STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Riverbend Fiberglass, Inc. **Oxford County** **Dixfield, Maine** **A-1075-71-B-R**	**Departmental** **Findings of Fact and Order** **Air Emission License** **Renewal**

FINDINGS OF FACT

After review of the air emission license renewal application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Riverbend Fiberglass, Inc. (Riverbend) has applied to renew the Air Emission License for the operation of emission sources associated with their fiberglass products manufacturing facility.

The equipment addressed in this license is located at 16 Carter Road, Dixfield, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Process Equipment

Equipment	Type of Equipment	Production Rate	Date of Installation	Pollution Control Equipment
Spray Gun #1	Fiberglass chopper gun	22.2 CFM*	2005	Overspray/arrestor filters
Spray Gun #2	Fiberglass chopper gun	22.2 CFM*	2007	Overspray/arrestor filters

* Cubic Feet per Minute (CFM)

Process Sources

Process	Equipment	Pollutants	Pollution Control Methods
Fiberglass roving and lamination	Spray Guns #1 and #2	VOC and HAP	Ventilation system
Lamination and coloring hardener	Manual	VOC	Ventilation system
Gel-coat coloring	Air-assist applicator guns	VOC and HAP	Ventilation system

Riverbend operates two distillate fuel-fired heaters, which are considered insignificant emissions units because they are each rated below 1.0 MMBtu/hr, the heat input capacity level at or above which would require their inclusion in the license; therefore, these small heaters are not addressed further in this license.

Riverbend operates an aqueous-based parts washer. The cleaning solution contains less than 5% VOC, and it neither meets the definition of solvent cleaning machine in *Solvent Cleaners,* 06-096 C.M.R. ch. 130 nor are there applicable requirements in that chapter. Therefore, it is considered an insignificant activity and mentioned for completeness purposes only.

C. Definitions

Atomized application method means a resin application technology in which the resin leaves the application equipment and breaks into droplets or an aerosol as it travels from the application equipment to the surface of the part. Atomized application methods include, but are not limited to, resin spray guns and resin chopper spray guns.

Closed molding means a grouping of processes for fabricating composites in a way that HAP-containing materials are not exposed to the atmosphere except during the material loading stage (e.g., compression molding, injection molding, and resin transfer molding). Processes where the mold is covered with plastic (or equivalent material) prior to resin application, and the resin is injected into the covered mold are also considered closed molding.

Gel coat means a polyester resin surface coating, either pigmented or clear, that provides a cosmetic enhancement and improves resistance to degradation from exposure to the elements.

Monomer means a relatively low-molecular-weight organic compound such as styrene that combines with itself, or other similar compounds, by a cross-linking reaction to become a cured thermosetting resin.

Monomer VOC content means the weight of the monomer, divided by the weight of the polymer.

Nonatomized application method means any application technology in which the resin is not broken into droplets or an aerosol as it travels from the application equipment to the surface of the part. Nonatomized application methods include, but are not limited to, flowcoaters, chopper flowcoaters, pressure-fed resin rollers, resin impregnators, and hand application (for example, paint brush or paint roller).

Open molding means a process for fabricating composites in a way that HAP-containing materials are exposed to the atmosphere. Open molding includes processes such as manual resin application, mechanical resin application, filament application, and gel coat

application. Open molding also includes application of resins and gel coats to parts that have been removed from the open mold.

Records or *Logs* mean either hardcopy or electronic records.

Resin means any thermosetting resin with or without pigment containing styrene (CAS No. 100-42-5) or methyl methacrylate (CAS No. 80-62-6) and used to encapsulate and bind together reinforcement fibers in the construction of fiberglass parts.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

The application for Riverbend does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115.

E. Facility Classification

With the annual volatile organic compound (VOC) and hazardous air pollutants (HAP) limits associated with the process equipment and chemicals, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because Riverbend is subject to license restrictions that keep facility emissions below major source thresholds for VOC; and
- As an area source of HAP, because the licensed emissions are below the major source thresholds for HAP.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Process Description

1. VOC and/or HAP Emitting Activities

Riverbend manufactures fiberglass pile jackets for marine construction[1] and/or repair, which is a majority of Riverbend's work. Pile jackets are panels that cover wood or metal piles that have deteriorated. They are used to strengthen the piles and stop any existing deterioration as well as provide corrosion protection to the piles. Riverbend also does custom products for marine construction, such as transition parts and flat panels.

