



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

DEPARTMENT ORDER

SHM Great Island, LLC
Cumberland County
Harpwell, Maine
A-1079-71-D-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

SHM Great Island, LLC (SHM) has applied to renew their Air Emission License for the operation of emission sources associated with their boat repair facility.

The equipment addressed in this license is located at 419 Harpswell Islands Rd, Harpswell, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Process Equipment

Equipment	Type of Equipment	Process Rate	Date of Installation	Pollution Control Equipment
Paint Booth #1	Spray Gun #2	22.2 CFM	2011	Paint pocket filters

Process Sources

Process	Types of Products Used	Pollutants	Pollution Control Methods
Marine coating application	paints, primers	PM, VOC, HAP	Ventilation unit
Marine coating application (cleaning & thinning)	solvents, thinners, reducers	VOC, HAP	--
Resin application (spray/roller)	Vinyl ester resin	VOC, HAP	Ventilation unit
Gelcoat application	gelcoat	VOC, HAP	--
Hull and deck repair	epoxy fillers	VOC, HAP	--
Finishing	--	PM	Vacuum units

Parts Washer

Emission Unit ID	Capacity (gallons)	Solvent Used	VOC Content (%)
Parts Washer 1	5	Genuine Safety Solvent 140	100

SHM operates several small boilers and unit heaters. These 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 boilers and unit heaters are not addressed further in this license.

SHM operates two small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the link below.

<http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf>

C. Definitions

Records or Logs mean either hardcopy or electronic records.

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 SHM 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 SHM 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 Emitting Activities

SHM conducts hull and deck repairs and marine coating applications. SHM also performs wood work varnishing and deck and hull painting. The spraying process applies finish with Spray Gun #2, which is enclosed in Paint Booth #1. Paint Booth #1 is approximately 70 feet long, 30 feet wide, and 28 feet high. The largest boat that Paint Booth #1 and hauling equipment can handle is a 55 foot boat. The waste materials from cleaning and thinning during the spraying process are put into barrels and picked up by a third-party contractor for disposal. Gelcoat application is roller-applied or brushed on. Total gelcoat used on-site per year is less than 5 gallons.

Hull and deck repair is done inside Paint Booth #1 before coating applications, painting, and the spraying process. The repaired hull and deck components, made of either wood or fiberglass, are sanded down. After sanding and/or removal of any damaged structural areas, SHM adds either fiberglass layers with resin or wood pieces to the component being repaired, which are attached with glue. Then, the repaired area is sanded smooth before coating, painting, and spraying applications.

SHM operates a ventilation unit which continuously cycles and filters the air in Paint Booth #1 when coating and resin application takes place. The ventilation system can also be activated into a “paint mode” which increases the rate of ventilation and allows the filtered air to be released through a stack rather than internally.

The facility estimates total VOC and HAP emissions from these processes based on monthly purchase records. All quantities purchased are assumed to be used during the month of purchase. Styrene emissions are calculated using the *Unified Emission Factors for Open Molding of Composites* (UEF) developed by EPA and the American Composites Manufacturers Association.

2. Other Activities

Each VOC-emitting process at SHM is often preceded or followed by activities such as grinding, sanding, and buffing. These activities emit airborne particulates and are often performed within 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. SHM has five vacuum units designed to connect with sanding and grinding tools.

C. Process Equipment and Activities

The process sources at SHM include marine coating application, resin application, gelcoat application, and hull repair.

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

The following requirements are considered BPT for PM, PM₁₀, PM_{2.5}, VOC, and HAP emissions:

- a. Record and maintain records of the types and quantities of resins, gel coats, paints, and solvents used at the facility and the VOC and HAP content of each, and any other applicable information for each of the following:
 - (1) Monthly facility purchases for use at the facility
 - (2) Quantity shipped off-site
- b. Calculate monthly VOC and HAP emissions using the following mass balance equations for the applicable boat manufacturing departments:

$$\text{Monthly VOC Emissions} = \sum_{i=1}^n (A \times \text{VOC content}) - (B \times \text{VOC content})$$

$$\text{Monthly HAP Emissions} = \sum_{i=1}^n (A \times \text{HAP content}) - (B \times \text{HAP content})$$

Where:

i = Each VOC/HAP containing material used at the facility during the month.

n = The number of VOC/HAP containing materials used at the facility during the month.

