-01 for FSI, the following conclusions were made:
 - a. The facility's PTE is less than 100 tpy for any pollutant.
 - b. The facility's PTE is greater than 10 tpy for any single HAP and greater than 25 tpy of all HAPs combined.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to a current NSPS.
 - e. This facility is subject to a NESHAP standard (40 CFR 63, Subpart WWWW).
 - f. This source is not a Title IV affected source.
 - g. This source is not considered a solid waste combustion unit.
 - h. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that FSI is major source of emissions as defined under Title V and currently operates under Title V Operating Permit #OP3821-00, which was issued final and effective on August 7, 2007. The changes associated with this permit action will be incorporated into the next Operating Permit modification.

III. BACT Determination

A BACT determination is required for each new or modified source. FSI shall install on the new or modified source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

This majority of the proceeding BACT analysis was previously conducted for the initial fiberglass application and spray painting at FSI's Tank Division. This permit action merely adds a chop hoop winder and two chopper guns to the existing operations. The analysis remains essentially the same as that of MAQP #3821-00 because the equipment being added is identical to that previously permitted.

Fiberglass Application

FSI conducts mechanical, and to a minor extent manual, fiberglass resin application. The maximum VOC emissions from FSI were identified as: 64.65 tpy of styrene from the Chop Hoop Winders, 9.86 tpy of styrene from the Chopper Guns, and up to 17.0 tpy of styrene from manual applications.

The primary products at this location are fiberglass tanks, which can be classified into five product categories:

Product Type	Description
Aboveground Storage Tanks	Oil field use for salt brine and petroleum
Underground Storage Tanks	Petroleum storage
Haul Trucks – truck mounted tanks	Salt brine and petroleum storage
Stock Tanks	Ranching and agricultural
Burial Vaults	Electrical, mechanical, and funeral

Each product line is classified as “corrosion-resistant and/or high strength,” based on the desired or required properties of the tank. FSI is required to meet the open-molding emission limits in the MACT standard for corrosion-resistant and/or high strength products. The MACT standard was finalized in April 2003, and as such represents the best control for the top 12% of the industry, at that time. However, the Department requires each source to continually review the BACT options available for their source.

Control Technology for FSI can be considered as one of two broad categories: end-of pipe control to destruct VOC/HAP emissions from the facility’s building vents, or process/raw material modifications to reduce the VOC/HAP emissions from the process.

A. Identification of VOC/HAP Control Options:

The following are potential VOC/HAP control options for FSI that were evaluated under MAQP #3821-00 but would also apply to this permit modification:

*End-of-Pipe Control:

- Thermal Oxidation – regenerative
- Thermal Oxidation – direct flame with catalytic converter
- Thermal Oxidation – direct flame
- Carbon Adsorption – regenerative granulated activated carbon (GAC)
- Carbon Adsorption – single use
- Refrigeration/Distillation

Process Modifications:

- Closed Mold
- Vapor Suppressed Resin
- Low Styrene Resin
- High Volume Low Pressure (HVLP) non-atomized

B. Eliminate Technically Infeasible VOC Options:

According to FSI, it is technically infeasible to change from open-mold to closed-mold, due to the size and curing times for the tanks.

Based on testing performed at FSI over the past few years, vapor suppressed resin was found to be technically infeasible. FSI stated that vapor suppressed resin, which typically contains a surfactant such as wax, caused extreme problems with secondary applications of resin.

C. List all Technically Feasible Options, by Control Efficiency:

The following table lists the control technologies and estimated cost per ton of pollutant removed that were previously evaluated (under MAQP #3821-00) that would also apply to the new equipment.

Control Equipment	\$/Ton (in 2006)
HVLP Application	-NA-
Thermal Oxidation (Regenerative)	6,070
Low Styrene Resin	7,588
Vapor-phase GAC, 2 systems (Regenerative System)	9,207
Thermal Oxidation (Direct Flame w/ Catalytic Converter)	11,382
Vapor-phase granular activated carbon (GAC) (Single Use)	14,946
Thermal Oxidation (Direct Flame)	16,263
Refrigeration/Distillation	66,541

VOC control/removal efficiencies of 95 percent were assumed for each of the end-of pipe technologies reviewed.

