



DEPARTMENT ORDER

Southport Boats, LLC
Kennebec County
Augusta, Maine
A-1122-71-A-N (SM)

Departmental
Findings of Fact and Order
Air Emission License
After-the-Fact New Source

FINDINGS OF FACT

After review of the air emission license 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

Southport Boats, LLC (Southport) has applied for an Air Emission License for the operation of emission sources associated with their boat manufacturing facility.

The equipment addressed in this license is located at 681 Riverside Drive, Augusta, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Process Equipment

<u>Equipment</u>	<u>Production Rate</u>	<u>Materials Used in Process</u>	<u>Pollutants</u>	<u>Primary VOCs/HAPs</u>
Resin Gun #1	540 lb/hr [each]	Polyester resin, Vinyl ester resin, Epoxy resin	VOC*, HAP**	Styrene
Resin Gun #2				
Resin Gun #3				
Gel Coat Gun #1	450 lb/hr [each]	Gel coat	VOC*, HAP**	Styrene, MMA***
Gel Coat Gun #2				
Gel Coat Gun #3				
Spray Gun #1	30 lb/hr	Polyester resin, vinyl ester resin, Epoxy resin	VOC*, HAP**	Styrene
MMA*** Gun #1	20 lb/min	MMA*** Adhesive	VOC*, HAP**	MMA***

*VOC = Volatile organic compounds

**HAP = Hazardous air pollutants

***MMA = Methyl methacrylate

Southport currently has no fuel burning equipment. If the Southport facility moves from its current location and plans to add fuel burning equipment, Southport shall add the fuel burning equipment to their license at that time as required by *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115.

C. Definitions

Monomer VOC. As currently defined in *Control for Fiberglass Boat Manufacturing Materials*, 06-096 C.M.R. ch. 162, *monomer VOC* 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. If 06-096 C.M.R. ch. 162 is revised and this definition is updated, Southport shall refer to the updated definition.

D. Application Classification

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

Southport is classified as an existing source that is applying for its first air emission license, after-the-fact. A new source is considered a major source based on whether or not total licensed annual emissions exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100.

<u>Pollutant</u>	<u>Total Licensed Annual Emissions (TPY)</u>	<u>Significant Emission Levels</u>
PM	-	100
PM ₁₀	-	100
SO ₂	-	100
NO _x	-	100
CO	-	100
VOC	24.9	50
Single HAP	9.9	10
Total HAP	24.9	25
CO ₂ e	< 100,000	100,000

The Department has determined the facility is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

With the VOC and HAP limits associated with the process equipment, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because the licensed emissions are below the major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

Historically, Southport has never exceeded major source thresholds for criteria pollutants or HAPs. Facility data collected during calendar year 2014 showed 6.15 tons of total HAPs emitted, which is much less than the 25 tons per year of total HAPs required to exceed major source thresholds. This also means that no individual HAP could have exceeded the major source threshold of 10 tons per year. Additionally, Southport has certified that 2014 was their busiest year ever and that material usage has never been as great in any previous year as it was in 2014. Based on the information provided by Southport and as described in this air emission license, the Department finds that the facility is not a major source as defined in *State Operating Permit Programs*, 40 C.F.R. § 70.2, and is therefore not subject to licensing requirements under 40 C.F.R. Part 70 as currently configured and operating in accordance with the conditions and restrictions contained in this license.

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 new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Facility Overview

VOC Emitting Activities

Southport engages in composite manufacturing of center console boats built from polyester, vinyl ester, and epoxy resins and gel coats. Southport incorporates a range of composite manufacturing processes, including open contact molding, spray-up lamination, filament winding, vacuum infusion, and light resin transfer molding, with an emphasis on closed molding operations that minimize emissions whenever possible.

When open molding or spray-up lamination processes are employed, Southport incorporates a ventilation system that exhausts emissions, consisting primarily of styrene, and provides makeup air within the facility. For a majority of the operations, this system involves inlet ducts that supply outside air and then collection ducts that converge on an exhaust fan and stack. The remainder of the facility incorporates localized wall exhaust fans that include a filter media to capture dust and potential overspray. This system incorporates variable speed fan technology and is adjusted accordingly based on the type of operations being conducted. An emphasis, whenever possible, is placed on incorporating closed molding technology so that styrene emissions are reduced by minimizing the styrene-containing materials contact with the ambient air.

Non-VOC Emitting Activities

Other than styrene emissions that are generated while processing polyester and vinyl ester resins, Southport also generates fiberglass and wood dust when cutting, drilling, sanding, or grinding cured fiberglass laminates and wooden supports. Southport uses point-of-use dust collection for all fiberglass (or wood) dust generating activities to minimize emissions of dust to the ambient air. Southport has installed an air filtration system that circulates throughout the facility to capture particles that have escaped the point-of-use collection systems. Wall-based exhaust fans incorporate filters and collection boxes to minimize the exhaust of any remaining dust particles in the ambient air.

C. State and Federal Requirements Review (Process Sources)

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

Southport is not subject to the provisions of *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 per 40 C.F.R. § 63.781(a). Southport builds pleasure craft, which are exempt from the definition of ‘ship’, and thus does not engage in shipbuilding and ship repair operations per the definitions of ‘pleasure craft’, ‘ship’, and ‘shipbuilding and ship repair operations’ found in 40 C.F.R. § 63.782.

