Notice of Construction (NOC) Worksheet

PUGET SOUND
Clean Air Agency

Applicant: Fluid Motion, LLC	**NOC Number**: 12155
Project Location: 17939 59th Ave NE, Arlington WA 98223	**Registration Number**: 29632
Applicant Name and Phone: Dennis Pearson (425)212-8136	**NAICS:** 336612
Engineer: Madeline McFerran	**Inspector**: Rain Yates

A. DESCRIPTION

For the Order of Approval:
Fiberglass boat manufacturing: west lamination building (Building 2) housing four 10,000 cfm exhaust stacks to vent one spray room equipped with wall panel filters with 98% removal efficiency, and east lamination building (Building 3) with three rooms for fiberglass boat manufacturing equipment with eight panel filters with combined capacity of 106,400 cfm.

Additional Information:

The facility is a fiberglass boat manufacturing facility. The facility is requesting to remove synthetic minor emission limits to expand production on their existing lines.

Facility

The applicant provided an overview of the fiberglass boat manufacturing process at Fluid Motion which is copied below. Production happens in two separate buildings following the same procedure in each building:

> *Fiberglass pleasure boats, from 25' to 45' can be manufactured at the Arlington WA location.*
>
> *Lamination successive layers of gelcoat, vinylester resin, polyester resins and fiberglass inside open female molds traditionally makes fiberglass boats. Different molds are used to make decks, hulls, small parts and etc. The completed parts are the fastened together and other equipment, such as running gear and hardware are installed.*
>
> *The various stages of construction are accomplished in four main areas: lamination, assembly, wood shop and upholstery. Air emission from the fiberglass boats in these department results from the evaporation of volatile organic compounds (VOC) and hazardous air pollutants (HAP) used as solvent in clean up processes and spray adhesive and as reactant emission from the lamination process. The actual construction of a fiberglass boat is the result of a cooperative effort between several different support areas.*

1. Boat mold prep (cleaning and applying wax release agent)
2. Gel coat spray coated into mold
3. Fiberglass chop applied on top of gel coat layer in mold
4. Layered application of resins, catalyst and fiberglass reinforcement

5. Mold removal
6. Grinding booth for smoothing surface and cutting of doors and windows
7. Assembly of deck, hull, wood fixtures and upholstery

Figure 1 FML Flow Diagram

The Technical Memorandum 06-08-21 specifies that about 1/3 of the maximum facility production capacity will occur in Building 2 and the remaining 2/3 of the production will occur in Building 3 because larger boats are produced in Building 3 (East Lamination building) and smaller boats are produced in Building 2 (West Lamination building). The applicant described the physical basis of this apportionment by email on 11/4/21: "Fluid Motion produces boats of varying sizes (from 20 feet to 45 feet). The larger boats (30 feet to 45 feet) will be produced in Building 3. Building 3 has the capability to produce 350 boats per year, or 6.6 boats per week. The smaller boats (20 feet to 29 feet) will be produced in Building 2. Building 2 has the capability to produce 420 boats per year, or 8.1 boats per week. Styrene is emitted from four lamination products at the facility, gelcoat, polyester resin, vinyl ester resin, and radius putty."

Proposed Equipment/Activities

The proposal for this project is to remove voluntary facility-wide emission limits at an existing fiberglass boat manufacturing facility by increasing both hourly production and operation hours.

The East Lamination building was originally reviewed under NOC 10761 in August 2016 and established Fluid Motion Arlington as a Registered Source. NOC 10761 also reviewed and approved a voluntary facility-wide emission limit on VOC, single HAP (styrene) and total HAP. NOC 10761 was subject to BACT analysis.

The West Lamination Building was reviewed under NOC 11711 in August 2019 and expanded production locations at the facility to a second building with one spray room. The West Lamination Building did not result in a facility-wide increase in emissions but did establish a new source of emissions and was reviewed for BACT. As with NOC 10761, the BACT analysis was informed by the facility-wide emission limits on single HAP (9.9 ton/yr styrene).

The originally reviewed potential operations (under NOC 10761) were based on production of 97 thirty-foot boats/year in Building 3, corresponding to 9.9 ton/yr styrene emissions which was implemented as

an enforceable limit for the facility to avoid Title V thresholds. As emissions could occur either fully in Building 2, fully in Building 3, or in a combination, the 11711 review for the second lamination building assumed all emissions and production occurred in Building 2.

In the NOC 11711 application[1] the facility indicated that their operational hours were Monday – Friday 6AM-4PM (10 hours per day 5 days per week or 2,600 hours per year). The proposed operation in this NOC is to scale up to Monday-Friday operation for 24 hours/day (6,240 hours per year). A scaled increase in emissions proportionate to the increase in operating hours would result in emissions about 240% of the emissions reviewed in NOCs 11711 and 10761, however the proposed production corresponds to about a 600% annual emission increase. The updated proposal then corresponds to an hourly emission rate increase which considers the combined capacities of Buildings 2 and 3.

The increase in hourly production proposed by the facility constitutes a modification per WAC 173-400-030(51) as the production increase is a "change in the method of operation of, a stationary source that increases the amount of any air contaminant". The modification applies to both the West and East Lamination Buildings and is subject to New Source Review.

Permit History

This NOC 12155 will cancel and supersede NOC 11711 which permitted the west lamination building and carried over conditions from NOC 10761 for the east lamination building. NOC 11711 cancelled and superseded NOC 10761 and included synthetic minor limits as follows:

- Less than 9.9 tons of any single listed HAP in CAA Section 112(b) on 12 month rolling average
- Less than 24.9 tons of total HAPs in CAA Section 112(b) on 12 month rolling average
- Less than 99 tons of VOCs on 12 month rolling average

B. DATABASE INFORMATION

No new equipment is proposed under this NOC application.

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

With the expansion under this NOC 12155, the facility will now be a fiberglass boat manufacturing facility which is major source of HAP and is subject to 40 CFR 63 Subpart VVVV. (VVVV compliance reports will need to be submitted through CEDRI and to PSCAA).

[1] Form SCO, received December 31, 2018, "11711 App.pdf" page 4

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	$ 1,550	
Equipment (two lamination rooms)	$1,300	
SEPA (DNS)	$900	
Federal Rule Applicability (40 CFR 63 VVVV)	$1,050	
Review of Dispersion Model	$1,500	
Public Notice*	$750	
Filing received		$ 1,550 (6/10/2021)
Additional fee received		$5,500 (11/24/21)
Total	**$6,650**	**$6,650**

*Publication fees to be invoiced following public comment period

Registration Fees:
Registration fees are assessed to the facility on an annual basis. Fees are assessed in accordance with Regulation I, Section 7.07.

Applicability		
Regulation I	Description	Note
7.07(a)	Operating source annual fees	PTE >10 TPY single HAP PTE >25 TPY total HAP
Annual Registration Fee		
Regulation I	Description	Fee
7.07(b)(1)(iii)	Other NAICS	$28,600
7.07(b)(2)	$60/ton HAP	$3,600 (anticipated maximum)
	Total =	$32,2000

D. STATE ENVIRONMENTAL POLICY ACT (SEPA) REVIEW

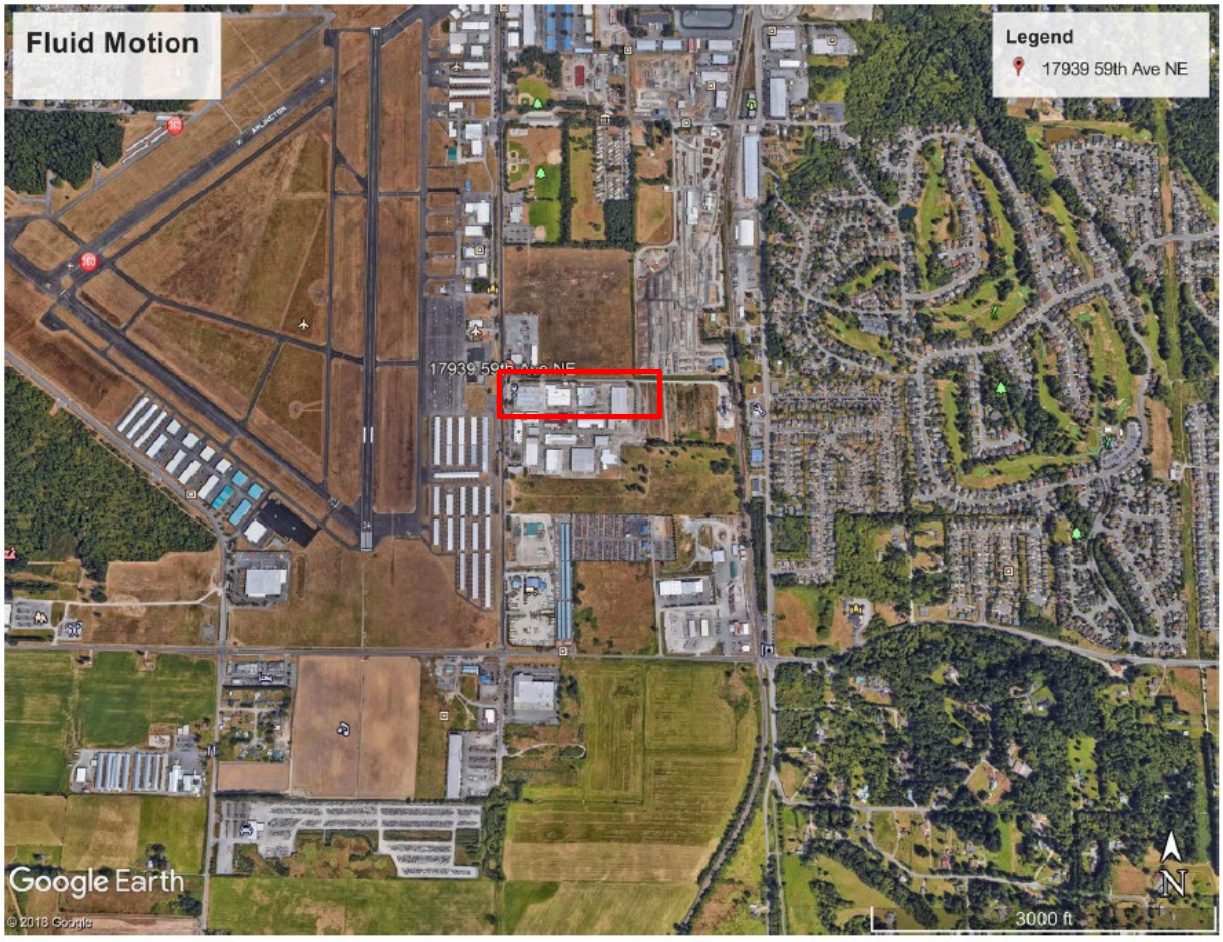
State Environmental Policy Act (SEPA) review was conducted in accordance with Regulation I, Article 2. The SEPA review is undertaken to identify and help government decision-makers, applicants, and the public to understand how a project will affect the environment. A review under SEPA is required for 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.

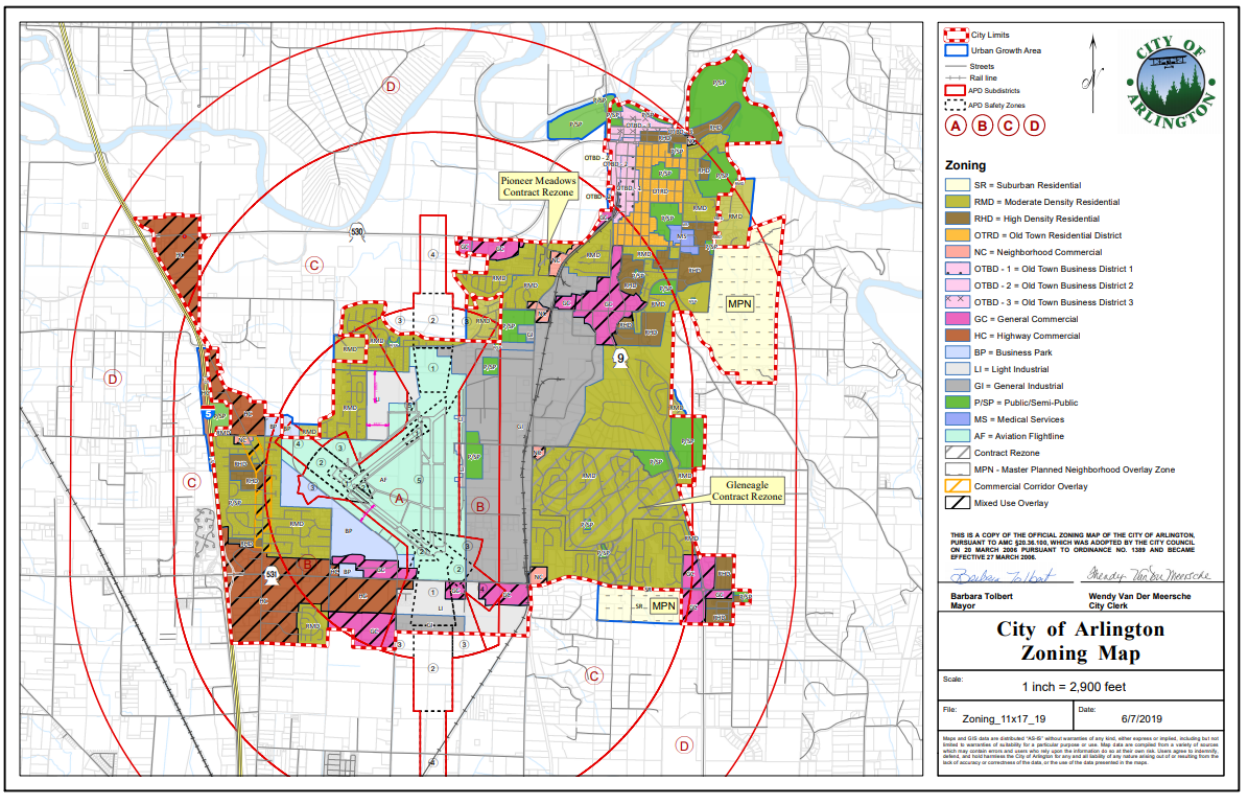
PSCAA is the SEPA lead agency for this project. The applicant submitted a completed Environmental checklist that is included below.

SEPA-Environmenta
l-Checklist 5-28-21 s

The City of Arlington was consulted for comments on July 9, 2021 and again on July 29, 2021 and PSCAA received no response from the City. When City of Arlington was contacted for NOC 10761 in 2015, the City identified no SEPA related issues and concurred that PSCAA would be SEPA lead.

Fluid Motion is located between the Arlington Municipal Airport to the west, commercial/industrial sources to the south (including foundry activities and marijuana producers/processors), the Bill Quake Memorial Park (city park) to the north, and residential housing to the east. The City of Arlington zoning map pasted below shows the facility is located within the General Industrial zone (approximate location marked with the red rectangle). The operational expansion is occurring in the two existing buildings Building 2 and Building 3.





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 no 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. This project meets II.A.1 as the removal of synthetic minor emission limits from NOC 11711 "modifies an existing source to the extent the proposed project would lead to air operating permit applicability".

In accordance with the policy, the Agency notified each Tribe within the Agency's jurisdiction on July 13, 2021 of the intent to hold a consultation.

On January 6, 2022, 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 70.94 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 70.94 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."

Fiberglass boat manufacturing involves the atomized (small particles of liquid or solid suspended in air as occurs with a spray gun) and non-atomized (as occurs with hand rolling) application of VOC containing compounds which include gelcoats, resins, and small pieces of fiberglass. When the gelcoat is applied, styrene and MMA evaporate as the gelcoat dries. The resins used to bind with the fiberglass also contain styrene. The mold release agents, putty, initiator, wood stain, and spray adhesive also contain VOC and toxics. Styrene and MMA are also odorous compounds. Some particulate is also generated during the application process.

The applicant submitted a BACT analysis which identified the following technically feasible control technologies:

1. Low-Monomer Resins and Gel Coats
2. Nonatomizing Resin Application
3. Thermal Oxidizer (TO)
4. Catalytic Oxidizer
5. Adsorption with activated carbon

The applicant's analysis of top down BACT is embedded below and excerpts have been included in the analysis within this section.