A = Monthly facility purchases of VOC- and/or HAP-containing materials.

B = Quantities of VOC- and/or HAP-containing materials shipped offsite.

The current version of the UEF shall be used in the “Monthly VOC Emissions” equation.

- 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. SHM shall produce an annual report with any changes and/or updates that become commercially available.
- e. Use spray guns with high transfer efficiency units such as airless or high-volume low-pressure (HVLP) spray equipment for the application of coatings and resins.
- f. Use controlled spray techniques, including lowest fluid tip pressure that produces an acceptable spray pattern and operator training, when using mechanical sprayers for the application of coatings and resins.
- g. SHM shall train spray gun operators to use controlled spray techniques, including lowest fluid tip pressure techniques, when using mechanical sprayers for the application of coatings and resins and use manual application methods for open-mold resin processes when technologically appropriate. SHM shall maintain records which document the name of the person being trained, the date, and the topics covered in the training.
- h. Use manual application methods for open-mold resin processes when technologically appropriate.
- i. Use low VOC content products, such as citrus and water-based cleaners, when possible, and 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 appropriate.
- j. Limit overall facility-wide VOC emissions to 24.9 tons per year.
- k. Limit facility-wide HAP emissions to 7.9 TPY for any single HAP and 19.9 TPY for total HAPs.
- l. Maintain good housekeeping practices, such as lids on and proper storage of containers except when material is being added or removed from a container.
- m. To control PM, PM₁₀, and PM_{2.5} emissions from over-spray during the application of coatings and resins, SHM 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 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.

- n. Continue to use particulate control systems that vent internally to control particulate emissions resulting from machining, buffing, grinding, sanding, and cutting fiberglass, metal, or wood.

2. Visible Emissions

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

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

b. Best Practical Treatment (BPT)

SHM shall meet the following visible emissions requirements:

- (1) Visible emissions from any machining, buffing, grinding, sanding, or cutting 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 each 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 limit listed above. Therefore, the visible emission limit has been streamlined to the more stringent BPT limit, and only this more stringent limit has been included in the Order of this air emission license.

3. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63 Subpart II

SHM 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. SHM 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]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63 Subpart VVVV

SHM 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 SHM is not a major source of HAP. [40 C.F.R. § 63.5683]

5. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63 Subpart HHHHHH

SHM is subject to *NESHAP for Paint Stripping and Miscellaneous Surface Coating Operations at Area Source* 40 C.F.R. Part 63, Subpart HHHHHH (Subpart HHHHHH). The marine coating operations (Paint Booth #1) at SHM is considered a new source under this subpart because it commenced construction after September 17, 2007. [40 C.F.R. § 63.1169]

- a. SHM shall meet the following requirements for their surface coating operation: [40 C.F.R. § 63.11173(e)]

- (1) All painters must be certified that they have completed training in the proper spray application of surface coatings and the proper setup and maintenance of spray equipment.
- (2) All spray-applied coatings must be applied in the spray booth and meet the following requirements:
 - (i) Spray Booth #1 shall be fitted with a type of filter technology that is demonstrated to achieve at least 98 percent capture of paint overspray.
 - (ii) Spray Booth #1 shall be fully enclosed and shall be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains.
- (3) All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun.
- (4) All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done, for example, with hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used.

- b. SHM shall ensure and certify that all new and existing personnel who spray apply surface coatings, including contract personnel, are trained in the proper application of surface coatings. The training program must include, at a minimum, the following items: [40 C.F.R. § 63.11173(f)]
 - (1) A list of all current personnel by name and job description who are required to be trained;
 - (2) Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training of the following:
 - (i) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
 - (ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.
 - (iii) Routine spray booth and filter maintenance, including filter selection and installation.
 - (iv) Environmental compliance with the requirements of this subpart.
 - (3) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training.
- c. At all times, SHM shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require SHM to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 C.F.R. 63.11173(h)]
- d. SHM is required to submit a report in each calendar year in which information previously submitted in either the initial notification required by 40 C.F.R. § 63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in on the date of the report will be deemed to be a change. The annual notification of changes report must be submitted prior to March 1 of

each calendar year when reportable changes have occurred and must include the following information: [40 C.F.R. § 63.11176(a)]