Most of the pile jackets are produced with a marine-based polyester resin but may also use vinyl ester resin, ISO resin[2], or flame-retardant resins depending on the job's specification. The resin typically contains a styrene monomer, which is partially volatized during application and curing. Riverbend can add gelcoats to pile jackets and custom products, if required. The pile jackets and custom products are manufactured using a lamination process.

If a gelcoat is being added to the fiberglass process, then the gelcoat is the first layer added to the surface of the waxed mold. Gel-coating is the application of a layer of resin with no reinforcing materials contained in it. The gelcoat is applied using air-assist applicator guns and contains unsaturated polyester resin, catalyst, and pigments, and its function is to create a smooth outer surface of the hull and for ultraviolet light protection. The gelcoat is given time to cure properly before additional layers are applied.

The woven fiber is on a continuous roll and sent through eyelets on the boom of the chopper gun and is chopped into smaller fibers, approximately one-inch long strands, at the end of the gun. Hoses are connected to the spray gun where the resin and catalyst mix at the tip externally to apply the initial layer of fiberglass-reinforced laminate following the gelcoat layer, or on top of the waxed mold if no gelcoat is being applied. The catalyst serves as an initiator of the polymerization reaction. Depending on ambient conditions, an inhibitor may be added to the resin to control gel curing time (i.e., to slow down the polymerization reaction in warm weather).

[1] Marine construction is infrastructure in or adjacent to large bodies of water, usually the sea. These include ships, pipelines, cables, bridges, tunnels, and docks.
[2] Isophthalic (ISO) resin

A hand-laid mat of woven fiberglass cloth is added to the chopped fiberglass layer. Most applications involve applying three layers of woven mat at a time, but the number of layers depends of the design specification. Once the product is cured, it is pulled off the molds, hand sanded, and all the edges are ground smooth. All work is performed indoors, and there are two fan-forced systems along with natural ventilation to remove any fugitive emissions during the manufacturing and finishing processes. The fans are equipped with filters to trap any particles that could potentially leave the building.

The spray guns mix the resin and catalyst externally so that only the tips of the gun need to be cleaned in acetone once the spraying process is finished. All small containers used for tool cleaning are kept with lids on to prevent excessive evaporation leading to unnecessary release of VOC and HAPs. Both spray guns at Riverbend are air assist and only use a minimal amount of air during the manufacturing process, and no air is added at the gun tip which cuts down the amount of overspray and fumes during the manufacturing process.

2. Other Activities

Each VOC emitting process at Riverbend is often preceded or followed by activities such as grinding, sanding, and buffing. These activities emit airborne particulates and are often performed under the same containment/ventilation enclosures as used in the painting or laminating process. Particulates are often captured by the overspray filters or are cleaned and disposed of once they collect on the concrete floor.

C. Process Equipment

Riverbend operates Spray Guns #1 and #2 and uses VOC- and HAP- containing materials in the following processes: fiberglass roving and lamination, lamination and coloring hardener, and gel-coat coloring.

1. BPT Findings [06-096 C.M.R. ch. 115, BPT]

Riverbend shall meet the following BPT requirements to control emissions of PM, PM_{10}, $PM_{2.5}$, VOC, and HAP:

a. Riverbend shall calculate VOC and HAP emissions based on monthly purchases of VOC- and HAP-containing material, which are assumed to be used in the month they are purchased.
   1) Styrene and methyl methacrylate (MMA) emissions are estimated using the Unified Emission Factor (UEF) estimation model for open molding of composites.
   2) All other VOC and HAP emissions estimates are on a material balance basis using percent VOC and/or HAP from Safety Data Sheets or similar information sheets, such as vendor-supplied analysis certificate.
   3) The monthly totals of VOC and HAP emissions shall be calculated and tracked on a monthly and 12-month rolling total basis.

b. Riverbend shall maintain and make available upon request a current list of all resins and cleaning materials in use. This list shall provide the necessary data to determine compliance, including:
   1) Resin catalyst and cleaning materials in use;
   2) Percent VOC and HAP by weight for each resin, and the pounds VOC and HAP per gallon of cleaning materials;
   3) The amount and type of resin materials purchased on a monthly basis; and
   4) The amount and type of cleaning materials purchased on a monthly basis.

c. Continue to research the use of closed-mold technology whenever economically and technologically feasible for the manufacture of fiberglass products.