Technical Memorandum 06-08

Similar Permits

PSCAA has permitted similar boat lamination lines at this facility and at similar fiberglass boat manufacturers at a relatively lower capacity than those proposed by this project.

NOC	BACT Limit
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 gel-coat
	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 10453 – Defiance Boats (4/2/2012), fiberglass boat manufacturing facility	• 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 gel-coat

Other Regulatory Agencies BACT

<table>
<tr><th>Agency</th><th>BACT Limit</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>• BACT was determined to be 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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<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

</td>
</tr>
</table>

BAAQMD BACT Guideline 129.2.1 (9/27/2006)

- 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 1

Gel Coats and Resins	Monomer Percentage by Weight
Gel Coats	
Clear Gel Coats	
Marble Resin Gel Coats	42%
Boat Manufacturing Gel Coats	48%
All Other Clear Gel Coats	44%
Pigmented Gel Coats	
White and Off-White Gel Coats	30%
Non-White Boat Manufacturing Gel Coats	33%
Other Non-White Gel Coats	37%
Primer Gel Coats	28%
Specialty Gel Coats	48%
Resins	
Marble Resins	10% with fillers or 32% without fillers*
Solid Surface Resins	17%
Tub/Shower Resins	24% with fillers or 35% without fillers*
Boat Manufacturing (atomized)	28%
Boat Manufacturing (non-atomized)	35%
Lamination Resins	31% with fillers or 35% without fillers*
Fire Retardant Resins	38%
Corrosion Resistant, High Strength and Tooling Resins	
Non-atomizing Mechanical Application	46%**
Filament Application	42%**
Manual Application	40%**
Other Resins	35%

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

For PM BACT, use of 98% control dry filtration system is consistent with recent BACT determinations from spray coating facilities. As the gel coat applied with HVLP contains respirable silica, use of 98% control filtration system will constitute PM BACT and silica tBACT for this facility. The applicant confirmed use of a filtration system capable of meeting 98% control by email on 6/28/19 during permitting of the west lamination building under NOC 11711; equipment is not being modified with this NOC and will continue to meet capture efficiency requirements of 11711.

The PSCAA, NWCAA, SCAQMD, SMAQMD, BAAQMD, and SJVAPCD BACT determinations reviewed overlap with many of the controls identified in the applicant's proposed BACT determination: low

monomer resins and gel coats, nonatomizing resin application, and add-on controls, specifically activated carbon adsorption and thermal oxidizer regeneration.

The 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 utilized.

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 utilized 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 regarding the specifics of operation at Navigator Yachts, however more operational specifics for this facility are discussed in Georgia EPA's Preliminary Determination for Prevention of Significant Deterioration Air Quality Review (January 2007)[2]. The Georgia EPA document specifies "Navigator Yachts manufactures multi-million dollar yachts

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

by hand lay-up, making only a few boats per year" contrasting with a facility like Fluid Motion, where open mold large boats (up to 45 foot) are fabricated in large rooms.

The applicant's BACT analysis noted that thermal oxidizers (both regenerative and recuperative systems) are generally not feasible for batch-type operations such as the Fluid Motion facility. PSCAA review agrees that the intermittent nature of the batch production such as the operations at Fluid Motion, can introduce more fuel combustion and operational challenges. 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 production (20 foot to 45 foot boats with lamination occurring within two separate buildings) 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.

I contacted Mitch Haimov with SCAQMD regarding any more recent determinations in addition to the Navigator Yachts facility and he did not identify more recent fiberglass boat manufacturing projects and specified their current BACT guidelines, which include the 2003 fiberglass boat manufacturing determination.

In Washington state, PSCAA is aware of one fiberglass manufacturing facility where add-on controls are utilized. Aquatics, located in ORCAA jurisdiction, produces smaller products such as fiberglass tubs and is a Title V source subject to 40 CFR 63 Subpart WWWW equipped with a rotary concentrator and regenerative thermal oxidizer. The Aquatics facility operates on three shifts with an assembly line of interconnected spray booths routing to that facility's rotary concentrator and regenerative thermal oxidizer and typically has only one start up per week. The smaller sized fiberglass products within spray booths allow for a less diluted air stream and closer to continuous operation at the facility as compared with the Fluid Motion facility.

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 (33 reports reviewed for the reporting period of January 1, 2021 – June 30, 2021) 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).

The applicant completed cost analyses for thermal and catalytic oxidizers and adsorption systems. The cost analysis looked buildings 2 and 3 individually, each to be designed with their own control device. Ultimately PSCAA considered the cost analysis provided by the applicant however cost per ton was considered holistically with other environmental considerations and the specific facility design and operations rather than looking only at the applicant's calculated cost per ton. Certain costs provided by

the applicant were not well supported, including $400,000 budget with 30% contingency for site preparation at Building 2, with proportionately higher costs assumed for Building 3. Site preparation costs in the EPA cost control manual refer to land clearing and similar activities associated with green field facilities which would not be applicable for construction at the existing Fluid Motion building. The applicant utilized EPA cost control manual methodologies for estimating equipment purchase price, equipment purchase cost, direct installation costs, total indirect cost and contingency for determining total capital investment which is consistent with other top down BACT reviews.

Operating Labor costs assumed $27.60/hr and followed EPA cost control manual methodologies for supervisor, maintenance labor and maintenance materials. Other operating costs included the electrical cost (assuming fan horsepower corresponding to the energy needed to over come a 19" pressure drop and 60% fan efficiency[3] as described in the Technical Memorandum 06-08-21 document provided by the applicant). The applicant appeared to reverse the pressure drop requirements between catalytic and thermal oxidizers which resulted in slight underestimate of electrical cost for the thermal oxidizer and slight overestimate of electrical cost for the catalytic oxidizer. The natural gas cost ($/mmbtu) and electricity costs ($/kW) were in similar range to other reviews including combustion and electrical costs such as NOC 11711 and 11683[4].

The applicant's calculated costs are summarized as follows:

Control	Recuperator TO	Regenerative TO	Recuperator TO	Regenerative TO	Fixed-Bed CO	Fixed-Bed CO	Fixed Bed CO	Fixed Bed CO
Assumed Heat Recovery	70% HR	95% HR	70% HR	95% HR	70% HR	70% HR	No HR	No HR
Batch/Continuous	Batch	Batch	Continuous	Continuous	Batch	Continuous	Desorption	Desorption
$/Ton Styrene Control for 2 buildings	$33,062	$21,658	$37,955	$18,534	$22,074	$25,481	$25,013	$18,248

Based on the specific operations at the facility (large boats completed manually using open molds in two separate buildings), 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 below.

Odor modeling was completed for styrene with AERMOD dispersion as summarized by the applicant's Table 6 from the "Attached Ambient Air Quality Assessment" document and is also shown below. The table indicates potential odor impacts due to styrene and unlikely odor impacts due to MMA.

[3] EPA's January 2018 cost emission spreadsheet notes that 23 inches of water is the default pressure drop for thermal oxidizers and 19 inches of water is the default pressure drop for catalytic oxidizers. 60% fan efficiency also noted as default fan efficiency.
[4] BACT References folder in NOC folder "11683 Electricity and Natural Gas Costs.pdf" and "Pages from LAI FML BACT Analysis_tm - 05-24-19.pdf"

Pollutant	1-Hour Avg. Conc. (µg/m³)	3-Minute Avg. Conc.[1] (µg/m³)	3-Minute Avg. Conc.[2] (ppmv)	Odor Threshold Range (ppmv)
Methyl Methacrylate	5.46	9.94	0.00243	0.014 – 0.66
Styrene	1,092	1,988	0.467	0.0028 – 61

Notes:

1. 1-hour model-predicted concentrations were converted to 3-minute average concentrations using Equation 5.12 from Turner Workbook (1970). Example for styrene:

   $$1{,}988\frac{\mu g}{m^3} = 1{,}092\ \frac{\mu g}{m^3} * \left(\frac{60\ min}{3\ min}\right)^{0.2}$$

2. 3-minute average concentrations were converted to parts per million assuming a molar volume of 24.45 L/mol at standard temperature and pressure. Example for styrene:

   $$0.467\ ppmv = \frac{1{,}988\ \mu g\ styrene}{m^3\ air} * \frac{mol\ sty.}{104\ g\ sty.} * \frac{1\ g\ sty.}{10^6 \mu g\ sty.} * \frac{24.45\ L\ sty.}{mol\ sty.} * \frac{m^3\ sty.}{1000\ L\ sty.} * \frac{10^6\ m^3\ air}{million\ m^3\ air}$$

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

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. A fiberglass manufacturing facility located in the City of Jacksonville, Florida[5] with local regulations also requiring odor control. The City of Jacksonville review utilized the following odor control measures:

- 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

Odor BACT in this case will include:

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

- 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

Recommendations

Summary BACT & 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 gel-coat	▪ 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

Pollutant	Available Method That Meets BACT	Implementation of Method
		Use of HVLP/electrostatic/airless/air-assisted airless spray equipment for gel-coat application

G. EMISSION ESTIMATES

Proposed Project Emissions

Actual Emissions

Actual emissions proposed are anticipated to be about 40% of potential emissions (corresponding to 2,600 hours of annual operation noted in the Technical Memorandum compared to 6,240 hours of annual operation associated with the scaled up operation).

Potential Emissions

The permitted potential to emit calculations are based on maximum boat production in each building: a total of operating at 100% rated capacity and 6,240 hours per year. The operating hours will be an enforceable condition of this Order.

	Annual Potential to Emit VOCs, HAPs and TAPs									
Species	Styrene	Methyl methacrylate	**Methyl ethyl ketone**	**Cyclohexane**	**Dimethyl ether**	**n-Hexane**	**Toluene**	**Silica**	**VOC**	**Total HAPs**
ton/year	58.7	4.32	1.20	0.360	0.360	0.083	0.028	0.0417	67.3	
lb/hr	18.8	1.38	0.385	0.115	0.115	0.026	0.009	0.0134	21.6	
lb/day	452	33.2	9.23	2.77	2.77	0.63	0.21	0.320	517	
ton/year	58.7	4.32	--	--	--	0.08	0.03	0.0417	--	63.2

In addition to the organic HAP limits placed on gel coats, resins and adhesives as part of the BACT review, the applicant requested the permit specific list limits in the permit that are consistent with the NESHAP for boat building (40 CFR 63 Subpart VVVV) and were previously included in Order of Approval No. 11711. This included tooling gel coat and tooling resins which weren't originally accounted for in the potential emissions calculations. The applicant submitted updated emissions calculation on 2/1/2022 which included tooling gel coat and tooling resin. Even though those products have a higher styrene content then gelcoat and polyester resin, usage is minimal so inclusion does not significantly impact the overall emissions. Last year, the usage of tooling gel coat was 500 lbs, and the usage of tooling resin was 2000 lbs. This is a small fraction of the regular gel coat and polyester resin usage. The applicant multiplied actual usage by a factor of 10 to get an estimate of the worst case tooling emissions.

	Annual Potential to Emit VOCs, HAPs and TAPs									
Species	Styrene	Methyl methacrylate	**Methyl ethyl ketone**	**Cyclohexane**	**Dimethyl ether**	**n-Hexane**	**Toluene**	**Silica**	**VOC**	**Total HAPs**

ton/year	59.6	4.32	1.20	0.360	0.360	0.083	0.028	0.0417	68.1	
lb/hr	19.1	1.38	0.385	0.115	0.115	0.026	0.009	0.0134	21.8	
lb/day	458	33.2	9.23	2.77	2.77	0.63	0.21	0.320	524	
ton/year	59.6	4.32	--	--	--	0.08	0.03	0.0417	--	64.0

For modeling purposes, the applicant had rounded up to 60 tons/year of styrene so this updated emission estimate does not impact the modeling presented before.

The most recent emission estimates as provided by the applicant are included below:

Fluid Motion
Emissions Calculatio

Similarly, on April 7, 2022, the applicant provided additional information regarding the use of clear gelcoat. Clear gelcoat has a higher styrene content, but the application is such that additional hours of lamination is needed to apply the clear gelcoat. The assumption in the spreadsheet below is that no more than 1 gallon of clear gelcoat but an additional eight hours of lamination time is required for each boat. The number of workers required for each shift in each building does not change. The result of adding 1 gallon of clear gelcoat is that the emissions per boat increases slightly, but because it takes longer to apply than the clear gelcoat, the daily emissions decrease and the worst-case styrene emissions per worker-hour decreases when compared to the "without clear gelcoat" calculations. Therefore, this would not be considered the worst-case emissions scenario. The higher styrene content is reflected in the tBACT discussion above. A limit of 1 gallon of clear gelcoat per boat has been added to the permit conditions.

Fluid Motion - Daily
Styrene Emission Ca

Facility-wide Emissions

Facility-wide emissions are the same as project emissions for this review.

The source will be a reporting source under PSCAA Reg I Article 7.

H. OPERATING PERMIT OR PSD

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

Following issuance of this order, the facility is a Title V "**air operating permit source**" and conditions of this Order will be incorporated into the AOP during the issuance of the AOP. The source is required to submit the Air Operating Permit application within twelve months after issuance of this Order of Approval 12155 per WAC 173-401-500(c).

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 are based on enforceable limits in this order as discussed below. The table below includes estimated potential emissions of all TAP and compares those to the Small Quantity Emission Rates (SQER) in WAC 173-460-150.

Worst case daily styrene emissions are calculated based on worker limitations which are conditions of the permit: 16 employees per shift in Building 2 (24' and 28' cutwater boats) and 30 employees per shift in Building 3 (32' cutwater and 42' ranger tugs). The facility provided the pounds of styrene per boat and the lamination worker hours per boat which yielded a lb/styrene per worker hour factor. All worker hours were assumed to be in production of the boat with the higher lb styrene per worker hour factor:

	(pounds/boat)	(lamination worker-hours/boat)	lb styrene/worker hours
28' cutwater	94.1	240	0.39
24' cutwater	86.9	210	0.41
32' cutwater	183.8	450	0.41
42' ranger	455.7	960	0.47

For Building 2:

$$0.41\ \frac{lb\ styrene}{worker\ hr} \times 16\ worker \times 8\ \frac{hr}{shift} \times 3\ \frac{shift}{day} = 158.9\ \frac{lb\ styrene}{day}$$

For Building 3:

$$0.47\ \frac{lb\ styrene}{worker\ hr} \times 30\ worker \times 8\ \frac{hr}{shift} \times 3\ \frac{shift}{day} = 341.8\ \frac{lb\ styrene}{day}$$

The applicant initially modeled based on production of 50% 28' cutwater and 50% 24' cutwater boats in Building 2 and 14% 42' ranger tugs and 86% 32' cutwater boats in Building 3. PSCAA updated the maximum 24- hour toxics based on the worst-case daily styrene emissions described above. Both the applicant's numbers and the updated values (in red) are summarized in the table below:

TAP	Applicant Calculated Potential Emissions		Model?	Updated Potential Emissions	Updated Model?
Styrene	451.57	lb/24-hr	yes	500.68	yes
Methyl methacrylate	33.23	lb/24-hr	no	36.84	no
Methyl ethyl ketone	9.23	lb/24-hr	no	10.23	no
n-Hexane	0.63	lb/24-hr	no	0.70	no
Toluene	0.21	lb/24-hr	no	0.23	no

Cyclohexane	2.77	lb/24-hr	no	3.07	no
Silica	0.32	lb/24-hr	yes	0.36	yes

Since the styrene emitted per worker hour is the same for both the 24' and 32' boats and slightly lower for 28' boats, the size of the boats manufactured in Building 2 is limited to less than 32'. This is consistent with the permit application which indicated only 24' or 28' foot boats will be manufactured in this building. The largest boat currently built in Building 3 is the 42' ranger with a higher 0.47 lb styrene/worker hour emission factor which is used to represent larger boats. The limit on larger boats that can be manufactured in Building 3 is 45' since the 42' ranger is assumed to be representative of this larger boat. If the facility determined in the future that larger boats will be manufactured at the facility, a permit modification would be required. In addition, the applicant provided an additional analysis on 2/1/2022 which added a 2% safety factor to each worst-case emission factor in the lb/lamination-worker-hours to account for some variation in styrene emissions that result from the different boat sizes. The modeling results for this increase show that worst case modeled emissions are still less than the ASILs. This analysis supports a more flexible range in boat size instead of the discrete footage originally evaluated.

