Notice of Construction (NOC) Worksheet

PUGET SOUND
Clean Air Agency

Source: Fluid Motion LLC	**NOC Number: 12505**
Installation Address: 506 44th St NW, Auburn, WA 98001	**Registration Number: 30500**
Contact Name: Dennis Pearson	**Contact Email: dennispearson@rangertugs.com**
Applied Date: 11-06-2024	**Contact Phone: (425) 212-8136**
Engineer: Madeline McFerran	**Inspector: Ryan Cunningham**

A. DESCRIPTION

For the Order of Approval:
Fiberglass boat manufacturing consisting of 7 fabrication bays each with 20,000 scfm exhaust stacks and overspray filtration system meeting at least 98% control. Each fabrication bay is 71,400 cubic feet volume.

Additional Information (if needed):

Facility

Fluid Motion proposes to establish a new fiberglass boat manufacturing facility producing 25-foot to 45-foot fiberglass pleasure boats through lamination of successive layers of gelcoat, vinylester resin, polyester resins and fiberglass inside open female molds. Different molds are used to make decks, hulls, and small parts forming the boat.

The facility will use 7 exhaust stacks for the lamination bays within an existing industrial building for open mold fabrication. Each exhaust stack will have a flow of 20,000 cfm.

Proposed Equipment/Activities

Application to set up a new fiberglass boat manufacturing facility where boats are formed from open molds with resins and gel coats applied to the mold using a spray gun.

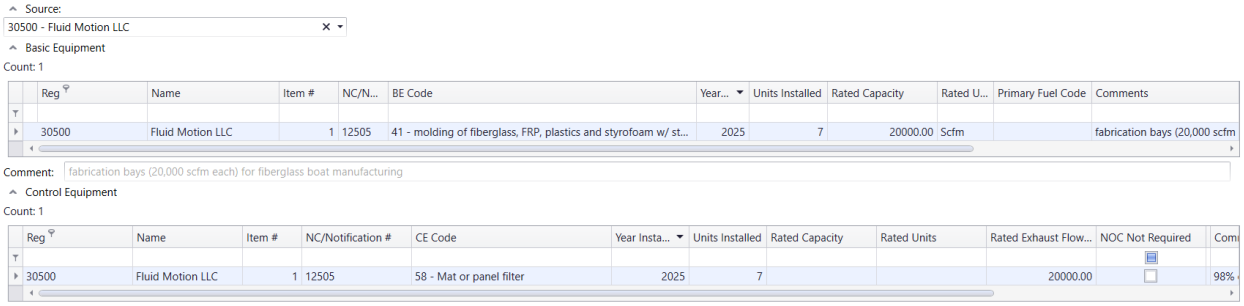
7 exhaust stacks for lamination bays.

The proposal also includes the following exempt operations:
- Air brushes having a cup capacity < 2 fluid ounces and an airflow of 0.5-2.0 cfm
- Hand-held aerosol spray cans having a capacity of < 1 quart of coating and hand-held brush and rollers for coating application
- Hand lay, brush, and roll-up resins equipment and operations
- Adhesive application equipment that exclusively uses materials containing <1% VOC by weight and <0.1% HAP
- Equipment used for mechanical buffing (except tire buffers), polishing, carving, cutting, drilling, grinding, machining, planning, pressing, routing, sawing, stamping, or turning of wood, ceramic artwork,

ceramic precision parts, leather, metals plastics, rubber, fiberboard, masonry, glass, silicon, semiconductor wafers, carbon, graphite, or composites.
- Hand-held sanding equipment

Permit History
This will be the first permit for this Fluid Motion Auburn location.

B. DATABASE INFORMATION


Source:
30500 - Fluid Motion LLC
Basic Equipment
Count: 1

Reg	Name	Item #	NC/N...	BE Code	Year...	Units Installed	Rated Capacity	Rated U...	Primary Fuel Code	Comments
30500	Fluid Motion LLC	1	12505	41 - molding of fiberglass, FRP, plastics and styrofoam w/ st...	2025	7	20000.00	Scfm		fabrication bays (20,000 scfm

Comment: fabrication bays (20,000 scfm each) for fiberglass boat manufacturing
Control Equipment
Count: 1

Reg	Name	Item #	NC/Notification #	CE Code	Year Insta...	Units Installed	Rated Capacity	Rated Units	Rated Exhaust Flow...	NOC Not Required	Com
30500	Fluid Motion LLC	1	12505	58 - Mat or panel filter	2025	7			20000.00	☐	98%

New NSPS due to this NOCOA?	**No**	**Applicable NSPS: NA**	**Delegated? NA**
New NESHAP due to this NOCOA?	**Yes**	**Applicable NESHAP: 40 CFR 63 Subpart VVVV**	**Delegated? Yes**
New Synthetic Minor due to this NOCOA?	**No**		

Establishment of this facility will be a new major source of HAP (>10 TPY single HAP- styrene, and >25 TPY total HAP) which will be subject to the Title V program and 40 CFR 63 Subpart VVVV which applies to boat manufacturers who are major sources of HAP.

Fluid Motion plans to comply with the standards using compliant materials.

C. NOC FEES AND ANNUAL REGISTRATION FEES

NOC Fees:

Fees have been assessed in accordance with the fee schedule in Regulation I, Section 6.04. All fees must be paid prior to issuance of the final Order of Approval.

Fee Description	Cost	Amount Received (Date)
Filing Fee	$ 3,000	
Equipment (lamination room)	$1,000	
SEPA (DNS)	$1,200	
NESHAP	$1,050	
Model Review	$1,500	
Public Notice	$750	
Filing received		$ 3,000 (11/6/2024)
Additional fee received		$5,500 (TBD)
Total		**$8,500**

Registration Fees:
Registration fees are assessed to the facility on an annual basis. Fees are assessed in accordance with Regulation I, Section 7.07 since upon issuance of this order, Fluid Motion Auburn will be a major source of HAP.

The annual operating permit fee is required by Washington State law and Puget Sound Clean Air Agency's Regulation I.
Your fees are based on your NAICS code and your actual emissions during 2023.

Facility Fees and Applicable Regulations			Charges
Facility Fee for Operating Permit Sources. Reg I, 7.07(b)(1)(iii)			**$ 43,922.00**
NAICS 336612 -- Boat Building			
Emission Surcharges - Reg I, 7.07(b)(2)	**Tons in 2023**	**Per Ton**	
HAP (Hazardous Air Pollutants)	13	$ 60	$ 780.00
VOC (Volatile Organic Compounds)	13	$ 60	$ 780.00
			$ 1,560.00
Fee Totals			
Operating Permit Fee (After February 20, 2025, the fee is $53,607.00).			**$ 45,482.00**
The Total Fee is due by January 06, 2025. If unpaid after February 20, 2025, an additional delinquent fee of $8,125.00 will be applied. The delinquent fee is equal to 25% of the Operating Permit Fee, not to exceed $8,125 (Reg I, 7.07(b)).			
WA State Department of Ecology surcharge, Reg I, 7.07(d)			**$ 654.58**
For further information regarding the WDOE surcharge, please call 1-564-233-8692.			
TOTAL FEE			**$ 46,136.58**

Applicability		
Regulation I	Description	Note
Reg I 7.07(b)(1)(iii)	Facility Fee for Operating Permit Sources	NAICS 336612 – Boat Building
Reg I 7.07(d)	WA State Dept of Ecology surcharge	
7.07(b)(2)	Emissions Surcharge	VOC and HAP
Annual Registration Fee		
Regulation I	Description	Fee
Reg I 7.07(b)(1)(iii)	Facility fee	$43,922
Reg I 7.07(d)	WA State Dept of Ecology surcharge (varies)	$650 (estimate)
Reg I 7.07(b)(2)	Emissions surcharge (varies)	$1400 (estimate)
	Total =	$45,972 (estimate)