d. Conduct manufacturing and feasibility test trials of pollution prevention technologies such as low-styrene resins and water-based or low vapor pressure cleaning solvents as they become commercially available. Riverbend shall produce an annual report of any changes and/or updates that become commercially available.

e. Use controlled spray techniques when using mechanical sprayers for the application of gelcoats and resins, including lowest fluid tip pressure which produces an acceptable spray pattern.

f. Riverbend shall train spray gun operators to use controlled spray techniques, including lowest fluid tip pressure techniques, when using mechanical sprayers for the application of gelcoats and resins and use manual application methods for open-mold resin processes when technologically appropriate. Riverbend shall maintain records which document the name of the person being trained, the date, and the topics covered in the training.

g. Use manual application methods for open-mold resin processes, when technologically appropriate.

h. Limit overall facility-wide VOC emissions to 24.9 tons per year.

i. Limit facility-wide HAP emissions to 7.9 TPY for any single HAP and 19.9 TPY for total HAPs.

j. Maintain good housekeeping practices, such as lids on and proper storage of containers except when material is being added or removed from a container.

k. To control PM/PM_{10}/$PM_{2.5}$ emissions from over spray during the application of resin and gelcoat, Riverbend has installed filters on all forced ventilation points that are adjacent to the spray gun operations. The filters shall be inspected monthly and replaced as needed to appropriately control emissions. All corrective or

preventative maintenance performed on the filters shall be documented in a maintenance log and made available to the Department upon request.

l. Fugitive particulate emissions are generated in the production of the hull molds from grinding, sanding, and cutting operations. Riverbend shall continue to use particulate control systems that vent internally to control particulate emissions resulting from machining, buffing, grinding, and sanding of fiberglass, metal, or wood.

m. To reduce VOC emissions, Riverbend shall use low VOC content products, such as citrus and water-based cleaners, when possible and shall continue to review alternative products. Acetone, which is neither a VOC nor HAP, is currently used; however, the facility shall use alternative citrus and/or water based cleaners when possible.

2. Visible Emissions [06-096 C.M.R. ch. 115, BPT]

a. 06-096 C.M.R. Chapter 101

Visible emissions from the process equipment shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(B)(4)]

b. 06-096 C.M.R. Chapter 115, BPT

Riverbend shall meet the following visible emissions requirements from various boatyard activities:

1) Visible emissions from the building exhaust and any cutting, buffing, grinding, or sanding processes that vent to the ambient air via vent or duct shall not exceed 10% opacity on a six-minute block average basis.

2) Visible emissions from any process conducted outside shall be controlled by limiting such activity to periods of calm winds or through the use of a shroud or wind curtain.

[06-096 C.M.R. ch. 115, BPT]

c. Streamlining

The Department has determined that the BPT visible emissions standard is more stringent than the applicable 06-096 C.M.R. ch. 101 standard listed above. Therefore, the visible emission standard has been streamlined to the more stringent BPT standard, and only this more stringent standard shall be included in Order of this air emission license.

3. National Emission Standards for Hazardous Air Pollutants (NESHAP)

   a. 40 C.F.R. Part 63, Subpart II
   Riverbend is not subject to the *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Shipbuilding and Ship Repair (Surface Coating)* 40 C.F.R. Part 63, Subpart II. The provisions of this subpart apply to shipbuilding and ship repair operations at any facility that is a major HAP source. Riverbend is not considered a major HAP source, nor does it meet the definition of shipbuilding as defined in § 63.782. For purposes of Subpart II, pleasure crafts and offshore oil and gas drilling platforms are not considered ships. [40 C.F.R. §§ 63.781 and 63.782]

   b. 40 C.F.R. Part 63, Subpart VVVV
   Riverbend is not subject to *NESHAP for Boat Manufacturing* 40 C.F.R. Part 63, Subpart VVVV. The provisions of this subpart apply to boat manufacturing facilities that are major sources of HAP, and Riverbend is not a major source of HAP. [40 C.F.R. § 63.5683]

   c. 40 C.F.R. Part 63, Subpart HHHHHH
   Riverbend is not subject to *NESHAP for Paint Stripping and Miscellaneous Surface Coating Operations at Area Source* 40 C.F.R. Part 63, Subpart HHHHHH. The provisions of this subpart apply to any area HAP source that engages in any of the activities in 40 C.F.R. § 63.11169. Riverbend is an area HAP source, but it does not engage in any activities that make it subject to this subpart. [40 C.F.R. § 63.1169]

