Notice of Construction (NOC) Worksheet

PUGET SOUND
Clean Air Agency

Source: Everett Ship Repair	**NOC Number:** 12245
Installation Address: 2730 Federal Ave | Everett, WA 98201	**Registration Number:** 30287
Contact Name: John Hie	**Contact Email:** jon@everettshiprepair.com
Applied Date: 04/22/2022	**Contact Phone:** (360) 322-4562
Engineer: Carl Slimp	**Inspector:** Rain Yates

A. DESCRIPTION

For the Order of Approval:
The addition of a second dry dock and operation of an existing ship repair facility. Operations at the facility include abrasive blasting, spray, brush, and roller coating, welding, grinding, pressure washing, hydroblasting, heavy lift barge vessel hauling and launching (dry dock). Emissions from dry abrasive blasting operations on the dry dock are controlled by dust collectors rated up 20,000 acfm. Emissions from spray coating operations conducted on each dry dock shall be controlled by a dry air filter system.

Facility

Everett Ship Repair has proposed a new ship repair facility in the location of a former ship repair facility (Pier 3 in Port of Everett). The application indicates an estimated increase from 30 to 50 vessels per year to be worked on at the facility. The activities proposed are:

- Abrasive blasting of vessels : to be conducted in temporary enclosure on dry dock
- Spray coating of vessels: to be conducted in temporary enclosure on dry dock
- Brush and roller coating of vessels – exempt per PSCAA Reg I 6.03(c)(59)
- Welding – exempt from NOC review per PSCAA Reg I 6.03(c)(19)
- Grinding – exempt from NOC review per PSCAA Reg I 6.03(c)(39)
- Pressure washing – exempt from NOC review
- Hydroblasting – exempt if exclusively water used as abrasive
- Heavy lift barge vessel hauling - exempt

NOC exempt activities and equipment:

- Moveable shelter – tent style for storage only; not an emission source
- Fabrication bay – steel and aluminum fabrication and pipe fabrication with welding and grinding (exempt activities per PSCAA Reg I 6.03(c)(19) and (39). Maximum sized dust collector to serve fabrication bay with 12,000 cfm is exempt per PSCAA Reg I 6.03(c)(130.
- Fixed shelter – tent for storage only; not an emission source

Figure 1 Everett Ship Repair Site Layout

Proposed Equipment/Activities

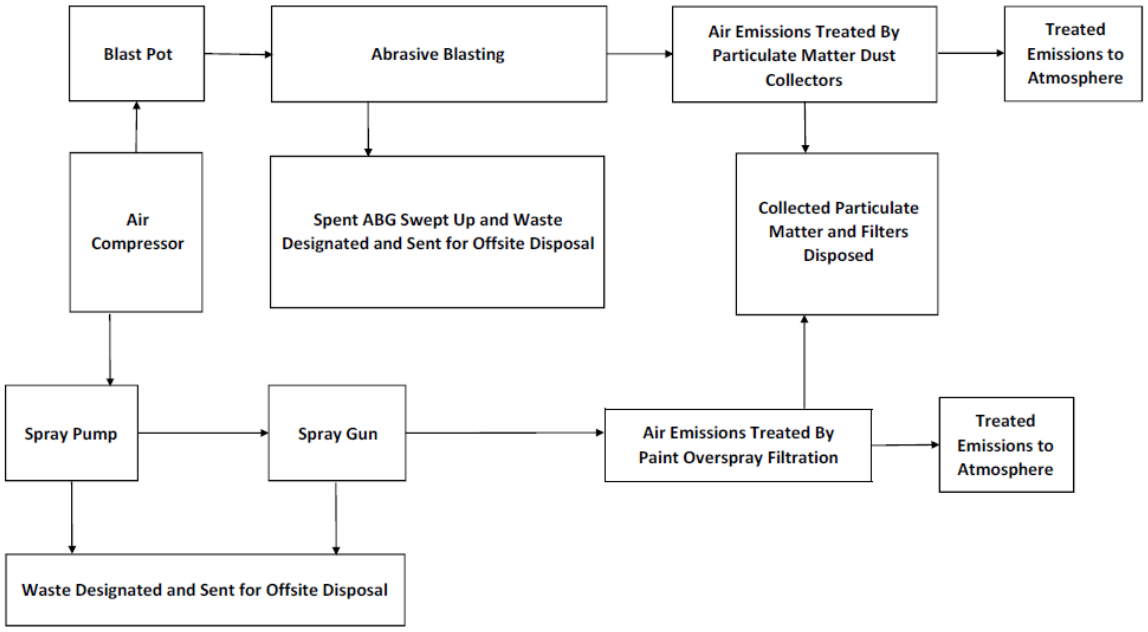
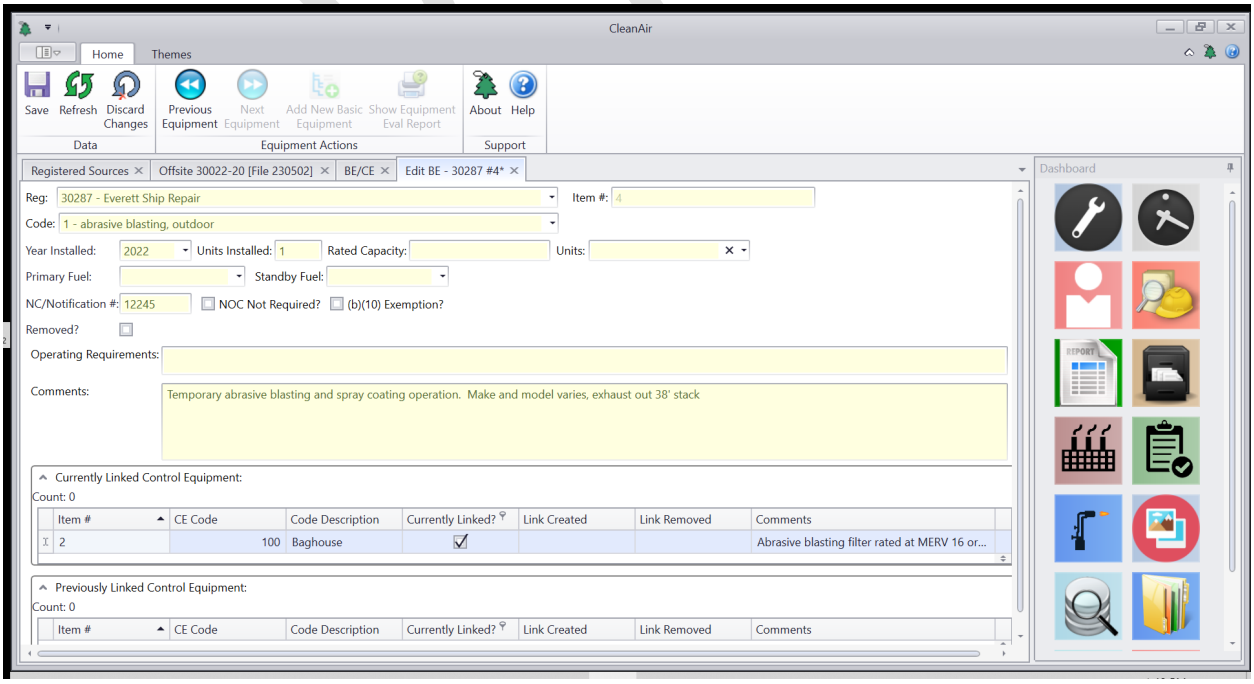