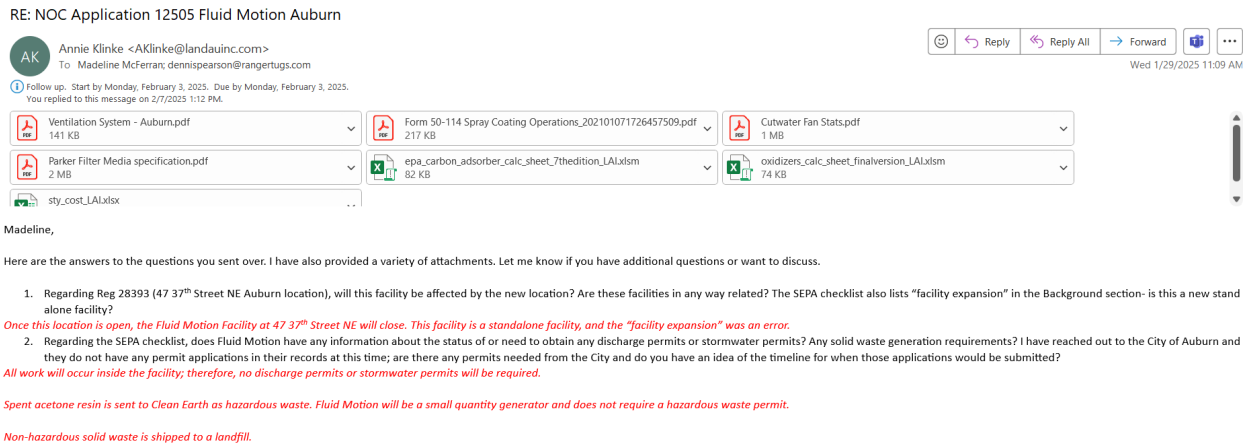
D. STATE ENVIRONMENTAL POLICY ACT (SEPA) REVIEW

State Environmental Policy Act (SEPA) review was conducted in accordance with Regulation I, Article 2. The SEPA review is undertaken to identify and help government decision-makers, applicants, and the public to understand how a project will affect the environment. A review under SEPA is required for projects that are not categorically exempt in WAC 197-11-800 through WAC 197-11-890. A new source review action which requires a NOC application submittal to the Agency is not categorically exempt.

PSCAA is the SEPA lead agency for this project. The applicant submitted a completed Environmental checklist that is included below.

SEPA Checklist NOC
12505 Fluid Motion.pd

PSCAA had some follow-up questions for the applicant about other applicable permits and processes for waste management.



RE: NOC Application 12505 Fluid Motion Auburn

AK Annie Klinke <AKlinke@landauinc.com>
To Madeline McFerran; dennispearson@rangertugs.com

Reply | Reply All | Forward
Wed 1/29/2025 11:09 AM

Follow up. Start by Monday, February 3, 2025. Due by Monday, February 3, 2025.
You replied to this message on 2/7/2025 1:12 PM.

Ventilation System - Auburn.pdf 141 KB
Form 50-114 Spray Coating Operations_20210107172645709.pdf 217 KB
Cutwater Fan Stats.pdf 1 MB
Parker Filter Media specification.pdf 2 MB
epa_carbon_adsorber_calc_sheet_7thedition_LAI.xlsm 82 KB
oxidizers_calc_sheet_finalversion_LAI.xlsm 74 KB
sty_cost_LAI.xlsx

Madeline,

Here are the answers to the questions you sent over. I have also provided a variety of attachments. Let me know if you have additional questions or want to discuss.

1. Regarding Reg 28393 (47 37th Street NE Auburn location), will this facility be affected by the new location? Are these facilities in any way related? The SEPA checklist also lists "facility expansion" in the Background section- is this a new stand alone facility?

Once this location is open, the Fluid Motion Facility at 47 37th Street NE will close. This facility is a standalone facility, and the "facility expansion" was an error.

2. Regarding the SEPA checklist, does Fluid Motion have any information about the status of or need to obtain any discharge permits or stormwater permits? Any solid waste generation requirements? I have reached out to the City of Auburn and they do not have any permit applications in their records at this time; are there any permits needed from the City and do you have an idea of the timeline for when those applications would be submitted?

All work will occur inside the facility; therefore, no discharge permits or stormwater permits will be required.

Spent acetone resin is sent to Clean Earth as hazardous waste. Fluid Motion will be a small quantity generator and does not require a hazardous waste permit.

Non-hazardous solid waste is shipped to a landfill.

The facility will operate in an existing building in an M1 light industrial zoned area in Auburn.

The fiberglass fabrication operation will be only within the building and there are no discharges or other impacts to surrounding surface waters or stormwater runoff. The solid waste generated by the facility is non-hazardous except for spent acetone. Fluid Motion is a small quantity generator of hazardous waste.

Figure 1 Satellite Aerial View

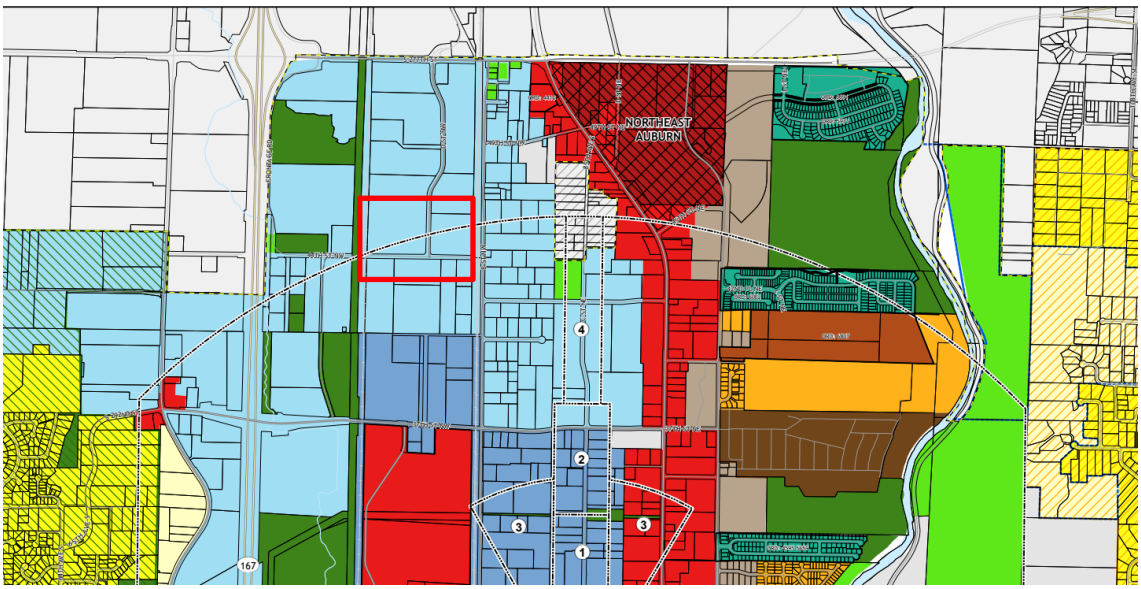


Figure 2 City of Auburn Zoning Map Snip

The City of Auburn was consulted for comments on December 12, 2025, and replied that they had no comments or concerns about the project, or PSCAA moving forward as Lead Agency.

Based on the proposed action and the information in the checklist, the project will not: adversely affect environmentally sensitive or special areas, or endangered or threatened species; conflict with local, state, or federal laws or requirements for the protection of the environment, or establish a precedent for future actions with significant effects. This proposal is not likely to have a probable significant adverse environmental impact, and I recommend the issuance of a Determination of Non-Significance with an opportunity for public comment.

E. TRIBAL CONSULTATION

On November 21, 2019, the Agency's Interim Tribal Consultation Policy was adopted by the Board. Criteria requiring tribal consultation are listed in Section II.A of the policy and include establishment of a new air operating permit source, establishment of a new emission reporting source, modification of an existing emission reporting source to increase production capacity, or establishment or modification of certain equipment or activities. In addition, if the Agency receives an NOC application that does not meet the criteria in Section II.A but may represent similar types and quantities of emissions, the Agency has the discretion to provide additional consultation opportunities.