4. Chapter 159

   Riverbend is not subject to *Control of Volatile Organic Compounds from Adhesives and Sealants*, 06-096 C.M.R. ch. 159, because the facility does not apply adhesives and sealants in their manufacturing activities. [06-096 C.M.R. ch. 159, § 1(A)(2)]

5. Chapter 162

   Riverbend is subject to *Control for Fiberglass Boat Manufacturing Materials* 06-096 C.M.R. ch. 162. The total VOC emissions from its manufacturing activities is more than 5,400 pounds per 12-month rolling period. [06-096 C.M.R. ch. 162, § 1(B)]

   a. Exemptions [06-096 C.M.R. ch. 162, § 1(D)]

      The following operations and/or materials are exempt from the monomer and non-monomer VOC requirements of Chapter 162:

      1) Production resins (including skin coat resins) that meet the specification for use in military vessels or are approved by the U.S. Coast Guard for use in the construction of lifeboats, rescue boats, and other lifesaving appliances approved

under 46 C.F.R. Subchapter Q, or the construction of small passenger vessels regulated by 46 C.F.R. Subchapter T, including but not limited to vessels of less than 100 tons carrying more than 6 and less than 150 passengers for hire. Production resins that meet these criteria must be applied with non-atomizing resin application equipment in order to qualify for exemption under this subsection.

2) Pigmented, clear, and tooling gel coat used for part or mold repair and touch-up. The total gel coat materials included in this exemption must not exceed 1.0% by weight of all resin and gel coat used at a facility on a 12-month rolling average basis.

3) Pure, 100% vinyl ester resin used for skin coats that are applied with non-atomizing resin application equipment and with the total amount of the resin materials not exceeding 5.0% by weight of all resin used at a facility on a 12-month rolling average basis. This exemption does not apply to blends of vinyl ester and polyester used for skin coats.

4) Any closed molding operation as defined by Chapter 162. Open molding resin and gel coat operations such as gel coat or skin coat layers that precede a closed molding operation are not exempt.

b. Emission Limits [06-096 C.M.R. ch. 162, § 3(B)]

Riverbend shall use the emissions averaging option to demonstrate compliance with a numerical monomer VOC mass emission limit rather than comply with the monomer VOC content limits in 06-096 C.M.R. ch. 162, § 3(A)(1).

1) Any molding resin and gel coat operations Riverbend chooses to include in averaging emissions among different operations to meet a numerical monomer VOC mass emissions limit rather than complying with the monomer VOC content limits established in 06-096 C.M.R. ch. 162, § 3(A)(1) shall use the following equation (Equation 2 of Chapter 162) to establish a facility-specific monomer VOC mass emission limit on a 12-month rolling average basis:

$$\text{Monomer VOC Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

Where: Monomer VOC Limit = total allowable monomer VOC that can be emitted from the open molding operations included in the average, in kilograms per 12-month period.

M_R = mass of production resin used in the past 12 months, excluding any materials that are exempt, in megagrams.

M_{PG} = mass of pigmented gel coat used in the past 12 months, excluding any materials that are exempt, in megagrams.

M_{CG} = mass of clear gel coat used in the past 12 months, excluding any materials that are exempt, in megagrams.

M_{TR} = mass of tooling resin used in the past 12 months, excluding any materials that are exempt, in megagrams.

M_{TG} = mass of tooling gel coat used in the past 12 months, excluding any materials that are exempt, in megagrams.

The numerical coefficients associated with each term on the right side of Equation 2 are the allowable monomer VOC emission rates for that material in units of kilograms of monomer VOC per megagram of material used.

2) Any molding resin and gel coating operations Riverbend chooses to include in averaging emissions among different operations to meet a numerical monomer VOC mass emission limit rather than to comply with the monomer VOC content limits established in 06-096 C.M.R. Chapter 162, § 3(A)(1) shall use the following equation (Equation 3 of Chapter 162) to demonstrate that the monomer VOC mass emissions from the operations included in the average do not exceed the emission limit calculated using Equation 2 from 06-096 C.M.R. Chapter 162, § 3(B)(1) for the same period:

$$\text{Monomer VOC emissions} = (PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$$

Where: Monomer VOC emissions = monomer VOC emissions from open molding operations included in the average, in kilograms per 12-month period.

PV_R = weighted-average monomer VOC emission rate for production resin used in the past 12 months, in kilograms per megagram.

M_R = mass of production resin used in the past 12 months, excluding any materials that are exempt, in megagrams.