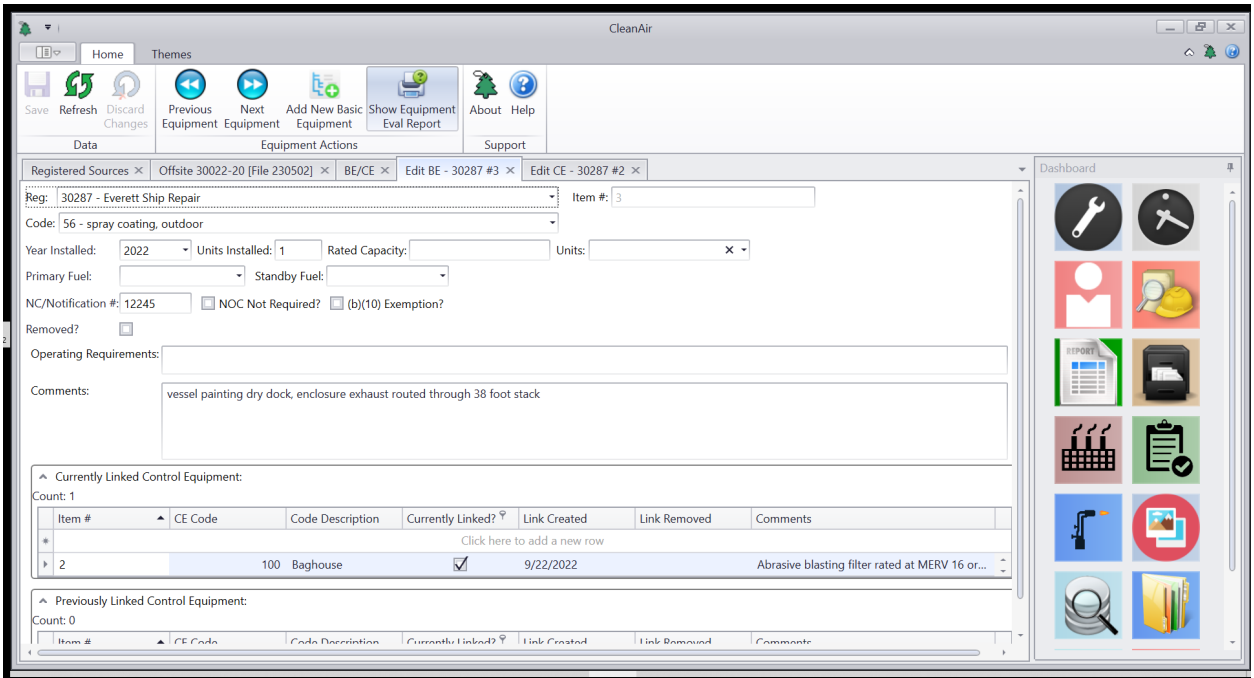
Figure 2 Process Flow Diagram for Dry Docks DD-1 and DD-2

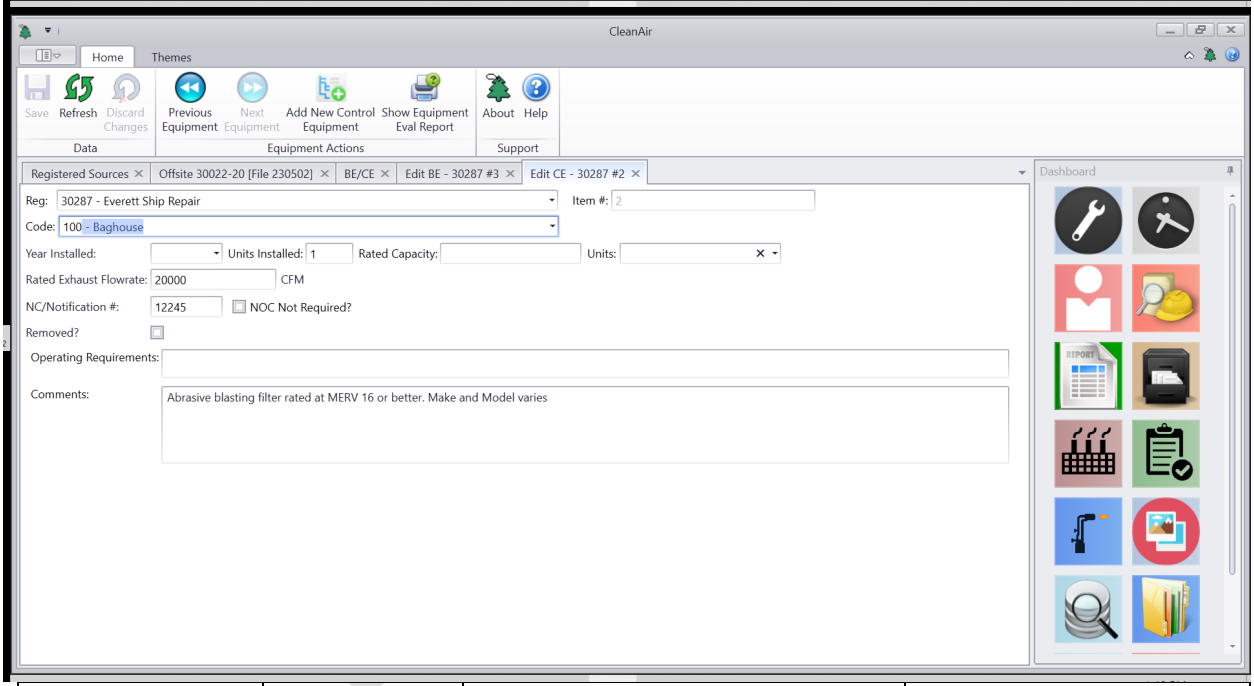
Permit History

This facility is currently permitted under NOC 11922 dated 5/6/2020

B. DATABASE INFORMATION







New NSPS due to this NOCOA?	**No**	**Applicable NSPS: N/A**	**Delegated? N/A**
New NESHAP due to this NOCOA?	**No**	**Applicable NESHAP:N/A**	**Delegated?N/A**
New Synthetic Minor due to this NOCOA?	**No**		

40 CFR 63 Subpart II is the NESHAP for shipyards which are major sources of hazardous air pollutants (HAPs). A facility is a major source of HAPs if the source has the potential to emit 10 tons per year of any

single HAP or 25 tons per year total HAPs. Project emissions (which constitute facility emissions) result in single highest HAP of 6.03 ton/year (xylene) and total HAP below 8.28 ton/year.