- (1) Company name and the street address (physical location) and the street address where compliance records are maintained, if different.
- (2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator or other certifying company official certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.

e. SHM shall keep the following records: [40 C.F.R. § 63.11177]

- (1) Certification that each painter has completed the training specified in 40 C.F.R. § 63.11173(f) with the dates the initial training and the most recent refresher training was completed.
- (2) Documentation of the filter efficiency of any spray booth exhaust filter material, according to the procedure in 40 C.F.R. § 63.11173(e)(3)(i).
- (3) Copies of any notification submitted as required by 40 C.F.R. § 63.11175 and copies of any report submitted as required by 40 C.F.R. § 63.11176.

f. Records must be kept on-site and in printed or electronic form readily accessible for inspection for at least the first two years after their date and may be kept off-site after that two-year period. [40 C.F.R. § 63.11178] Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart HHHHHH shall be streamlined to the more stringent six-year requirement.

6. Chapter 159

SHM is subject to *Control of Volatile Organic Compounds from Adhesives and Sealants*, 06-096 C.M.R. ch. 159, which limits emissions of VOC from adhesives, sealants, and primers through two basic components: sale and manufacture restrictions that limit the VOC content of specified adhesives, sealants, and primers sold in the state; and use restrictions that apply primarily to commercial/industrial applications. [06-096 C.M.R. ch. 159, § 1(A)(2)]

a. Chapter 159 Requirements

- (1) SHM shall not use any adhesive, sealant, adhesive primer, or sealant primer in excess of the following VOC contents per the below table:

Category	VOC content limit (grams VOC per liter)
Adhesives - Contact bond	250
Sealants	420
Marine Deck Sealants	760
Adhesive Primers	250
Sealant Primers	750
Marine Deck Sealant Primers	760
Adhesives applied to porous material	120

[06-096 C.M.R. ch. 159, § 2(A) and Table 1]

- (2) The VOC content limits for adhesives applied to particular substrates shall apply as follows:
- If SHM uses an adhesive or sealant subject to a specific VOC content limit for such adhesive or sealant in the table above, such specific limit is applicable rather than an adhesive-to-substrate limit; and
 - If an adhesive is used to bond dissimilar substrates together, the applicable substrate category with the highest VOC content limit shall be the limit for such use.

[06-096 C.M.R. ch. 159, § 2(C)]

- (3) When using a surface preparation or cleanup solvent, SHM shall:
- not use materials for surface preparation containing VOC unless the VOC content of the surface preparation solvent is less than 70 grams per liter; and
 - not use materials containing VOC for the removal of adhesives, sealants, or adhesive or sealant primers from surfaces, other than spray application equipment, unless the composite vapor pressure of the solvent used is less than 45 mm Hg at 20° Celsius.

[06-096 C.M.R. ch. 159, § 2(D)]

- (4) SHM shall store or dispose of all absorbent materials, such as cloth or paper, which are moistened with adhesives, sealants, primers, or solvents subject to this rule, in non-absorbent containers that shall be closed except when placing materials in or removing materials from the container.

[06-096 C.M.R. ch. 159, § 2(F)]

- (5) SHM shall not solicit, require the use of, or specify the application of any adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent, or clean-up solvent if such use or application results in a violation of the provisions of this rule. The prohibition of this section shall apply to all written or oral contracts under which any adhesive, sealant, adhesive primer, sealant

primer, surface preparation solvent, or clean-up solvent subject to this rule is to be used.

[06-096 C.M.R. ch. 159, § 2(G)]

b. Exemptions [06-096 C.M.R. ch. 159, § 3(A)]

The requirements of this rule shall not apply to the use, sale, or manufacture of the following compounds:

- (1) Adhesives, sealants, adhesive primers, or sealant primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory, provided records are maintained as required in 06-096 C.M.R. ch. 159, § 4;
- (2) Adhesives, sealants, adhesive primers, and sealant primers that are regulated as consumer products under *Control of Emissions of Volatile Organic Compounds from Consumer Products* 06-096 C.M.R. Ch. 152;
- (3) Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied;
- (4) Cyanoacrylate adhesives;
- (5) Adhesives, sealants, adhesive primers, or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less, except plastic cement welding adhesives and contact adhesives;
- (6) Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less; and
- (7) Adhesives and sealants that are applied in a dry, powdered form and activated without the use of solvent.