PV_{PG} = weighted-average monomer VOC emission rate for pigmented gel coat used in the past 12 months, in kilograms per megagram.

M_{PG} = mass of pigmented gel coat used in the past 12 months, excluding any material that are exempt, in megagrams.

PV_{CG} = weighted-average monomer VOC emission rate for clear gel coat used in the past 12 months, in kilograms per megagram.

M_{CG} = mass of clear gel coat used in the past 12 months, excluding any materials that are exempt, in megagrams.

PV_{TR} = weighted-average monomer VOC emission rate for tooling resin used in the past 12 months, in kilograms per megagram.

M_{TR} = mass of tooling resin used in the past 12 months, excluding any materials that are exempt, in megagrams.

PV_{TG} = weighted-average monomer VOC emission rate for tooling gel coat used in the past 12 months, in kilograms per megagram.

M_{TG} = mass of tooling gel coat used in the past 12 months, excluding any materials that are exempt, in megagrams.

This demonstration shall be conducted at the end of the first 12-month averaging period and at the end of every subsequent month for only those operations and materials included in the average.

3) Any molding resin and gel coat operations Riverbend chooses to include in averaging emissions among different operations to meet a numerical monomer VOC emission rate limit rather than complying with the monomer VOC content limits established in 06-096 C.M.R. ch. 162 § 3(A)(1) the following equation (Equation 4 of Chapter 162) to compute the weighted-average monomer VOC emission rate for the previous 12 months for each open molding resin and gel coat operation included in the average for use in Equation 3:

$$PV_{OP} = \frac{\sum_{i=1}^{n} (M_i PV_i)}{\sum_{i=1}^{n} (M_i)}$$

Where: PV_{OP} = weighted-average monomer VOC emission rate for each open molding operation (PV_R, PV_{PG}, PV_{CG}, PV_{TR}, and PV_{TG}) included in the average, in kilograms of monomer VOC per megagram of material applied.

M_i = mass or resin or gel coat used within an operation in the past 12 months, in megagrams.

PV_i = the monomer VOC emission rate for resin or gel coat used within an operation in the past 12 months, in kilograms of monomer VOC per megagram of material applied. The equations in Table 2 shall be used to compute PV.

Monomer VOC Emission Rate Formulas for Open Molding Resin and Gel Coat

Material	Application Method	Formula
Production resin, tooling resin	a. Atomized b. Atomized, plus vacuum bagging with roll-out c. Atomized, plus vacuum bagging without roll-out d. Non-atomized e. Non-atomized, plus vacuum bagging with roll-out f. Non-atomized, plus vacuum bagging without roll-out	a. $0.014 \times (\text{Resin VOC\%})^{2.425}$ b. $0.01185 \times (\text{Resin VOC\%})^{2.425}$ c. $0.00945 \times (\text{Resin VOC\%})^{2.425}$ d. $0.014 \times (\text{Resin VOC\%})^{2.275}$ e. $0.011 \times (\text{Resin VOC\%})^{2.275}$ f. $0.0076 \times (\text{Resin VOC\%})^{2.275}$
Pigmented gel coat, clear gel coat, tooling gel coat	All methods	$0.445 \times (\text{Gel Coat VOC\%})^{1.675}$

c. Calculating Emission Rates for Filled Resins [06-096 C.M.R. ch. 162, § 4]

1) When using a filled production resin or filled tooling resin, the owner or operator shall calculate the emission rate for the filled material on an as-applied basis using the following equation (Equation 5 of Chapter 162):

$$PV_F = \frac{PV_U \times (100-\%Filler)}{100}$$

Where: PV_F = The as-applied monomer VOC emission rate for the filled production resin or tooling resin, in kilograms monomer VOC per megagram of filled material.

PV_U = The monomer VOC emission rate for the neat (unfilled) resin before filler is added, as calculated using the formulas in Table 2 of Section 3(B)(3) of this Chapter.

%Filler = The weight-percent of filler in the as-applied filled resin system.

2) If the filled resin:

i. Is used as a production resin, then the value of PV_F calculated by Equation 5 shall not exceed 46 kilograms of monomer VOC per megagram of filled resin applied;

ii. Is used as a tooling resin, then the value of PV_F calculated by Equation 5 shall not exceed 54 kilograms of monomer VOC per megagram of filled resin applied;

iii. Is included in the emissions averaging procedure, then the facility shall use the value of PV_F calculated by Equation 5 for the value of PV_i in Equation 4 in Section 3(B)(3) of this Chapter.

d. Non-monomer VOC content [06-096 C.M.R. ch. 162, § 5]

1) Up to 5.0% of the non-monomer VOC content of a resin or gel coat shall be exempt from the VOC content limits of this Chapter.