Additionally, Southport is not subject to 40 C.F.R. Part 63, Subpart II because it is not considered a major source of HAP. Southport will be restricted with federally enforceable HAP emission limits below major HAP source thresholds in order to remain an area source of HAP. Southport shall limit organic HAP emissions from its facility’s operations to less than 9.9 tons per year for any single HAP and less than 24.9 tons per year for total HAPs.

NESHAP: 40 C.F.R. Part 63, Subpart VVVV

Southport is not subject to the provisions of *NESHAP for Boat Manufacturing*, 40 C.F.R. Part 63, Subpart VVVV. The NESHAP requires all major sources of HAP to meet emission standards that reflect Maximum Achievable Control Technology (MACT). Southport will be restricted with federally enforceable HAP emission limits below major HAP source thresholds in order to remain an area source of HAP. Southport shall limit organic HAP emissions from its facility's operations to less than 9.9 tons per year for any single HAP and less than 24.9 tons per year for total HAPs.

NESHAP: 40 C.F.R. Part 63, Subpart WWWW

Southport is not subject to the provisions of *NESHAP: Reinforced Plastic Composites Production*, 40 C.F.R. Part 63, Subpart WWWW. The NESHAP requires all major sources of HAP to meet emission standards that reflect MACT. Southport will be restricted with federally enforceable HAP emission limits below major HAP source thresholds in order to remain an area source of HAP. Southport shall limit organic HAP emissions from its facility's operations to less than 9.9 tons per year for any single HAP and less than 24.9 tons per year for total HAPs.

NESHAP: 40 C.F.R. Part 63, Subpart HHHHHH

Under current operations, Southport is not subject to the provisions of *NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, 40 C.F.R. Part 63, Subpart HHHHHH. The rule applies to any area HAP sources that engage in either of the following activities:

- Paint stripping using paint stripper containing methylene chloride (MeCl); or
- Spray application of coatings to metal or plastic substrates with coatings containing compounds of chromium, lead, manganese, nickel, or cadmium.

Southport does not use paint stripper containing MeCl nor does Southport use coatings containing compounds of chromium, lead, manganese, nickel, or cadmium. If Southport uses paint stripper or coatings that trigger this regulation in the future, Southport shall meet all applicable requirements of the regulation at that time.

***Control of Volatile Organic Compounds from Adhesives and Sealants:*
06-096 C.M.R. ch. 159**

Southport is subject to *Control of Volatile Organic Compounds from Adhesives and Sealants*, 06-096 C.M.R. ch. 159. This regulation applies to any facility that uses or applies, for compensation, any adhesive, sealant, adhesive primer, or sealer primer within the state of Maine.

Control for Fiberglass Boat Manufacturing Materials: 06-096 C.M.R. 162

Southport is subject to *Control for Fiberglass Boat Manufacturing Materials*, 06-096 C.M.R. ch. 162. This regulation incorporates EPA's Control Technique Guidelines (CTG) specific to fiberglass boat manufacturing, and it applies to any facility that manufactures hulls or decks of boats and related parts, builds molds to make fiberglass boat hulls or decks and related parts from fiberglass, or makes polyester resin putties for assembling fiberglass parts, and whose VOC emissions from the aforementioned operations exceed 2.7 tons (5,400 pounds) per rolling 12-month period. [06-096 C.M.R. ch. 162(1)(B)]

The following boat manufacturing operations are covered by 06-096 C.M.R. ch. 162:

- Open molding resin and gel coat operations (including pigmented gel coat, clear gel coat, production resin, tooling gel coat, and tooling resin);
- Resin and gel coat mixing operations;
- Resin and gel coat application equipment and cleaning operations; and
- Any other molding operations that do not meet the definition of closed molding, such as vacuum bagging operations.

[06-096 C.M.R. ch. 162(1)(B)]

The calculations required by 06-096 C.M.R. ch. 162 are based on the monomer VOC content of each applicable resin and gel coat, which may be different than the total VOC content of each applicable resin and gel coat.

Sources subject to this regulation have three options for compliance: they may use low monomer VOC content resins and gel coats, average emissions among different operations (some of which may not be low monomer VOC), or use add-on emission control devices. The rule also requires the use of low-vapor pressure cleaning solvents and establishes basic work practice requirements. The applicable requirements of 06-096 C.M.R. ch. 162 for Southport are addressed in Section (II)(E.) of this license.

D. BACT and Pollution Prevention for Process Equipment

BACT for VOC & HAP Emissions from Fiberglass Lamination and Gel Coat Application

VOC/HAP emissions from the open-molding of fiberglass lamination and gel coat application are attributed to evaporation of resin or gel coat over-spray and vaporization from the applied resin or gel coat prior to polymerization. The maximum potential VOC/HAP emissions from fiberglass and gel coat application are a function of the potential quantity of the resin used and the VOC/HAP content of the resin by percent. Due to polymerization of the styrene monomer, not all of the VOC/HAP as delivered is volatilized.

In order for Southport to remain a minor source of criteria pollutants and an area source of HAP, Southport shall limit VOC emissions from all process sources to no more than 24.9 tons per year, facility-wide HAP emissions for each individual HAP to no more than 9.9 tons per year, and facility-wide total HAP emissions to no more than 24.9 tons per year, all on a 12-month rolling total basis. In order to demonstrate compliance with these limits, Southport shall maintain and make available upon request a current list of all resins, gel coats, and cleaning materials in use. This list shall provide the necessary data to determine compliance, including:

- Names and types of resins, gel coats, and solvents in use;
- Percent VOC and HAP by weight or pounds of VOC and HAP per gallon for each resin, gel coat, and solvent;
- The quantity of each resin, gel coat, and solvent purchased on a monthly basis; and
- The quantity of each resin, gel coat, and solvent shipped offsite on a monthly basis.