- Granular activated carbon systems remove VOCs through absorption by the activated (heated) carbon.
- Thermal oxidation systems combust/oxidize VOCs.
- Refrigeration and distillation systems are based on cooling of the gas resulting in condensing of the VOCs and collection.

During testing previously completed at FSI, low styrene resin was found to cause an inordinate amount of product failures that required warranty replacement and/or repairs; thereby resulting in negative economic impacts. In addition, replacement of the most common resins used at FSI, shows it is uneconomical to replace:

Current Resin Use	Use	Unit Cost (2011 cost)	Annual Cost	% Styrene	Emissions
Aropol	273,896 lbs	\$1.05/lb	\$287,591	44%	13,530.1 lbs
H550-HPA-25	215,207 lbs	\$1.05/lb	\$225,967	40%	10,630 lbs
	489,103 lbs				24,161.7 lbs
Low Styrene Replacement					
Interplastic 340 DCPD	273,896 lbs	\$1.40/lb	\$383,454	30.0%	8792 lbs
Interplastic 340 DCPD	215,207 lbs	\$1.40/lb	\$301,289	30.0%	6908 lbs
DIFFERENCE (Aropol replacement)			\$95,863		4,738 lbs
DIFFERENCE (H550 replacement)			\$75,322		3,722 lbs
Total			\$171,185		8,461.5 lbs

The replacement cost to FSI would be \$171,185/(8461/2000 lb/ton), or \$40,462/ton controlled through the use of low-styrene resins. This exceeds the typical control cost required under BACT. Another consideration is that the Interplastic 340 DCPD resins' tensile strength is only 8,000 pounds per square inch (psi) and most of the end-users require 10,000 – 13,000 psi criteria. Therefore, disqualifying the low styrene replacement option as it was also determined to be infeasible.

FSI currently operates with HVLP without additional controls on the existing units. Based on the amount of emissions and high incremental cost per ton figures shown above, the Department concurs with that original determination. No comparative VOC emission control information was found for this specific type of facility; however, this analysis is consistent with VOC emission control analyses for other types of facilities. The Department determined that the use of HVLP spray systems on the new equipment would constitute BACT.

Spray Painting

FSI conducts spray painting inside the Tank Division, primarily on large and/or medium tanks. The paint used is a 'speed set enamel' paint that requires addition of a small amount of thinner such as xylene. Based on past purchase records (Calendar years 2009 and 2010) for the FSI-Tank Division, it was estimated that approximately 1245 gallons of pain and thinner (combined average of two years) would be used annually at the Tank Division resulting in 4.73 tpy of VOC emissions.

Since the emissions from painting are so low, any additional controls would be cost-prohibitive. Furthermore, VOC control has not been required for other similar sources. Therefore, the Department determined that proper operation and maintenance with no add-on controls would constitute BACT for the painting operation.

IV. Emission Inventory

Source	Tons/Year	
	VOC	HAP (Styrene)
2 -Venus Automatic Chop Hoop Winders	64.65	64.65
3 - Venus Chopper Guns	9.86	9.86
Manual Application	17.0	17.0
Paint and Thinner	4.73	
Mold Release	0.03	
Total	96.27	91.51

Venus Automatic Chop Hoop Winder (2)

VOC/HAP Emissions

Emission Factor: 7.38 lb/hr (Company Information, Average of 2009/2010 data)

Calculations: 7.38 lb/hr * 2 hoop winders * 8760 hr/yr * 0.0005 ton/lb = 64.65 ton/yr

Venus Chopper Gun (3)

VOC/HAP Emissions

Emission Factor: 0.75 lb/hr (Company Information, Average of 2009/2010 data)

Calculations: 0.75 lb/hr * 3 guns * 8760 hr/yr * 0.0005 ton/lb = 9.86 ton/yr

Manual Application

Estimated at 22.8% of the facility's total mechanical application use

Paint & Thinner

Total combined: 1,245 gallons of paint and thinner (Average of FSI's 2009/2010 data)

1,245 gallons x 7.6 lbs VOC/gallon = 12312 lbs (provided by the applicant)

TOTAL PTE = 4.73 tpy

V. Existing Air Quality

FSI's Tank Division is located in Section 16, Township 2 South, Range 24 East, in Yellowstone County. The physical address is 1202 E. Railroad Avenue, in Laurel, Montana. This facility is located in the Laurel SO₂ nonattainment area. The area is considered attainment for all other criteria pollutants. The Billings CO nonattainment area was reclassified to attainment by EPA's direct final rulemaking on April 22, 2002.