The Agency identified that this NOC application meets one of the criteria in the Agency's Interim Tribal Consultation Policy, adopted by the Board on November 21, 2019. Since the facility is establishing a new Title V air operating permit source with this Notice of Construction application, the NOC meets criteria one of the policy. NOC application 12505 meets consultation criteria II.A.1 and 2 (establishing both a new air operating permit source and establishing a new registered source subject to emission reporting thresholds.

In accordance with the policy, the Agency notified each Tribe within the Agency's jurisdiction on December 5, 2024, of the intent to hold a consultation.

PSCAA received no requests for scheduling consultation. PSCAA received one acknowledgment of receipt from Rebecca S Unzueta, Steilacoom Tribe Chairwoman.

On April 10, 2025, the Agency notified each tribe that the Agency would be proceeding with the final steps to issue the conditional approval of this Notice of Construction application.

F. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REVIEW

Best Available Control Technology (BACT)

New stationary sources of air pollution are required to use BACT to control all pollutants not previously emitted, or those for which emissions would increase as a result of the new source or modification.

BACT is defined in WAC 173-400-030 as, "an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation under Chapter 70.94 RCW emitted from or which results from any new or modified stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each pollutant."

An emissions standard or emissions limitation means "a requirement established under the Federal Clean Air Act or Chapter 70A.15 RCW which limits the quantity, rate, or concentration of emissions of air contaminants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction and any design, equipment, work practice, or operational standard adopted under the Federal Clean Air Act or Chapter 70A.15 RCW."

Best Available Control Technology for Toxics (tBACT)

New or modified sources are required to use tBACT for emissions control for TAP. Best available control technology for toxics (tBACT) is defined in WAC 173-460-020 as, "the term defined in WAC 173-400-030, as applied to TAP."

Similar Permits

PSCAA has permitted boat lamination lines for two other Fluid Motion facilities (Arlington and Monroe) in 2022, 2023 and 2024.

12411 (8/26/2024) Fluid Motion (Arlington) Fiberglass boat lamination line addition of building 10	Organic HAP & VOC: ▪ Pigmented gel coats less than or equal to 33% organic HAPs ▪ Clear gel coats less than or equal to 48% organic HAP ▪ Resins less than or equal to 35% HAP ▪ Use of non-atomizing spray application methods for production and tooling resin ▪ Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application ▪ Use of low VOC content resin and gel-coat materials ▪ Cleaning solvents shall not contain VOC and HAP All resins and adhesives applied with non-atomizing application (does not include hand-held aerosol spray cans (less than 1 quart capacity) since these are categorically exempt from NOC permitting requirement in Reg I, Section 6.03(c)(59))
	Odor: ▪ Best management practices Closure of doors/windows/openings when applying resin and gelcoat
	Particulate: ▪ 98% filtration efficiency panel filters Minimum transfer efficiency of 65% HVLP
11660 (3/24/2023) Fluid Motion (Monroe) fiberglass boat lamination line production increase	Organic HAP & VOC: ▪ Pigmented gel coats less than or equal to 33% organic HAPs ▪ Clear gel coats less than or equal to 48% organic HAP ▪ Resins less than or equal to 35% HAP ▪ Use of non-atomizing spray application methods for production and tooling resin ▪ Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application ▪ Use of low VOC content resin and gel-coat materials ▪ Cleaning solvents shall not contain VOC and HAP All resins and adhesives applied with non-atomizing application (does not include hand-held aerosol spray cans (less than 1 quart capacity) since these are categorically exempt from NOC permitting requirement in Reg I, Section 6.03(c)(59))
	Odor: ▪ Best management practices ▪ Closure of doors/windows/openings when applying resin and gelcoat
	Particulate: ▪ 98% filtration efficiency panel filters ▪ Minimum transfer efficiency of 65% HVLP

12155 (6/3/2022) – Fluid Motion, LLC fiberglass boat lamination line production increase	▪ Pigmented gel coats less than or equal to 33% organic HAPs ▪ Clear gel coats less than or equal to 48% organic HAP ▪ Resins less than or equal to 35% HAPs ▪ Adhesives less than 5% organic HAPs ▪ Use of non-atomizing spray application methods for production and tooling resin ▪ Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application ▪ Use of low VOC content resin and gel-coat materials ▪ Cleaning solvents shall not contain VOC and HAP All resins and adhesives applied with non-atomizing application (does not include hand-held aerosol spray cans (less than 1 quart capacity) since these are categorically exempt from NOC permitting requirement in Reg I, Section 6.03(c)(59))
	Odor: best management practices, closure of doors/windows/openings when applying resin and gelcoat
	PM: 98% filtration efficiency, minimum 65% transfer efficiency for atomized product application (gel coat)
11711 (8/26/2019) – Fluid Motion, LLC fiberglass boat lamination line	Styrene, MMA, Organic HAP and VOC: • Gel coat <33% organic HAP. • Resins <35% organic HAP • Adhesives <5% organic HAP • Non atomizing spray methods for production and tooling resin • Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel coat application • Cleaning solvents not to contain VOC and HAP • All resins and adhesives applied with non-atomizing application
	Odor: best management practices, closure of doors/windows/openings when applying resin and gelcoat
	PM: 98% filtration efficiency, minimum 65% transfer efficiency for atomized product application (gel coat)

10761 (8/18/2016) – Fluid Motion, LLC fiberglass boat lamination line	• Use of non-atomizing spray application methods for production and tooling resin • Use of dry filter system equipped with gauge minimum pressure drop shall not be less than the pressure drop measured with a clean properly installed filter. • Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application • Use of low VOC content resin and gel-coat materials • Cleaning solvents shall not contain VOC and HAP • Closure of doors/windows/openings when applying resin and gelcoat

Other Regulatory Agencies BACT

<table>
<tr><th>Agency</th><th>Limit(s)</th></tr>
<tr><td>NWCAA
NOC 1357
Aspen Catamarans (fiberglass boat manufacturing)
(11-17-2020)</td><td>Use of compliant materials with Table 2 of 40 CFR 63 Subpart VVVV, good work practice standards (combined VOCT BACT, styrene t-BACT)</td></tr>
<tr><td>40 CFR 63 Subpart VVVV</td><td>
<table>
<tr><th>Operation</th><th>Application Method</th><th>Weighted Average Organic HAP Limit (weight percent)</th></tr>
<tr><td>Production resin operations</td><td>Non-atomized</td><td>35</td></tr>
<tr><td>Tooling resin operations</td><td>Non-atomized</td><td>39</td></tr>
<tr><td>Pigmented gel coat operations</td><td>Any method</td><td>33</td></tr>
<tr><td>Clear gel coat operations</td><td>Any method</td><td>48</td></tr>
<tr><td>Tooling gel coat operations</td><td>Any method</td><td>40</td></tr>
<tr><td>Carpet and fabric adhesive</td><td>Any method</td><td>5</td></tr>
</table>
</td></tr>
<tr><td>SCAQMD BACT Determination 9/23/2003
Navigator Yachts</td><td>• Compliance with SCAQMD Rule 1162, add-on control was elected by facility to stay below public comment threshold.
• Carbon adsorber/thermal oxidizer system with 85% VOC control is achieved in practice (100% capture with permanent total enclosure)
• Spray booth vented to two portable carbon adsorption beds. Beds regenerated once every 5 days at the facility by steam stripping the adsorbed VOC to a thermal oxidizer. Thermal oxidizer waste heat recovered in boiler to produce steam for the stripping process.</td></tr>
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<table>
<tr>
<td>SCAQMD BACT Guideline for Non-Major Polluting Facilities Fiberglass Operations Fabrication – Hand and Spray Layup (10-20-2000 Rev. 0)</td>
<td>

Airless Spray Equipment and Spray Booth with Mesh Type Filter
Compliance with SCAQMD Rule 1162:

Non-atomizing application techniques for open mold resin materials except for gel coats
Application of gel coat materials with air-assisted airless, electrostatic attraction, or HVLP only
Monomer Percentage Limit by Weight As Applied (table below) or operation of emission control system with 90% or greater VOC removal on mass basis

<table>
<tr><th>Resin Material</th><th>Limits</th></tr>
<tr><td>Clear Gel Coat Marble Resins</td><td>40%</td></tr>
<tr><td>Clear Gel Coat Other Resins</td><td>44%</td></tr>
<tr><td>White & Off White Gel Coat</td><td>30%</td></tr>
<tr><td>Non-White Gel Coat</td><td>37%</td></tr>
<tr><td>Primer Gel Coat</td><td>28%</td></tr>
<tr><td>Specialty Gel Coat</td><td>48%</td></tr>
<tr><td>General Purpose Marble Resins</td><td>10% or 32% as supplied, no fillers</td></tr>
<tr><td>Solid Surface Resins</td><td>17%</td></tr>
<tr><td>Tub/Shower Resins</td><td>24% or 35% supplied, no fillers</td></tr>
<tr><td>Lamination Resins</td><td>31% or 35% supplied, no fillers</td></tr>
<tr><td>Others</td><td>35%</td></tr>
<tr><td>Fire Retardant Resin</td><td>38%</td></tr>
<tr><td>Corrosion Resistant Resin</td><td>48%</td></tr>
<tr><td>High Strength Resin</td><td>48%</td></tr>
</table>

VOC-containing material storage in closed containers

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<tr>
<td>BAAQMD BACT Guideline 129.2.1 (9/27/2006)</td>
<td>

Technologically feasible/Cost effective: Enclosure of operation and vent to an afterburner ≥0.3 sec residence time and ≥1400°F operating temperature or activated carbon adsorption system with ≤6 ppm at outlet.
Achieved in Practice: Compliance with BAAQMD Reg. 8 Rule 50, use of polyester resin material with monomer content of no greater than 34% by weight and use of aqueous emulsion cleaner or acetone for clean up to maximum extent possible.

Resins and gel coats only applied to open molds with non-atomizing techniques, hopper guns, non-spray techniques e.g., roller or: use of emission control system with minimum of 85% control efficiency.
Storage of VOC-containing materials in closed containers
Cleaning products with less than or equal to 25 gram/liter VOC content

<table>
<tr><th colspan="2">TABLE 1</th></tr>
<tr><th>Gel Coats and Resins</th><th>Monomer Percentage by Weight</th></tr>
<tr><td>Gel Coats</td><td></td></tr>
<tr><td>Clear Gel Coats</td><td></td></tr>
<tr><td>Marble Resin Gel Coats</td><td>42%</td></tr>
<tr><td>Boat Manufacturing Gel Coats</td><td>48%</td></tr>
<tr><td>All Other Clear Gel Coats</td><td>44%</td></tr>
<tr><td>Pigmented Gel Coats</td><td></td></tr>
<tr><td>White and Off-White Gel Coats</td><td>30%</td></tr>
<tr><td>Non-White Boat Manufacturing Gel Coats</td><td>33%</td></tr>
<tr><td>Other Non-White Gel Coats</td><td>37%</td></tr>
<tr><td>Primer Gel Coats</td><td>28%</td></tr>
<tr><td>Specialty Gel Coats</td><td>48%</td></tr>
<tr><td>Resins</td><td></td></tr>
<tr><td>Marble Resins</td><td>10% with fillers or
32% without fillers*</td></tr>
<tr><td>Solid Surface Resins</td><td>17%</td></tr>
<tr><td>Tub/Shower Resins</td><td>24% with fillers or
35% without fillers*</td></tr>
<tr><td>Boat Manufacturing (atomized)</td><td>28%</td></tr>
<tr><td>Boat Manufacturing (non-atomized)</td><td>35%</td></tr>
<tr><td>Lamination Resins</td><td>31% with fillers or
35% without fillers*</td></tr>
<tr><td>Fire Retardant Resins</td><td>38%</td></tr>
<tr><td>Corrosion Resistant, High Strength and Tooling Resins</td><td></td></tr>
<tr><td>Non-atomizing Mechanical Application</td><td>46%**</td></tr>
<tr><td>Filament Application</td><td>42%**</td></tr>
<tr><td>Manual Application</td><td>40%**</td></tr>
<tr><td>Other Resins</td><td>35%</td></tr>
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SJVAPCD BACT Guideline 4.8.1 (12/7/2006) Fiberglass Boating Manufacturing Operation (<120 gallons/day and <25 tons VOC per yr)	• Technologically Feasible:
	  ○ PM10- for gelcoats: air assisted airless application (or equivalent) and an enclosed spray booth with filters rated at 95% or greater PM10 control efficiency.
	  ○ VOC:
	  ▪ 98% control efficiency for thermal/catalytic oxidation with 100% capture
	  ▪ 95% control efficiency for carbon adsorption with 100% capture
	  ▪ 63.7% control efficiency (thermal/catalytic incineration and hood vent with 65% capture)
	  ▪ 61.7% total control efficiency (carbon adsorption and hood vent with 65% capture)
	• Achieved in Practice
	  ○ PM10- for gelcoats: air assisted airless application and enclosed spray booth with filters rated 66% or greater PM10 control efficiency; for resins: non-atomized spray technique flowcoaters, pressure fed rollers, resin impregnators, hand lay-up.
	  ○ VOC – for gelcoats: air assisted airless application and material VOC content less than or equal to: - pigmented gelcoats: 33% - clear gelcoats: 48% - tooling gelcoats: 40% for resins, any of the following application methods: 1) non-atomized spray technique (such as the use of fluid impingement technology (FIT) spray guns), 2) flowcoaters, 3) pressure-fed rollers, 4) resin impregnators, 5) hand lay-up, or 6) any equivalent method as approved by the APCO; and materials with a material VOC content (by weight) less than or equal to: - resins: 35% - tooling resins: 39% and the use of non-VOC containing cleaning solvents

SMAQMD Minor Source BACT Determination #161 & #162 8/25/2017	• VOC: compliance with Rule 465 and VOC control system with >=90% Collection Efficiency and >= 95% Destruction Efficiency or use of super compliant materials <5% VOC by weight, or use of Low VOC Materials resulting in equal emission reduction • PM10 & PM2.5: Spray booth with exhaust filters and HVLP or equivalent application equipment as specified in Rule 465

Analysis

The applicant proposed VOC BACT and tBACT be use of low monomer resins and gels and non-atomizing resin application, consistent with Fluid Motion Arlington's OAs 12411 and 12155, and Fluid Motion Monroe's OA 11660. Initial submittal did not include a BACT review of technically feasible control options for the Auburn location. PSCAA requested follow-up analysis and the applicant provided an estimate of cost control ($/ton) using EPA Cost Control Manual spreadsheets for: thermal oxidation, carbon adsorption and catalytic oxidizer, and included cost estimates from several other control technologies (thermal oxidation, catalytic oxidation, adsorbers, concentrators, and biofiltration) which took cost estimates from an Assessment of Styrene Emission Controls for

FRP/C and Boat Building Industries September 1996 study and adjusted the 1996 dollars to 2023 dollars. While the cost estimates provided by the applicant may be considered as part of preliminary assessment, the applicant has not demonstrated that the cost estimate is at a study level for purposes of determining cost effectiveness. The applicant's cost analysis for a single carbon adsorber unit to treat all 7 lamination stacks was $13,234/ton of styrene controlled, which PSCAA would consider to be cost effective. A configuration of a single adsorber for all 7 bays would not however be the practical configuration installed at the site. Ventilation requirements for worker safety standards require each of the 7 lamination bays to have a 20,000 scfm flow and ducting to a common duct risks low flow zones. The applicant also cited additional roof reinforcements needed for a single carbon adsorber. PSCAA agrees the practical configuration for carbon adsorption would need to be one unit per stack. For installation of carbon adsorbers on each of the 7 bays, the EPA cost control manual estimate is $34,738/ton.