EPA and the American Composites Manufacturers Association provide emission factors for styrene and methyl methacrylate (MMA) emissions from open molding in *Unified Emission Factors for Open Molding of Composites (UEF)*¹, dated July 23, 2001. Use of these emission factors shall be considered BACT for the calculation of styrene and methyl methacrylate emissions from open molding.

Southport does emphasize the use of closed molding infusion for its processes when possible. Closed molding infusion minimizes VOC/HAP emissions because curing resin in a closed environment under a vacuum minimizes the volatilization of the resin during the curing process by minimizing the amount of contact the resin has with the atmosphere. BACT for VOC/HAP emissions from fiberglass lamination and gel coat application shall include the use of closed molding whenever feasible and calculating VOC/HAP emissions from closed molding processes using a factor of 3% of the VOC/HAP content of the material based on AP-42, Table 4.4-2, *Emission Factors for Uncontrolled Polyester Resin Production Fabrication Processes* (dated February 2007).

All other VOC and HAP emission estimates not covered by UEF factors shall be calculated on a material balance basis using % VOC and/or HAP from Safety Data Sheets or similar information sheets, such as chemical vendor supplied analysis certificates. All VOC and HAP in these materials are assumed to be released into the atmosphere.

The mass balance equations described below (Equations 1 and 2) shall be used to determine monthly and 12-month rolling VOC and HAP emissions from boat manufacturing and fiberglass composite manufacturing processes (excluding emissions of

¹ The UEF estimation model was developed by the American Composites Manufacturers Association (formerly the Composites Fabricators Association) to estimate emissions from composites open molding processes. The UEF estimation model is based on a large number of carefully controlled studies and has been extensively verified by comparison to actual stack tests.

styrene and methyl methacrylate from open molding processes) utilizing the data collected by the facility and any other applicable data:

Equation 1:

$$\text{Monthly VOC Emissions} = 0.03^* \times \sum_{i=1}^n (\text{A} \times \text{VOC content}) - (\text{B} \times \text{VOC content})$$

*Only used when calculating VOC emissions from closed molding processes

Equation 2:

$$\text{Monthly HAP Emissions} = 0.03^* \times \sum_{i=1}^n (\text{A} \times \text{HAP content}) - (\text{B} \times \text{HAP content})$$

*Only used when calculating HAP emissions from closed molding processes

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

The monthly totals of VOC and HAPs shall be used to calculate and track VOC and HAP emissions on a 12-month rolling total basis. Southport shall maintain these records for six years and make them available to the Department upon request.

BACT for open molding shall include the use of high transfer efficiency spray guns, such as airless or high volume low pressure (HVLP) spray equipment, for the application of gel coats and resins. BACT for open molding shall also include the use of controlled spray techniques, including lowest fluid tip pressure, which produces an acceptable spray pattern, when using mechanical sprayers for the application of gel coats and resins, operator training in the use of controlled spray techniques, and the use of manual application methods for open-mold resin processes, when technologically appropriate, in order to minimize volatilization of VOC and HAP monomers.

Southport routinely monitors new products available throughout the industry. As resins, gel coats, and solvents which offer lower VOC and HAP content become available, the facility evaluates if those products can be implemented into processes in an effort to reduce potential air pollution. Resins with minimal styrene content will be used after it is confirmed that such use will not compromise the quality of the final product. Alternatives for low-VOC emitting solvents such as citrus-based solutions are also explored, but are often lacking in effectiveness when compared to the solvents currently used.

Southport will continue to monitor options available to the marine and fiberglass composite manufacturing industries and will put consistent effort into collaborating with regional competitors so the best available control technologies can be applied. Due to the

nature of custom boat building and fiberglass composite manufacturing, no fixed pollution control systems or strategies are identified at this time. Southport continues to pursue usage of substances which are designed to emit lesser amounts of VOC and HAP as they become available and use closed molding technology whenever possible for VOC and HAP control.

BACT Summary/Conclusions for VOC & HAP Emissions from Fiberglass Lamination and Gel Coat Application

Southport shall meet the following BACT requirements for VOC and HAP emissions from fiberglass lamination and gel coat application:

- Limit overall facility-wide VOC emissions from process sources to 24.9 tons per year on a 12-month rolling total basis;
- Limit facility-wide HAP emissions to 9.9 tons per year for any single HAP and 24.9 tons per year for total HAP on a 12-month rolling total basis;
- Maintain records of the names, types, VOC/HAP contents, quantity purchased, and quantity shipped offsite of all resins, gel coats, and solvents in use at the facility;
- Use of the factors found in *Unified Emission Factors for Open Molding of Composites (UEF)*, dated July 23, 2001, for calculating emissions of styrene and methyl methacrylate from open molding;
- Use of Equations 1 and 2 for determining monthly VOC and HAP emissions from boat manufacturing and fiberglass composite manufacturing processes (excluding open molding of materials where styrene and methyl methacrylate are the only VOCs/HAPs, which are calculated using UEF factors as mentioned above);
- Use of closed-molding technology whenever feasible for the manufacture of fiberglass boats, boat parts, piping, tanks, and other custom molded items;
- Use of high transfer efficiency spray guns such as airless or high volume low pressure (HVLP) spray equipment for the application of gel coats and resins;
- Provide operator training in the use of controlled spray techniques, including lowest fluid tip pressure techniques, when using mechanical sprayers for the application of gel coats and resins;
- Use manual application methods for open-mold resin processes, when technologically appropriate;
- 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. Southport shall continue to research and develop closed molding applications to increase its use facility-wide. Southport shall document this research and make it available to the Department upon request; and