Everett Ship Repair's NAICS 336611 does not trigger 40 CFR Part 63 Subpart XXXXXX.

Everett Ship Repair does not trigger 40 CFR Part 63 Subpart HHHHHH since spray-coating operations do not use materials with target HAPs (chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).).

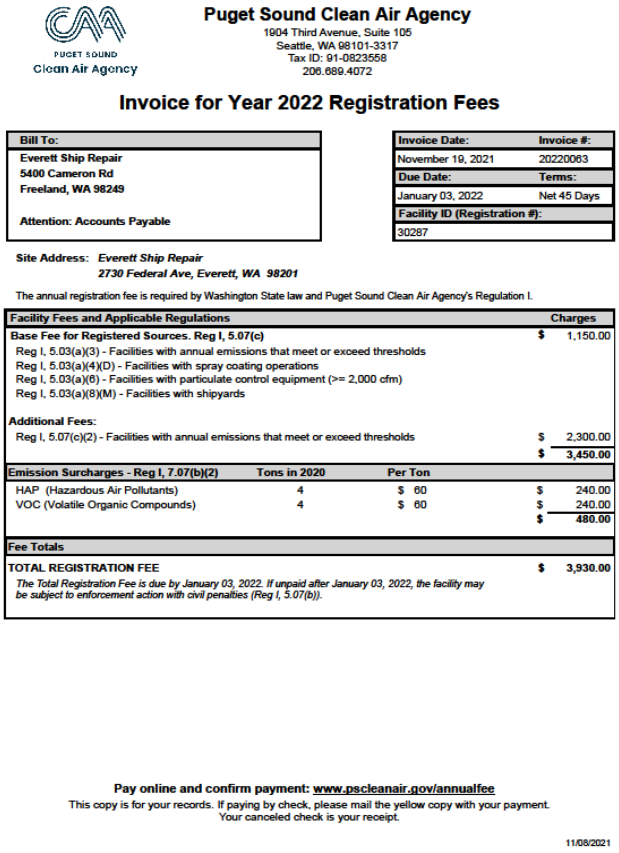
C. NOC FEES AND ANNUAL REGISTRATION FEES

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 ($650 each)	$ 1,300	
Agency Review of Screening Despersion Modeling Analysis	$ 800	
Public Notice	$ 750	
Filing received		$ 1,550 (4/27/2022)
Additional fee received		$ 2,850 (11/4/2022)
Total	**$ 4,400**	

Registration Fees:
Registration fees are assessed to the facility on an annual basis. Fees are assessed in accordance with Regulation I, Section 5.07. This should not change registration fees.



Puget Sound Clean Air Agency
1904 Third Avenue, Suite 105
Seattle, WA 98101-3317
Tax ID: 91-0823558
206.689.4072

Invoice for Year 2022 Registration Fees

Bill To:
Everett Ship Repair 5400 Cameron Rd Freeland, WA 98249 Attention: Accounts Payable

Invoice Date:	Invoice #:
November 19, 2021	20220063
Due Date:	**Terms:**
January 03, 2022	Net 45 Days
Facility ID (Registration #):	
30287	

Site Address: ***Everett Ship Repair***
2730 Federal Ave, Everett, WA 98201

The annual registration fee is required by Washington State law and Puget Sound Clean Air Agency's Regulation I.

Facility Fees and Applicable Regulations			Charges
Base Fee for Registered Sources. Reg I, 5.07(c)			$ 1,150.00
Reg I, 5.03(a)(3) - Facilities with annual emissions that meet or exceed thresholds Reg I, 5.03(a)(4)(D) - Facilities with spray coating operations Reg I, 5.03(a)(6) - Facilities with particulate control equipment (>= 2,000 cfm) Reg I, 5.03(a)(8)(M) - Facilities with shipyards			
Additional Fees:			
Reg I, 5.07(c)(2) - Facilities with annual emissions that meet or exceed thresholds			$ 2,300.00
			$ 3,450.00
Emission Surcharges - Reg I, 7.07(b)(2)	**Tons in 2020**	**Per Ton**	
HAP (Hazardous Air Pollutants)	4	$ 60	$ 240.00
VOC (Volatile Organic Compounds)	4	$ 60	$ 240.00
			$ 480.00
Fee Totals			
TOTAL REGISTRATION FEE			$ 3,930.00

The Total Registration Fee is due by January 03, 2022. If unpaid after January 03, 2022, the facility may be subject to enforcement action with civil penalties (Reg I, 5.07(b)).

Pay online and confirm payment: www.pscleanair.gov/annualfee
This copy is for your records. If paying by check, please mail the yellow copy with your payment.
Your canceled check is your receipt.

11/08/2021

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.

The Port of Everett is the SEPA lead agency for this project and issued the associated MDNS on September 15, 2022. A copy of this MDNS is included in the NOC file and included in section M. This NOC is being issued after the date that the MDNS became final.

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 permit meets Criteria 5 of Section II.A. This permit will increase the capacity of a shipyard.

In accordance with the policy, the Agency notified each Tribe within the Agency's jurisdiction on June 14, 2022 of the intent to hold a consultation.

On June 23rd, Adam Osbekoff with the Snoqualmie Tribe recommended an archeological review to be performed. This recommendation was shared with the Port of Everett who is the SEPA lead.
The Port of Everett responded to Adam Osbekoff that no new physical construction for this project would disturb substrate or uplands. Adam Osbekoff acknowledged this and correspondence is saved in below.

Re Puget Sound
C.A.A. federal ship rep

On Oct 27, 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."

ABRASIVE BLASTING

For this permitting action, the establishment of the dry dock abrasive blasting activities will increase emissions of particulate matter (PM) and toxic air pollutants (TAPs). Recently issued BACT determinations from PSCAA, Massachusetts Department of Environmental Protection (MassDep), Maine Department of Environmental Protection (MaineDep), Sacramento Metropolitan Air Quality Management District (SMAQMD), Bay Area Air Quality Management District (BAAQMD), South Coast Air Quality Management District (SCAQMD) and Texas Commission on Environmental Quality (TCEQ) are presented below.