c. Administrative Requirements

- (1) SHM shall maintain records demonstrating compliance with this rule, including, but not limited to, the following information:
 - i. A list of each adhesive, sealant, adhesive primer, sealant primer cleanup solvent, and surface preparation solvent in use and in storage;
 - ii. A data sheet or material list which provides the material name, manufacturer identification, and material application;
 - iii. Identification of catalysts, reducers, or other components used in the mix ratio;
 - iv. The VOC content of each product as supplied;
 - v. The final VOC content or vapor pressure, as applied; and
 - vi. The annual volume of each adhesive, sealant, adhesive primer, sealant primer, cleanup solvent, or surface preparation solvent used or purchased.[06-096 C.M.R. ch. 159, § 4(A)]
- (2) All records made to determine compliance with this rule shall be maintained for five (5) years from the date such record is created and shall be made available

to the Department within 90 days of a request. [06-096 C.M.R. ch. 159, § 4(C)]
Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of 06-096 C.M.R. ch. 159 shall be streamlined to the more stringent six-year requirement.

7. Chapter 162

SHM 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)]

SHM 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 SHM 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) 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 SHM 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) 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) SHM shall use the following equation (Equation 4) 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 of 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, SHM shall calculate the emission rate for the filled material on an as-applied basis using the following equation (Equation 5):

$$PV_F = [PV_U \times (100 - \% \text{ Filler})] / 100$$

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) Filled Resin Uses

- If the filled resin 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.
- If the filled resin 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.
- If the filled resin 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 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 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 always have a cover in place with no visible gaps. This work practice does not apply when materials are being actively 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

SHM 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 mmHg, whichever is the applicable requirement selected to comply with the cleaning solvent requirements of Section 4 of this Chapter.
- (5) Calculations performed to establish the monomer VOC emission limitation as specified in Section 3(B)(1) of this Chapter.

h. Monitoring and Recordkeeping Requirements [06-096 C.M.R. ch. 162, § 9(A)]

The owner or operator of a fiberglass boat manufacturing facility that is subject to the monomer and non-monomer VOC requirements of this Chapter 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:

- (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 VOC content by weight per cent or the composite vapor pressure in mmHg, whichever is required by the selected option to comply with the cleaning solvent requirements of Section 4 of this Chapter.
- (5) Calculations performed to establish the monomer VOC emission limitation as specified in 06-096 C.M.R. ch. 162, § 3(B)(1).

i. Reporting Requirements and Compliance Certification

1. SHM 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 thirty days following the end of the month in which the use of noncomplying materials occurs.
2. SHM 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. Parts Washer

Parts Washer 1 has a design capacity of 5 gallons. The parts washer is subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130 and records shall be kept documenting compliance.

This equipment is exempt from *Industrial Cleaning Solvents*, 06-096 C.M.R. ch. 166 pursuant to Section (3)(B).

E. General Process Emissions

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

F. Fugitive Emissions

SHM 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.

SHM 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.

G. 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 SHM 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-1079-71-D-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 SHM id due by the end of August 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 and Activities

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

SHM shall comply with the following requirements for PM, PM₁₀, PM_{2.5}, VOC, and HAP emissions:

1. Record the types and quantities of resins, gel coats, paints, and solvents used at the facility and the VOC and HAP content of each, and any other applicable information for each of the following:
 - (a) Monthly facility purchases for use at the facility
 - (b) Quantity shipped off-site

2. Calculate monthly VOC and HAP emissions using the following mass balance equations for the applicable boat manufacturing departments:

$$\text{Monthly VOC Emissions} = \sum_{i=1}^n (A \times \text{VOC content}) - (B \times \text{VOC content})$$

$$\text{Monthly HAP Emissions} = \sum_{i=1}^n (A \times \text{HAP content}) - (B \times \text{HAP content})$$

Where:

i = Each VOC/HAP containing material used at the facility during the month.

n = The number of VOC/HAP containing materials used at the facility during the month.

A = Monthly facility purchases of VOC- and/or HAP-containing materials.