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

BACT for PM Emissions from All Process Sources

1. PM Emissions from Resin and Gel Coat Operations

To control PM emissions from over-spray during the application of resin and gel coat operations, Southport has installed filters on all wall-based exhaust fans. PM and PM₁₀ emissions from exhaust fan filters and forced ventilation systems are generally unquantifiable; therefore, BACT for particulate matter emissions from the wall-based exhaust fans and the forced ventilation system shall be a visible emissions limit of 10% opacity based on a six-minute block average, proper maintenance of all dust collection equipment, and records of all repair and maintenance done on the dust collection equipment.

2. PM Emissions from Cutting, Grinding, Buffing, and Sanding Activities

Fugitive particulate emissions are generated in the production of hull molds from grinding, sanding, and cutting operations. Southport utilizes various particulate control systems that vent internally to control particulate emissions resulting from machining, buffing, grinding, and sanding of fiberglass, metal, or wood. BACT for particulate matter emissions from indoor grinding, sanding, and buffing activities shall be the use of filters and a visible emissions limit: Exhaust from these filters shall not exceed 10% opacity on a six-minute block average basis.

Southport shall minimize the potential for fugitive PM emissions from any process conducted outside by limiting such activity to periods of calm winds or through the use of a shroud or wind curtain. BACT for particulate matter emissions for fugitive sources such as grinding, sanding, and buffing done outdoors shall be a visible emissions limit: These sources shall not exceed 20% opacity, except for no more than six minutes in any one-hour period, during which time visible emissions shall not exceed 30% opacity. Compliance shall be determined on a six-minute block average basis.

BACT Summary/Conclusions for PM Emissions from All Process Sources

Southport shall meet the following BACT requirements for PM emissions from all process sources:

- Control of PM emissions from the wall-based exhaust fans and the forced ventilation system such that visible emissions from these sources shall not exceed 10% opacity based on a six-minute block average;
- Maintain all dust collection and control equipment in good operating condition, and maintain records of all repair and maintenance activities performed on this equipment;
- Control of PM emissions from any cutting, buffing, grinding, or sanding processes conducted inside the building that vent to the ambient air via vent or duct through the

- use of a particulate filter such that visible emissions do not exceed 10% opacity based on a six-minute block average;
- Minimize the potential for fugitive PM emissions from any cutting, buffing, grinding, or sanding operations conducted outside by conducting such activities during periods of calm winds or through the use of a shroud or wind curtain; and
 - Control of PM emissions from fugitive sources such as grinding, sanding, and buffing done outdoors such that visible emissions from these sources shall not exceed 20% opacity, except for no more than six minutes in any one-hour period, during which time visible emission shall not exceed 30% opacity. Compliance shall be determined on a six-minute block average basis.

E. 06-096 C.M.R. ch. 159

The regulation 06-096 C.M.R. ch. 159 is applicable to Southport. The requirements of 06-096 C.M.R. ch. 159 applicable to Southport include (but are not limited to) the following:

1. VOC Limits

- a. Southport shall not use any adhesive, sealant, adhesive primer, or sealant primer with VOC contents above the levels provided in 06-096 C.M.R. ch. 159, Table 1. Due to the variability of materials that could be used in the custom yacht building process, selections of the table have not been provided in this license. [06-096 C.M.R. ch. 159(2)(B)]
 - b. The VOC content limits in Table 1 for adhesives applied to particular substrates shall apply as follows [06-096 C.M.R. ch. 159(2)(C)]:
 - (1) If an operator uses an adhesive or sealant subject to a specific VOC content limit for such adhesive or sealant in Table 1, 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 shall be the limit for such use.
 - c. Southport may choose to comply with the VOC limits in Table 1 by using add-on air pollution control equipment meeting the specifications provided in the rule. [06-096 C.M.R. ch. 159(2)(E)]
2. Southport shall store or dispose of all absorbent materials, such as cloth or paper, which are moistened with adhesives, sealers, 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)]

3. Southport shall not require the use or specify the application of any adhesive, sealant, adhesive primer, sealant primer, surface preparation, 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, or clean-up solvent subject to this rule is to be used at any location in Maine. [06-096 C.M.R. ch. 159(2)(G)]
4. The following compounds are exempt from the requirements of this rule [06-096 C.M.R. ch. 159(3)(A)]:
 - a. 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;
 - b. Cyanoacrylate adhesives;
 - c. 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;
 - d. Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less; and
 - e. Adhesives and sealants that are applied in a dry, powdered form and activated without the use of solvent.
5. Southport shall maintain the following records [06-096 C.M.R. ch. 159(4)(A)]:
 - a. A list of each adhesive, sealant, adhesive primer, sealant primer, clean-up solvent, and surface preparation solvent in use and in storage;
 - b. A data sheet or material list which provides the material name, manufacturer identification, and material application;
 - c. Catalysts, reducers, or other components used and the mix ratio;
 - d. The VOC content of each product as supplied;
 - e. The final VOC content or vapor pressure, as applied; and
 - f. The annual volume of each adhesive, sealant, adhesive primer, sealant primer, clean-up solvent, and surface preparation solvent used or purchased.
6. All records shall be maintained for five years and shall be made available to the Department within 90 days of a request. [06-096 C.M.R. ch. 159(4)(C)]