2) If the non-monomer VOC content limit of a resin or gel coat exceeds 5.0%, then the excess non-monomer VOC over 5.0% shall be added to the monomer VOC content. The monomer VOC content of resin and gel coat shall be determined by using South Coast Air Quality Management (SCAQMD) Method 312-9, Determination of Percent monomer in polyester resins, revised 1996, unless the facility maintains records from the manufacturer to document the monomer VOC content of resin and gel coat materials.

e. Cleaning Solvent Standards [06-096 C.M.R. ch. 162, § 6]

1) The VOC content of cleaning solvents employed for routine application equipment cleaning shall contain a maximum of 5.0% VOC by weight, or have a composite vapor pressure of no more than 0.50 mm mercury (Hg) at 68° F, as determined by the cleaning solvent manufacturer's Safety Data Sheet or other appropriate documentation acceptable to the Department and EPA.

2) Only non-volatile organic compound solvents shall be used to remove cured resin and gel coat from application equipment.

f. Work Practice Standards
All resin and gel coat containers with a capacity equal to or greater than 208 liters (55.0 gallons), including those used for on-site mixing of putties and polyester resin putties, shall have a cover with no visible gaps in place at all times. This work practice does not apply when materials are being manually added to or removed from a container or when mixing equipment is being placed or removed from a container. [06-096 C.M.R. ch. 162, § 7]

g. Monitoring and Recordkeeping Requirements
Riverbend shall collect and record the following information for each operation subject to this Chapter on a monthly basis and shall maintain the information at the facility for a period of five years. [06-096 C.M.R. ch. 162, § 9(a)] Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Chapter 162 shall be streamlined to the more stringent six-year requirement.

1) The total quantity of atomized molding production resin, non-atomized production resin, pigmented gel coat, clear gel coat, atomized tooling resin, non-atomized tooling resin, and tooling gel coat used per month and the weighted-average monomer VOC contents for each operation.

2) All calculations performed pursuant to 06-096 C.M.R. ch. 162, § 3.

3) The VOC content of each non-monomer resin and gel coat employed.

4) For each cleaning solvent employed for routine application equipment cleaning, either the volatile organic compound content, by weight per cent or the composite vapor pressure, in mm Hg, whichever is the applicable requirement selected to comply with the cleaning solvent requirements of Section 4 of this Chapter.

Calculations performed to establish the monomer VOC emission limitation as specified in Section 3(B)(1) of this Chapter.

h. Reporting Requirements and Compliance Certification

1) Riverbend shall notify the Department of any record maintained in accordance with 06-096 C.M.R. ch. 162, § 6(A) showing the use of noncomplying materials. A copy of such record shall be sent to the Department within 30 days following the end of the month in which the use of noncomplying materials occurs. [06-096 C.M.R. ch. 162, § 10(A)]

2) Riverbend shall maintain records demonstrating compliance following the completion of first documented achievement of compliance with the requirements of VOC emissions in 06-096 C.M.R. ch. 162, §2. [06-096 C.M.R. ch. 162, § 12(B)(1)]

D. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis.

E. Fugitive Emissions

Riverbend shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

Riverbend shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

F. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions are based on a 12-month rolling total.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	Single HAP	Total HAP
Process Emissions	--	--	--	--	--	--	24.9	7.9	19.9
Total TPY	**--**	**--**	**--**	**--**	**--**	**--**	**24.9**	**7.9**	**19.9**

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by-case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM_{10}	25
$PM_{2.5}$	15
SO_2	50
NO_x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

This determination is based on information provided by the applicant regarding licensed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require Riverbend to submit additional information and may require an ambient air quality impact analysis at that time.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-1075-71-B-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).

(2) The licensee shall acquire a new or amended air emission license prior to beginning actual construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115] Payment of the annual air emission license fee for Riverbend is due by the end of February of each year. [38 M.R.S. § 353-A(3)]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
[06-096 C.M.R. ch. 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
[06-096 C.M.R. ch. 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:

A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
   1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
   2. Pursuant to any other requirement of this license to perform stack testing.