In addition to the analysis provided by the applicant, PSCAA ranked the BAAQMD, NWCAA, SCAQMD, SJVAPCD, SMAQMD, and PSCAA OA identified control technologies, from most to least stringent are ranked below:

1. 86% VOC control (90% collection efficiency, 95% destruction efficiency) – SMAQMD Minor Source BACT #161 & #162
2. 85% VOC control emissions control, 6 ppmv at outlet – BAAQMD BACT Guideline 129.2.1, SCAQMD BACT Determination 9/23/2003
3. 63.7% VOC control (thermal/catalytic incineration with hood vent with 65% capture) – SJVAPCD technologically feasible
4. Organic HAP composition limits (tabulated below): PSCAA 11711, SCAQMD, BAAQMD SJVAPCD, SMAQMD SCAQMD achieved in practice, NWCAA 1357, 40 CFR 63 Subpart VVVV

Clear Gelcoats	1. 44% - SCAQMD 2. 48% - BAAQMD, SJVAPCD, 40 CFR 63 Subpart VVVV 3. 50% - SMAQMD
Pigmented (non-white) Gelcoats	1. 33% - BAAQMD, SJVAPCD, 40 CFR 63 Subpart VVVV 2. 37% - SCAQMD 3. 45% - SMAQMD
Pigmented (white) Gelcoats	1. 30% - BAAQMD, SCAQMD 2. 33% - SJVAPCD 3. 45% SMAQMD
Boat Manufacturing Resins	1. 28% (atomized) BAAQMD 2. 35% - SMAQMD, SJVAPCD, (non-atomized) BAAQMD, SCAQMD, 40 CFR 63 Subpart VVVV

Note: across SCAQMD, BAAQMD, SJVAPCD and SMAQMD different subcategories of gelcoats and resins apply; when available, boat manufacturing limits used first. If no corresponding boat manufacturing category was available for an agency regulation, then the "other" category or closest matching category was used.

The most stringent controls are those achieved through use of add on controls when high capture efficiency can be achieved. The Navigator Yachts facility, permitted by SCAQMD in September 2003 which is the basis for the SCAQMD achieved in practice BACT determination, was implemented at a facility fabricating custom yachts. The system at Navigator Yachts used a carbon adsorption system which allowed for a relatively dilute exhaust stream, and intermittent operation, to accumulate styrene and then to be steam regenerated with the volatilized VOC exhausting to a regenerative thermal oxidizer. The RTO generated steam which was recovered for the carbon regeneration process. The SCAQMD BACT Determination does not include many details about the specifics of operation at Navigator Yachts, however more operational specifics for this facility are discussed in Georgia EPD's Preliminary Determination for Prevention of Significant Deterioration Air Quality Review (January 2007)[1]. The Georgia EPD document specifies "Navigator Yachts manufactures multi-million-dollar yachts by hand lay-up, making only a few boats per year" contrasting with a facility like Fluid Motion, where open mold large boats are fabricated in large rooms.

As part of the application, Fluid Motion included their ventilation system design and basis. The open molding occurs in one of 7 bays with 20,000 scfm each. The facility runs under a slight negative pressure and is designed for 4.2 air changes per hour as part of the facility's practices to maintain OSHA requirements for styrene concentrations within the building.

The intermittent nature of the batch production such as the operations at Fluid Motion, can introduce more fuel combustion and operational challenges for thermal controls. Batch processes typically need to include combustion of auxiliary fuel to sustain operation during periods of downtime. In addition to the intermittent nature of the manual fiberglass manufacturing, the size of the boats manufactured across 7 lamination bays results in high volume (dilute) exhaust flow rate to be routed to the afterburner, requiring larger sizing for a more dilute gas stream. Additionally, higher capture efficiency for the air in the whole building may be more difficult to achieve and require higher energy input.
The most recent Risk and Technology Review amendments to 40 CFR 63 Subpart VVVV National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing were finalized March 20, 2020, and did not result in changes in numeric emissions for Maximum Achievable Control Technology (MACT). MACT is based on the emission limitation achieved by the best performing 12 percent of the existing sources. The MACT monomer composition limits from 40 CFR 63 Subpart VVVV are included as part of the analysis although a MACT determination is for existing sources and may be less stringent than BACT.
PSCAA review of 40 CFR 63 Subpart VVVV semiannual reports submitted to WebFIRE (60+ reports reviewed for the reporting period of January 1, 2023 – June 30, 2023) found that each of the reviewed reports utilized emission averaging with compliant resins for HAP content (no sources complied with the NESHAP by using emission controls).

Odor modeling was completed for styrene with AERMOD dispersion as summarized by the applicant's Table 8 and is also shown below. The table shows potential odor impacts due to styrene and unlikely odor impacts due to MMA.

[1] "Preliminary Determination Permit Application No. 16624 January 2007" saved as "Georgia EPD PSD Chaparral Boats.PDF"

Table 8: Odor Threshold Comparison

Pollutant	1-Hour Avg Concentration (µg/m³)	3-Minute Avg Concentration (µg/m³)	3-Minute Avg Concentration (ppmv)	Odor Threshold Range (ppmv)
Methyl Methacrylate	183	33	0.081	0.014 – 0.66
Styrene	2,435	4,434	1.04	0.0028 – 61

Notes:

1. One-hour model-predicted concentrations were converted to 3-minute average concentrations using Equation 5.12 from Turner Workbook (Turner 1969). Example for styrene:

$$4{,}434\ \frac{\mu g}{m^3} = 2{,}435\ \frac{\mu g}{m^3} * \left(\frac{60\ min}{3\ min}\right)^{0.2}$$

2. Three-minute average concentrations were converted to parts per million assuming a molar volume of 24.45 liters per mole (L/mol) at standard temperature and pressure. Example for styrene:

$$1.04\ ppmv = \frac{4{,}434\ \mu g\ styrene}{m^3\ air} * \frac{mol\ sty.}{104\ g\ sty.} * \frac{1\ g\ sty.}{10^6 \mu g\ sty.} * \frac{24.45\ L\ sty.}{mol\ sty.} * \frac{m^3\ sty.}{1000\ L\ sty.} * \frac{10^6\ m^3\ air}{million\ m^3\ air}$$

3. Odor threshold ranges from American Industrial Hygiene Association (AIHA) *Odor Thresholds for Chemicals with Established Occupational Health Standards*, 2nd Edition (Murnane, et al 2013).

Abbreviations:
avg = average
µg/m³ = micrograms per cubic meter
ppmv = parts per million by weight

Similar permits for odorous sources, including marijuana production facilities, have required weekly monitoring of the immediate area outside the facility at least once every calendar week. Similar odorous sources are also required to contact an independent third party to check the immediate area outside the facility (e.g., building perimeter) once every 3 months and take corrective action if odor is observed. The marijuana facilities permitted have zero odor at the fenceline requirements which have been shown to be achievable in that industry; however zero odor has not been demonstrated to be achievable for fiberglass boat manufacturing at this time. PSCAA Regulation I 9.11 applies, and investigating identified odors and taking actions in response to odors represents good operating practice. In this case, if odor is observed, corrective action shall be taken and may include, but not be limited to, ceasing operation, changing location of operation within the building, closing any building openings and adjusting production rates or schedules. The City of Jacksonville review utilized the following odor control measures for a fiberglass manufacturing facility in Florida, with local regulations also requiring odor control[2] :

- Prohibiting spray gel coat application when resin or gel coat was also being applied by hand lay-up or resin being applied by spray.
- Requirement for vent fan during operation
- Maintaining inward airflow through building openings
- An odor mitigation plan

[2] Technical Evaluation & Preliminary Determination for Taylor Made Fiberglass,"0310629-001 tepd.pdf"

Recommendations

Based on the specific operations at the facility (large boats completed manually using open molds within a building limited production by worker-hours) and the additional energy and cost considerations for implementation of add-on controls for the intermittent operation at the facility BACT in this case will be Organic HAP composition limits detailed in the table within this section.