F. 06-096 C.M.R. ch. 162

The regulation 06-096 C.M.R. ch. 162 is applicable to Southport. The requirements of 06-096 C.M.R. ch. 162 applicable to Southport include (but are not limited to) the following:

1. Monomer VOC Content of Resins and Gel Coats

Southport shall determine the monomer VOC content of each applicable resin or gel coat either by using South Coast Air Quality Management District's (SCAQMD) Method 312-9, *Determination of Percent Monomer in Polyester Resins*, revised 1996, or by using records from the manufacturer that document the monomer VOC content of each resin and gel coat material. [06-096 C.M.R. ch. 162(5)(B)]

Up to five percent of the non-monomer VOC content of a resin or gel coat shall be exempt from the VOC content limits of this regulation. If the non-monomer VOC content of a resin or gel coat exceeds five percent, then Southport shall add the excess non-monomer VOC over five percent to the monomer VOC content. [06-096 C.M.R. ch. 162(5)(A-B)]

2. Emission Limits

For each of the following open molding resin and gel coat operations:

- Pigmented gel coat;
- Clear gel coat;
- Production resin;
- Tooling gel coat; and
- Tooling resin

Southport shall comply with the emission limits in 06-096 C.M.R. ch. 162 by using one or both of the following compliance options:

a. Low Monomer VOC Content Option

- (1) If Southport chooses the low monomer VOC content option for any of the open molding resin and gel coat operations listed at the beginning of this section, the monomer VOC contents of those operations shall not exceed the limits established in the table below:

Monomer Volatile Organic Compound Limits for Open Molding Resin and Gel Coat Operations

Material	Application Method	Monomer VOC Content Limits (weight percent)
Production resin	Atomized (spray)	28
Production resin	Nonatomized	35
Pigmented gel coat	Any Method	33
Clear gel coat	Any method	48
Tooling resin	Atomized	30
Tooling resin	Nonatomized	39
Tooling gel coat	Any method	40

[06-096 C.M.R. ch. 162(3)(A)(1)]

- (2) Southport may also meet the monomer VOC content limits for each material and application method combination included in the table above through the use of the following equation:

Equation 3²:

$$\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^n (M_i * VOC_i)}{\sum_{i=1}^n (M_i)}$$

Where:

- M_i = mass of each open molding resin or gel coat used in the past 12 months in an operation, in megagrams;
- VOC_i = monomer VOC content, by weight percent, of each open molding resin or gel coat used in the past 12 months in an operation;
- n = the number of different open molding resins or gel coats used in the past 12 months in an operation; and
- i = each different open molding resin or gel coat used in the past 12 months in an operation.

[06-096 C.M.R. ch. 162(3)(A)(2)]

b. Emissions Averaging Option

- (1) If Southport chooses the emissions averaging option for any of the open molding resin and gel coat operations listed at the beginning of this section, the following equation shall be used to establish a facility-specific monomer VOC mass emission limit on a 12-month rolling average basis:

Equation 4³:

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

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

² Equation 1 in 06-096 C.M.R. ch. 162

³ Equation 2 in 06-096 C.M.R. ch. 162

The numerical coefficients associated with each term on the right side of the equation above are the allowable monomer VOC emission rates for that material in units of kilograms of monomer VOC per megagram of material used. [06-096 C.M.R. ch. 162(3)(B)(1)]

- (2) Any molding resin and gel coat operations that Southport includes 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 Part (1.) of this section shall use the following equation to demonstrate that the monomer VOC mass emissions from the operations included in the average do not exceed the emission limit calculated using Equation 4, above, 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.

Equation 5⁴:

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

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

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

- (3) Any molding resin and gel coat operations that Southport chooses to include in averaging emissions among different operations to meet a numerical

⁴ Equation 3 in 06-096 C.M.R. ch. 162

monomer VOC emission rate limit rather than complying with the monomer VOC content limits established in Section (1.) of this section shall use the following equation 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 5, above.

Equation 6⁵:

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

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;
- i = each different open molding resin and gel coat used in the past 12 months in a given operation;
- n = the number of different open molding resins and gel coats used in the past 12 months in a given operation;
- M_i = mass of resin or gel coat used within an operation in the past 12 months, in megagrams; and
- 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 the table below shall be used to compute PV_i ;

Monomer Volatile Organic Compound Emission Rate Formulas for Open Molding Resins and Gel coats

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. Nonatomized	d. $0.014 \times (\text{Resin VOC}\%)^{2.275}$
	e. Nonatomized, plus vacuum bagging with roll-out	e. $0.011 \times (\text{Resin VOC}\%)^{2.275}$
	f. Nonatomized, 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	$0.445 \times (\text{Gel coat VOC}\%)^{1.675}$

[06-096 C.M.R. ch. 162(3)(B)(3)]

⁵ Equation 4 in 06-096 C.M.R. ch. 162

3. Cleaning Solvent Standards

- a. Southport shall meet the cleaning solvent standards outlined in the following table:

Type of Solvent	Limit
Cleaning solvents used for routine application equipment cleaning	- 5.0% VOC by weight max.; or - Shall have a max. composite vapor pressure of no more than 0.50 mmHg @68°F
Solvents used to remove cured resin and gel coat from application equipment	- shall use only non-volatile organic compound solvents

[06-096 C.M.R. ch. 162(6)]

- b. If Southport uses noncompliant cleaning solvents for routine application equipment cleaning, the facility shall notify the Department. A copy of the record showing noncompliance shall be sent to the Department within 30 days following the end of the month in which the use occurs. [06-096 C.M.R. ch. 162(6)(A) and (10)(A)]

4. Work Practice Standards

All resin and gel coat containers with a capacity equal to or greater than 208 liters (55 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 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)]

5. Monitoring and Recordkeeping

Southport shall collect and record the following on a monthly basis and maintain at the facility for five years for each operation subject to the chapter:

- Total quantity and monomer VOC content of all applicable resins and gel coats;
- All calculations completed by the facility for 06-096 C.M.R. ch. 162;
- VOC content (mass percent) of each non-monomer resin and gel coat used; and
- VOC content or pressure in mmHg, as applicable, for each cleaning solvent used for routine application equipment cleaning.