VI. Ambient Air Impact Analysis

The Department believes the emissions from the facility will not cause or contribute to a violation of any ambient air quality standard. The Department determined that the impact from this permitting action will be minor. It is important to note that the Department does not have an ambient air quality standard for styrene.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
	X	1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued For: Fiberglass Structures, Inc.
P.O. Box 206
Laurel, MT 59044

Montana Air Quality Permit Number: 3821-01

Preliminary Determination Issued: May 24, 2011

Department Decision Issued: June 29, 2011

Permit Final: July 15, 2011

1. *Legal Description of Site:* The facility is located in Section 16, Township 2 South, Range 24 East, in Yellowstone County, Montana.
2. *Description of Project:* The current permit action would allow the operation to add two chopper guns and a chop hoop winder to an existing manufacturing facility that produces tanks and other fiberglass products. The process description is discussed in Section I.B. of the permit analysis of MAQP #3821-01.
3. *Objectives of Project:* The objective of the project would be to generate business and revenue for the company and to continue to supply fiberglass products.
4. *Alternatives Considered:* In addition to the proposed action, the Department considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because FSI demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A listing of the enforceable permit conditions and a permit analysis, including a BACT analysis, would be contained in MAQP #3821-01.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions would be reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and would not unduly restrict private property rights.
7. The following table summarizes the potential physical and biological effects of the project on the human environment. The "no-action" alternative was discussed previously.

Potential Physical and Biological Effects							
		Major	Moderate	Minor	None	Unknown	Comments Included
A.	Terrestrial and Aquatic Life and Habitats			X			Yes
B.	Water Quality, Quantity and Distribution			X			Yes
C.	Geology and Soil Quality, Stability and Moisture			X			Yes
D.	Vegetation Cover, Quantity and Quality			X			Yes
E.	Aesthetics			X			Yes
F.	Air Quality			X			Yes
G.	Unique Endangered, Fragile or Limited Environmental Resource			X			Yes
H.	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I.	Historical and Archaeological Sites			X			Yes
J.	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The Department has prepared the following comments.

A. Terrestrial and Aquatic life and Habitats

This permit action would add equipment to an existing operation in an existing building. There would not be any new construction or ground disturbance to the area. Emissions from the operation could affect terrestrial and aquatic life and habitats in the project area. However, any emissions and resulting impacts from adding equipment to an existing operation would be minor. Overall, any impact to the terrestrial and aquatic life and habitats of the project area would be minor.

B. Water Quality, Quantity and Distribution

This permit action would not cause additional impacts to water quantity or distribution in the project area. The operation would continue to take place within existing facilities and would not discharge process water as part of the project. There would be sanitary water use and discharge at the facility.

Emissions from the project could affect water quality in the project area. However, as described in Section 7.F of this EA, any emissions and resulting deposition impacts from the current permit action would be minor due to the low concentration of the pollutants emitted and dispersion characteristics of pollutants and the atmosphere.

C. Geology and Soil Quality, Stability, and Moisture

The equipment would operate within an existing facility and no new construction or ground disturbance to the area would be required. However, the additional equipment at the existing operation would result in a minor amount of additional air pollution emissions to the ambient environment. Any impact from deposition of these pollutants would be minor due to dispersion characteristics of pollutants and the atmosphere and the low concentration of the pollutants emitted.

D. Vegetation Cover, Quantity, and Quality

The new equipment would be operated within an existing building and no new construction or ground disturbance to the area would be required. Emissions from the operation may affect vegetation cover, quantity, and quality in the project area. However, any resulting impacts from additional emissions from this project would be minor.