Odor BACT in this case will include:

- Closure of all building openings during application of resins and gel coats
- Weekly odor self-inspection with corrective action as needed.
- Quarterly 3rd party odor inspection with corrective action as needed.

Summary tBACT determination

Pollutant	Available Method That Meets BACT	Implementation of Method
Styrene, MMA, Organic HAPs and VOC	▪ Pigmented gel coats less than or equal to 33% organic HAPs ▪ Clear gel coats less than or equal to 48% organic HAP ▪ Resins less than or equal to 35% HAPs ▪ Adhesives less than 5% organic HAPs ▪ Use of non-atomizing spray application methods for production and tooling resin ▪ Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application ▪ Use of low VOC content resin and gel-coat materials ▪ Cleaning solvents shall not contain VOC and HAP All resins and adhesives applied with non-atomizing application (does not include hand-held aerosol spray cans (less than 1 quart capacity) since these are categorically exempt from NOC permitting requirement in Reg I, Section 6.03(c)(59))	Material selection; SDS documentation
Odor	▪ Best management practices Closure of doors/windows/openings when applying resin and gelcoat	▪ Weekly odor self-inspection with corrective action as needed. Quarterly 3rd party odor inspection with corrective action as needed
PM	▪ 98% filtration efficiency Minimum 65% transfer efficiency for atomized product application	▪ Use of dry filter system equipped with gauge minimum pressure drop shall not be less than the pressure drop measured with a clean properly installed filter. Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application

G. EMISSION ESTIMATES

Proposed Project Emissions

The applicant provided potential annual material usage based on the ratios of material used for boat manufacturing and applied the Unified Emission Factors for Open Molding of Composites emission factors for styrene and MMA to determine the mass of styrene and MMA emitted from the fiberglass boat fabrication. Silica emissions, as particulate matter, were calculated by applying the 65% gun transfer efficiency and 98% mat filter control efficiency to emissions. All other emissions were estimated to have 100% evaporation (100% of the material applied is assumed to be emitted).

Actual Emissions

Based on operations at similar Fluid Motion locations, actual operation has been about 25% of potential emissions.

Potential Emissions

The potential emissions submitted with the application are shown below. The facility will have an enforceable 39 ton styrene/12 month rolling period limit, consistent with the annual material usage the applicant provided for their maximum potential emissions:

Table 1: Maximum Potential Annual Air Pollutant Emissions

Material Used	Amount Used (tpy)	Emissions (tpy)				
		Styrene	MMA	Silica	Other HAPs/TAPs	Total VOCs
Gelcoat	126	13.5	2.83	0.0273	--	16.3
Tooling Gelcoat	1.64	0.263	--	--	--	0.263
Polyester Resin	522	20.1	--	--	--	20.1
Tooling Resin	6.55	0.291	--	--	--	0.291
Vinyl Ester Resin	58.9	2.27	--	--	--	2.27
Radius Putty	66.8	2.54	--	--	--	2.54
Initiator	15.7	--	--	--	0.785	0.785
Mold Release	1.18	--	--	--	0.471	0.471
Wood Stain	0.118	--	--	--	--	0.117
Spray Adhesive	0.982	--	--	--	--	0.481
3M Spray Adhesive	1.80	--	--	--	0.342	0.918
Total Emissions (tpy)		39.0	2.83	0.0273	1.60	44.6

Abbreviations:
HAP = hazardous air pollutant
MMA = methyl methacrylate
TAP = toxic air pollutant
tpy = tons per year
VOC = volatile organic compound

Facility-wide Emissions

Facility-wide emissions are the same as project emissions for this facility. The source will be a reporting source.

H. OPERATING PERMIT OR PSD

The Title V Air Operating Permit (AOP) program applicability for the entire source has been reviewed.

The facility is a Title V "**air operating permit source**" and conditions of this Order will be incorporated into the AOP during the next AOP opening.
Emission increases associated with this project were reviewed for Prevention of Significant Deterioration (PSD) Program applicability. The facility is not an existing PSD major source and the increase in emissions from this permitting action is below PSD thresholds.

I. AMBIENT TOXICS IMPACT ANALYSIS

The estimated potential toxic air pollutant (TAP) emissions at operating at 100% rated capacity and 6,240 hours of operation annual (facility-wide emission limit in NOC 12155). The emissions are also limited based on worst case daily styrene limits based on a limit of 33 employees per shift, and the worst-case lb styrene/worker-hr styrene emission rate to determine the maximum potential styrene emissions for a 24-hour period.

The applicant established the lb styrene/worker-hr values by assessing materials used on each type of boat manufactured at the facility, determining the styrene emissions for the given boat, and then determining the number of worker-hours needed to fabricate the boat. For conservatism, a 1.25 safety factor was also applied to the emission factor. The table below shows the factors:

Fluid Motion LLC
Daily Styrene Emissions

Hours worked per employee	8	hours/day
Number of Shifts	3	shifts/day
Lamination workers per shift	33	lamination workers/shift

	Styrene Emissions	**Production Time**	**Emission Factor***
	Pounds/boat	Lamination worker-hours/boat	lb/lamination worker-hour
28' cutwater	95.5	240	0.498
24' cutwater	88.5	210	0.527
32' cutwater	186.5	450	0.518
42' cutwater	466.6	960	0.608

* Emission Factors for styrene for each boat type include a 25% safety factor, consistent with the application for Fluid Motion Arlington NOC #12155

Boat Size with Maximum Styrene	**Maximum Styrene Emissions**	**Styrene SQER**
	lb/day	lb/day
42' Cutwater	481.2	65

As shown in the table above, the maximum daily styrene emissions exceed the SQER and so the applicant provided AERMOD modeling of the facility.

No additional air toxics required modeling, as shown in the table below. Note that the table from the applicant below shows 300 lb/day styrene emissions, which was calculated from the annual emissions

rather than the short-term worst-case styrene emissions described above. 481.2 lb/day of styrene and not 300 lb/day of styrene were used in the WAC 173-460 modeling analysis to reflect worst case.

Table 2: Toxic Air Pollutant Emissions Screening

Product Used	Averaging Period	Potential Emissions (lb/avg period)	SQER (lb/avg period)	Greater than SQER?
Styrene	24-hour	300	65	Yes
Methyl methacrylate	24-hour	21.8	52	No
Methyl ethyl ketone	24-hour	6.04	370	No
n-Hexane	24-hour	0.42	52	No
Silica	24-hour	0.21	0.22	No
Toluene	24-hour	0.14	370	No
Cyclohexane	24-hour	3.89	440	No

Abbreviations:
SQER = small quantity emission rate
lb/avg period = pounds per averaging period

The model utilized KSEA meterological data from 2019-2023. While Auburn 29th Street station is closer to the facility, there is not a complete 5-year data set yet for that station, so KSEA data was used as most representative available data.
The source consists of 7 stacks. To determine worst case emissions, the applicant modeled 100% of the emission rate emitted out of each stack 1 through 7. The stack resulting in the maximum concentration was the value compared to the acceptable source impact level (ASIL). In actuality, emissions would be spread across whichever lamination bays were actively venting fiberglass fabrication.

The model run results 24-hour maximum styrene concentrations are tabulated by stack, with highest concentration resulting from the model set-up where all emissions are assumed to exit Stack 7. All modeled stacks show compliance with the styrene ASIL of 870 ug/m3.

Stack with Emissions	1 g/s modeled 24 hr styrene concentration (ug/m3)	Adjusted 481 lb/day (2.53 g/sec) 24 hr styrene concentration (ug/m3)	Styrene ASIL (ug/m3)
Stack 1	186.82	471.95	870 ug/m3
Stack 2	190.03	480.08	
Stack 3	230.56	582.45	
Stack 4	264.42	668.00	
Stack 5	314.99	795.75	
Stack 6	338.61	855.42	
Stack 7	341.59	862.94	

The modeling files are included in the project folder.

Since compliance with the 24-hour styrene ASIL is dependent on the styrene worker lamination hours, the facility will be limited in the permit to 33 lamination workers per shift.