For modeling, emissions are apportioned across the stacks in Buildings 2 and 3 according to the exhaust configuration of the building as described by the applicant over email on November 4, 2021: "*The exhaust fans in Building 3 are sized based on the expected activity in each area of the building. Stacks 1 and 2 are located in the area where 40% of the lamination will be located, and each exhaust fan is rated at 12,780 cubic feet per minute. Stacks 3 and 4 are located in the area where 60% of the lamination will be located, and the exhaust fans are rated at 15,710 cfm. In Building 2, the lamination is evenly divided across all four areas, and the exhaust fans are rated at 10,000 cfm. The fan sizes and stack parameters were provided in Attachment A to the application.*"

The applicant completed AERMOD modeling of the two buildings. I updated the highest year run (2016) for styrene and the highest year run for silica (2016) so that the emissions from Building 2 and 3 reflected the worst case allowable under the employee restrictions specified (updated values in red):

Source	Original Styrene (g/s)	Updated Styrene (g/s)	Silica (g/s)	Updated Silica (g/s)
Stack 1	0.323	0.359	0.000224	0.000249
Stack 2	0.323	0.359	0.000224	0.000249
Stack 3	0.485	0.538	0.000336	0.000373
Stack 4	0.485	0.538	0.000336	0.000373
B2S1	0.202	0.209	0.000140	0.000155
B2S2	0.202	0.209	0.000140	0.000155
B2S3	0.202	0.209	0.000140	0.000155
B2S4	0.202	0.209	0.000140	0.000155

A summary of the AERMOD Output (original and updated) for 2016 is shown below and compared against the ASIL for styrene and for silica and show compliance with the ASIL for both TAPs:

Summary of AERMOD output	24-hr max Styrene (ug/m3)			24-hr max Silica (ug/m3)		
	Original	Updated	ASIL	Original	Updated	ASIL
2016	308.2481	321.00728	870.0	0.21399	0.26978	3.0

The applicant's final modeling files were submitted on 11/4/2021. Previous modeling files are included as well in the NOC project folder. The 12/3/21 PSCAA revision to the modeling run (using the updated g/s emission rates summarized above) are also included in the project folder.

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 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) (2) Electrostatic spray equipment,
(3) (3) Airless spray equipment, or
(4) (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 once NOC 12155 is issued and the source becomes a Title V source. PSCAA Regulation I Article 7 Title V regulations also apply when the source becomes a Title V source.

Federal
40 CFR 63 Subpart VVVV will apply to this facility since with this action it will be a major source of hazardous air pollutants. Many of the substantive limits in the NESHAP were already included in Order of Approval No. 11711 as BACT/tBACT in previous Orders. The applicant has asked that these limits be carried over into this Order.

- OHAP limits in tooling resin operations and tooling gel coat operations – these limits have been added on the permit conditions since tooling resin and tooling gel coat was not addressed in the initial analysis. However, the applicant provided an updated emissions analysis on 2/1/2022 that demonstrated that because of the low usage of the tooling resin and tooling gel, it would not impact the overall analysis.
- OHAP limit on clear gel coat operations – the NESHAP allows for a much higher OHAP content for clear gel coat compared to pigmented gel coat operations. The applicant noted the clear gel coat operation was included in the application, but the applicant did not include in the original analysis. The allowance for the higher OHAP content is consistent with the tBACT analysis. The applicant submitted an updated emissions analysis on 4/7/22. Although this update allows higher OHAP content, the amount of clear gelcoat used is low (<1 gallon/boat). It also adds 8 hours to the lamination time for each boat. The number of workers required does not change. Because of this, adding the higher OHAP content clear gel coat into the calculates results higher emissions per boat, but lower daily emissions because it takes more time to apply the clear gel coat. This higher OHAP content limit has been added for clear gelcoat, but the permit limits the overall usage of the product so it is consistent with the analysis.
- Requirement to monitor and record quantities of raw materials on a monthly basis that contribute to HAP and VOC emissions, and maintain SDS or certified product data sheets for these products (Condition 4 of NOCOA 11711) – this condition as added into the NOC since it is consistent with standard conditions and would be required to comply with the annual emissions reporting requirement.
- Weighted-average organic HAP content (monthly) – This will be incorporated into the operating permit as an option for complying with the NESHAP, but was not evaluated as part of this analysis and has not been shown to be protective of toxic air pollutants with an Acceptable Source Impact Level (ASIL) with a 24-hr averaging period. This would include styrene.

The NESHAP requirements are included below:

40 CFR §63.5683 Does This Subpart Apply To Me?

(a) This subpart applies to you if you meet both of the criteria listed in paragraphs (a)(1) and (2) of this section.

(a)(1) You are the owner or operator of a boat manufacturing facility that builds fiberglass boats or aluminum recreational boats.

(a)(2) Your boat manufacturing facility is a major source of HAP either in and of itself, or because it is collocated with other sources of HAP, such that all sources combined constitute a major source.

(b) A boat manufacturing facility is a facility that manufactures hulls or decks of boats from fiberglass or aluminum, or assembles boats from premanufactured hulls and decks, or builds molds to make fiberglass hulls or decks. A facility that manufactures only parts of boats (such as hatches, seats, or lockers) or boat trailers is not considered a boat manufacturing facility for the purpose of this subpart.

(c) A major source is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or can potentially emit, considering controls, in the aggregate, 9.1 megagrams (10 tons) or more per year of a single HAP or 22.7 megagrams (25 tons) or more per year of a combination of HAP.

(d) This subpart does not apply to aluminum coating operations on aluminum boats intended for commercial or military (nonrecreational) use, antifoulant coatings, assembly adhesives, fiberglass hull and deck coatings, research and development activities, mold sealing and release agents, mold stripping and cleaning solvents, and wood coatings as defined in §63.5779. This subpart does not apply to materials contained in handheld aerosol cans.

40 CFR §63.5689 What Parts Of My Facility Are Covered By This Subpart?

The affected source (the portion of your boat manufacturing facility covered by this subpart) is the combination of all of the boat manufacturing operations listed in paragraphs (a) through (f) of this section.

(a) Open molding resin and gel coat operations (including pigmented gel coat, clear gel coat, production resin, tooling gel coat, and tooling resin).

(b) Closed molding resin operations.

(c) Resin and gel coat mixing operations.

(d) Resin and gel coat application equipment cleaning operations.

(e) Carpet and fabric adhesive operations.

(f) Aluminum hull and deck coating operations, including solvent wipedown operations and paint spray gun cleaning operations, on aluminum recreational boats.

40 CFR §63.5692 How Do I Know If My Boat Manufacturing Facility Is A New Source Or An Existing Source?

(a) A boat manufacturing facility is a new source if it meets the criteria in paragraphs (a)(1) through (3) of this section.

(a)(1) You commence construction of the affected source after July 14, 2000.

(a)(2) It is a major source.

(a)(3) It is a completely new boat manufacturing affected source where no other boat manufacturing affected source existed prior to the construction of the new source.

(b) For the purposes of this subpart, an existing source is any source that is not a new source.

40 CFR Table 1 To Subpart VVVV Of Part 63--Compliance Dates For New And Existing Boat Manufacturing Facilities

TABLE 1 TO SUBPART VVVV OF PART 63--COMPLIANCE DATES FOR NEW AND EXISTING BOAT MANUFACTURING FACILITIES

As specified in §63.5695, you must comply by the dates in the following table:

If your facility is--	And--	Then you must comply by this date--
1. An existing source....	Is a major source on or before August 22, 20011.	August 23, 2004.
2. An existing or new area source	Becomes a major source after August 22, 20011.	1 year after becoming a major source or August 22, 2002, whichever is later.
3. A new source.....	Is a major source at startup1.	Upon startup or August 22, 2001, whichever is later.

1 Your facility is a major source if it is a stationary source or group of stationary sources located within a contiguous area and under common control that emits or can potentially emit, considering controls, in the aggregate, 9.1 megagrams or more per year of a single hazardous air pollutant or 22.7 megagrams or more per year of a combination of hazardous air pollutants.

40 CFR §63.5698 What Emission Limit Must I Meet For Open Molding Resin And Gel Coat Operations?

(a) You must limit organic HAP emissions from the five open molding operations listed in paragraphs (a)(1) through (5) of this section to the emission limit specified in paragraph (b) of this section. Operations listed in paragraph (d) are exempt from this limit.

(a)(1) Production resin.

(a)(2) Pigmented gel coat.

(a)(3) Clear gel coat.

(a)(4) Tooling resin.

(a)(5) Tooling gel coat.

(b) You must limit organic HAP emissions from open molding operations to the limit specified by equation 1 of this section, based on a 12-month rolling average.

$$\text{HAP Limit} = \left[46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})\right] \quad \text{(Eq. 1)}$$

Where:

HAP Limit = total allowable organic HAP that can be emitted from the open molding operations, kilograms.

M_R = mass of production resin used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, megagrams.

M_{PG} = mass of pigmented gel coat used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, megagrams.

M_{CG} = mass of clear gel coat used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, megagrams.

M_{TR} = mass of tooling resin used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, megagrams.

M_{TG} = mass of tooling gel coat used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, megagrams.

(c) The open molding emission limit is the same for both new and existing sources.

(d) The materials specified in paragraphs (d)(1) through (3) of this section are exempt from the open molding emission limit specified in paragraph (b) of this section.

(d)(1) Production resins (including skin coat resins) that must meet specifications for use in military vessels or must be approved by the U.S. Coast Guard for use in the construction of lifeboats, rescue boats, and other life-saving appliances approved under 46 CFR subchapter Q or the construction of small passenger vessels regulated by 46 CFR subchapter T. Production resins for which this exemption is used must be applied with nonatomizing (non-spray) resin application equipment. You must keep a record of the resins for which you are using this exemption.

(d)(2) Pigmented, clear, and tooling gel coat used for part or mold repair and touch up. The total gel coat materials included in this exemption must not exceed 1 percent by weight of all gel coat used at your facility on a 12-month rolling-average basis. You must keep a record of the amount of gel coats used per

month for which you are using this exemption and copies of calculations showing that the exempt amount does not exceed 1 percent of all gel coat used.

(d)(3) Pure, 100 percent vinylester resin used for skin coats. This exemption does not apply to blends of vinylester and polyester resins used for skin coats. The total resin materials included in the exemption cannot exceed 5 percent by weight of all resin used at your facility on a 12-month rolling-average basis. You must keep a record of the amount of 100 percent vinylester skin coat resin used per month that is eligible for this exemption and copies of calculations showing that the exempt amount does not exceed 5 percent of all resin used.

40 CFR §63.5701 What Are My Options For Complying With The Open Molding Emission Limit?

You must use one or more of the options listed in paragraphs (a) through (c) of this section to meet the emission limit in §63.5698 for the resins and gel coats used in open molding operations at your facility.

(a) *Maximum achievable control technology (MACT) model point value averaging (emissions averaging) option.*

(a)(1) Demonstrate that emissions from the open molding resin and gel coat operations that you average meet the emission limit in §63.5698 using the procedures described in §63.5710. Compliance with this option is based on a 12-month rolling average.

(a)(2) Those operations and materials not included in the emissions average must comply with either paragraph (b) or (c) of this section.

(b) *Compliant materials option.* Demonstrate compliance by using resins and gel coats that meet the organic HAP content requirements in Table 2 to this subpart. Compliance with this option is based on a 12-month rolling average.

(c) *Add-on control option.* Use an enclosure and add-on control device, and demonstrate that the resulting emissions meet the emission limit in §63.5698. Compliance with this option is based on control device performance testing and control device monitoring.

40 CFR §63.5704 What Are The General Requirements For Complying With The Open Molding Emission Limit?

(a) *Emissions averaging option.* For those open molding operations and materials complying using the emissions averaging option, you must demonstrate compliance by performing the steps in paragraphs (a)(1) through (5) of this section.

(a)(1) Use the methods specified in §63.5758 to determine the organic HAP content of resins and gel coats.

(a)(2) Complete the calculations described in §63.5710 to show that the organic HAP emissions do not exceed the limit specified in §63.5698.

(a)(3) Keep records as specified in paragraphs (a)(3)(i) through (iv) of this section for each resin and gel coat.

(a)(3)(i) Hazardous air pollutant content.

(a)(3)(ii) Amount of material used per month.

(a)(3)(iii) Application method used for production resin and tooling resin. This record is not required if all production resins and tooling resins are applied with nonatomized technology.

(a)(3)(iv) Calculations performed to demonstrate compliance based on MACT model point values, as described in §63.5710.

(a)(4) Prepare and submit the implementation plan described in §63.5707 to the Administrator and keep it up to date.

(a)(5) Submit semiannual compliance reports to the Administrator as specified in §63.5764.

(b) *Compliant materials option.* For each open molding operation complying using the compliant materials option, you must demonstrate compliance by performing the steps in paragraphs (b)(1) through (4) of this section.

(b)(1) Use the methods specified in §63.5758 to determine the organic HAP content of resins and gel coats.

(b)(2) Complete the calculations described in §63.5713 to show that the weighted-average organic HAP content does not exceed the limit specified in Table 2 to this subpart.

(b)(3) Keep records as specified in paragraphs (b)(3)(i) through (iv) of this section for each resin and gel coat.

(b)(3)(i) Hazardous air pollutant content.

(b)(3)(ii) Application method for production resin and tooling resin. This record is not required if all production resins and tooling resins are applied with nonatomized technology.

(b)(3)(iii) Amount of material used per month. This record is not required for an operation if all materials used for that operation comply with the organic HAP content requirements.

(b)(3)(iv) Calculations performed, if required, to demonstrate compliance based on weighted-average organic HAP content as described in §63.5713.

(b)(4) Submit semiannual compliance reports to the Administrator as specified in §63.5764.

(c) *Add-on control option.* If you are using an add-on control device, you must demonstrate compliance by performing the steps in paragraphs (c)(1) through (5) of this section.

(c)(1) Conduct a performance test of the control device as specified in §§63.5719 and 63.5722 to demonstrate initial compliance.

(c)(2) Use the performance test results to determine control device parameters to monitor after the performance test as specified in §63.5725.

(c)(3) Comply with the operating limits specified in §63.5715 and the control device and emission capture system monitoring requirements specified in §63.5725 to demonstrate continuous compliance.

(c)(4) Keep the records specified in §63.5767.

(c)(5) Submit to the Administrator the notifications and reports specified in §§63.5761 and 63.5764.

40 CFR §63.5707 What Is An Implementation Plan For Open Molding Operations And When Do I Need To Prepare One?

(a) You must prepare an implementation plan for all open molding operations for which you comply by using the emissions averaging option described in §63.5704(a).

(b) The implementation plan must describe the steps you will take to bring the open molding operations covered by this subpart into compliance. For each operation included in the emissions average, your implementation plan must include the elements listed in paragraphs (b)(1) through (3) of this section.

(b)(1) A description of each operation included in the average.

(b)(2) The maximum organic HAP content of the materials used, the application method used (if any atomized resin application methods are used in the average), and any other methods used to control emissions.

(b)(3) Calculations showing that the operations covered by the plan will comply with the open molding emission limit specified in §63.5698.

(c) You must submit the implementation plan to the Administrator with the notification of compliance status specified in §63.5761.

(d) You must keep the implementation plan on site and provide it to the Administrator when asked.

(e) If you revise the implementation plan, you must submit the revised plan with your next semiannual compliance report specified in §63.5764.

40 CFR §63.5710 How Do I Demonstrate Compliance Using Emissions Averaging?

(a) Compliance using the emissions averaging option is demonstrated on a 12-month rolling-average basis and is determined at the end of every month (12 times per year). The first 12-month rolling-average period begins on the compliance date specified in §63.5695.

(b) At the end of the twelfth month after your compliance date and at the end of every subsequent month, use equation 1 of this section to demonstrate that the organic HAP emissions from those operations included in the average do not exceed the emission limit in §63.5698 calculated for the same 12-month period. (Include terms in equation 1 of §63.5698 and equation 1 of this section for only those operations and materials included in the average.)

$$\text{HAP emissions} = \left[(PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})\right] \quad \text{(Eq. 1)}$$

Where:

HAP emissions = Organic HAP emissions calculated using MACT model point values for each operation included in the average, kilograms.