B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. Submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 C.M.R. ch. 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 C.M.R. ch. 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]

(16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) **Process Equipment**

A. Riverbend shall calculate VOC and HAP emissions based on monthly purchases of VOC and HAP containing material, which are assumed to be used in the month they are purchased.
   1. Styrene and methyl methacrylate (MMA) emissions shall be estimated using the Unified Emission Factor (UEF) estimation model for open molding of composites.
   2. All other VOC and HAP emission estimates shall be on a material balance basis using percent VOC and/or HAP from Safety Data Sheets or similar information sheets, such as vendor-supplied analysis certificate.
   3. The monthly totals of VOC and HAPs shall be calculated and tracked on a monthly and a 12-month rolling total basis.

   [06-096 C.M.R. ch. 115, BPT]

B. Riverbend shall maintain and make available upon request a current list of all resins and cleaning materials in use. This list shall provide the necessary data to determine compliance, including:
   1. Resin and catalyst, and cleaning materials in use;
   2. Percent VOC and HAP by weight for each resin, and the pounds VOC and HAP per gallon of cleaning materials;
   3. The amount and type of resin materials purchased on a monthly basis; and
   4. The amount and type of cleaning materials purchased on a monthly basis.

   [06-096 C.M.R. ch. 115, BPT]

C. Riverbend shall continue to research the use of closed-mold technology whenever economically and technologically feasible for the manufacture of fiberglass products. [06-096 C.M.R. ch. 115, BPT]

D. Riverbend shall conduct manufacturing and feasibility test trials of pollution prevention technologies, such as low-styrene resins and water-based or low vapor pressure cleaning solvents, as they become commercially available. Riverbend shall produce an annual report on any changes and/or updates that become commercially available. [06-096 C.M.R. ch. 115, BPT]

E. Riverbend shall use controlled spray techniques, including lowest fluid tip pressure which produces an acceptable spray pattern, when using mechanical sprayers for the application of gelcoats and resins. [06-096 C.M.R. ch. 115, BPT]

F. Riverbend shall train spray gun operators to use controlled spray techniques, including lowest fluid tip pressure techniques, when using mechanical sprayers for the application of gelcoats and resins and use manual application methods for open-mold resin processes when technologically appropriate. Riverbend shall maintain records that document the name of the person being trained, the date, and the topics covered in the training. [06-096 C.M.R. ch. 115, BPT]

G. Riverbend shall use manual application methods for open-mold resin processes when technologically appropriate. [06-096 C.M.R. ch. 115, BPT]

H. Riverbend shall limit overall facility-wide VOC emissions to 24.9 tons per year. [06-096 C.M.R. ch. 115, BPT]

I. Riverbend shall limit facility-wide HAP emissions to 7.9 TPY for any single HAP and 19.9 TPY for total HAPs. [06-096 C.M.R. ch. 115, BPT]

J. Riverbend shall maintain good housekeeping practices, such as lidded and proper storage of containers except when material is being added or removed from a container. [06-096 C.M.R. ch. 115, BPT]

K. To control PM/PM_{10}/$PM_{2.5}$ emissions from over spray during the application of resin and gelcoat, Riverbend shall continue to use filters on all forced ventilation points that are adjacent to the spray gun operations. The filters shall be inspected monthly and replaced as required. All corrective or preventative maintenance performed on the filters shall be documented in a maintenance log and made available to the Department upon request. [06-096 C.M.R. ch. 115, BPT]

L. Riverbend shall continue to use particulate control systems that vent internally to control particulate emissions resulting from machining, buffing, grinding, and sanding of fiberglass, metal, or wood. [06-096 C.M.R. ch. 115, BPT]

M. To reduce VOC emissions, Riverbend shall use low VOC content products, such as citrus and water based cleaners, when appropriate and continue to review alternative products. [06-096 C.M.R. ch. 115, BPT]

N. Visible Emissions [06-096 C.M.R. ch. 115, BPT]

1. Visible emissions from the building exhaust and any cutting, buffing, grinding, or sanding processes that vent to the ambient air via vent or duct shall not exceed 10% opacity on a six-minute block average basis.
2. Visible emissions from any process conducted outside shall be controlled by limiting such activity to periods of calm winds or through the use of a shroud or wind curtain.