E. Aesthetics

The operation may have moderate impacts on the aesthetic nature of the project area. Styrene has a very low odor threshold (0.32 ppm according to the EPA) and the odor does not tend to dissipate very readily. The facility is designed to provide building ventilation for the workers; however, when the exhaust fans remove the styrene from the building, it could impact nearby residents.

However, the current permit action would add equipment to an existing operation and no new construction would be required. Visible emissions from the source would continue to be limited to 20% opacity. Further, noise generated by the operation would be minor due to the nature of the business. Overall, the permit modification would have minor impacts to the aesthetics of the immediate area.

F. Air Quality

The current permit action would create a minor amount of additional emissions and therefore, the air quality impacts from this action would be minor. There may be additional impacts to proximate neighbors. The new equipment operated at FSI would result in emissions, the vast majority of which would be styrene, regulated as both a VOC and a HAP. Because FSI has the potential to emit over 10 tons per year of styrene, a HAP, the source will be classified as a Title V source.

MAQP #3821-01 would include conditions limiting the opacity. Montana does not have ambient air quality standard for styrene nor an odor regulation. Although VOC is a contributor to ozone, the low amount of emissions would not be expected to cause an exceedence of any ozone air quality standard. The Department determined that the addition of the equipment to the existing facility, in addition to the limits and conditions included in this permit, would not cause or contribute to a violation of any applicable ambient air quality standard. Therefore, the Department determined that ambient air impacts from this permitting action would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department previously contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The NRIS search identified several species of special concern in the vicinity of the project area. At that time, these species included: Great Blue Heron and Double-Crested Cormorant bird rookery (200 and 40 nests, respectively), Bald Eagle, and Long-Billed Curlew. The search area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone.

FSI's tank division is located approximately 0.75 miles northeast of the perimeter of the rookery boundary and 1.0 miles northeast of the bald eagle habitat boundary. The facility is located within the Long-billed Curlew habitat area; however, the operations are conducted in an existing building located in an industrial/commercial area and would not be expected to disrupt any natural habitat. Due to the fact that no construction would be required under this permit action, and conditions would be placed in MAQP #3821-01, the Department determined that adding new equipment to an existing facility would cause very little additional impact to any species of special concern. Therefore, the Department determined that impacts to unique endangered, fragile, or limited environmental resources from this permitting action would be minor.

H. Demands on Environmental Resource of Water, Air, and Energy

Adding new equipment to an existing operation would result in minor demands on the environmental resource of water and air, as discussed in Sections 7.B and 7.F of this EA. Because the operation is considered small by industrial standards, and the fact that this permit action only adds equipment, the Department has determined that a relatively small amount of additional energy would be required for operation. Overall, the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the proposed project area, the Department previously contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have been several previously recorded historic or archaeological sites within the proposed area. In addition, there have been previously conducted cultural resource inventories done in the area.

SHPO recommends that any structures over 50 years of age be recorded and a determination of their eligibility for the National Register of Historic Places be made. However, neither the Department nor SHPO has the authority to require FSI to conduct a cultural resource inventory. Furthermore, although FSI conducts its operations in an existing industrial building, the building is of relatively recent construction. Since no potentially historic structure will be altered, there is a low likelihood that cultural property will be impacted.

The Department determined that due to the age of the existing building and the lack of any land disturbance, the chance of the project impacting any cultural or historic sites would be minor.

J. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed permit modification on the economic and social resources of the human environment in the immediate area would be minor due to the fact that the predominant use of the surrounding area would not change as a result of the proposed project. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #3821-01.

8. The following table summarizes the potential economic and social effects of the project on the human environment. The "no-action" alternative was discussed previously.

Potential Economic and Social Effects							
		Major	Moderate	Minor	None	Unknown	Comments Included
A.	Social Structures and Mores			X			Yes
B.	Cultural Uniqueness and Diversity				X		Yes
C.	Local and State Tax Base and Tax Revenue			X			Yes
D.	Agricultural or Industrial Production			X			Yes
E.	Human Health			X			Yes
F.	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G.	Quantity and Distribution of Employment			X			Yes
H.	Distribution of Population			X			Yes
I.	Demands for Government Services			X			Yes
J.	Industrial and Commercial Activity			X			Yes
K.	Locally Adopted Environmental Plans and Goals				X		Yes
L.	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The Department has prepared the following comments.