B = Quantities of VOC- and/or HAP-containing materials shipped offsite.

The current version of UEF shall be used in the “Monthly VOC Emissions” equation.

3. Maintain records of the types and quantities of resins, gel coats, paints, and solvents used at the facility and the VOC and HAP content of each, and any other applicable information for each of the following:
 - (a) Monthly facility purchases for use at the facility
 - (b) Quantity shipped off-site
4. Continue to research the use of closed-mold technology whenever economically and technologically feasible for the manufacture of this facility’s products.
5. 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. SHM shall produce an annual report with any changes and/or updates that become commercially available.
6. Use spray guns with high transfer efficiency units such as airless or high-volume, low-pressure (HVLP) spray equipment for the application of coatings and resins.
7. Use controlled spray techniques, including lowest fluid tip pressure that produces an acceptable spray pattern and operator training, when using mechanical sprayers for the application of coatings and resins.
8. SHM shall train spray gun operators to use controlled spray techniques, including lowest fluid tip pressure techniques, when using mechanical sprayers for the application of coatings and resins and use manual application methods for open mold resin processes when technologically appropriate. SHM shall maintain

records which document the name of the person being trained, the date, and the topics covered in the training.

9. Use manual application methods for open-mold resin processes when technologically appropriate.
10. Use low VOC content products, such as citrus and water-based cleaners, when possible, and 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 appropriate.
11. Limit overall facility-wide VOC emissions to 24.9 tons per year.
12. Limit facility-wide HAP emissions to 7.9 TPY for any single HAP and 19.9 TPY for total HAPs.
13. Maintain good housekeeping practices, such as lids on and proper storage of open containers except when material is being added or removed from a container.
14. To control PM, PM₁₀, and PM_{2.5} emissions from over-spray during the application of coatings and resins, SHM 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 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.
15. Continue to use particulate control systems that vent internally to control particulate emissions from machining, buffing, grinding, sanding, and cutting fiberglass, metal, or wood.

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

1. Visible emissions from any machining, 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.

C. SHM shall comply with all applicable requirements of 40 C.F.R. Part 63, Subpart HHHHHH applicable to its facility including, but not limited to, the following:

1. SHM shall meet the following requirements for their surface coating operation: [40 C.F.R. § 63.11173(e)]

a. All painters must be certified that they have completed training in the proper spray application of surface coatings and the proper setup and maintenance of spray equipment.

b. All spray-applied coatings must be applied in the spray booth and meet the following requirements:

(1) Spray Booth #1 shall be fitted with a type of filter technology that is demonstrated to achieve at least 98 percent capture of paint overspray.

(2) Spray Booth #1 shall be fully enclosed and shall be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains. However, if the spray booth is fully enclosed and has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure.

c. All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun.

d. All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done, for example, with hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used.

2. SHM shall ensure and certify that all new and existing personnel who spray apply surface coatings, including contract personnel, are trained in the proper application of surface coatings. The training program must include, at a minimum, the following items: [40 C.F.R. § 63.11173(f)]

a. A list of all current personnel by name and job description who are required to be trained.

- b. Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training of the following:
 - (1) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
 - (2) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.
 - (3) Routine spray booth and filter maintenance, including filter selection and installation.
 - (4) Environmental compliance with the requirements of this subpart.
 - c. A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training.
- 3. At all times, SHM shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require SHM to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 C.F.R. 63.11173(h)]
 - 4. SHM is required to submit a report for each calendar year in which information previously submitted in either the initial notification required by 40 C.F.R. § 63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in on the date of the report will be deemed to be a change. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the following information: [40 C.F.R. § 63.11176(a)]