J. APPLICABLE RULES & REGULATIONS

Puget Sound Clean Air Agency Regulations

SECTION 7.09(a): (An emission report shall be required from each owner or operator of an operating permit source, listing those air contaminants emitted during the previous calendar year that equal or exceed the following (tons/year):
carbon monoxide (CO) emissions 25
facility combined total of all toxic air contaminant (TAC) emissions..... 6
any single toxic air contaminant (TAC) emissions (excluding lead, but including lead compounds)..... 2
nitrogen oxide (NOx) emissions..... 25
particulate matter (PM10) emissions..... 25
particulate matter (PM2.5) emissions..... 25
sulfur oxide (SOx) emissions..... 25
volatile organic compounds (VOC) emissions..... 25
lead 0.5
Annual emission rates shall be reported to the nearest whole tons per year for only those air contaminants that equal or exceed the thresholds above, except lead which must be reported to the nearest tenth of a ton. The owner or operator of a source requiring a Title V operating permit under this Article shall maintain records of information necessary to document any reported emissions or to demonstrate that the emissions were less than the above amounts

SECTION 7.09(b): Operation and Maintenance Plan. Owners or operators of air contaminant sources subject to Article 7 of this regulation shall develop and implement an operation and maintenance plan to assure continuous compliance with Regulations I, II, and III. A copy of the plan shall be filed with the Control Officer upon request. The plan shall reflect good industrial practice and shall include, but not be limited to, the following: (1) Periodic inspection of all equipment and control equipment; (2) Monitoring and recording of equipment and control equipment performance; (3) Prompt repair of any defective equipment or control equipment; (4) Procedures for start up, shut down, and normal operation; 02/17 7-5 Regulation I (5) The control measures to be employed to assure compliance with Section 9.15 of this regulation; and (6) A record of all actions required by the plan. The plan shall be reviewed by the source owner or operator at least annually and updated to reflect any changes in good industrial practice.

SECTION 6.09: Within 30 days of completion of the installation or modification of a stationary source subject to the provisions of Article 6 of this regulation, the owner or operator or applicant shall file a Notice of Completion with the Agency. Each Notice of Completion shall be submitted on a form provided by the Agency, and shall specify the date upon which operation of the stationary source has commenced or will commence.

SECTION 9.03: (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour, which is:
(1) Darker in shade than that designated as No. 1 (20% density) on the Ringelmann Chart, as published by the United States Bureau of Mines; or
(2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Section 9.03(a)(1).
(b) The density or opacity of an air contaminant shall be measured at the point of its emission, except when the point of emission cannot be readily observed, it may be measured at an observable point of the plume nearest the point of emission.
(c) This section shall not apply when the presence of uncombined water is the only reason for the failure of the emission to meet the requirements of this section.

SECTION 9.09: General Particulate Matter (PM) Standard. It shall be unlawful for any person to cause or allow the emission of particulate matter in excess of the following concentrations:
Equipment Used in a Manufacturing Process: 0.05 gr/dscf

SECTION 9.11: It shall be unlawful for any person to cause or allow the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.

SECTION 9.13: It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means designed to mask the emission of an air contaminant which causes detriment to health, safety or welfare of any person.

SECTION 9.15: It shall be unlawful for any person to cause or allow visible emissions of fugitive dust unless reasonable precautions are employed to minimize the emissions. Reasonable precautions include, but are not limited to, the following:
(1) The use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds;
(2) Surfacing roadways and parking areas with asphalt, concrete, or gravel;
(3) Treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or rip rap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways; or
(4) Covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials.

REGULATION I, SECTION 9.20(a): It shall be unlawful for any person to cause or allow the operation of any features, machines or devices constituting parts of or called for by plans, specifications, or other information submitted pursuant to Article 6 of Regulation I unless such features, machines or devices are maintained in good working order.

REGULATION II, Section 3.08 POLYESTER, VINYLESTER, GELCOAT, AND RESIN OPERATIONS:

(a) This section shall apply to manufacturing operations involving the use of polyester, vinylester, gelcoat, or resin in which the styrene monomer is a reactive monomer for the resin.

(b) It shall be unlawful for any person to cause or allow the application of polyester resin, vinylester resin, gelcoat, or any other resin unless the operation is conducted inside an enclosed area that is registered with the Agency. The exhaust from the operation shall be vented to the atmosphere through a vertical stack. For spray-coating applications of polyester resin, vinylester resin, gelcoat, or any other resin, the enclosed area shall incorporate a dry filter to control the overspray.

(c) It shall be unlawful for any person to use a chopper gun or spray gun to apply polyester resin, vinylester resin, gelcoat, or any other resin, unless the coating is applied by the use of one of the following methods:

(1) High volume, low pressure (0.1 to 10 psig air pressure for atomization) spray equipment,
(2) Electrostatic spray equipment,
(3) Airless spray equipment, or
(4) Air-assisted airless spray equipment.

(d) The provisions of Section 3.08(c) shall not apply to touchup and repair using a hand-held, air atomized spray gun that has a container for resin as part of the gun.

(e) It shall be unlawful for any person to use any VOC-containing material for the cleanup of spray equipment, including resin lines, unless equipment for collecting the VOC-containing material and minimizing the evaporation to the atmosphere is employed. All VOC-containing materials that are flushed through the spray equipment or lines during cleanup shall be collected in a closed container.

(f) It shall be unlawful for any person to use open containers for the storage or disposal of VOC-containing materials. Such containers and tanks shall be kept closed except when being cleaned or when materials are being added, mixed, or removed. Closed containers for solvent rag or paper disposal are required. Empty containers as defined in WAC 173-303-160 are exempt.

REGULATION I, SECTION 9.20(a): It shall be unlawful for any person to cause or allow the operation of any features, machines or devices constituting parts of or called for by plans, specifications, or other information submitted pursuant to Article 6 of Regulation I unless such features, machines or devices are maintained in good working order.

Washington State Administrative Code

WAC 173-400-040(3): Fallout. No person shall cause or allow the emission of particulate matter from any source to be deposited beyond the property under direct control of the owner or operator of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.

WAC 173-400-040(4): Fugitive emissions. The owner or operator of any emissions unit engaging in materials handling, construction, demolition or other operation which is a source of fugitive emission:

(a) If located in an attainment area and not impacting any nonattainment area, shall take reasonable precautions to prevent the release of air contaminants from the operation.

WAC173-400-111(7): Construction limitations.

(a) Approval to construct or modify a stationary source becomes invalid if construction is not commenced within eighteen months after receipt of the approval, if construction is discontinued for a period of eighteen months or more, or if construction is not completed within a reasonable time. The permitting authority may extend the eighteen-month period upon a satisfactory showing by the permittee that an extension is justified.

WAC 173-401 Title V regulations apply to this facility as a major source.

Federal

40 CFR 63 Subpart VVVV will apply to this facility. The full 40 CFR 63 Subpart VVVV requirements will be included in the facility's Title V permit.

K. PUBLIC NOTICE

This project does meet the criteria for mandatory public notice under WAC 173-400-171(3). Criteria requiring public notice includes, but is not limited to, a project that exceeds emission threshold rates as defined in WAC 173-400-030 (e.g., 40 tpy NOx, VOC, or SO_2, 100 tpy CO, 15 tpy PM_{10}, 10 tpy $PM_{2.5}$, 0.6 tpy lead), includes a WAC 173-400-091 synthetic minor limit, has a toxic air pollutant emission increase above the acceptable source impact level in WAC 173-460-150, or has significant public interest. A notice of application was posted on the Agency's website for 15 days. No requests or responses were received. A copy of the website posting is below:

New Construction Projects

Company	Address	Project Description	Date Posted	Contact Engineer
Fluid Motion LLC	506 44th St NW, Auburn, WA 98001	Application to establish a new fiberglass boat manufacturing facility where boats are formed from open molds with resins and gel coats applied to the mold using a spray gun.	11/12/24	Madeline McFerran

A 30-day public comment period shall be held from date to date. Notices that the draft materials were open to comment were published in the Daily Journal of Commerce and the Auburn Reporter on date. The Agency posted the application and the draft worksheet on the Agency's website during the comment period.