[06-096 C.M.R. ch. 162(9)]

6. Initial Notification and Compliance Certification

- a. An Initial Notification of Applicability was due on 09/28/2013 including the following information:
 - (1) Name and address of the owner or operator of the Southport facility;
 - (2) Physical address of the affected facility;
 - (3) Description of the boating manufacturing facility and the air emission license number, if assigned; and
 - (4) Identification of the volatile organic compound emission requirement, the means of compliance, and the compliance date for the facility.
[06-096 C.M.R. ch. 162(12)(A)]

- b. Southport shall maintain records demonstrating compliance following the completion of the first documented achievement of compliance with the monomer VOC limiting requirements. The Compliance Certification shall include the following information, as applicable for the low monomer VOC content option:
 - (1) A description of the compliance option employed;
 - (2) A description of the records that document continuing compliance;
 - (3) The results of any records that document continuing compliance, including calculations; and
 - (4) A statement by the owner or operator of Southport as to whether the facility has complied with the requirements.
[06-096 C.M.R. ch. 162(12)(B)]

G. Parts Washer

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

H. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than six minutes in any one-hour period, during which time visible emissions shall not exceed 30% opacity. Compliance shall be determined on a six-minute block average basis.

I. General Process Emissions

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

J. Annual Emissions

1. Total Annual Emissions

Southport shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on a VOC limit for all process sources combined of 24.9 tons per year, and HAP limits of 9.9 tons per year for any single HAP and 24.9 tons per year for total HAPs for all process sources combined:

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

	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>	<u>Single HAP</u>	<u>Total HAPs</u>
Process Sources	-	-	-	-	-	24.9	9.9	24.9
Total TPY	-	-	-	-	-	24.9	9.9	24.9

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 100, are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

The quantity of CO₂e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's potential fuel and material use;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and *Mandatory Greenhouse Gas Reporting*, 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. Part 98.

No additional licensing actions to address GHG emissions are required at this time.

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
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.

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-1122-71-A-N 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 commencing 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]
- (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 such test results, 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 Part 70 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]

SPECIFIC CONDITIONS

(16) Process Emissions

- A. Southport shall limit emissions from all process sources to less than 24.9 tons/year of VOC emissions, 9.9 tons/year of any single HAP and 24.9 tons/year of total HAPs. [06-096 C.M.R. ch. 115, BACT]
- B. Southport shall calculate these emissions on a monthly and 12-month rolling total basis, based on the methods specified in Specific Conditions (17), (18), and (19). [06-096 C.M.R. ch. 115, BACT]
- C. To demonstrate compliance with the tons per year limits for VOCs and HAPs, Southport shall record the name, type, VOC/HAP content, quantity purchased, and quantity shipped offsite of all resins, gel coats, and solvents in use at the facility. [06-096 C.M.R. ch. 115, BACT]

- (17) Emissions of styrene and methyl methacrylate from open molding of composites shall be calculated using the factors found in *Unified Emission Factors for Open Molding of Composites (UEF)*, dated July 23, 2001 and shall be added to the VOC and HAP totals from closed molding operations found using the method in Specific Condition (18), and the VOC and HAP totals found using the mass balance equations in Specific Condition (18) to demonstrate compliance with the 24.9 tons per year limit for VOCs from all process sources, 9.9 tons per year limit for individual HAPs from all process sources, and 24.9 tons per year limit for total HAPs from all process sources. [06-096 C.M.R. ch. 115, BACT]

- (18) The mass balance equations described below shall be used to determine monthly VOC and HAP emissions from boat manufacturing and fiberglass composite manufacturing processes (excluding open molding of materials where styrene and methyl methacrylate are the only VOCs/HAPs, which are covered by Specific Condition (17), above) utilizing the data collected in accordance with Specific Condition (16) and any other applicable data:

$$\text{Monthly VOC Emissions} = 0.03^* \times \sum_{i=1}^n (\text{A} \times \text{VOC content}) - (\text{B} \times \text{VOC content})$$

*Only used when calculating VOC emissions from closed molding processes

$$\text{Monthly HAP Emissions} = 0.03^* \times \sum_{i=1}^n (\text{A} \times \text{HAP content}) - (\text{B} \times \text{HAP content})$$

*Only used when calculating HAP emissions from closed molding processes

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

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

- (19) Southport shall use closed-molding technology whenever feasible for the manufacture of fiberglass boats, boat parts, piping, tanks, and other custom molded items. [06-096 C.M.R. ch. 115, BACT]
- (20) Southport shall use high transfer efficiency spray guns, such as airless or high volume low pressure (HVLP) spray equipment, for the application of gel coats and resins. [06-096 C.M.R. ch. 115, BACT]
- (21) Southport shall train spray gun operators to use controlled spray techniques, including lowest fluid tip pressure techniques, when using mechanical sprayers for the application of gel coats and resins and use manual application methods for open-mold resin processes, when technologically appropriate. [06-096 C.M.R. ch. 115, BACT]
- (22) Southport 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. Southport shall continue to research and develop closed molding applications to increase its use facility-wide. Southport shall document this research and make it available to the Department upon request. [06-096 C.M.R. ch. 115, BACT]