Similar Permits

Summary of recent Agency PM BACT determinations for abrasive blasting:

Permitting Action	Project	BACT for Abrasive Blasting
NOC 11922 (2020)	Dry abrasive blasting and spray coating operations in temporary containment systems conducted throughout shipyard	▪ MERV 16 filter rating or an efficiency of 99.97% efficiency for 0.5 micron particles and larger ▪ No visible emissions shall be allowed from the enclosure containing the abrasive blasting operations, the dust collection system and any associated ductwork ▪ The facility shall clean up used abrasive daily or as soon as possible after blasting has finished ▪ The facility shall minimize emissions from stockpiles of new and/or spent abrasive material. Measures shall include covering stockpiled material, wetting stockpiled material; or keeping stockpiled material in containers.

NC#11517 (2018)	Dry abrasive blasting and spray coating operations at a shipyard	▪ The abrasive blasting operation shall be conducted in a full enclosure that vents all the exhaust to a dust collector system ▪ No visible emissions shall be allowed from the enclosure containing the abrasive blasting operations, the dust collection system and any associated ductwork ▪ Dust collector system – 99.4% efficiency for particle 0.5 micron or larger; or MERV 16 filters based on the emissions analysis that indicates chromium emissions associated with this type of blasting. ▪ Abrasive material must not contain manganese, arsenic, cadmium or lead or any individual compound containing manganese greater than 1 percent by weight; arsenic, cadmium or lead in amounts greater than 0.1 percent by weight; or total chromium in amounts greater than 0.08 percent by weight. Safety data sheets showing average trace metal analytical for department of transportation requirements. ▪ The abrasive material storage areas and dust collector system holding bins shall be fully enclosed ▪ Dust collector system must be equipped with a pressure gauge

NOC	Project	BACT
11313 (2017)	Increase in emissions from abrasive blasting and spray coating activities in temporary enclosures. Modification to requirements for spray coating operations. This is a similar Order in that it incorporates existing Orders and BACT determinations made under these previous Orders.	Total enclosure to control particulate matter/overspray Abrasive blasting material shall not contain MFHAP specified Conduct abrasive blasting in properly sized enclosure controlled by dust collector Dust collector MERV 15 or higher – ASHRAE 52.2-2007 No visible emissions from enclosure or dust collector Minimize emissions from stockpiles of new/and or spent abrasive materials Pressure gauge across dust collector or filter system Spray coating: conduct in properly sized enclosure, meet Subpart II NESHAP requirements, HVLP, air assisted airless, airless or equivalent; best management practices, 98% filter efficiency
11264 (2016)	SAFE Boats – Abrasive blasting and spray coating operations in temporary enclosure	Total enclosure to control particulate matter/overspray Abrasive blasting material shall not contain MFHAP specified Conduct abrasive blasting in properly sized enclosure controlled by dust collector Dust collector MERV 15 or higher – ASHRAE 52.2-2007 No visible emissions from dust collector Minimize emissions from stockpiles of new/and or spent abrasive materials Pressure gauge across dust collector Spray coating: conduct in properly sized enclosure, meet Subpart II NESHAP requirements, HVLP or air assisted airless unless precluded; best management practices, 98% filter efficiency

11195 (2016)	Vigor Marine Tacoma – 4 concurrent abrasive blasting/surface coating operations	Total enclosure to control particulate matter/overspray Abrasive blasting material shall not contain MFHAP specified Conduct abrasive blasting in properly sized enclosure controlled by dust collector Dust collector MERV 15 or higher – ASHRAE 52.2-2007 No visible emissions from dust collector Minimize emissions from stockpiles of new/and or spent abrasive materials Pressure gauge across dust collector Spray coating: conduct in properly sized enclosure, meet Subpart II NESHAP requirements, HVLP or air assisted airless unless precluded; best management practices, 98% filter efficiency
10918 (2016)	PSNS – 9 Abrasive blasting and surface coating	Total enclosure to control particulate matter/overspray No visible emissions from enclosure, ductwork, equipment or stacks Ventilation system designed to ensure inward flow – at least 4 air changes per hour Acceptable media for abrasive blasting MERV 14 or better filters for abrasive blasting; MERV 16 if chromium or manganese identified in operation Spray coating – Subpart II compliant, HVLP or air assisted airless unless precluded, and best management practices

10267 (2015)	Vigor – 10 concurrent abrasive blasting operation and up to six temporary spray coating operations	Abrasive blasting material shall not contain MFHAP specified Conduct abrasive blasting in properly sized enclosure controlled by dust collector Dust collector MERV 13 or higher – ASHRAE 52.2-2007; MERV 16 if chromium in blast media No visible emissions from dust collector Minimize emissions from stockpiles of new/and or spent abrasive materials Pressure gauge across dust collector Spray coating: conduct in properly sized enclosure, meet Subpart II NESHAP requirements, HVLP or air assisted airless unless precluded; best management practices, 98% filter efficiency

Other Regulatory Agencies BACT

Regulatory Agency and Permitting Action	Emissions Limitation	Operational and Design Limitation
MassDep (No. CE-12-038)	PM – 0.0002 gr/acf Metallic HAPs – 0.001 lbs/hour Chromium – 0.0005 lbs/hour	▪ Torit cartridge reverse jet dust collector (Model No. DFO-3-24) equipped with ultra-web synthetic nanofiber filter cartridges or equivalent to control inorganic hazardous air pollutants and particulate matter.
SMAQMD (No. 97) (2014)	PM – 0.01 gr/dscf	▪ Handling: enclosure of equipment and conveyors and transfer points to baghouse ▪ Storage: enclosed storage vented to baghouse
MaineDep (No. A-702-71-J-M) (2015)	PM – 99% removal efficiency and a 5% opacity 6-minute block average limit	▪ Transfer, storage and processing vented to baghouse
BAAQMD (2012) (No. B8478)	PM – 0.006 gr/dscf	▪ Jet pulse baghouse
SCAQMD	PM – 99% control efficiency	▪ Handte-Umwelttechnik dust collector (Model No. Mf-l 25/5/1) with five filters and 269 sq. ft. total filter area

Regulatory Agency and Permitting Action	Emissions Limitation	Operational and Design Limitation
(No. 468736-8 and 473945-48)	Metallic HAPs – metal processed shall not have toxic compound concentrations (in percent by weight) exceeding the following: arsenic 0.09% beryllium 0.09% cadmium 0.09% chromium 3% copper 1% lead 0.1% manganese 2.2% nickel 2% selenium 0.9% vanadium pentoxide 0.9%	
TCEQ Tier 1 BACT requirement (dust collector control device) (2018)	PM – 0.01 gr/dscf or 99.9% removal efficiency	▪ Use of a fabric filter system such as a baghouse or cartridge filter system ▪ Air to cloth ratio should be based on manufacturers' recommendations for the solids being controlled and the fabric filter cleaning method used

Analysis

Operation vented to a dust collector/baghouse particulate control system is consistently required across all of the BACT determinations for abrasive blasting associated with shipyards permitted by PSCAA and by determinations from other agencies.