PV_R = Weighted-average MACT model point value for production resin used in the past 12 months, kilograms per megagram.

M_R = Mass of production resin used in the past 12 months, megagrams.

PV_{PG} = Weighted-average MACT model point value for pigmented gel coat used in the past 12 months, kilograms per megagram.

M_{PG} = Mass of pigmented gel coat used in the past 12 months, megagrams.

PV_{CG} = Weighted-average MACT model point value for clear gel coat used in the past 12 months, kilograms per megagram.

M_{CG} = Mass of clear gel coat used in the past 12 months, megagrams.

PV_{TR} = Weighted-average MACT model point value for tooling resin used in the past 12 months, kilograms per megagram.

M_{TR} = Mass of tooling resin used in the past 12 months, megagrams.

PV_{TG} = Weighted-average MACT model point value for tooling gel coat used in the past 12 months, kilograms per megagram.

M_{TG} = Mass of tooling gel coat used in the past 12 months, megagrams.

(c) At the end of every month, use equation 2 of this section to compute the weighted-average MACT model point value for each open molding resin and gel coat operation included in the average.

$$PV_{OP} = \frac{\sum_{i=1}^{n}(M_i\ PV_i)}{\sum_{i=1}^{n}(M_i)} \qquad \text{(Eq. 2)}$$

Where:

PV_{OP} = weighted-average MACT model point value for each open molding operation (PV_R, PV_{PG}, PV_{CG}, PV_{TR}, and PV_{TG}) included in the average, kilograms of HAP per megagram of material applied.

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

n = number of different open molding resins and gel coats used within an operation in the past 12 months.

PV_i = the MACT model point value for resin or gel coat i used within an operation in the past 12 months, kilograms of HAP per megagram of material applied.

(d) You must use the equations in Table 3 to this subpart to calculate the MACT model point value (PV_i) for each resin and gel coat used in each operation in the past 12 months.

(e) If the organic HAP emissions, as calculated in paragraph (b) of this section, are less than the organic HAP limit calculated in §63.5698(b) for the same 12-month period, then you are in compliance with the emission limit in §63.5698 for those operations and materials included in the average.

40 CFR §63.5713 How Do I Demonstrate Compliance Using Compliant Materials?

(a) Compliance using the organic HAP content requirements listed in Table 2 to this subpart is based on a 12-month rolling average that is calculated at the end of every month. The first 12-month rolling-average period begins on the compliance date specified in §63.5695.

If you are using filled material (production resin or tooling resin), you must comply according to the procedure described in §63.5714.

(b) At the end of the twelfth month after your compliance date and at the end of every subsequent month, review the organic HAP contents of the resins and gel coats used in the past 12 months in each operation. If all resins and gel coats used in an operation have organic HAP contents no greater than the applicable organic HAP content limits in Table 2 to this subpart, then you are in compliance with the emission limit specified in §63.5698 for that 12-month period for that operation. In addition, you do not need to complete the weighted- average organic HAP content calculation contained in paragraph (c) of this section for that operation.

(c) At the end of every month, you must use equation 1 of this section to calculate the weighted-average organic HAP content for all resins and gel coats used in each operation in the past 12 months.

$$\text{Weighted-Average HAP Content (\%)} = \frac{\sum_{i=1}^{n}(M_i \text{ HAP}_i)}{\sum_{i=1}^{n}(M_i)} \qquad \text{(Eq. 1)}$$

Where:

M_i = mass of open molding resin or gel coat i used in the past 12 months in an operation, megagrams.

HAP_i = Organic HAP content, by weight percent, of open molding resin or gel coat i used in the past 12 months in an operation. Use the methods in §63.5758 to determine organic HAP content.

n = number of different open molding resins or gel coats used in the past 12 months in an operation.

(d) If the weighted-average organic HAP content does not exceed the applicable organic HAP content limit specified in Table 2 to this subpart, then you are in compliance with the emission limit specified in §63.5698.

40 CFR §63.5714 How Do I Demonstrate Compliance If I Use Filled Resins?

(a) If you are using a filled production resin or filled tooling resin, you must demonstrate compliance for the filled material on an as-applied basis using equation 1 of this section.

$$PV_F = PV_u \times \frac{(100 - \%\ \text{Filler})}{100} \qquad \text{(Eq. 1)}$$

Where:

PV_F = The as-applied MACT model point value for a filled production resin or tooling resin, kilograms organic HAP per megagram of filled material.

PV_u = The MACT model point value for the neat (unfilled) resin, before filler is added, as calculated using the formulas in Table 3 to this subpart.

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

(b) If the filled resin is used as a production resin and the value of PV_F calculated by equation 1 of this section does not exceed 46 kilograms of organic HAP per megagram of filled resin applied, then the filled resin is in compliance.

(c) If the filled resin is used as a tooling resin and the value of PV_F calculated by equation 1 of this section does not exceed 54 kilograms of organic HAP per megagram of filled resin applied, then the filled resin is in compliance.

(d) If you are including a filled resin in the emissions averaging procedure described in §63.5710, then use the value of PV_F calculated using equation 1 of this section for the value of PV i in equation 2 of §63.5710.

40 CFR §63.5715 What Operating Limits Must I Meet?

(a) For open molding operations on which you use a thermal oxidizer as an add-on control device, you must meet the operating limits specified in Table 4 to this subpart that apply to the emission capture system and thermal oxidizer. You must establish the operating limits during the performance test according to the procedures in §63.5725. You must meet the operating limits at all times after you establish them.

(b) If you use an add-on control device other than a thermal oxidizer, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under §63.8(f).

40 CFR §63.5716 When Must I Conduct A Performance Test?

(a) If your source is an existing source, you must complete the add-on control device performance test no later than the compliance date specified in §63.5695.

(b) If your source is a new source, you must complete the add-on control device performance test no later than 180 days after the compliance date specified in §63.5695.

(c) You must conduct a performance test every 5 years as part of renewing your 40 CFR part 70 or 71 operating permit.

40 CFR §63.5719 How Do I Conduct A Performance Test?

(a) You must capture the emissions using a permanent enclosure (such as a spray booth or similar containment device) and direct the captured emissions to the add-on control device.

(b) You must measure emissions as specified in paragraph (b)(1) or (2) of this section.

(b)(1) If the enclosure vented to the control device is a permanent total enclosure as defined in Method 204 of appendix M to 40 CFR part 51, then you may measure emissions only at the outlet of the control device.

(b)(2) If the permanent enclosure vented to the control device is not a total enclosure, you must build a temporary total enclosure, as defined in Method 204 of appendix M to 40 CFR part 51, around the permanent enclosure. You must then simultaneously measure emissions from the control device outlet and the emissions from the temporary total enclosure outlet. You determine compliance from the combined emissions from the control device outlet and the temporary total enclosure outlet.

(c) You must conduct the control device performance test using the emission measurement methods specified in paragraphs (c)(1) through (4) of this section.

(c)(1) Use either Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, to select the sampling sites.

(c)(2) Use Method 2, 2A, 2C, 2D, 2F or 2G of appendix A to 40 CFR part 60, as appropriate, to measure gas volumetric flow rate.

(c)(3) Use Method 18 of appendix A to 40 CFR part 60 to measure organic HAP emissions or use Method 25A of appendix A to 40 CFR part 60 to measure total gaseous organic emissions as a surrogate for total organic HAP emissions. If you use Method 25A, you must assume that all gaseous organic emissions measured as carbon are organic HAP emissions. If you use Method 18 and the number of organic HAP in the exhaust stream exceeds five, you must take into account the use of multiple chromatographic columns and analytical techniques to get an accurate measure of at least 90 percent of the total organic HAP mass emissions. Do not use Method 18 to measure organic HAP emissions from a combustion device; use instead Method 25A and assume that all gaseous organic mass emissions measured as carbon are organic HAP emissions.

(c)(4) You may use American Society for Testing and Materials (ASTM) D6420-99 (available for purchase from at least one of the following addresses: 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.) in lieu of Method 18 of 40 CFR part 60, appendix A, under the conditions specified in paragraphs (c)(4)(i) through (iii) of this section.

(c)(4)(i) If the target compound(s) is listed in Section 1.1 of ASTM D6420-99 and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume.

(c)(4)(ii) If the target compound(s) is not listed in Section 1.1 of ASTM D6420-99, but is potentially detected by mass spectrometry, an additional system continuing calibration check after each run, as detailed in Section 10.5.3 of ASTM D6420-99, must be followed, met, documented, and submitted with the performance test report even if you do not use a moisture condenser or the compound is not considered soluble.

(c)(4)(iii) If a minimum of one sample/analysis cycle is completed at least every 15 minutes.

(d) The control device performance test must consist of three runs and each run must last at least 1 hour. The production conditions during the test runs must represent normal production conditions with respect to the types of parts being made and material application methods. The production conditions during the test must also represent maximum potential emissions with respect to the organic HAP content of the materials being applied and the material application rates.

(e) During the test, you must also monitor and record separately the amounts of production resin, tooling resin, pigmented gel coat, clear gel coat, and tooling gel coat applied inside the enclosure that is vented to the control device.

40 CFR §63.5722 How Do I Use The Performance Test Data To Demonstrate Initial Compliance?

Demonstrate initial compliance with the open molding emission limit as described in paragraphs (a) through (c) of this section:

(a) Calculate the organic HAP limit you must achieve using equation 1 of §63.5698. For determining initial compliance, the organic HAP limit is based on the amount of material used during the performance test, in megagrams, rather than during the past 12 months. Calculate the limit using the megagrams of resin and gel coat applied inside the enclosure during the three runs of the performance test and equation 1 of §63.5698.

(b) Add the total measured emissions, in kilograms, from all three of the 1-hour runs of the performance test.

(c) If the total emissions from the three 1-hour runs of the performance test are less than the organic HAP limit calculated in paragraph (a) of this section, then you have demonstrated initial compliance with the emission limit in §63.5698 for those operations performed in the enclosure and controlled by the add-on control device.

40 CFR §63.5725 What Are The Requirements For Monitoring And Demonstrating Continuous Compliance?

(a) You must establish control device parameters that indicate proper operation of the control device.

(b) You must install, operate, and maintain a continuous parameter monitoring system as specified in paragraphs (b)(1) through (8) of this section.

(b)(1) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(b)(2) You must have valid data from at least 90 percent of the hours during which the process operated.

(b)(3) You must determine the average of all recorded readings for each successive 3-hour period of the emission capture system and add-on control device operation.

(b)(4) You must maintain the continuous parameter monitoring system at all times and have available necessary parts for routine repairs of the monitoring equipment.

(b)(5) You must operate the continuous parameter monitoring system and collect emission capture system and add-on control device parameter data at all times that a controlled open molding operation is being performed, except during monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, if applicable, calibration checks and required zero and span adjustments).

(b)(6) You must not use emission capture system or add-on control device parameter data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities when calculating data averages. You must use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add-on control device operating limits.

(b)(7) You must record the results of each inspection, calibration, and validation check.

(b)(8) Any period for which the monitoring system is out-of-control, as defined in §63.7(d)(7), or malfunctioning, and data are not available for required calculations is a deviation from the monitoring requirements. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the continuous parameter monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) *Enclosure bypass line.* You must meet the requirements of paragraphs (c)(1) and (2) of this section for each emission capture system enclosure that contains bypass lines that could divert emissions away from the add-on control device to the atmosphere.

(c)(1) You must monitor or secure the valve or closure mechanism controlling the bypass line in a nondiverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism must meet one of the requirements specified in paragraphs (c)(1)(i) through (iv) of this section.

(c)(1)(i) *Flow control position indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. The time of occurrence and flow control position must be recorded, as well as every time the flow direction is changed. The flow control position indicator must be installed at the entrance to any bypass line that could divert the emissions away from the add-on control device to the atmosphere.

(c)(1)(ii) *Car-seal or lock-and-key valve closures.* Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. You must visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add-on control device to the atmosphere.

(c)(1)(iii) *Valve closure continuous monitoring.* Ensure that any bypass line valve is in the closed (non-diverting) position through monitoring of valve position at least once every 15 minutes. You must inspect the monitoring system at least once every month to verify that the monitor will indicate valve position.

(c)(1)(iv) *Automatic shutdown system.* Use an automatic shutdown system in which the open molding operation is stopped when flow is diverted by the bypass line away from the add-on control device to the atmosphere when the open molding operation is running. You must inspect the automatic

shutdown system at least once every month to verify that it will detect diversions of flow and shut down the open molding operation.

(c)(2) If any bypass line is opened, you must include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in §63.5764(d).

(d) *Thermal oxidizers.* If you are using a thermal oxidizer or incinerator as an add-on control device, you must comply with the requirements in paragraphs (d)(1) through (6) of this section.

(d)(1) You must install a combustion temperature monitoring device in the firebox of the thermal oxidizer or incinerator, or in the duct immediately downstream of the firebox before any substantial heat exchange occurs. You must meet the requirements in paragraphs (b) and (d)(1)(i) through (vii) of this section for each temperature monitoring device.

(d)(1)(i) Locate the temperature sensor in a position that provides a representative temperature.

(d)(1)(ii) Use a temperature sensor with a minimum tolerance of 2.2°C or 0.75 percent of the temperature value, whichever is larger.

(d)(1)(iii) Shield the temperature sensor system from electromagnetic interference and chemical contaminants.

(d)(1)(iv) If a chart recorder is used, it must have a sensitivity in the minor division of at least 10°C.

(d)(1)(v) Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, you must conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 16.7°C of the process temperature sensor's reading.

(d)(1)(vi) Conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

(d)(1)(vii) At least monthly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.

(d)(2) Before or during the performance test, you must conduct a performance evaluation of the combustion temperature monitoring system according to §63.8(e). Section 63.8(e) specifies the general requirements for continuous monitoring systems and requirements for notifications, the site-specific performance evaluation plan, conduct of the performance evaluation, and reporting of performance evaluation results.

(d)(3) During the performance test required by §63.5716, you must monitor and record the combustion temperature and determine the average combustion temperature for the three 1-hour test runs. This average temperature is the minimum operating limit for the thermal oxidizer.

(d)(4) Following the performance test, you must continuously monitor the combustion temperature and record the average combustion temperature no less frequently than every 15 minutes.

(d)(5) You must operate the incinerator or thermal oxidizer so that the average combustion temperature in any 3-hour period does not fall below the average combustion temperature recorded during the performance test.

(d)(6) If the average combustion temperature in any 3-hour period falls below the average combustion temperature recorded during the performance test, or if you fail to collect the minimum data specified in paragraph (d)(4) of this section, it is a deviation for the operating limit in §63.5715.

(e) *Other control devices.* If you are using a control device other a thermal oxidizer, then you must comply with alternative monitoring requirements and operating limits approved by the Administrator under §63.8(f).

(f) *Emission capture system.* For each enclosure in the emission capture system, you must comply with the requirements in paragraphs (f)(1) through (5) of this section.

(f)(1) You must install a device to measure and record either the flow rate or the static pressure in the duct from each enclosure to the add- on control device.

(f)(2) You must install a device to measure and record the pressure drop across at least one opening in each enclosure.

(f)(3) Each flow measurement device must meet the requirements in paragraphs (b) and (f)(3)(i) through (iv) of this section.

(f)(3)(i) Locate the flow sensor in a position that provides a representative flow measurement in the duct between each enclosure in the emission capture system and the add-on control device.

(f)(3)(ii) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(f)(3)(iii) Conduct a flow sensor calibration check at least semiannually.

(f)(3)(iv) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(f)(4) For each pressure measurement device, you must comply with the requirements in paragraphs (a) and (f)(4)(i) through (vii) of this section.

(f)(4)(i) Locate each pressure drop sensor in or as close to a position that provides a representative measurement of the pressure drop across each enclosure opening you are monitoring.

(f)(4)(ii) Locate each duct static pressure sensor in a position that provides a representative measurement of the static pressure in the duct between the enclosure and control device.

(f)(4)(iii) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(f)(4)(iv) Check the pressure tap for plugging daily.

(f)(4)(v) Use an inclined manometer with a measurement sensitivity of 0.0004 millimeters mercury (mmHg) to check gauge calibration quarterly and transducer calibration monthly.