- (23) Southport shall meet all applicable requirements of 40 CFR Part 63, Subpart HHHHHH, if/when the facility engages in either of the following activities:
- A. Paint stripping using paint stripper containing MeCl; or
 - B. Spray applications of coatings to metal or plastic substrates with coatings containing compounds of chromium, lead, manganese, nickel, or cadmium.
[40 C.F.R. Part 63, Subpart HHHHHH]
- (24) Southport shall control PM emissions from all wall-based exhaust fan filters and the forced ventilation system such that visible emissions from those sources do not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]
- (25) Southport shall maintain all dust collection and control equipment in good operating condition and maintain records of all repair and maintenance activities performed on this equipment. [06-096 C.M.R. ch. 115, BACT]
- (26) Southport shall control PM emissions from any cutting, buffing, grinding, or sanding processes conducted inside the building that vent to the ambient air via vent or duct through the use of a particulate filter and a visible emissions limit of no more than 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]
- (27) Southport shall minimize the potential for fugitive PM emissions from any cutting, buffing, grinding, or sanding operations conducted outside by conducting such activities during periods of calm winds or through the use of a shroud or wind curtain. Visible emissions from these activities shall not exceed 20% opacity, except for no more than six minutes in any one-hour period, during which time visible emissions shall not exceed 30% opacity. Compliance shall be determined on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]
- (28) **06-096 C.M.R. ch. 159**
- A. VOC Limits
 - 1. Southport shall not use any adhesive, sealant, adhesive primer, or sealant primer with VOC contents above the levels provided in 06-096 C.M.R. ch. 159, Table 1. Due to the variability of materials that could be used in the custom yacht building process, selections of the table have not been provided in this license. [06-096 C.M.R. ch. 159(2)(B)]

2. The VOC content limits in Table 1 for adhesives applied to particular substrates shall apply as follows [06-096 C.M.R. ch. 159(2)(C)]:
 - a. If an operator uses an adhesive or sealant subject to a specific VOC content limit for such adhesive or sealant in Table 1, such specific limit is applicable rather than an adhesive-to-substrate limit; and
 - b. If an adhesive is used to bond dissimilar substrates together, the applicable substrate category with the highest VOC content shall be the limit for such use.
3. Southport may choose to comply with the VOC limits in Table 1 by using add-on air pollution control equipment meeting the specifications provided in the rule. [06-096 C.M.R. ch. 159(2)(E)]
- B. Southport 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)]
- C. Southport shall not require the use 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 at any location in Maine. [06-096 C.M.R. ch 159(2)(G)]
- D. The following compounds are exempt from the requirements of this rule [06-096 C.M.R. ch. 159(3)(A)]:
 1. 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;
 2. Cyanoacrylate adhesives;
 3. 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 or welding adhesives and contact adhesives;
 4. Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less; and
 5. Adhesives and sealants that are applied in a dry, powdered form and activated without the use of solvent.

- E. Southport shall maintain the following records [06-096 C.M.R. ch. 159(4)(A)]:
1. A list of each adhesive, sealant, adhesive primer, sealant primer, clean-up 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. Catalysts, reducers, or other components used and 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, clean-up solvent, or surface preparation solvent used or purchased.
- F. All records shall be maintained for five years and shall be made available to the Department within 90 days of a request. [06-096 C.M.R. ch. 159(4)(C)]

(29) **06-096 C.M.R. ch. 162**

A. Monomer VOC Content of Resins and Gel coats

1. Southport shall determine the monomer VOC content of each applicable resin or gel coat by using either of the following:
 - a. SCAQMD's Method 312-9, Determination of Percent Monomer in Polyester Resins, revised 1996; or
 - b. Records from the manufacturer that document the monomer VOC content of each resin and gel coat material
[06-096 C.M.R. ch. 162(5)(B)]
2. Up to five percent of the non-monomer VOC content of a resin or gel coat shall be exempt from the VOC content limits of this regulation. If the non-monomer VOC content of a resin or gel coat exceeds five percent, then Southport shall add the excess non-monomer VOC over five percent to the monomer VOC content.
[06-096 C.M.R. ch. 162(5)(A-B)]

B. Emission Limits

For each of the following open molding resin and gel coat operations:

- Pigmented gel coat;
- Clear gel coat;
- Production resin;
- Tooling gel coat; and
- Tooling resin

Southport shall comply with the emission limits in 06-096 C.M.R. ch. 162 by using one or both of the following compliance options:

1. Low Monomer VOC Content Option

- a. If Southport chooses the low monomer VOC content option for any of the open molding resin and gel coat operations listed at the beginning of this section, the monomer VOC contents of those operations shall not exceed the limits established in the table below:

Monomer Volatile Organic Compound Limits for Open Molding Resin and Gel Coat Operations

Material	Application Method	Monomer VOC Content Limits (weight percent)
Production resin	Atomized (spray)	28
Production resin	Nonatomized	35
Pigmented gel coat	Any Method	33
Clear gel coat	Any method	48
Tooling resin	Atomized	30
Tooling resin	Nonatomized	39
Tooling gel coat	Any method	40

[06-096 C.M.R. ch. 162(3)(A)(1)]

- b. Southport may also meet the monomer VOC content limits for each material and application method combination included in the table above through the use of the following equation:

Equation 3:

$$\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^n (M_i * VOC_i)}{\sum_{i=1}^n (M_i)}$$

Where:

- M_i = mass of each open molding resin or gel coat used in the past 12 months in an operation, in megagrams;
- VOC_i = monomer VOC content, by weight percent, of each open molding resin or gel coat used in the past 12 months in an operation; and
- n = number of different open molding resins or gel coats used in the past 12 months in an operation.