In combination with the requirement to utilize a dust collector, all BACT determinations imposed specific emissions limitations and filtration efficiencies. The form of emission limitation (MERV rating, outlet grain loading, and % removal) has varied across determinations.

MERV Rating – most stringent to least stringent
1. MERV 16 or HEPA (NOC 11330, NOC 10267)
2. MERV 15 (NOC 11263, NOC 11313, NOC 11264, NOC 11195)
3. MERV 14 (NOC 10918)

Outlet Grain Loading – most stringent to least stringent
1. 0.0002 gr/dscf (Mass DEP, NOC 11330)
2. 0.002 gr/dscf (NOC 11517)

3. 0.006 gr/dscf (BAAQMD)
4. 0.01 gr/dscf (TCEQ, SMAQMD)

% Removal – most stringent to least stringent
1. 99.9% (TCEQ)
2. 99% (MaineDEP, SCAQMD)

This BACT was analyzed and determined for NOC 11922. As this is an increase of production and essentially the same process, that BACT analysis is still current and applicable here. The BACT recommended then is as follows:

NOC 11517 required use of either the MERV 16 rating or the 99.97% filter efficiency since filter manufacturers may use either one of these to identify the filter efficiency. The 99.97% efficiency and MERV 16 are not directly comparable. MERV Rating was established by the American Society of Heating, Refrigeration and Air Conditioning Engineers to rate a filter's ability to capture and hold particles and pollutants. MERV ratings were established to test efficiency of static air filters used in general ventilation system, such as room and building air filtration system. The MERV rating system assigns a single number to a filter to identify its minimum performance in removing particulate from the airstream. In previously issued NOCs, the Agency has specified either MERV 15 or MERV 16 filters to be equivalent to the higher efficiencies. The MERV 16 is more effective at capturing the very small particles (0.3 – 1.0 microns), but either MERV 15 or 16 could be considered BACT depending on the proposed operations. (Information presented in the Emission Inventory section of this worksheet indicates only a very small percentage of the mass of the particles are less than 1 micron with the highest percentage associated with steel grit at 0.33%, which would indicate that MERV 15 may be appropriate BACT for some proposed operations.) For dust collectors, the efficiency of the system is going to increase over time as a dust cake coats the filter.

A standard permit condition has been applied to most abrasive blasting operations permitted in the last 2 years is a prohibition on certain metals associated with metal finishing (MFHAP). The language format is obtained from the language in 40 CFR 63.11514(b) defining which abrasive blasting activities are subject to the area source NESHAP for Nine Metal Fabrication and Finishing Source Categories (Subpart XXXXXX NESHAP):

> (b) The provisions of this subpart apply to each new and existing affected source listed and defined in paragraphs (b)(1) through (5) of this section if you use materials that contain or have the potential to emit metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form with the exception of lead. Materials that contain MFHAP are defined to be materials that contain greater than 0.1 percent for carcinogens, as defined by OSHA at 29 CFR 1910.1200(d)(4), and greater than 1.0 percent for noncarcinogens. For the MFHAP, this corresponds to materials that contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts greater than or equal to 1.0 percent by weight (of the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material.
>
> **(b)**(1) A dry abrasive blasting affected source is the collection of all equipment and activities necessary to perform dry abrasive blasting operations which use materials that contain MFHAP or that have the potential to emit MFHAP.

The standard condition applies to cadmium, chromium, lead, nickel and manganese and has been utilized for some shipyard operations (e.g. 11517) and not for others (e.g. 11330), based on the specific operations of the facilities under review. Based on previous reviews, there are abrasive blasting materials that do not contain cadmium, chromium, lead and nickel in amounts greater than 0.1%, and manganese in amounts greater the 1.0 percent by weight (of the metal). The requirements of the NESHAP were considered in this BACT determination. Steel shot and steel grit

abrasive with up to 1.35% manganese by weight was reviewed under this NOC. Combined application of MERV 16 filters, and total abrasive blast media usage limits with cadmium, chromium, lead and nickel limits from 40 CFR 63 Subpart XXXXXX and manganese limit of 1.35% by weight constitute PM BACT and particulate tBACT for the abrasive blasting.

The applicant indicated they will use non-silica based abrasive materials such as steel grit, mineral slag, steel shot, garnet, aluminum oxide, copper slag and organic materials that meet the requirements of the permit regarding composition.

The following components of BACT and tBACT for PM and inorganic toxic air pollutants (TAP) apply:

1. The abrasive blasting operations shall be conducted in a complete enclosure (e.g., tarpaulins, plastic barriers, shrink wrap, mobile enclosures, physical barriers or similar methods) such that all the air exhausted from the enclosure shall be controlled by a dust collector. The enclosure shall fully surround the blast operation such that there is continuous inward flow except for the exhaust to the dust collector. If dust leaks are noted, repairs must be made. The facility may use multiple enclosures in order to properly size the enclosure for the abrasive blasting operation that is occurring on the dry dock, but each enclosure must meet this criteria.
2. Enclosures shall be vented to dust collection system with minimum filter efficiency specified in permit. The exhaust flow of the dust collectors varies depending on the project and equipment selected by the contractor. Most common baghouse sizes are 12,000, 20,000, and 45,000 cfm. In most previous permits for abrasive blasting at shipyards, we have not specified a grain loading emission limit, but an emission limitation of 0.0002 gr/dscf was established in NOC 11330. Implementation of this standard for NOC 11330 was with use of HEPA as proposed by applicant; MERV 16 would also have been acceptable to meet BACT requirements. I am recommending portable dust collectors be equipped with filters that meet or exceed the following criteria: MERV 16 filter rating or an efficiency of 99.97% efficiency for 0.5 micron particles and larger. The basis of this determination is provided below:
    a. Shipyard jobs can vary and often necessitate flexibility of operation. Emissions were estimated based on use of steel grit as the abrasive blast material to blast mild steel. However, the applicant is not limited to this scenario. In particular, we would be concerned about the chromium and other metals potentially emitted from this operation and have limited metallic HAP content in blast media used. The amount of chromium is dependent on the blast media used and the base alloy. Requiring the higher MERV 16 rating provides assurances of adequate control for a range of activities.
    b. Although a HEPA filter was specified in NOC 11330, this was based on the applicant's proposed usage of this type of filter. HEPA filtration is considered to be more stringent than BACT and not considered in this determination. Toxic air pollutant emissions are adequately controlled based on information presented in the National Shipbuilding Research Program (NSRP) report which evaluated average metal concentration in airborne PM emitted from dry abrasive blasting. This analysis provides information about toxic air pollutants associated with abrasive blasting at shipyards which includes both the base alloy or working piece and the media blast material. BACT for composition of abrasive blast media is further addressed below.