- a. Company name and the street address (physical location) and the street address where compliance records are maintained, if different.
 - b. The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator or other certifying company official certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.
5. SHM shall keep the following records: [40 C.F.R. § 63.11177]
- a. Certification that each painter has completed the training specified in 40 C.F.R. § 63.11173(f) with the dates the initial training and the most recent refresher training was completed.
 - b. Documentation of the filter efficiency of any spray booth exhaust filter material, according to the procedure in 40 C.F.R. § 63.11173(e)(3)(i).
 - c. Copies of any notification submitted as required by 40 C.F.R. § 63.11175 and copies of any report submitted as required by 40 C.F.R. § 63.11176.
6. Records must be kept on-site and in printed or electronic form readily accessible for inspection for at least the first two years after their date and may be kept off-site after that two-year period. [40 C.F.R. § 63.11178] Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart HHHHHH shall be streamlined to the more stringent six-year requirement.
- D. SHM shall comply with all applicable requirements of 06-096 C.M.R. ch. 159 applicable to its facility including, but not limited to, the following:
1. Chapter 159 Standards
 - a. SHM shall not use any adhesive, sealant, adhesive primer, or sealant primer in excess of the following VOC contents per the below table:

Category	VOC content limit (grams VOC per liter)
Adhesives - Contact bond	250
Sealants	420
Marine Deck Sealants	760
Adhesive Primers	250

Category	VOC content limit (grams VOC per liter)
Sealant Primers	750
Marine Deck Sealant Primers	760
Adhesives applied to porous material	120

[06-096 C.M.R. ch. 159, § 2(A) and Table 1]

- b. The VOC content limits for adhesives applied to particular substrates shall apply as follows:
- (1) If SHM uses an adhesive or sealant subject to a specific VOC content limit for such adhesive or sealant in the table above, such specific limit is applicable rather than an adhesive-to-substrate limit; and
 - (2) If an adhesive is used to bond dissimilar substrates together, the applicable substrate category with the highest VOC content limit shall be the limit for such use.

[06-096 C.M.R. ch. 159, § 2(C)]

- c. When using a surface preparation or cleanup solvent, SHM shall:
- (1) not use materials for surface preparation containing VOC, unless the VOC content of the surface preparation solvent is less than 70 grams per liter; and
 - (2) not use materials containing VOC for the removal of adhesives, sealants, or adhesive or sealant primers from surfaces, other than spray application equipment, unless the composite vapor pressure of the solvent used is less than 45 mm Hg at 20° Celsius.

[06-096 C.M.R. ch. 159, § 2(D)]

- d. SHM shall store or dispose of all absorbent materials, such as cloth or paper, which are moistened with adhesives, sealants, primers, or solvents subject to this rule, in non-absorbent containers that shall be closed except when placing materials in or removing materials from the container.

[06-096 C.M.R. ch. 159, § 2(F)]

- e. SHM shall not solicit, require the use of, or specify the application of any adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent, or clean-up solvent if such use or application results in a violation of the provisions of this rule. The prohibition of this section shall apply to all written or oral contracts under which any adhesive, sealant, adhesive primer, sealant

primer, surface preparation solvent, or clean-up solvent subject to this rule is to be used.

[06-096 C.M.R. ch. 159, § 2(G)]

2. Exemptions [06-096 C.M.R. ch. 159, § 3(A)]

The requirements of this rule shall not apply to the use, sale, or manufacture of the following compounds:

- a. Adhesives, sealants, adhesive primers, or sealant primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory, provided records are maintained as required in 06-096 C.M.R. ch. 159, § 4;
- b. Adhesives, sealants, adhesive primers, and sealant primers that are regulated as consumer products under *Control of Emissions of Volatile Organic Compounds from Consumer Products* 06-096 C.M.R. Ch. 152;
- c. Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied;
- d. Cyanoacrylate adhesives;
- e. Adhesives, sealants, adhesive primers, or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less, except plastic cement welding adhesives and contact adhesives;
- f. Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less; and
- g. Adhesives and sealants that are applied in a dry, powdered form and activated without the use of solvent.

3. Administrative Requirements

- a. SHM shall maintain records demonstrating compliance with this rule, including, but not limited to, the following information:
 - (1) A list of each adhesive, sealant, adhesive primer, sealant primer cleanup solvent, and surface preparation solvent in use and in storage;
 - (2) A data sheet or material list which provides the material name, manufacturer identification, and material application;

- (3) Identification of catalysts, reducers, or other components used in the mix ratio;
- (4) The VOC content of each product as supplied;
- (5) The final VOC content or vapor pressure, as applied; and
- (6) The annual volume of each adhesive, sealant, adhesive primer, sealant primer, cleanup solvent, or surface preparation solvent used or purchased.