(f)(4)(vi) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(f)(4)(vii) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(f)(5) For each capture device that is not part of a permanent total enclosure as defined in Method 204 in appendix M to 40 CFR part 51, you must establish an operating limit for either the gas volumetric flow rate or duct static pressure, as specified in paragraphs (f)(5)(i) and (ii) of this section. You must also establish an operating limit for pressure drop across at least one opening in each enclosure according to paragraphs (f)(5)(iii) and (iv) of this section. The operating limits for a permanent total enclosure are specified in Table 4 to this subpart.

(f)(5)(i) During the emission test required by §63.5716 and described in §63.5719, you must monitor and record either the gas volumetric flow rate or the duct static pressure for each separate enclosure in your emission capture system at least once every 15 minutes during each of the three test runs at a point in the duct between the enclosure and the add-on control device inlet.

(f)(5)(ii) Following the emission test, calculate and record the average gas volumetric flow rate or duct static pressure for the three test runs for each enclosure. This average gas volumetric flow rate or duct static pressure is the minimum operating limit for that specific enclosure.

(f)(5)(iii) During the emission test required by §63.5716 and described in §63.5719, you must monitor and record the pressure drop across the opening of each enclosure in your emission capture system at least once every 15 minutes during each of the three test runs.

(f)(5)(iv) Following the emission test, calculate and record the average pressure drop for the three test runs for each enclosure. This average pressure drop is the minimum operating limit for that specific enclosure.

40 CFR §63.5731 What Standards Must I Meet For Resin And Gel Coat Mixing Operations?

(a) All resin and gel coat mixing containers with a capacity equal to or greater than 208 liters, including those used for on-site mixing of putties and polyputties, must have a cover with no visible gaps in place at all times.

(b) The work practice standard in paragraph (a) of this section does not apply when material is being manually added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

(c) To demonstrate compliance with the work practice standard in paragraph (a) of this section, you must visually inspect all mixing containers subject to this standard at least once per month. 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.

(d) You must keep records of which mixing containers are subject to this standard and the results of the inspections, including a description of any repairs or corrective actions taken.

40 CFR §63.5734 What Standards Must I Meet For Resin And Gel Coat Application Equipment Cleaning Operations?

(a) For routine flushing of resin and gel coat application equipment (e.g., spray guns, flowcoaters, brushes, rollers, and squeegees), you must use a cleaning solvent that contains no more than 5 percent organic HAP by weight. For removing cured resin or gel coat from application equipment, no organic HAP content limit applies.

(b) You must store organic HAP-containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment to be cleaned is placed in or removed from the container. On containers with a capacity greater than 7.6 liters, the distance from the top of the container to the solvent surface must be no less than 0.75 times the diameter of the container. Containers that store organic HAP-containing solvents used for removing cured resin or gel coat are exempt from the requirements of 40 CFR part 63, subpart T. Cured resin or gel coat means resin or gel coat that has changed from a liquid to a solid.

40 CFR §63.5737 How Do I Demonstrate Compliance With The Resin And Gel Coat Application Equipment Cleaning Standards?

(a) Determine and record the organic HAP content of the cleaning solvents subject to the standards specified in §63.5734 using the methods specified in §63.5758.

(b) If you recycle cleaning solvents on site, you may use documentation from the solvent manufacturer or supplier or a measurement of the organic HAP content of the cleaning solvent as originally obtained from the solvent supplier for demonstrating compliance, subject to the conditions in §63.5758 for demonstrating compliance with organic HAP content limits.

(c) At least once per month, you must visually inspect any containers holding organic HAP-containing solvents used for removing cured resin and gel coat to ensure that the containers have covers with no visible gaps. Keep records of the monthly inspections and any repairs made to the covers.

40 CFR §63.5740 What Emission Limit Must I Meet For Carpet And Fabric Adhesive Operations?

(a) You Must Use Carpet And Fabric Adhesives That Contain No More Than 5 Percent Organic HAP By Weight.

(b) To demonstrate compliance with the emission limit in paragraph (a) of this section, you must determine and record the organic HAP content of the carpet and fabric adhesives using the methods in §63.5758.

40 CFR §63.5758 How Do I Determine The Organic HAP Content Of Materials?

(a) *Determine the organic HAP content for each material used.* To determine the organic HAP content for each material used in your open molding resin and gel coat operations, carpet and fabric adhesive operations, or aluminum recreational boat surface coating operations, you must use one of the options in paragraphs (a)(1) through (6) of this section.

(a)(1) *Method 311 (appendix A to 40 CFR part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in paragraphs (a)(1)(i) and (ii) of this section when determining organic HAP content by Method 311.

(a)(1)(i) Include in the organic HAP total each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not need to include it in the organic HAP total. Express the mass fraction of each organic HAP you measure as a value truncated to four places after the decimal point (for example, 0.1234).

(a)(1)(ii) Calculate the total organic HAP content in the test material by adding up the individual organic HAP contents and truncating the result to three places after the decimal point (for example, 0.123).

(a)(2) *Method 24 (appendix A to 40 CFR part 63).* You may use Method 24 to determine the mass fraction of non-aqueous volatile matter of aluminum coatings and use that value as a substitute for mass fraction of organic HAP.

(a)(3) *ASTM D1259-85 (Standard Test Method for Nonvolatile Content of Resins).* You may use ASTM D1259-85 (available for purchase from ASTM) to measure the mass fraction of volatile matter of resins and gel coats for open molding operations and use that value as a substitute for mass fraction of organic HAP.

(a)(4) *Alternative method.* You may use an alternative test method for determining mass fraction of organic HAP if you obtain prior approval by the Administrator. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(a)(5) *Information from the supplier or manufacturer of the material.* You may rely on information other than that generated by the test methods specified in paragraphs (a)(1) through (4) of this section, such as manufacturer's formulation data, according to paragraphs (a)(5)(i) through (iii) of this section.

(a)(5)(i) Include in the organic HAP total each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to include it in the organic HAP total.

(a)(5)(ii) If the organic HAP content is provided by the material supplier or manufacturer as a range, then you must use the upper limit of the range for determining compliance. If a separate measurement of the total organic HAP content using the methods specified in paragraphs (a)(1) through (4) of this section exceeds the upper limit of the range of the total organic HAP content provided by the material supplier or manufacturer, then you must use the measured organic HAP content to determine compliance.

(a)(5)(iii) If the organic HAP content is provided as a single value, you may assume the value is a manufacturing target value and actual organic HAP content may vary from the target value. If a separate measurement of the total organic HAP content using the methods specified in paragraphs (a)(1) through (4) of this section is less than 2 percentage points higher than the value for total organic HAP content provided by the material supplier or manufacturer, then you may use the provided value to demonstrate compliance. If the measured total organic HAP content exceeds the provided value by 2 percentage points or more, then you must use the measured organic HAP content to determine compliance.

(a)(6) *Solvent blends.* Solvent blends may be listed as single components for some regulated materials in certifications provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP content of the materials. When detailed organic HAP content data for solvent blends are not available, you may use the values for organic HAP content that are listed in Table 5 or 6 to this subpart. You may use Table 6 to this subpart only if the solvent blends in the materials you use do not match any of the solvent blends in Table 5 to this subpart and you know only whether the blend is either aliphatic or aromatic. However, if test results indicate higher values than those listed in Table 5 or 6 to this subpart, then the test results must be used for determining compliance.

(b) *Determine the volume fraction solids in aluminum recreational boat surface coatings.* To determine the volume fraction of coating solids (liters of coating solids per liter of coating) for each aluminum recreational boat surface coating, you must use one of the methods specified in paragraphs (b)(1) through (3) of this section. If the results obtained with paragraphs (b)(2) or (3) of this section do not to agree with those obtained according to paragraph (b)(1) of this section, you must use the results obtained with paragraph (b)(1) of this section to determine compliance.

(b)(1) *ASTM Method D2697-86(1998) or D6093-97.* You may use ASTM Method D2697-86(1998) or D6093-97 (available for purchase from ASTM) to determine the volume fraction of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids.

(b)(2) *Information from the supplier or manufacturer of the material.* You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer.

(b)(3) *Calculation of volume fraction of coating solids.* You may determine it using equation 1 of this section:

Where:

Solids = volume fraction of coating solids, liters coating solids per liter coating.

^{m}volatiles = Total volatile matter content of the coating, including organic HAP, volatile organic compounds, water, and exempt compounds, determined according to Method 24 in appendix A of 40 CFR part 60, grams volatile matter per liter coating.

D_{avg} = average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475-90 (available for purchase from ASTM), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475-90 test results and other information sources, the test results will take precedence.

(c) *Determine the density of each aluminum recreational boat wipedown solvent and surface coating.* Determine the density of all aluminum recreational boat wipedown solvents, surface coatings, thinners, and other additives from test results using ASTM Method D1475-90, information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475-90 test results and other information sources, you must use the test results to demonstrate compliance.

40 CFR §63.5761 What Notifications Must I Submit And When?

(a) You must submit all of the notifications in Table 7 to this subpart that apply to you by the dates in the table. The notifications are described more fully in 40 CFR part 63, subpart A, General Provisions, referenced in Table 8 to this subpart.

(b) If you change any information submitted in any notification, you must submit the changes in writing to the Administrator within 15 calendar days after the change.

40 CFR Table 7 To Subpart VVVV Of Part 63--Applicability And Timing Of Notifications

TABLE 7 TO SUBPART VVVV OF PART 63--APPLICABILITY AND TIMING OF NOTIFICATIONS

As specified in §63.5761(a), you must submit notifications according to the following table:

If your facility--	You must submit--	By this date--
1. Is an existing source subject to this subpart.	An initial notification containing the information specified in §63.9(b)(2).	No later than the dates specified in §63.9(b)(2).
2. Is a new source subject to this subpart.	The notifications specified in §63.9(b)(3) to (5).	No later than the dates specified §63.9(b)(4) and (5).
3. Qualifies for a compliance extension as specified in §63.9(c).	A request for a compliance extension as specified in §63.9(c).	No later than the dates specified in §63.6(i).
4. Is complying with organic HAP content limits, application equipment requirements; or MACT model point value averaging provisions.	A notification of compliance status as specified in §63.9(h).	No later than 30 calendar days after the end of the first 12-month averaging period after your facility's compliance date.
5. Is complying by using an add-on control device.	a. notification of intent to conduct a performance test as specified in §63.9(e).	No later than the date specified in §63.9(e).
	b. A notification of the date for the continuous monitoring system performance evaluation as specified in §63.9(g).	With the notification of intent to conduct a performance test.
	c. A notification of compliance status as specified in §63.9(h).	No later than 60 calendar days after the completion of the add-on control device performance test and continuous monitoring system performance evaluation.

40 CFR §63.5764 What Reports Must I Submit And When?

(a) You must submit the applicable reports specified in paragraphs (b) through (e) of this section. To the extent possible, you must organize each report according to the operations covered by this subpart and the compliance procedure followed for that operation.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the dates in paragraphs (b)(1) through (5) of this section.

(b)(1) If your source is not controlled by an add-on control device (i.e., you are complying with organic HAP content limits, application equipment requirements, or MACT model point value averaging provisions), the first compliance report must cover the period beginning 12 months after the compliance

date specified for your source in §63.5695 and ending on June 30 or December 31, whichever date is the first date following the end of the first 12-month period after the compliance date that is specified for your source in §63.5695. If your source is controlled by an add-on control device, the first compliance report must cover the period beginning on the compliance date specified for your source in §63.5695 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.5695.

(b)(2) The first compliance report must be postmarked or delivered no later than 60 calendar days after the end of the compliance reporting period specified in paragraph (b)(1) of this section.

(b)(3) Each subsequent compliance report must cover the applicable semiannual reporting period from January 1 through June 30 or from July 1 through December 31.

(b)(4) Each subsequent compliance report must be postmarked or delivered no later than 60 calendar days after the end of the semiannual reporting period.

(b)(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must include the information specified in paragraphs (c)(1) through (7) of this section.

(c)(1) Company name and address.

(c)(2) A statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the report.

(c)(3) The date of the report and the beginning and ending dates of the reporting period.

(c)(4) A description of any changes in the manufacturing process since the last compliance report.

(c)(5) A statement or table showing, for each regulated operation, the applicable organic HAP content limit, application equipment requirement, or MACT model point value averaging provision with which you are complying. The statement or table must also show the actual weighted-average organic HAP content or weighted-average MACT model point value (if applicable) for each operation during each of the rolling 12-month averaging periods that end during the reporting period.

(c)(6) If you were in compliance with the emission limits and work practice standards during the reporting period, you must include a statement to that effect.

(c)(7) If you deviated from an emission limit or work practice standard during the reporting period, you must also include the information listed in paragraphs (c)(7)(i) through (iv) of this section in the semiannual compliance report.

(c)(7)(i) A description of the operation involved in the deviation.

(c)(7)(ii) The quantity, organic HAP content, and application method (if relevant) of the materials involved in the deviation.

(c)(7)(iii) A description of any corrective action you took to minimize the deviation and actions you have taken to prevent it from happening again.

(c)(7)(iv) A statement of whether or not your facility was in compliance for the 12-month averaging period that ended at the end of the reporting period.

(d) If your facility has an add-on control device, you must submit semiannual compliance reports and quarterly excess emission reports as specified in §63.10(e). The contents of the reports are specified in §63.10(e).

40 CFR §63.5765 How Do I Submit My Reports?

(a) Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs (a)(1) through (3) of this section.

(a)(1) Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*) at the time of the test. Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

(a)(2) Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test. The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(a)(3) Confidential business information (CBI). If you claim some of the information submitted under paragraph (a)(1) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in paragraph (a)(1) of this section.

(b) Within 60 days after the date of completing each continuous monitoring system (CMS) performance evaluation as defined in §63.2, you must submit the results of the performance evaluation following the procedures specified in paragraphs (b)(1) through (3) of this section.

(b)(1) Performance evaluations of CMS measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT website at the time of the evaluation. Submit the results of the performance evaluation to the EPA via CEDRI, which can be accessed through the EPA's CDX. The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the XML schema listed on the EPA's ERT website.

(b)(2) Performance evaluations of CMS measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the evaluation. The results of the performance evaluation must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(b)(3) Confidential business information. If you claim some of the information submitted under paragraph (a)(1) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in paragraph (a)(1) of this section.

(c) For sources that commence construction or reconstruction before or on May 17, 2019, you must submit to the Administrator semiannual compliance reports of the information required in §63.5764(c) and (d) beginning on September 16, 2020. For sources that commence construction or reconstruction after May 17, 2019, you must submit to the Administrator semiannual compliance reports of the information required in §63.5764(c) and (d) beginning on March 20, 2020, or upon startup, whichever is later.

(d) If you are required to submit reports following the procedure specified in this paragraph (d), beginning on September 16, 2020, you must submit all subsequent reports to the EPA via CEDRI, which can be accessed through the EPA's CDX (*https://cdx.epa.gov/*). You must use the appropriate electronic report template on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*) for this subpart. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. If you claim some of the information required to be submitted via CEDRI is CBI, submit a complete report, including information claimed to be CBI, to the EPA. The report must be generated using the appropriate form on the CEDRI website or an alternate electronic file consistent with the XML schema listed on the CEDRI website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930

Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (d).

(e) If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in paragraphs (e)(1) through (7) of this section.

(e)(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(e)(2) The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

(e)(3) The outage may be planned or unplanned.

(e)(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(e)(5) You must provide to the Administrator a written description identifying:

(e)(5)(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(e)(5)(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(e)(5)(iii) Measures taken or to be taken to minimize the delay in reporting; and

(e)(5)(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(e)(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(e)(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(f) If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with the reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (f)(1) through (5) of this section.

(f)(1) You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning five business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its

contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g., hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (e.g., large scale power outages).

(f)(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(f)(3) You must provide to the Administrator:

(f)(3)(i) A written description of the force majeure event;

(f)(3)(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(f)(3)(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(f)(3)(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(f)(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(f)(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

40 CFR §63.5767 What Records Must I Keep?

You must keep the records specified in paragraphs (a) through (d) of this section in addition to records specified in individual sections of this subpart.

(a) You must keep a copy of each notification and report that you submitted to comply with this subpart.