c. Another option considered is to include a grain loading emission limit in the permit instead of filter efficiency which would look more comprehensively at effectiveness of the dust collector system. However, the abrasive blasting operations are conducted on a very intermittent basis and the applicant is requesting flexibility to have different dust collectors brought in by contractors – different makes, models and sizes. Therefore, establishing a grain loading and requiring compliance testing is not a practical condition for this proposed operation.

3. No visible emissions from the enclosure or dust collector. Keeping the enclosure volume under a negative pressure with sufficient capture velocities on all open areas can be an effective method to control contaminants. The actual airflow required is based on the type of contaminant and the geometry of the blasting enclosure. It is important to draw only enough air to capture just the airborne dust and not the blast material.
4. The facility shall clean up used abrasive daily or as soon as possible after blasting has finished.
5. The facility shall minimize emissions from stockpiles of new and/or spent abrasive material. Measures shall include covering stockpiled material, wetting stockpiled material; or keeping stockpiled material in containers.

Summary PM BACT & non-volatile tBACT determination – abrasive blasting

Pollutant	Emissions Limitation
PM TAC	• 99.97% reduction for 0.5 micron particle or larger and no visible emissions • No visible emissions from enclosure containing abrasive blasting • Abrasive material must not contain manganese, arsenic, cadmium or lead or any individual compound containing manganese greater than 1.35% percent by weight; arsenic, cadmium or lead in amounts greater than 0.1 percent by weight; or total chromium in amounts greater than 0.08 percent by weight

SPRAY COATING

Similar Permits:

Summary of most recent Agency VOC and PM BACT determination for shipyard spray-coating operations

Permitting Action	BACT for Spray-coating Operations
NC#11330 (2017) NC#11263 (2017) NC#11313 (2017)	▪ The spray coating operations shall be conducted in a complete enclosure such that all the air exhausted from the enclosure shall be controlled by a filtration system ▪ Enclosure vented to filtration system with minimum arrestance efficiency of 98.0 percent

Permitting Action	BACT for Spray-coating Operations
NC#11264 (2016) NC#11195 (2016) NC#10918 (2016) NC#10267 (2015)	▪ Use of higher transfer efficiency spray application equipment unless coating product data sheet specifies application of high solids coating requires use of airless spray guns. Airless spray guns are allowed under 9.16(d) if low viscosity and high solids coatings preclude the use of higher transfer efficiency spray equipment ▪ Best management practices for collecting and minimizing evaporation of VOC/organic toxic air contaminants – includes use of closed containers, capture of solvents used for spray gun cleaning, etc. ▪ Coatings shall comply with VOHAP limits in 40 CFR Part 63, Subpart II

Analysis:

This operation is a continuation of similar to NOC 11922 at the same location and is similar to the operations at Puget Sound Naval Shipyard, Vigor Shipyards and other ship repair facilities. This BACT determination is based on recent permits issued by the Agency as well as alternative coatings analysis completed by the applicant.

Recommendation:

For spray coating operations, recommended BACT/T-BACT is as follows:

1. A combination of enclosing the spray-coating operation, using spray guns that meet a minimum 65 percent transfer efficiency unless applying high solids coating where use of an airless spray gun is recommended, and venting all the exhaust to a filtration system designed to meet a minimum 98 percent overspray arrestance as determined by the 40 CFR Part 63 Subpart HHHHHH modified ASHRAE 52.1 test procedure. The applicant indicates that they will use HVLP, LVLP, air assisted airless, airless and plural component pump spraying for epoxy coatings. Airless spray guns are allowed under 9.16(d) if low viscosity and high solids coatings preclude the use of higher transfer efficiency spray equipment. The applicant also indicates that a significant portion of the coatings will be applied with brush or roller. The applicant can install dry filters that meet the efficiency requirements or the dust collector controlling PM emissions from the abrasive blasting operations can also be used to control PM emissions from the spray-coating operations.
2. Best management practices for collecting and minimizing evaporation of VOC/organic toxic air contaminants – includes use of closed containers, capture of solvents used for spray gun cleaning, and other measures as described below:
    a. Spray-coating equipment must be cleaned in such a way that an atomized mist or spray is not discharged to the open air.
    b. Spray-coating equipment must be cleaned in a container or washer that captures and collects all residue and cleaning solvent.
    c. Containers and washers must be kept closed at all times except during manual cleaning or insertion/removal of spray-coating equipment.

3. Limiting material TAPs contents. The Agency has determined that implementation of the volatile organic HAP (VOHAP) emissions standards in 40 CFR Part 63 Subpart II is an appropriate surrogate approach to satisfy tBACT for spray coating at shipbuilding and repair facilities:

Product Name	Subpart II Material Class	Manufacturer	VOC Content (lbs/gal)	VOHAP Content (lb/gal)[1]
Interfine 979 (black)	General Use	**International**	1.81 lb/gal	
Interguard 7500	General Use		1.57 lb/gal	
International thinner	Thinner		7.09 lb/gal	
Interthane 950	Cleaner		0.0 lb/gal	
Intershield Aluminum 300V	General Use		2.72 lb/gal	
Interthane White	High Gloss		2.73 lb/gal	
Interthane light base	High Gloss		2.72 lb/gal	
Interthane ultra deep base	High Gloss		2.73 lb/gal	
Intertuf 262 gray	General Use		2.33 lb/gal	
Intertuf 262 off-white	General Use		2.38 lb/gal	
Intertuf 262 black	General Use		2.38 lb/gal	
Interzinc greenish-gray	Organic Zinc Specialty Coating		3.92 lb/gal	0.82 lb/gal
Interspeed 6400NA	Anti-fouling		3.21 lb/gal	
Interlac 665	High Gloss		3.5 lb/gal	
Jotun Hard Top Pro	High Gloss	**Jotun**	2.67 lb/gal	
Jotun Cleaner Degreaser	Cleaner		0.6 lb/gal	
Jotun Thinner #26	Thinner		7.34 lb/gal	
Jotun Tank Guard 412	General Use		1.16 lb/gal	
Jotun Tank Guard DW	General Use		0.02 lb/gal	
SW R1K4	Thinner	**Sherwin Williams**	6.42 lb/gal	
SW R6K30	Thinner		6.76 lb/gal	
SW Copper	General Use		2.71 lb/gal	