[06-096 C.M.R. ch. 159, § 4(A)]

- b. All records made to determine compliance with this rule shall be maintained for five (5) years from the date such record is created and shall be made available to the Department within 90 days of a request. [06-096 C.M.R. ch. 159, § 4(C)]
Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of 06-096 C.M.R. ch. 159 shall be streamlined to the more stringent six-year requirement.

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

1. 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:

- a. 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.
- b. 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.

- c. 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.
- d. 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.

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

SHM 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).

- a. Any molding resin and gel coat operations SHM 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) 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.

- b. Any molding resin and gel coating operations SHM 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) 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.

- c. SHM shall use the following equation (Equation 4) 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 of 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	a. $0.014 \times (\text{Resin VOC}\%)^{2.425}$
	b. Atomized, plus vacuum bagging with roll-out	b. $0.01185 \times (\text{Resin VOC}\%)^{2.425}$
	c. Atomized, plus vacuum bagging without roll-out	c. $0.00945 \times (\text{Resin VOC}\%)^{2.425}$
	d. Non-atomized	d. $0.014 \times (\text{Resin VOC}\%)^{2.275}$
	e. Non-atomized, plus vacuum bagging with roll-out	e. $0.011 \times (\text{Resin VOC}\%)^{2.275}$
	f. Non-atomized, plus vacuum bagging without roll-out	f. $0.0076 \times (\text{Resin VOC}\%)^{2.275}$
Pigmented gel coat, clear gel coat, tooling gel coat	All methods	$0.445 \times (\text{Gel Coat VOC}\%)^{1.675}$

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

- a. When using a filled production resin or filled tooling resin, SHM shall calculate the emission rate for the filled material on an as-applied basis using the following equation (Equation 5):

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

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.
 $\% \text{Filler}$ = The weight-percent of filler in the as-applied filled resin system.

b. Filled Resin Uses

- (1) If the filled resin 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;
- (2) If the filled resin 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;
- (3) If the filled resin 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.

4. Non-Monomer VOC Content [06-096 C.M.R. ch. 162, § 5]

- a. 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.
- b. 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 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.

5. 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.

6. 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 actively 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]

7. Monitoring and Recordkeeping Requirements

SHM 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 mmHg, 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.

8. Monitoring and Recordkeeping Requirements [06-096 C.M.R. ch. 162, § 9(A)]

The owner or operator of a fiberglass boat manufacturing facility that is subject to the monomer and non-monomer VOC requirements of this Chapter 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:

- 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 VOC content by weight per cent or the composite vapor pressure in mmHg, whichever is required by the selected option 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 06-096 C.M.R. ch. 162, § 3(B)(1).

9. Reporting Requirements and Compliance Certification

- a. SHM 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 thirty 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. SHM 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) **Parts Washer 1**

Parts Washer 1 at SHM are subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130.

- A. SHM shall keep records of the amount of solvent added to each parts washer.
[06-096 C.M.R. ch. 115, BPT]
- B. The following are exempt from the requirements of 06-096 C.M.R. ch. 130 [06-096 C.M.R. ch. 130]:
 - 1. Solvent cleaners using less than two liters (68 oz.) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
 - 2. Wipe cleaning; and,
 - 3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under 06-096 C.M.R. ch. 130.
 - 1. SHM shall attach a permanent conspicuous label to each unit summarizing the following operational standards:
 - a. Waste solvent shall be collected and stored in closed containers.
 - b. Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - c. Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - e. Sponges, fabric, wood, leather, paper products, and other absorbent materials shall not be cleaned in the parts washer.
 - f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

- g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
 - h. Work area fans shall not blow across the opening of the parts washer unit.
 - i. The solvent level shall not exceed the fill line.
- 2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches.
 - 3. The parts washer shall be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent.

[06-096 C.M.R. ch. 130]

(19) 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)]

(20) Fugitive Emissions

- A. SHM 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. SHM 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)]

SHM Great Island, LLC
Cumberland County
Harpwell, Maine
A-1079-71-D-R

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**Departmental
Findings of Fact and Order
Air Emission License
Renewal**

- (21) 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, SHM may be required to submit additional information. Upon written request from the Department, SHM 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 18th DAY OF NOVEMBER, 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: April 13, 2023

Date of application acceptance: April 25, 2023

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