(b) You must keep all documentation supporting any notification or report that you submitted.

(c) If your facility is not controlled by an add-on control device (i.e., you are complying with organic HAP content limits, application equipment requirements, or MACT model point value averaging provisions), you must keep the records specified in paragraphs (c)(1) through (3) of this section.

(c)(1) The total amounts of open molding production resin, pigmented gel coat, clear gel coat, tooling resin, and tooling gel coat used per month and the weighted-average organic HAP contents for each operation, expressed as weight-percent. For open molding production resin and tooling resin, you must also record the amounts of each applied by atomized and nonatomized methods.

(c)(2) The total amount of each aluminum coating used per month (including primers, top coats, clear coats, thinners, and activators) and the weighted-average organic HAP content as determined in §63.5752.

(c)(3) The total amount of each aluminum wipedown solvent used per month and the weighted-average organic HAP content as determined in §63.5749.

(d) If your facility has an add-on control device, you must keep the records of any failures to meet the applicable standards, including the date, time, and duration of the failure; a list of the affected add-on control device and actions taken to minimize emissions, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions; control device performance tests; and continuous monitoring system performance evaluations.

40 CFR §63.5770 In What Form And For How Long Must I Keep My Records?

(a) Your records must be readily available and in a form so they can be easily inspected and reviewed.

(b) You must keep each record for 5 years following the date that each record is generated.

(c) You must keep each record on site for at least 2 years after the date that each record is generated. You can keep the records offsite for the remaining 3 years.

(d) You can keep the records on paper or an alternative media, such as microfilm, computer, computer disks, magnetic tapes, or on microfiche.

(e) Any records required to be maintained by this part that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

K. PUBLIC NOTICE

This project meets the criteria for mandatory public notice under WAC 173-400-171(3)(b). 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. A copy of the website posting is below:

New Construction Projects

Company	Address	Project Description	Date Posted	Contact Engineer
Fluid Motion LLC	17939 59th Ave NE Bldg #4, Arlington, WA 98223	Application to expand production of fiberglass boats at an existing facility.	6/23/21	Madeline McFerran

A 30-day public comment period shall be held from April 21, 2022 to May 21, 2022. Notices that the draft materials were open to comment were published in the Daily Journal of Commerce and the Everett Herald on April 21, 2022. 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 active 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. The fiberglass manufacturing spray rooms in both Buildings 2 and 3 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 spraying rooms in both the East Lamination Building and West Lamination Building 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. The lamination activities in Buildings 2 and 3 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 in Building 2 must less than 32 feet. Compliance with the limitation on the boat length may be demonstrated through production data.
c. Boats fabricated in Building 3 must not exceed 45 feet. Compliance with this limitation may be demonstrated through production data.
d. Building 2 must not exceed 16 lamination workers per 8-hour shift. Compliance with this limitation may be demonstrated through employee schedules or other personnel documentation.
e. Building 3 must not exceed 30 lamination workers per 8-hour shift. Compliance with this limitation may be demonstrated through employee schedules or other personnel documentation.

7. 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 materials 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%

8. 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%

9. 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.

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

11. 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.

12. 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.

13. At least once each operating day, prior to conducting open molding operation in a given spray room, 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.

14. If requirements as described by Condition #13 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 #13 are met.

15. The owner or operator shall keep the Condition #13 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.

16. 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.

17. 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.

18. 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.

19. 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.

20. The following records shall be kept onsite and up-to-date for at least two years from the date of generation, and be made readily available to Agency personnel upon request:
    a. Documentation of dry filter overspray efficiency for Building 2 and Building 3 as specified in Condition #4;
    b. Documentation of the amount of clear gel coat applied to each boat as specified in Condition 9;
    c. Documentation of transfer efficiency of any atomizing spray guns used for gel coat application as specified in Condition #11;
    d. Safety data sheets demonstrating compliance with the organic HAP limits specified in Conditions #7 and #8 and with the cleaning solvent requirements specified in Condition #16;
    e. Results of inspections to determine compliance with HAP containment as required by Condition #12 and of inspections to determine compliance with the dry filter system as required by Condition #13 and of inspections to determine compliance with the odor monitoring as required by Condition #19; and
    f. Product data and personnel data for Building 2 and Building 3 and documentation of facility-wide operating hours as required by Condition #6.

21. Upon issuance of this order, 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.

22. Upon issuance of this order, WAC 173-401 applies to this facility. The facility must file a complete application for a chapter 401 permit within twelve months of issuance of this order, according to the requirements of WAC 173-401.

23. Upon issuance, this order NOC 12155 shall cancel and supersede NOC 11711.

M. CORRESPONDENCE AND SUPPORTING DOCUMENTS

SEPA Input for Production Increase at Existing Arlington Boat Building Facility

Reply | Reply All | Forward | ...

MM Madeline McFerran
To joshg@arlingtonwa.gov
Fri 7/9/2021 11:11 AM

Already Saved Copy to EMS

SEPA-Environmental-Checklist 5-28-21 signnature.pdf
6 MB

Hello Josh,

The Puget Sound Clean Air Agency (PSCAA) is reviewing a Notice of Construction air permit application for Fluid Motion located at 17939 59th Ave NE, Arlington WA 98223 for an increase in their production of fiberglass boats at their existing facility.

The SEPA checklist that was submitted by the applicant is attached to this email for your review.

Prior to the issuance of a PSCAA permit, a SEPA threshold determination must be made for this application. I am contacting you to ask if your jurisdiction will be issuing any permits or licenses for this project that require a SEPA threshold determination (I know that you have already issued the MDNS for the building development itself). If so, we would anticipate that your jurisdiction would be lead agency for this project pursuant to WAC 197-11-932 and we can provide input to you as needed. Please let me know as soon as you can if this is the case.

If this project is exempt by your jurisdiction from SEPA review, PSCAA will be lead agency and will make the SEPA threshold determination. If this is the case, please provide any comments or concerns you may have on the application that we should consider in our determination.

We would appreciate your response by 7/23/21.

Thank you,

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522

WEBSITE pscleanair.gov

NOC 12155 Completeness Review - Fluid Motion Arlington 29632

Reply | Reply All | Forward | ...

MM Madeline McFerran
To 'dennispearson@rangertugs.com'
Fri 7/9/2021 11:20 AM

Already Saved Copy to EMS

Hi Dennis,

I have been assigned as the engineer to review and process your notice of construction (NOC) application 12155 for an increase in production at Fluid Motion in Arlington. I have reviewed the contents of the application and have determined that your application is incomplete at this time. Please provide the following information:

1. Please provide the modeling files for review.
2. Please provide Safety Data sheets for the materials proposed to be applied for the increase in production. I understand that these may be repeats of what has been submitted for previous applications, but we will need that information for a complete application.
3. Please provide information for how the site preparation costs were calculated. Typically we do not see site preparation (surveying, cleaning, leveling, grading, preparing for construction) for existing facilities. The cost analysis must not include retrofit costs given that this is a request to relax an original limit. The Technical Memo document notes "structural supports, ducting and shutoff dampers, booster fan, electrical connections and new stack for Building 2" although the cost calculation spreadsheet already has a line item for direct installation costs which would be covering those costs.
4. The destruction efficiency assumption of 93% for the RTO and 90% for the RCO seem low; the previous analysis utilized 98% for both the RTO and RCO which I would expect to be achievable based on BACT determinations from similar projects and the OAPQS Control Cost Manual.

To be sure we are on the same page, this project will have a public comment period according to WAC 173-400-171: https://apps.leg.wa.gov/WAC/default.aspx?cite=173-400-171. Please let me know if you have any questions about that process.

Please also note that you will be receiving an additional email, which will contain an invoice for additional fees associated with this NOC review. For more detailed information on how these fees are determined, please see Regulation I, Article 6, Section 6.04 (http://www.pscleanair.org/DocumentCenter/View/339/1-6-PDF?bidId). Fees associted with publication for the public comment period will be asssessed in a separate (second) invoice following the completion of the review.

I may have additional questions based on further review. Please let me know if you have any questions about the information needed.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline Camp
Engineer II
1904 3rd Ave #105, Seattle, WA 98101
DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

SEPA Input for Fiberglass Boat Manufacturing in Arlington

MM

Madeline McFerran
To arusko@arlingtonwa.gov

7/9/2021

Already Saved Copy to EMS

You replied to this message on 7/29/2021 10:38 AM.

SEPA-Environmental-Checklist 5-28-21 signnature.pdf
6 MB

Hello Amy,

The Puget Sound Clean Air Agency (PSCAA) is reviewing a Notice of Construction air permit application for Fluid Motion located at 17939 59th Ave NE, Arlington WA 98223 for an increase in their production of fiberglass boats at their existing facility. Please let me know if there is a different contact PSCAA should be using for projects in Arlington. A few months back I contacted Josh Grandlienard, however when I tried emailing about this project it came back undeliverable.

The SEPA checklist that was submitted by the applicant is attached to this email for your review.

Prior to the issuance of a PSCAA permit, a SEPA threshold determination must be made for this application. I am contacting you to ask if your jurisdiction will be issuing any permits or licenses for this project that require a SEPA threshold determination. If so, we would anticipate that your jurisdiction would be lead agency for this project pursuant to WAC 197-11-932 and we can provide input to you as needed. Please let me know as soon as you can if this is the case.

If this project is exempt by your jurisdiction from SEPA review, PSCAA will be lead agency and will make the SEPA threshold determination. If this is the case, please provide any comments or concerns you may have on the application that we should consider in our determination.

We would appreciate your response by July 23, 2021.

Thank you,

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Completeness Review - Fluid Motion Arlington 29632

Reply | Reply All | Forward | ...

DP Dennis Pearson <dennispearson@rangertugs.com>
To Madeline McFerran
Tue 7/13/2021 11:04 AM

Already Saved Copy to EMS

This is the most recent version, but you made changes to another copy. Click here to see the other versions.

SDS Ashland T-30 production resin.pdf 12 MB
SDS Ashland T-30 production resin.pdf 12 MB

Hi Madeline

Please see attach SDS for item 2, all of the other items will be e-mail to you by the end of the week

RE: NOC 12155 Completeness Review - Fluid Motion Arlington 29632

Reply | Reply All | Forward | ...

DP Dennis Pearson <dennispearson@rangertugs.com>
To Madeline McFerran
Tue 7/13/2021 11:08 AM

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SDS for White gelcoat.pdf 572 KB
SDS for Parchment.pdf 572 KB
SDS for flag blue.pdf 598 KB
SDS gelcoat ice blue.pdf 572 KB

Hi Madeline

Please see attach SDS for Gelcoat

Thanks
Dennis Pearson
425-212-8136

NOC 12155 Fluid Motion Arlington 29632

Reply | Reply All | Forward | ...

Thu 7/15/2021 11:16 AM

Dennis Pearson <dennispearson@rangertugs.com>
To Madeline McFerran

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You replied to this message on 7/22/2021 2:41 PM.

Fluid Motion Arlington Control System Site Preparation Cost Estimate 07-14-21.pdf
100 KB

Madeline:

The following are responses to the comments and information requests in the email you sent on July 9, 2021. Your comments are repeated in italics.

1. *Please provide the modeling files for review.*

   Ramboll will provide information in separate email to enable PSCAA to access an archive of modeling files prepared in support of the permit application.

2. *Please provide Safety Data sheets for the materials proposed to be applied for the increase in production. I understand that these may be repeats of what has been submitted for previous applications, but we will need that information for a complete application.*

   SDSs for the proposed materials have been provided in a separate email send on 7-13-2021.

3. *Please provide information for how the site preparation costs were calculated. Typically we do not see site preparation (surveying, cleaning, leveling, grading, preparing for construction) for existing facilities. The cost analysis must not include retrofit costs given that this is a request to relax an original limit. The Technical Memo document notes "structural supports, ducting and shutoff dampers, booster fan, electrical connections and new stack for Building 2" although the cost calculation spreadsheet already has a line item for direct installation costs which would be covering those costs.*

   The Arlington facility was originally arranged without provisions to accommodate add-on emission control devices. Potential locations either at ground level or on the roof have been deemed unsuitable. Therefore, it would be necessary to prepare "installation sites" for both buildings that would consist of robust elevated platforms besides the existing structures, with separate foundations, connecting ductwork, and manifolds to consolidate the four existing exhaust stacks on each building and provide suitable isolation dampers and controls. The new ductwork would route the combined exhaust to the inlet of the two control devices, one per building. Booster fans would assist the fans supplied with the control systems, and a stack would be needed on each platform to replace the stack included as part of the control system due to foundation and support considerations. These site preparations cannot be reasonably considered covered by the normal emissions control equipment direct installation costs. An annotated cost estimate for the control system installation at the Arlington facility is attached.

4. *The destruction efficiency assumption of 93% for the RTO and 90% for the RCO seem low; the previous analysis utilized 98% for both the RTO and RCO which I would expect to be achievable based on BACT determinations from similar projects and the OAPQS Control Cost Manual.*

   The RTO and RCO destruction efficiencies were taken from the BACT analysis commissioned by Fluid Motion specifically for the Arlington facility that was documented by Landau Associates in a technical memorandum dated May 24, 2019. Please refer to Table 5 on Page 13 of the technical memorandum.

We hope these responses enable you to deem our permit application complete, and please let me know if you have any follow-up questions on these topics. We are eager to put the requested production increases into effect at the Arlington facility, and would appreciate you timely review and completeness determination.

Thanks.

Dennis Pearson
435-212-8136

NOC 12155 Fluid Motion Arlington Modeling File Archive

AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran
Cc Eric Albright; 'Dennis Pearson'; Tim Sonnichsen

7/16/2021

Already Saved Copy to EMS

This is the most recent version, but you made changes to another copy. Click here to see the other versions.

Madeline,

Here is a link to the modeling file archive for Fluid Motion. https://ramboll-my.sharepoint.com/:u:/p/aklinke/EfbJS1cUUjNDrsGnuyu_-hYBTuOxCH9aCmcnXv8APpGhDA?e=GXxfWi

Please let me know if you have any questions as you review the files.

Thanks,

Annie

Annie Klinke

Senior Consultant 1
1692737 - Lynnwood

D +1 (425) 4121817
aklinke@ramboll.com

Ramboll
19020 33rd Avenue West
Suite 580
Lynnwood, WA 98036
USA
https://ramboll.com

RE: NOC 12155 Fluid Motion Arlington 29632

MM Madeline McFerran
To Dennis Pearson
7/22/2021

Already Saved Copy to EMS

Hi Dennis,

Thank you for sending follow up information for the application. After preliminary review of what has been provided, I do have additional follow-up items below (numbering continued from previous items). I am still working through review of the modeling files and will be in communication about any questions or follow-up for that item.

5. Following up on item 2 below, thank you for sending the gel coat and resin SDS.
    a. When I look back at past review, and based on my understanding of the process, I would also expect to see an increase in use of other products such as mold release, spray adhesive if gel coat and resin are increasing. Will there be an increase in use of any other products? If so please send those SDS as well.
    b. It also looks like two identical resin SDS were provided; did you intend to send two different SDS or is the Ashland T-30 resin the only resin to be used?
6. Regarding emission calculations:
    a. Please provide the emission calculations (Excel file) for the proposed increase. The discussion of emissions in the technical support document does not provide the methodology used for emission calculations. As with the SDS, I know that this expansion may be very similar to previous applications but we do need complete emissions including the calculations for those project emissions.
    b. Please ensure that the emission calculations include all products applied.

Following up on your voicemail, at this time I am hoping that after reviewing the emission calculations and continuing review of the modeling files I will have a better sense of timeline. I will be out of the office this Friday and August 9-16 but intend to continue my review before I leave and will be in contact with you about questions as they come up.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington 29632

Reply | Reply All | Forward | ...

DP Dennis Pearson <dennispearson@rangertugs.com>
To Madeline McFerran
Cc twsonnichsen@gmail.com; Eric Albright

Wed 7/28/2021 9:03 AM

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SDS for vinyl resin 25 2021.pdf 114 KB | SDS Super 77 Adhesive.pdf 348 KB | SDS for Wood stain Minwax.pdf 3 MB | SDS for Mold release WOLO.pdf 4 MB | Potential VOC emission.xlsx 10 KB

Hi Madeline,

For item # 5 please see attach documents
Eric Albright will be responding to item # 6

Thanks
Dennis Pearson
Environmental Manager
425-212-8136

NOC 12155 Fluid Motion Arlington 29632

Reply | Reply All | Forward | ...