TABLE 2 TO SUBPART II OF PART 63--VOLATILE ORGANIC HAP (VOHAP) LIMITS FOR MARINE COATINGS

Coating category	VOHAP limits a b c		
	Grams/liter coating (minus water and exempt compounds)	Grams/liter solids d	
		t ≥4.5° C	t <4.5° C e
General use	340	571	728
Specialty:			
Air flask	340	571	728
Antenna	530	1,439	
Antifoulant	400	765	971
Heat resistant	420	841	1,069
High-gloss	420	841	1,069
High-temperature	500	1,237	1,597
Inorganic zinc high-build	340	571	728
Military exterior	340	571	728
Mist	610	2,235	
Navigational aids	550	1,597	
Nonskid	340	571	728
Nuclear	420	841	1,069
Organic zinc	360	630	802
Pretreatment wash primer	780	11,095	
Repair and maint. of thermoplastics	550	1,597	
Rubber camouflage	340	571	728
Sealant for thermal spray aluminum	610	2,235	
Special marking	490	1,178	
Specialty interior	340	571	728
Tack coat	610	2,235	
Undersea weapons systems	340	571	728
Weld-through precon. primer	650	2,885	

[1] VOHAP content calculated only for coatings with total VOC content exceeding VOHAP limits of 40 CFR 63 Subpart II

Recommendations

Pollutant	Emissions Limitation
VOCs (minus water and exempt compounds)	▪ VOC content limit of 3.3 lbs per gallon of antifouling coating applied ▪ VOC content of 3.5 lbs per gallon of heat resistant and high-gloss coating applied ▪ VOC content of 3.92 lbs per gallon of organic zinc high-build coating
Volatile TAPs	▪ Volatile TAP content limit of 2.9 lbs per gallon of general use, organic zinc high-build or nonskid coating applied ▪ Volatile TAP VOC content limit of 3.3 lbs per gallon of antifouling coating applied ▪ Volatile TAP VOC content of 3.5 lbs per gallon of heat resistant or high-gloss coating applied

G. EMISSION ESTIMATES

Proposed Project Emissions

Actual Emissions

Calculations for the facility wide emissions were provided by Cascade Environmental Management, which followed guidance provided by PSCAA while permitting NOC 11922. This project should expand the facilities 30 ships per year to an expected 50. This project should account for about 40% of the expected facility wide emissions

Potential Emissions

This permit includes emissions from both piers, and is summarized in facility-wide emissions.

Facility-wide Emissions

Actual Emissions

Actual Emissions (tpy)			
VOC	**PM**	**Total HAP**	**Highest HAP (Xylene)**
83.02	0.16	8.3	6.0

Reporting Source? **This has been established as a reporting source for NOC 11922.**

Potential Emissions

Emissions were calculated for both a 20 hour/day operating hours and 24 hours/day operating hours. The 20 hours per day limit ensures compliance with WAC 174-460-150.
Because the VOC and Xylene quantity are still under 100 and 10 tons respectively, this source shall stay a natural minor. The

Potential Emissions (tpy)			
VOC	**PM**	**Total HAP**	**Highest HAP (Xylene)**
83.02	0.23	8.29	6.03

Natural Minor Check (emissions without 460 usage limits)			
VOC	**PM**	**Total HAP**	**Highest HAP (Xylene)**
99.63	0.27	9.95	7.23

H. OPERATING PERMIT OR PSD

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

The facility is not a Title V air operating permit source because post project PTE remains below Title V applicability thresholds and criteria. The source is considered a "**natural minor**".

Emission increases associated with this project were reviewed for Prevention of Significant Deterioration (PSD) Program applicability. The facility not an existing PSD major source and the increase in emissions from this permitting action is below PSD thresholds.

I. AMBIENT TOXICS IMPACT ANALYSIS

The estimated potential toxic air pollutant (TAP) emissions at operating at 100% rated capacity and 8760 hour per year for each new or modified emission unit (*or based on limit in permit*). 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.

Cascade prepared the following emission estimates. These are facility wide estimates. The additional pier accounts for 40% of the new emissions, making the margin of acceptable error larger than it might appear below. Because this was calculated for the entire site, there should be no need to track which chemicals were used for which port. The Modeling output is saved in section M.

Table 3. Modeling Summary for Everett Ship Repair

Toxics Summary																
TAP	**Xylenes**	**Ethyl Benzene**	**n-Butyl Alcohol**	**Toluene**	**MIBK**	**Cumene**	**1,2-Ethanediamine**	**Propylene glycol monomethyl ether**	**Phenol**	**Methanol**	**n-Butyl Acetate**	**1,2,4-Trimethyl Benzene**	**1,3,5-Trimethyl Benzene**	**Isopropyl Alcohol**	**Ethylene glycol monobutyl ether**	**Hexavalent Chromium (estimated)**
CAS	1330207	100414	71363	108883	108101	98828	107153	107982	108952	67561	123864	95636	108678	67630	111762	
Avg Period	24-hr	year	-	24-hr	24-hr	24-hr	-	24-hr	24-hr	24-hr	-	-	-	1-hr	24-hr	Annual
Lb/Avg Period	33.02	1628.15	-	0.01	0.00	1.66	-	0.00	0.00	6.29	-	-	-	0.49	2.25	0.02
SQER (lb/avg period)	16	65	-	370	220	30	-	520	15	1500	-	-	-	5.9	6.1	0.00065
ASIL (ug/m3)	220	0.4	-	5000	3000	400	-	7000	200	20000	-	-	-	3200	82	4.00E-06
Modeled Concentration (ug/m3)	17.6	0.398	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.98E-06

J. APPLICABLE RULES & REGULATIONS

Puget Sound Clean Air Agency Regulations

SECTION 5.05 (c): The owner or operator of a registered source shall develop and implement an operation and maintenance plan to ensure 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 startup, shut down, and normal operation;
(5) The control measures to be employed to ensure 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.

SECTION 9.16(c): General Requirements for Indoor Spray-Coating Operations. It shall be unlawful for any person subject to the provisions of this section to cause or allow spray-coating inside a structure, or spray-coating of any motor vehicles or motor vehicle components, unless all of the following requirements are met:
(1) Spray-coating is conducted inside an enclosed spray area;
(2) The enclosed spray area employs either properly seated paint arresters, or water-wash curtains with a continuous water curtain to control the overspray; and
(3) All emissions from the spray-coating operation are vented to the atmosphere through an unobstructed vertical exhaust vent.