[06-096 C.M.R. ch. 162(3)(A)(2)]

2. Emissions Averaging Option:

- a. If Southport chooses the emissions averaging option for any of the open molding resin and gel coat operations listed at the beginning of this Specific

Condition, the following equation shall be used to establish a facility-specific monomer VOC mass emission limit on a 12-month rolling average basis:

Equation 4:

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

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; and
- 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 the equation above are the allowable monomer VOC emission rates for that material in units of kilograms of monomer VOC per megagram of material used. [06-096 C.M.R. ch. 162(3)(B)(1)]

- b. Any molding resin and gel coat operations that Southport includes 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 Section (B)(1) of this Specific Condition shall use the following equation to demonstrate that the monomer VOC mass emissions from the operations included in the average do not exceed the emission limit calculated using Equation 4, above, 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.

Equation 5:

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

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

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

- c. Any molding resin and gel coat operations that Southport 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 Section (B)(1) of this Specific Condition shall use the following equation 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 5, above.

Equation 6:

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

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;
 - i = each different open molding resin and gel coat used in the past 12 months in a given operation;
 - n = the number of different open molding resins and gel coats used in the past 12 months in a given operation;
 - 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 the table below shall be used to compute PV_i :

Monomer Volatile Organic Compound Emission Rate Formulas for Open Molding Resins and Gel Coats

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. Nonatomized	d. $0.014 \times (\text{Resin VOC}\%)^{2.275}$
	e. Nonatomized, plus vacuum bagging with roll-out	e. $0.011 \times (\text{Resin VOC}\%)^{2.275}$
	f. Nonatomized, 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	$0.445 \times (\text{Gel coat VOC}\%)^{1.675}$

[06-096 C.M.R. ch. 162(3)(B)(3)]

C. Cleaning Solvent Standards

1. Southport shall meet the cleaning solvent standards outlined in the following table:

Type of Solvent	Limit
Cleaning solvents used for routine application equipment cleaning	- 5.0% VOC by weight max.; or - Shall have a max. composite vapor pressure of 0.50 mmHg @68°F
Solvents used to remove cured resin and gel coat from application equipment	- shall use only non-volatile organic compound solvents

[06-096 C.M.R. ch. 162(6)]

2. If Southport uses noncompliant cleaning solvents for routine application equipment cleaning, the facility shall notify the Department. A copy of the record showing noncompliance shall be sent to the Department within 30 days following the end of the month in which the use occurs. [06-096 C.M.R. ch. 162(6)(A) and (10)(A)]

D. Work Practice Standards

All resin and gel coat containers with a capacity equal to or greater than 208 liters (55 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 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)]

E. Monitoring and Recordkeeping

Southport shall collect and record the following on a monthly basis and maintain at the facility for five years for each operation subject to the chapter:

1. Total quantity and monomer VOC contents of all applicable resins and gel coats;
2. All calculations completed by the facility for 06-096 C.M.R. ch. 162;
3. VOC content (mass percent) of each non-monomer resin and gel coat used; and
4. VOC content or pressure in mmHg, as applicable, for each cleaning solvent used for routine application equipment cleaning.

[06-096 C.M.R. ch. 162(9)]

F. Initial Notification of Applicability

Southport shall submit an Initial Notification of Applicability. The Initial Notification of Applicability shall include the following information:

1. Name and address of the owner or operator of the Southport Facility;
2. Physical address of the affected facility;
3. Description of the boating manufacturing facility and the air emission license number, if assigned; and
4. Identification of the volatile organic compound emission requirement, the means of compliance, and the compliance date for the facility.

[06-096 C.M.R. ch. 162(12)(A)]

G. Compliance Certification

Southport shall maintain records demonstrating compliance following the completion of the first documented achievement of compliance with the monomer VOC limiting requirements. The Compliance Certification shall include the following information, as applicable for the low monomer VOC content option:

1. A description of the compliance option employed;
2. A description of the records that document continuing compliance;
3. The results of any records that document continuing compliance, including calculations; and
4. A statement by the owner or operator of Southport as to whether the facility has complied with the requirements.

[06-096 C.M.R. ch. 162(12)(B)]

(30) **Parts Washer**

The parts washer at Southport is subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130.

- A. Southport shall keep records of the amount of solvent added to the 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. Southport shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 C.M.R. ch. 130]:
 - 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. [06-096 C.M.R. ch. 130]

(31) Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than six minutes in any one-hour period, during which time visible emissions shall not exceed 30% opacity. Compliance shall be determined on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT/BACT]

(32) 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. 115, BPT/BACT]

Southport Boats, LLC
Kennebec County
Augusta, Maine
A-1122-71-A-N (SM)

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Departmental
Findings of Fact and Order
Air Emission License
After-the-Fact New Source

- (33) Southport 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).

DONE AND DATED IN AUGUSTA, MAINE THIS 18 DAY OF April, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, 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: 11/7/2016

Date of application acceptance: 11/10/2016

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan E. Rice, Bureau of Air Quality.