DP Dennis Pearson <dennispearson@rangertugs.com>
To Madeline McFerran

Thu 7/15/2021 11:16 AM

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Thanks.

Dennis Pearson
435-212-8136

NOC 12155 Fluid Motion Arlington Modeling File Archive

AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran
Cc Eric Albright; 'Dennis Pearson'; Tim Sonnichsen

7/16/2021

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Madeline,

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Please let me know if you have any questions as you review the files.

Thanks,

Annie

Annie Klinke

Senior Consultant 1
1692737 - Lynnwood

D +1 (425) 4121817
aklinke@ramboll.com

Ramboll
19020 33rd Avenue West
Suite 580
Lynnwood, WA 98036
USA
https://ramboll.com

Fiberglass Boat Manufacturing Permits SCAQMD

MM

Madeline McFerran
To mhaimov@aqmd.gov

Reply | Reply All | Forward

Tue 7/20/2021 3:15 PM

Hello Mitch,

I am a permit engineer with the Puget Sound Clean Air Agency currently reviewing an expansion at a fiberglass boat manufacturing facility and have seen historic SCAQMD BACT guidelines for fiberglass boat manufacturing finding add-on controls (carbon adsorber and thermal oxidizer) to be achieved in practice in 2003. I am interested in whether any more recent determinations have been made for fiberglass boat manufacturing with carbon adsorber and thermal oxidizer controls.

Please let me know if I should direct this question to someone else; I am available to discuss more by phone or email.

Thank you for your help!

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II
1904 3rd Ave #105, Seattle, WA 98101
DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: Fiberglass Boat Manufacturing Permits SCAQMD

MH

Mitch Haimov <MHaimov@aqmd.gov>
To Madeline McFerran

7/20/2021

Hi, Madeline.

I do not recall any such projects occurring here recently, so I recommend reviewing our current BACT Guidelines. And here are some additional links that may prove helpful. I think our Guidelines stand on their own, but please let me know if you need assistance with them.

Good luck!

Mitch

RE: NOC 12155 Fluid Motion Arlington 29632

MM Madeline McFerran
To Dennis Pearson
7/22/2021

Already Saved Copy to EMS

Hi Dennis,

Thank you for sending follow up information for the application. After preliminary review of what has been provided, I do have additional follow-up items below (numbering continued from previous items). I am still working through review of the modeling files and will be in communication about any questions or follow-up for that item.

5. Following up on item 2 below, thank you for sending the gel coat and resin SDS.
    a. When I look back at past review, and based on my understanding of the process, I would also expect to see an increase in use of other products such as mold release, spray adhesive if gel coat and resin are increasing. Will there be an increase in use of any other products? If so please send those SDS as well.
    b. It also looks like two identical resin SDS were provided; did you intend to send two different SDS or is the Ashland T-30 resin the only resin to be used?
6. Regarding emission calculations:
    a. Please provide the emission calculations (Excel file) for the proposed increase. The discussion of emissions in the technical support document does not provide the methodology used for emission calculations. As with the SDS, I know that this expansion may be very similar to previous applications but we do need complete emissions including the calculations for those project emissions.
    b. Please ensure that the emission calculations include all products applied.

Following up on your voicemail, at this time I am hoping that after reviewing the emission calculations and continuing review of the modeling files I will have a better sense of timeline. I will be out of the office this Friday and August 9-16 but intend to continue my review before I leave and will be in contact with you about questions as they come up.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington 29632

DP Dennis Pearson <dennispearson@rangertugs.com>
To Madeline McFerran
Cc twsonnichsen@gmail.com; Eric Albright

Reply | Reply All | Forward | ...
Wed 7/28/2021 9:03 AM

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SDS for vinyl resin 25 2021.pdf 114 KB | SDS Super 77 Adhesive.pdf 348 KB | SDS for Wood stain Minwax.pdf 3 MB | SDS for Mold release WOLO.pdf 4 MB | Potential VOC emission.xlsx 10 KB

Hi Madeline,

For item # 5 please see attach documents
Eric Albright will be responding to item # 6

Thanks
Dennis Pearson
Environmental Manager
425-212-8136

NOC 12155 Fluid Motion Arlington

AK Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran
Cc 'Dennis Pearson'; Eric Albright

7/28/2021

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You replied to this message on 8/24/2021 3:51 PM.

Fluid Motion Emissions Calculation - Final.xlsx
21 KB

Madeline,

Attached is the emission calculations spreadsheet for Fluid Motion Arlington with all products (regarding your follow up item number 6 from your email on 7/22). Please let me know if you have any questions.

Annie

Annie Klinke

Senior Consultant 1
1692737 - Lynnwood

D +1 (425) 4121817
aklinke@ramboll.com

Ramboll
19020 33rd Avenue West
Suite 580
Lynnwood, WA 98036
USA
https://ramboll.com

RE: SEPA Input for Fiberglass Boat Manufacturing in Arlington

MM Madeline McFerran
To arusko@arlingtonwa.gov

Reply | Reply All | Forward | ...
Thu 7/29/2021 10:39 AM

Already Saved Copy to EMS

SEPA-Environmental-Checklist 5-28-21 signnature.pdf
6 MB

Hi Amy,

I am following up on my previous email regarding a Notice of Construction application that we received for Fluid Motion located at 17939 59th Ave NE, Arlington WA 98223 for increasing their production of fiberglass boats at their existing facility. Please let me know if there is someone else with the City of Arlington who I should be contacting, or please let us know if your jurisdiction will be issuing any permits or licenses for this project that require a SEPA threshold determination. Otherwise, PSCAA will be lead agency, and we would like to know any comments or concerns you may have on the application that we should consider in our determination.

If we do not receive a response by August 3rd, we will assume that your jurisdiction will not be issuing any permits or licenses for this project that require a SEPA threshold determination and that you do not have any comments or concerns related to the project.

Thank you,

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II
1904 3rd Ave #105, Seattle, WA 98101
DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington

MM Madeline McFerran
To Annie Klinke
Cc 'Dennis Pearson'; Eric Albright

Reply | Reply All | Forward | ...
Tue 8/24/2021 3:52 PM

Already Saved Copy to EMS
You replied to this message on 10/28/2021 8:30 AM.

Hi Annie and Dennis,

Thank you for sending the emission calculations and the modeling files. After reviewing, I have some follow-up questions below:

1. I see that the model was completed by assuming certain apportioning of the emissions were coming out of each building and out of each stack, however I do not see support for why those apportionments were selected. In order to be sure that the modeling evaluates the worst case emission scenario please answer the following:
    a. Physical basis, if available, for why 1/3 of facility production is to occur in Building 2 and 2/3 is to occur in Building 3. If the modeling is to be completed this way we would need to have enforceable conditions for operation in those locations (i.e. daily production limits in each building and associated tracking) or else the modeling needs to be evaluated with emissions combined in the way that yields the worst case emissions, since the facility has flexibility to operate out of either/both locations. When I did a check adding some receptors between Buildings 2 and 3 per item 2 below, it looks like assuming all emissions out of a single building (and out of a single stack in the building, depending on the way that the ventilation system is set up see item 1b) may yield worst case.
    b. Similar to above, what is the basis for apportioning emission from each stack in Buildings 2 and 3 (i.e. building 2 has equally distributed exhaust and building 3 has higher exhaust in stacks 3 and 4 than stacks 1 and 2). How does this affect the expected stack flow/stack velocity as well?
2. Please add receptors meeting the Ecology distancing recommendations between Buildings 2 and 3; as there is no fence line for this facility the area between the buildings would be part of the ambient air. It also looks like there is a bit of a gap in receptors on the north side and west side of Building 2, and along the southwest corner of Building 3 where some additional receptors look like they are needed.

Please let me know if you would like to discuss further or have any follow-up questions.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline (Camp) McFerran
Engineer II
1904 3rd Ave #105, Seattle, WA 98101
DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington

MM

Madeline McFerran
To Annie Klinke; 'Dennis Pearson'
Cc Eric Albright

10/28/2021

Hi Annie and Dennis,

I wanted to check in with you regarding the modeling follow-up questions for the NOC 12155 application to be sure I had not missed any communication from you. Please let me know if you have questions or would like to discuss further.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline McFerran, P.E.
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington

AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright

10/28/2021

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You replied to this message on 10/28/2021 8:43 AM.

Suggested Meetings + Get more add-ins

Madeline,

Thanks for following up, I was planning on giving you a call today to discuss our response to your questions. Is there a good time for you to chat about our questions?

Thanks,
Annie

Annie Klinke
Senior Consultant 1

D +1 (425) 4121817
aklinke@ramboll.com

RE: NOC 12155 Fluid Motion Arlington

MM

Madeline McFerran
To Annie Klinke; 'Dennis Pearson'
Cc Eric Albright

10/28/2021

I have availability this afternoon for a call any time between 1 PM and 4 PM. Please let me know if you'd like me to block out a specific time.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline McFerran, P.E.
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
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RE: NOC 12155 Fluid Motion Arlington

AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright

10/28/2021

You replied to this message on 10/28/2021 3:31 PM.

Suggested Meetings + Get more add-ins

Madeline,

Let's plan on talking at 1:30 PM. I can send a Teams meeting invite.

Annie

Annie Klinke
Senior Consultant 1

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aklinke@ramboll.com

RE: NOC 12155 Fluid Motion Arlington

MM

Madeline McFerran
To Annie Klinke; 'Dennis Pearson'
Cc Eric Albright

10/28/2021

Hi Annie, thanks for the call today explaining the proposed approach of limiting workers in the lamination portion of the operation as an enforceable permit condition related to the source apportionment of styrene emissions at the facility. I'd mentioned I'd be able to get back to you by Friday; it is looking like that will be closer to Monday or Tuesday next week.

Thanks,

PUGET SOUND
Clean Air Agency

Madeline McFerran, P.E.
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
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RE: NOC 12155 Fluid Motion Arlington

AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright

11/3/2021

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You replied to this message on 11/3/2021 3:11 PM.

Madeline,

I wanted to check in with you on the status the Fluid Motion proposal to limit workers per day. Please let me know if you need any additional information.

Annie

Annie Klinke
Senior Consultant 1

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aklinke@ramboll.com

RE: NOC 12155 Fluid Motion Arlington

MM

Madeline McFerran
To Annie Klinke; 'Dennis Pearson'
Cc Eric Albright

11/3/2021

Hi Annie thanks for checking in; I did talk with my manager on Monday but was out yesterday. The approach you proposed sounds reasonable to us. Could you be sure to include some sort of emission factor that ties styrene emissions to person-hours?

Thanks,

PUGET SOUND
Clean Air Agency

Madeline McFerran, P.E.
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522

WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington

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AK Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright
Thu 11/4/2021 1:31 PM

Fluid Motion - Worker Calculation Spreadsheet.xlsx
17 KB

ModelingFileArchive-11042021.zip
ramboll-my.sharepoint.com

Madeline,

Here are the responses to your questions (in red below). I have attached a spreadsheet with the lamination-worker hour calculations, please let me know if you have any questions as you review our response.

1. I see that the model was completed by assuming certain apportioning of the emissions were coming out of each building and out of each stack, however I do not see support for why those apportionments were selected. In order to be sure that the modeling evaluates the worst case emission scenario please answer the following:
    a. Physical basis, if available, for why 1/3 of facility production is to occur in Building 2 and 2/3 is to occur in Building 3. If the modeling is to be completed this way we would need to have enforceable conditions for operation in those locations (i.e. daily production limits in each building and associated tracking) or else the modeling needs to be evaluated with emissions combined in the way that yields the worst case emissions, since the facility has flexibility to operate out of either/both locations. When I did a check adding some receptors between Buildings 2 and 3 per item 2 below, it looks like assuming all emissions out of a single building (and out of a single stack in the building, depending on the way that the ventilation system is set up see item 1b) may yield worst case.
    Fluid Motion produces boats of varying sizes (from 20 feet to 45 feet). The larger boats (30 feet to 45 feet) will be produced in Building 3. Building 3 has the capability to produce 350 boats per year, or 6.6 boats per week. The smaller boats (20 feet to 29 feet) will be produced in Building 2. Building 2 has the capability to produce 420 boats per year, or 8.1 boats per week. Styrene is emitted from four lamination products at the facility, gelcoat, polyester resin, vinyl ester resin, and radius putty.

    Due to the variable nature of the boat production and lamination, an enforceable daily condition based on boat production or material usage would be difficult to track and enforce. Instead, Fluid Motion proposes to limit the number of lamination workers per 24-hour period. The US Marine – Bayliner Facility in Arlington, which was shut down in 2008, had a similar limit in their Title V Permit.

    Fluid Motion has calculated the total emissions of styrene for each of the boats they produce, and the total lamination worker-hours in each building spent laminating each type boat. The attached spreadsheet provides emission calculation details and the number of lamination worker-hours required for each boat type. Fluid Motion proposes that there be a limit of 16 lamination workers per shift and 48 lamination workers per day in Building 2, and 30 lamination workers per shift and 90 lamination workers per day in Building 3.

    b. Similar to above, what is the basis for apportioning emission from each stack in Buildings 2 and 3 (i.e. building 2 has equally distributed exhaust and building 3 has higher exhaust in stacks 3 and 4 than stacks 1 and 2). How does this affect the expected stack flow/stack velocity as well?
    The exhaust fans in Building 3 are sized based on the expected activity in each area of the building. Stacks 1 and 2 are located in the area where 40% of the lamination will be located, and each exhaust fan is rated at 12,780 cubic feet per minute. Stacks 3 and 4 are located in the area where 60% of the lamination will be located, and the exhaust fans are rated at 15,710 cfm. In Building 2, the lamination is evenly divided across all four areas, and the exhaust fans are rated at 10,000 cfm. The fan sizes and stack parameters were provided in Attachment A to the application.

2. Please add receptors meeting the Ecology distancing recommendations between Buildings 2 and 3; as there is no fence line for this facility the area between the buildings would be part of the ambient air. It also looks like there is a bit of a gap in receptors on the north side and west side of Building 2, and along the southwest corner of Building 3 where some additional receptors look like they are needed.
   Ramboll updated the modeling with the additional receptors, using the building outlines as the ambient air boundary. There is a slight change in the maximum receptor location and concentration due to small changes in the receptor locations. Modeling results are summarized in the table below. The results are similar to the previously modeled results. See the figure of receptors below. Updated modeling files are attached to this email.