L. RECOMMENDED APPROVAL CONDITIONS

Standard Conditions:

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at

the installation address in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency.

2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.

Specific Conditions:

3. During resin or gel-coat operations all doors, windows, and other openings in the lamination building (except for exhaust stacks) shall be closed except to allow intermittent passage of personnel and equipment during resin application and gel coat application activities.

4. Each of the 7 fiberglass fabrication spray bays shall be equipped with a dry filtration system with minimum control efficiency of 98%. Compliance with this condition shall be demonstrated through use of manufacturer specifications or equivalent.

5. The dry filter systems serving the lamination bays shall each be equipped with a gauge (manometer or magnehelic) to measure pressure drop across the exhaust filters. The acceptable pressure drop range shall be clearly marked on or near the gauge. The minimum pressure drop shall not be less than the pressure drop measured with a clean, properly installed filter.

6. Styrene emissions from the combined 7 lamination bays must not exceed 39 tons per 12 month rolling period.

7. The lamination activities must meet the following operational limitations:

    a. The facility must not operate for more than 6,240 hours per year. Compliance with this limitation may be demonstrated through operational logs.
    b. Boats fabricated must not exceed 45 feet. Compliance with this limitation may be demonstrated through production data.
    c. Fabrication is limited to 33 lamination workers per 8-hour shift. Compliance with this limitation may be demonstrated through employee schedules or other personnel documentation.

8. Gel coat and resins used for open molding operations shall not exceed the organic hazardous air pollutant (HAP) limits shown below. Compliance with this condition shall be demonstrated through Safety Data Sheets and a record of each material used.

Operation	Application Method	Total Organic HAP limit (% weight)
Production resin operations	Non-atomized	35%
Pigmented gel coat operations	HVLP, electrostatic spray equipment, airless spray equipment, or nonatomizing methods	33%

Clear gel coat operations	HVLP, electrostatic spray equipment, airless spray equipment, or nonatomizing methods and applied with spray applicators not to exceed 1 quart capacity	48%
Tooling resin operations	Non-atomized	39%
Tooling gel coat operations	HVLP electrostatic spray equipment, airless spray equipment, or nonatomizing methods	40%

9. Adhesives shall not exceed the organic hazardous air pollutant (HAP) limits shown below. Compliance with this condition shall be demonstrated through Safety Data Sheets and a record of each materials used.

Operation	Application Method	Total Organic HAP limit (% weight)
Adhesives	Non-atomized or hand-held aerosol spray cans (less than 1 quart capacity)	5%

10. The amount of clear gel coat applied to each boat shall not exceed 1 gallon. The owner or operator shall track and record the amount of clear gel coat used on each boat.

11. The owner or operator shall use only nonatomizing methods for production and tooling resin application.

12. Gel coat shall only be applied with one of the following options: high-volume low-pressure (HVLP) spray equipment; electrostatic spray equipment; airless spray equipment, or nonatomizing methods.

13. The owner or operator shall visually inspect all HAP/VOC material containers at the facility at least once per week. The inspection should ensure that all containers have covers with no visible gaps between the cover and the container, or between the cover and equipment passing through the cover. If any visible gaps are noted, the owner or operator shall take immediate corrective action to close the cover over the container. The owner or operator shall keep contemporaneous record of the results of the inspection including a description of corrective actions taken. The record shall include, at minimum, the following information:
    a. Operator's name;
    b. Date & time of inspection;
    c. Confirmation of closed containers; and
    d. The description of corrective action taken, if any.

14. At least once each operating day, prior to conducting open molding operation in each lamination bay, the owner or operator shall inspect the associated dry filter system to ensure that:
    a. The pressure drop measurement device is operating;
    b. The pressure drop across the exhaust filter is within acceptable range recommended by the manufacturer; and
    c. The filter is properly installed, seated, and secured.

15. If requirements as described by Condition #14 are not met, the owner or operator shall discontinue the operations and take corrective action. The owner or operator shall only resume operation after the requirements as described by Condition #14 are met.

16. The owner or operator shall keep the Condition #14 dry filter system inspection records in a written log contemporaneously. The records shall at least include the following, but not limited to:
    a. The date and time of the inspection;
    b. The name of the person conducted the inspection;
    c. The pressure drop;
    d. Confirmation that the filter is not installed backwards, is properly seated and is tightly secured; and
    e. The corrective action conducted, if any.

17. The owner or operator shall use cleaning solvent that does not contain any VOC or HAP for resin and gel coat application equipment cleaning. Compliance with this condition shall be demonstrated by manufacturers' records of the cleaning solvent content.

18. The owner or operator shall monitor and record quantities of all purchases of raw materials on a monthly basis. Raw materials include all products used at the facility that contribute to HAP and VOC emissions. The owner or operator shall maintain, on-site, safety data sheets or certified product data sheets for these products.

19. To demonstrate compliance with Condition #6, the owner or operator shall, within 30 days of the end of each month, calculate and record the monthly emissions of styrene for the previous 12-month period ending in that month. Emissions of styrene shall be calculated using the Unified Emission Factors for Open Molding of Composites.

20. The owner or operator shall determine the organic HAP content for each material used in the open molding resin and gel coat operations, carpet and fabric adhesive operations by using information from the supplier or manufacturer of the material. If the organic HAP content is provided by the material supplier or manufacturer as a range, then the owner or operator shall use the upper limit of the range for determining compliance.

21. The owner or operator shall monitor the immediate area outside the building for detectable odors from their facility at least once every calendar week (Sunday through Saturday). For at least one hour immediately prior to monitoring, the person performing the monitoring must remain in an atmosphere free of organic HAP odor and may not be inside the facility. If any odors from the facility

are detected at or beyond the building during the monitoring or at any other time, the owner or operator shall immediately initiate corrective action to minimize the odor. The owner or operator shall keep contemporaneous record of the results of the inspection including a description of corrective actions taken. The record shall include, at minimum, the following information:

a. Operator's name;
b. Date & time of inspection;
c. Presence or absence of organic HAP odors; and
d. The description of corrective action taken to minimize odors.

22. The following records shall be kept onsite and up to date for at least five years from the date of generation, and be made readily available to Agency personnel upon request:
    a. Documentation of dry filter overspray efficiency as specified in Condition #4;
    b. Documentation of the total styrene 12-month rolling emissions as specified in Condition #6;
    c. Documentation of the amount of clear gel coat applied to each boat as specified in Condition #10;
    d. Documentation of transfer efficiency of any atomizing spray guns used for gel coat application as specified in Condition #12;
    e. Safety data sheets demonstrating compliance with the organic HAP limits specified in Conditions #8 and #9 and with the cleaning solvent requirements specified in Condition #17
    f. Results of inspections to determine compliance with HAP containment as required by Condition #13 and of inspections to determine compliance with the dry filter system as required by Condition #14 and of inspections to determine compliance with the odor monitoring as required by Condition #21; and
    g. Product data and personnel data for Building 2 and Building 3 and documentation of facility-wide operating hours as required by Condition #6.

23. 40 CFR 63 Subpart VVVV applies to this facility. The facility must submit 40 CFR 63 Subpart VVVV compliance notifications and reports as required by 40 CFR 63 Subpart VVVV as well as electronically to PSCAA by email.

24. WAC 173-401 applies to this facility. The facility must file a complete application for a chapter 401 permit within twelve months after commencing operation, according to the requirements of WAC 173-401.

M. CORRESPONDENCE AND SUPPORTING DOCUMENTS

N. REVIEWS

Reviews	Name	Date
Engineer:	Madeline McFerran	4/7/2025
Inspector:	Ryan Cunningham	4/8/2025
Second Review:	John Dawson	4/7/2025
Applicant Name:	Dennis Pearson	4/11/2025