A. Social Structures and Mores

The permit modification would not have any effect on any native or traditional lifestyles or communities (social structures or mores) of the proposed area of operation because the project is small by industrial standards. The predominant use of the surrounding area is industrial/commercial and would not change as a result of the project. The residential areas located approximately 300 yards from the facility would continue to potentially be impacted by styrene odor from the facility. However, this permit action would be to add equipment to an existing facility and therefore, would the action itself would cause minor impacts on social structure and mores.

B. Cultural Uniqueness and Diversity

The addition of equipment to the existing operation would not have any effect on cultural uniqueness and diversity of the proposed area because the permit modification would be considered minor by industrial standards. Additionally, the predominant use of the surrounding area would not change as a result of the project.

C. Local and State Tax Base and Tax Revenue

The project (adding new equipment) would have a minor impact on the local and state tax base and tax revenue. Any impacts to the local and state tax base and tax revenue would be minor because FSI would remain responsible for all appropriate state and county taxes imposed upon the business operation. In addition, FSI employees would continue to add to the overall income base of the area. FSI currently employs 20 people and expects a possible increase to 40 employees. Therefore, operation of this additional equipment would result in minor economic impacts.

D. Agricultural or Industrial Production

The proposed equipment addition at FSI would have a minor impact on local industrial production. The operation is located in an existing industrial building, located in an area that is predominantly industrial/commercial with the exception of a nearby residential area. However, the new equipment would not cause a change in agricultural production as it would be operated at an existing facility. The project would cause a minor change in local industrial production, due to increased production at FSI. Therefore, the proposed permit action would result in minor changes to industrial production but no change to agricultural production.

E. Human Health

There may be minor effects on human health due to the emission of pollutants. However, MAQP #3821-01 would incorporate conditions to ensure that the facility would operate in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The addition of new equipment to an existing operation located in a mixed area that is predominantly industrial/commercial would not affect any access to or quality of any recreation or wilderness activities in the area.

- G. Quantity and Distribution of Employment
- H. Distribution of Population

FSI currently employs 20 people in the Tank Division. However, with the addition of equipment and potential increase to production, the facility could eventually employ up to 40 people. Therefore, the project would have a minor impact on the quantity and distribution of employment in the area. FSI is located just outside the city limits of Laurel, Montana and is located near the largest city in Montana (Billings). Therefore, the Department believes that the employment of 20-40 people would have a minor impact on the distribution of population in the project area.

- I. Demands for Government Services

Demands on government services from the proposed permit modification would be minor because FSI would be required to procure the appropriate permits (including a state air quality permit) and any permits for the associated activities of the project. Further, compliance verification with those permits would also require minor services from the government. Overall, any demands on government services resulting from the proposed permit modification would be minor.

- J. Industrial and Commercial Activity

The operation would result in a minor impact on local industrial and commercial activity. The proposed permit modification would not cause minor additional impacts to any industrial or commercial activity in the area beyond those impacts already realized through the initial air quality permit (MAQP #3821-00).

- K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals in the immediate area affected by the project. The state standards would be protective of the project area.

- L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area due to the relatively small size of the operation. Due to the relatively small size of the project, the industrial production, employment, and tax revenue would be slightly impacted by the project. In addition, the Department believes that this facility would continue to operate in compliance with all applicable rules and regulations as outlined in the air quality permit.

Recommendation: An EIS is not required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is to add new equipment to an existing operation of a manufacturing facility. MAQP #3821-01 includes conditions and limitations to ensure that the facility would operate in compliance with all applicable rules and regulations. In addition, as detailed in the above EA, there are no significant impacts associated with the project.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Natural Heritage Program, National Resource Information System (NRIS) and Montana Historical Society, State Historic Preservation Office (SHPO).

Individuals or groups contributing to this EA: Department of Environmental Quality Permitting and Compliance Division (Air Resources Management Bureau), Montana Natural Heritage Program, State Historic Preservation Office.

EA prepared by: Jenny O'Mara

Date: 05/4/2011