Pollutant	Averaging Period	Concentration (µg/m³)	ASIL (µg/m³)
Silica	24-hour	0.214	3.0
Styrene	24-hour	308	870

Pollutant	1-Hour Avg. Conc. (µg/m³)	3-Minute Avg. Conc.[1] (µg/m³)	3-Minute Avg. Conc.[2] (ppmv)	Odor Threshold Range (ppmv)
Methyl Methacrylate	5.47	9.95	0.00243	0.014 – 0.66
Styrene	1,093	1,990	0.468	0.0028 – 61

Notes:

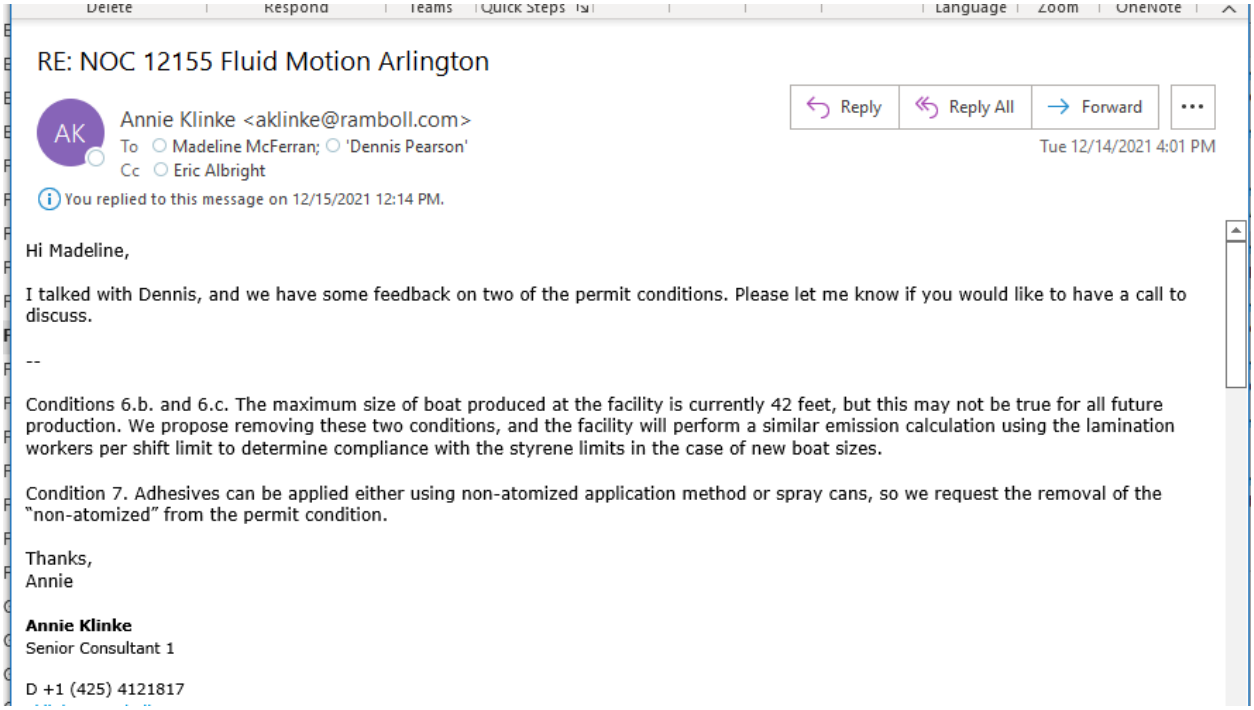
1. 1-hour model-predicted concentrations were converted to 3-minute average concentrations using Equation 5.12 from Turner Workbook (1970). Example for styrene:

$$1{,}990\,\frac{\mu g}{m^3} = 1{,}093\,\frac{\mu g}{m^3} * \left(\frac{60\ min}{3\ min}\right)^{0.2}$$

2. 3-minute average concentrations were converted to parts per million assuming a molar volume of 24.45 L/mol at standard temperature and pressure. Example for styrene:

$$0.468\ ppmv = \frac{1{,}990\ \mu g\ styrene}{m^3\ air} * \frac{mol\ sty.}{104\ g\ sty.} * \frac{1\ g\ sty.}{10^6 \mu g\ sty.} * \frac{24.45\ L\ sty.}{mol\ sty.} * \frac{m^3\ sty.}{1000\ L\ sty.} * \frac{10^6\ m^3\ air}{million\ m^3\ air}$$

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



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RE: NOC 12155 Fluid Motion Arlington

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AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright

Tue 12/14/2021 4:01 PM

You replied to this message on 12/15/2021 12:14 PM.

Hi Madeline,

I talked with Dennis, and we have some feedback on two of the permit conditions. Please let me know if you would like to have a call to discuss.

--

Conditions 6.b. and 6.c. The maximum size of boat produced at the facility is currently 42 feet, but this may not be true for all future production. We propose removing these two conditions, and the facility will perform a similar emission calculation using the lamination workers per shift limit to determine compliance with the styrene limits in the case of new boat sizes.

Condition 7. Adhesives can be applied either using non-atomized application method or spray cans, so we request the removal of the "non-atomized" from the permit condition.

Thanks,
Annie

Annie Klinke
Senior Consultant 1

D +1 (425) 4121817

RE: NOC 12155 Fluid Motion Arlington

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Mon 1/3/2022 4:16 PM

AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright

You replied to this message on 1/4/2022 10:29 AM.

Madeline,

Thank you for following up. Could we set up a call to discuss this week or next week? I can prepare some documentation in advance of our conversation regarding the styrene limitations.

There are carpet and fabric adhesives that can be applied using spray cans. The majority of the adhesives are applied with non-atomizing methods, but the facility would like the flexibility to use the carpet and fabric adhesive spray cans.

In addition to the clarifications about Condition 6 and Condition 7, there are a few conditions from the existing permit (NOC #11711) that Fluid Motion would like to include in the permit. They are:

NOC 11711 Condition 4:
The owner or operator shall monitor and record quantities of all purchases of raw materials on a monthly basis. Raw material include all products used at the facility that contribute to HAP and VOC emissions. The owner and operator shall maintain, on-site, material safety data sheets or certified product data sheets for these products.

NOC 11711 Condition 17:

Open molding operations on the three rooms for fiberglass boat manufacturing in the lamination buildings shall meet the organic hazardous air pollutant (HAP) limits as shown below, based on 12-month rolling average.

Operation	Application Method	Total Organic HAP Limit (% weight)
Product resin operations	Non-atomized	35%
Tooling resin operations	Non-atomized	39%
Tooling gel coat operations	Any method	40%
Pigmented gel coat operations	Any method	33%
Clear gel coat operations	Any method	48%

NOC 11711 Condition 19:
If any resin or gel coat used in the lamination buildings does not meat the applicable organic HAP content limit of Condition #17 by itself, the owner or operator shall perform the calculations in accordance with 40 CFR 63.5713 to show that the weighted-average organic HAP content does not exceed the Condition #17 limit.

NOC 11711 Condition 20:
The owner or operator shall use carpet and fabric adhesives that contain no more than 5 percent organic HAP by weight.

Thanks, and let me know if there is a time that works for you to chat.

Annie

Annie Klinke
Senior Consultant 1

RE: NOC 12155 Fluid Motion Arlington

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AK

Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright

Thu 1/6/2022 4:04 PM

You replied to this message on 1/6/2022 4:09 PM.

Hi Madeline,

Does Wednesday (1/12) at 3pm work to discuss? I can send out a meeting invite if that time works for you.

The majority of the conditions from NOC 11711 I proposed in my email are included because Fluid Motion will need to comply with the Boat Manufacturing NESHAP Requirements (40 CFR Part 63, Subpart VVVV), and they will be using those calculation methods and threshold comparisons. The requirements in NOC 11711 Condition 17 are pulled from Table 2 to Subpart VVVV, and were also included as Table 1 in the permit application. The application mentioned that these values reflect the Maximum Achievable Control Technology (MACT), as specified in Subpart VVVV. The emission calculations performed for the permit application represent the best data on the VOC, TAP, and HAP emissions from the facility production increase, and those are what were used in the modeling.

For Condition 6, the boat sizes were based on the available data we have to calculate a lamination-worker hour limit and the number of worker-hours per year required to make the desired number and size of boats. We would expect that larger boats would require more lamination worker hours to complete, so the total emissions of styrene would track with the number of employees per shift. We can discuss this further on Wednesday.

For Condition 7, the spray adhesive (3M Spray Adhesive) is not used in the open molding process, it is a carpet and fabric adhesive that is used in the upholstery and final assembly areas. The adhesives used in the open molding process will all be applied by non-atomizing process. In addition, the spray cans used for the 3M Spray Adhesives are 16 ounces, which is less than the 1 quart capacity exemption outlined in PSCAA Regulation 1, Section 6.03 (c)(59). This is the adhesive that would be subject to the NOC 11711 Condition 20.

Let me know if you have any additional questions before Wednesday.

Annie Klinke
Senior Consultant 1

D +1 (425) 4121817
aklinke@ramboll.com

From: Madeline McFerran <MadelineM@pscleanair.gov>
Sent: Thursday, January 6, 2022 11:07 AM
To: Annie Klinke <aklinke@ramboll.com>; 'Dennis Pearson' <dennispearson@rangertugs.com>
Cc: Eric Albright <ealbright@ramboll.com>
Subject: RE: NOC 12155 Fluid Motion Arlington

Hi Annie and Dennis,

I reviewed the requests that were summarized in your email against the previous NOC 11711 and what was submitted with the application for this NOC 12155. Let me know if you still think we should a meeting is needed; my schedule is just a little up in the air and there is a chance we could set up a time and I would need to cancel. If needed, it looks like I have openings tomorrow 1-3 PM or 1/12 after 11:30 AM.

I'll keep an eye out for the follow-up information on conditions 6 and 7 from you.

Regarding the adhesive application, it looks like the emission calculations for adhesives were completed with a straight mass balance for each spray adhesive with the composition indicated by the SDS so I do not think emissions would need to be revised to make this update although non-atomized application was a condition was from the 11711 BACT determination. Could you provide a little more context about why the spray application is necessary? The NOC 11711 BACT determination found that all resins and adhesives were to be applied with non-atomizing application. What has changed (e.g. technical considerations) that we need to capture in a revised BACT condition for the adhesive application?

We can add back the NOC 11711 condition 4 tracking, the condition was pulled over from the original NOC 10761's synthetic minor. As Fluid Motion is removing the synthetic minor for the facility there is not the same requirement to track total HAP for compliance with the facility-wide condition from 11711 condition 3, however as a Title V, Fluid Motion will be required to track emissions and report emissions under PSCAA Reg I 7.09 and WAC 173-400-105(1) and if it is helpful to have that requirement in the permit we can include it. Unless I hear differently from you I can add that condition back.

NOC 11711 Condition 17 was carried over from the East Lamination Building original permit NOC 10761. When NOC 11711 was issued, it was only for the new West Lamination Building so the East Lamination Building conditions were pulled into NOC 11711 unchanged. However, this application is to increase production across the whole facility and the BACT analysis applies at both buildings. Additionally the emission calculations submitted in this application and used for the analysis were all based on using the composition meeting the west lamination building limits (which are permitted limits in NOC 12155). This would be a substantial change to the application (PSCAA Reg I 6.04(e) fees would be reassessed) and would require reanalysis of emissions, reanalysis of modeling, and reanalysis of BACT although I do not know in advance of completing the review whether the reanalysis would find that the NOC 11711 Condition 17 limits would be BACT in this case. If that is how you would like to proceed, please submit the updated BACT discussion, emissions calculations and modeling.

The same applies to NOC 11711 Condition 19 and Condition 20- those conditions were carried over from 10761, the application did not utilize any of those limits in calculations or assumptions and the BACT determination was made at issuance of 10761 in 2016 and would need to be revisited, and without completing analysis I am not sure the same limits determined for 2016 would continue to be in place for this review.

Please let me know how you would like to proceed.
Thanks,

PUGET SOUND
Clean Air Agency

Madeline McFerran, P.E.
Engineer II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4063
FAX 206-343-7522
WEBSITE pscleanair.gov

RE: NOC 12155 Fluid Motion Arlington

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AK Annie Klinke <aklinke@ramboll.com>
To Madeline McFerran; 'Dennis Pearson'
Cc Eric Albright; John Dawson
Tue 2/1/2022 1:30 PM

Fluid Motion Emissions Calculation - 01272022.xlsx
19 KB

Fluid Motion - Worker Calculation Spreadsheet.xlsx
20 KB

Madeline,

Here are the responses based on our conversation on 1/12. Please let me know if you have any additional questions or would like clarification on any of the items discussed. I have also attached two spreadsheets with the supporting calculations.

1. Tooling Resin and Tooling Gel Coat (related to the addition of 11711 Condition 17 to the permit)
   a. Last year, the usage of tooling gel coat was 500 lbs, and the usage of tooling resin was 2000 lbs. This is a small fraction of the regular gel coat and polyester resin usage. We added in the tooling gel coat and tooling resin to the emission calculations (see attached Emissions Calculation Spreadsheet) to reflect the higher styrene content. We took the 2021 usage, and multiplied it by a factor of 10 to get estimation of the worst case tooling emissions. The emissions remain less than the 60 tons per year of styrene that was assessed as part of the permit application.
   b. In addition, PSCAA requested that we review how much time would be spent to build a tooling part, and would the styrene emissions in pounds per lamination-worker-hour be more or less than the styrene emission from laminating boats. The attached spreadsheet (Worker Calculation) includes a calculation for time spent building a tooling part for the 28′ hull and 28′ deck. The maximum pounds of styrene per lamination-worker hour is 0.35, which is less than the emissions from working on boat lamination. So any time spent working on building tooling would result in a decrease in emissions from the facility.
2. Safety Factor for the worker lamination hour calculation (related to the Condition 6 update on boat length)
   a. We added in a 25% safety factor to each worst case emission factor in lb/lamination-worker-hours account for the variation in styrene emissions that may result from different boat sizes. The modeling results for this increase are presented here, and show that the worst case modeled emissions are still less than the applicable ASILs. The 3-minute concentrations are still greater than the ODTV, and Fluid Motion still expects the same odor permit conditions to apply. Fluid Motion proposes that the boat length permit condition be removed.

	Updated conc. (ug/m3)	ASIL (ug/m3)
Styrene	424.2	870
Silica	0.296	3

Odor	Concentration (1-hr)	Scaled 3 minute conc. (ug/m3)	Concentration (PPM)	Styrene MW	ODTV
Styrene	1513.2	2755.0	0.649	104	3.20E-01
MMA	7.57	13.77	0.00336	100	8.00E-02

3. Different permit conditions for the upholstery and fabric adhesives – Fluid Motion uses atomized spray for some of these, but that generally does not occur in the lamination area. The usage of upholstery and fabric adhesives is relatively small in comparison to the other adhesives used in the lamination assembly area.

Annie Klinke
Senior Consultant 1

From: Eric Albright <ealbright@landauinc.com>
Sent: Thursday, April 7, 2022 3:29 PM
To: Maggie Corbin <MaggieC@pscleanair.gov>
Cc: Dennis Pearson <dennispearson@rangertugs.com>
Subject: NOC 12155 Fluid Motion Arlington - clear gelcoat

Maggie:

The attached spreadsheet contains per-boat, per-worker-hour, and per-building styrene emission rate calculations analogous to those provided previously and contained the draft worksheet. The calculations in the tabs labeled "without clear gelcoat," are similar to the previously provided calculations, but differ a bit as a result of changing some styrene fractions to match those in the draft worksheet, as well as refining the emission factors pulled from the Unified Emission Factors for Open Molding of Composites table. The calculations in the tabs labeled "with clear gelcoat," are identical to those in the "without clear gelcoat" tabs, except one gallon of clear gelcoat was assumed to be applied to each boat (in reality, it will be closer to one quart, but one gallon is more conservative), and eight additional hours of lamination time per boat was assumed to be needed to apply the clear gelcoat.

As a result of adding a gallon of clear gelcoat to the lamination of each boat and adding eight hours to the lamination time for each boat, the number of workers required for each shift in each building did not change (there was some as a result of rounding up to whole numbers of workers), the worst-case styrene emissions per worker-hour decreases when compared to the "without clear gelcoat" calculations, which means the average daily emissions in each building also decreases. I think that, without the clear gelcoat being included, we were assuming that it was taking the workers less time to finish each boat. With the clear gelcoat added, the emissions per boat increases a bit, but because it takes longer to apply the clear gelcoat than the pigmented gelcoats, it will take longer to finish each boat and the daily emissions decrease.

Thanks, and please let me know if you have any questions or want to discuss.

Eric

// ERIC ALBRIGHT PE
PRINCIPAL
D: 206.631.8691 M:206.909.0591 // ealbright@landauinc.com

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EA

Eric Albright <ealbright@landauinc.com>
To Maggie Corbin
Cc Dennis Pearson

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Mon 4/11/2022 11:23 AM

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Maggie:

The BACT/tBACT discussion in the draft worksheet already includes organic HAP composition limits imposed in other jurisdictions on clear, white pigmented, and non-white pigmented gelcoats. I believe that, because the application method to be used by Fluid Motion for the clear gelcoat will not increase overall styrene emissions, the tBACT determination does not need to be updated other than to add a clear gelcoat OHAP content limit to the summary table as follows (changes in red):

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 coast less than or equal to 48% organic HAPs ▪ 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

Let me know whether you agree with that assessment or want to discuss.

Thanks.

Eric

// ERIC ALBRIGHT PE

N. REVIEWS

Reviews	Name	Date
Engineer:	Madeline McFerran	12/7/2021
	Maggie Corbin	4/12/22
Inspector:	Carrie Miller	12/8/2021
Second Review:	John Dawson	12/8/2021 & 4/12/22
Applicant Name:	Dennis Pearson	4/13/22