O. Riverbend shall comply with all applicable requirements of 06-096 C.M.R. ch. 162, including, but not limited to the following:

1. Emission Limits [06-096 C.M.R. ch. 162, § 3(B)]
   Riverbend shall use the emissions averaging option to demonstrate that the averaging emissions among its operations meet a numerical monomer VOC mass emission limit rather than comply with the monomer VOC content limits in 06-096 C.M.R. ch. 162, § 3(A)(1).
   a. Riverbend shall use Equation 1 in 06-096 C.M.R. ch. 162, § 3(B)(1) to establish a facility-specific monomer VOC mass emission limit on a 12-month rolling average basis.
   b. Riverbend shall use Equation 3 in 06-096 C.M.R. ch. 162, § 3(B)(2) to demonstrate that the monomer VOC mass emissions from the operations included in the average do not exceed the facility-specific monomer VOC mass emission limit for the same period. This demonstration shall be conducted at the end of the first 12-month averaging period and at the end of every subsequent month for only those operations and materials included in the average.
   c. Riverbend shall use Equation 4 in 06-096 C.M.R. ch. 162, § 3(B)(3) to compute the weighted-average monomer VOC emission rate for the previous 12 months for each open molding resin and gel coat operation included in the average for use in Equation 3.

2. Cleaning Solvent Standards [06-096 C.M.R. ch. 162, § 6]
   a. The VOC content of cleaning solvents employed for routine application equipment cleaning shall contain a maximum of 5.0% VOC by weight, or have a composite vapor pressure of no more than 0.50 mm Hg at 68 °F, as determined by the cleaning solvent manufacturer's Safety Data Sheet or other appropriate documentation acceptable to the Department and EPA.
   b. Only non-volatile organic compound solvents shall be used to remove cured resin and gel coat from application equipment.

3. Work Practice Standards
   All resin and gel coat containers with a capacity equal to or greater than 208 liters (55.0 gallons), including those used for on-site mixing of putties and polyester resin putties, shall have a cover with no visible gaps in place at all times. This work practice does not apply when materials are being manually added to or removed from a container, or when mixing equipment is being placed in or removed from a container. [06-096 C.M.R. ch. 162, § 7]

4. Monitoring and Recordkeeping Requirements
   Riverbend shall collect and record the following information for each operation subject to this Chapter on a monthly basis and shall maintain the information at the facility for a period of five years. [06-096 C.M.R. ch. 162, § 9(a)] Note: Standard

Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Chapter 162 shall be streamlined to the more stringent six-year requirement.

a. The total quantity of atomized molding production resin, non-atomized production resin, pigmented gel coat, clear gel coat, atomized tooling resin, non-atomized tooling resin, and tooling gel coat used per month and the weighted-average monomer VOC contents for each operation.
b. All calculations performed pursuant to 06-096 C.M.R. ch. 162, § 3.
c. The VOC content of each non-monomer resin and gel coat employed.
d. For each cleaning solvent employed for routine application equipment cleaning, either the volatile organic compound content, by weight per cent or the composite vapor pressure, in mm Hg; whichever is the applicable requirement selected to comply with the cleaning solvent requirements of Section 4 of this Chapter.
e. Calculations performed to establish the monomer VOC emission limitation as specified in Section 3(B)(1) of this Chapter.

5. Reporting Requirements and Compliance Certification
   a. Riverbend shall notify the Department of any record maintained in accordance with 06-096 C.M.R. ch. 162, § 6(A) showing the use of noncomplying materials. A copy of such record shall be sent to the Department within 30 days following the end of the month in which the use of noncomplying materials occurs. [06-096 C.M.R. ch. 162, § 10(A)]
   b. Riverbend shall maintain records demonstrating compliance following the completion of first documented achievement of compliance with the requirements of VOC emissions in 06-096 C.M.R. ch. 162, §2. [06-096 C.M.R. ch. 162, § 12(B)(1)]

(18) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(B)(4)]

(19) **Fugitive Emissions**

A. Riverbend shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

B. Riverbend shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal

boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

[06-096 C.M.R. ch. 101, § 4(C)]

(20) If the Department determines that any parameter value pertaining to construction and operation of the emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, Riverbend may be required to submit additional information. Upon written request from the Department, Riverbend shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter.
[06-096 C.M.R. ch. 115, § 2(O)]

DONE AND DATED IN AUGUSTA, MAINE THIS 31st DAY OF OCTOBER, 2024.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for _____
MELANIE LOYZIM, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 9, 2023
Date of application acceptance: March 9, 2023

Date filed with the Board of Environmental Protection:

This Order prepared by Kendra Nash, Bureau of Air Quality.

FILED

OCT 31, 2024

State of Maine
Board of Environmental Protection