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.

Federal

N/A

K. PUBLIC NOTICE

This project meets the criteria for mandatory public notice under WAC 173-400-171(3). The estimated emissions increase for VOC exceeds 40 tpy which is above the emission threshold rate as defined in WAC 173-400-030.

A notice of application was posted on the Agency's website for 15 days. No requests or responses were received. A copy of the website posting is below:

New Construction Projects

Company	Address	Project Description	Date Posted	Contact Engineer
Everett Ship Repair	2730 Federal Ave, Everett, WA 98201	The applicant is proposing to install a second dry dock to an existing ship repair facility.	4/25/22	Maggie Corbin

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:

Temporary Containment System Requirements

3. All abrasive blasting and all spray coating operations shall be conducted in a complete enclosure (e.g., tarpaulins, plastic barriers, shrink wrap, mobile enclosures, physical barriers or similar

methods) that prevents the escape of abrasive blasting dust and paint overspray beyond the enclosure. Multiple enclosures may be used at the facility depending on the size of the operation. Each enclosure shall have overlapping or closed seams, and no rips, tears or gaps that may allow the abrasive blasting dust or paint overspray to escape. Each enclosure shall be designed such that the abrasive blasting or spray-coating work area is maintained under negative pressure.

4. Exhaust from abrasive blasting and spray coating in each temporary enclosure shall be routed through a vertical unobstructed stack with exhaust height of 65 feet.

Abrasive Blasting Operational Requirements

5. Abrasive blast grit usage at the facility shall be limited to 65,000 tons over any consecutive 12-month period. The owner or operator shall maintain records of the estimated usage of blast grit on a monthly basis. Estimates can be made based on expended grit (single use media), hopper fills and refills (reusable grit), or based on total hours of operation.
6. During the abrasive blasting operation, all exhaust from each temporary enclosure shall be exhausted to a dust collector with 100% capture equipped with filters that meet one of the following requirements:
    a. A system that meets a minimum of 99.97% particulate control efficiency for particles 0.05 and larger as determined using ASHRAE 52.2-2007 or equivalent; or
    b. A system that meets a minimum initial efficiency reporting value (MERV) of 16 as determined by ASHRAE Method 52.2-2007.

    The owner or operator shall maintain records provided by the filter manufacturer or supplier demonstrating compliance with one of the filter standards above.
7. There shall not be any visible emissions from the temporary enclosure, ductwork or dust collectors.
8. Each dust collector shall be equipped with a gauge to measure the pressure drop across the dust collector. The acceptable pressure drop range shall be clearly marked on or near the gauge and documented in the facility Operation and Maintenance Plan.
9. At least once each day when abrasive blasting operations occur in the temporary enclosure, the owner or operator shall inspect the system to verify the following conditions are met:
    a. The enclosure has overlapping seams and is free of rips, tears or gaps that may allow the particulate matter to escape;
    b. There are no visible emissions from the enclosure, ductwork and dust;
    c. There is no particulate fallout in the area around the dust collector; and
    d. The pressure drop measurement gauge is operating and the pressure drop across the dust collector system is within the operating range.

    If requirements described above are not met, the owner or operator shall take corrective action or discontinue abrasive blasting operations until corrective action is taken. The owner or operator shall document inspection findings and any corrective action taken.
10. The abrasive blasting material shall not contain manganese in amounts greater than 1.35 percent by weight; arsenic, cadmium, or lead in amounts greater than 0.1 percent by weight; or total chromium in amounts greater than 0.08 percent by weight. Stainless steel blasting material shall not be used.

The owner or operator shall maintain copies of Safety Data Sheets (SDS), Environmental Data Sheets (EDS), Product Data Sheets (PDS), manufacturer specific formulation data or analytical data to demonstrate compliance with this requirement.

11. Dust and used abrasive shall be cleaned up daily or as soon as possible after blasting has finished (whichever is sooner).
12. Emissions from stockpiles of new and/or spent abrasive material shall be minimized. Measures shall at least include covering stockpiled material, wetting stockpiled material, or keeping stockpiled material in closed containers.

Spray Coating Operation Requirements

13. The owner or operator shall not apply more than 58,000 gallon/year of VOC containing materials within any consecutive 12-month period. Orders or purchase transactions for material used, along with the associated chemical constituent compositions (VOC content), may be used in lieu of usage information.
14. The coatings applied or used must not exceed the following VOC content (minus water and exempt compounds) limits:
    a. 3.50 lbs of VOCs per gallon of heat resistant or high-gloss coating, as applied or used;
    b. 3.30 lbs of VOCs per gallon of antifouling coating, as applied or used;
    c. 3.92 lbs of VOC per gallon of organic zinc coating, as applied or used; and
    d. 2.90 lbs of VOCs per gallon of any other coating not specified above, as applied or used.
15. The owner or operator is prohibited from spray applying coatings that contain compounds of chromium, lead, manganese, nickel, or cadmium.
16. All coatings shall comply with the following Volatile Organic Hazardous Air Pollutant (VOHAP) limits. The owner or operator shall maintain records identifying each coating used (similar batches may be grouped together), the appropriate coating category, the applicable VOHAP limit, and the VOHAP content of the specific coating:
    a. 3.3 lbs of VOHAP per gallon of antifouling coating applied;
    b. 3.5 lbs of VOHAP per gallon of heat resistant or high-gloss coating; and
    c. 2.9 lbs of VOHAP per gallon of any other coating not specified above.
17. Ethylbenzene emissions must not exceed 1,600 pounds during any consecutive 12-month period. Orders or purchase transactions for material used in the spray-coating operations and the chemical constituent compositions (ethylbenzene content) may be used to determine ethylbenzene emissions. The ethylbenzene content of coatings not used and disposed of as waste may be deducted from the order transactions to determine the ethylbenzene emissions. For the purposes of this order, unused coating disposed of as waste shall be any unused coating in original container or unused mixed coating in a storage container disposed of as waste which had never been transferred to equipment for spray or hand application.
18. Xylene emissions must not exceed 12,000 pounds during any consecutive 12-month period. Orders or purchase transactions for material used in the spray-coating operations and the chemical

constituent compositions (xylene content) may be used to determine xylene emissions. The xylene content of coatings not used and disposed of as waste may be deducted from the order transactions to determine the xylene emissions. For the purposes of this order, unused coating disposed of as waste shall be any unused coating in original container or unused mixed coating in a storage container disposed of as waste which had never been transferred to equipment for spray or hand application.

19. Copies of SDS, EDS, PDS or manufacturer specific formulation data shall be maintained to demonstrate compliance with the requirements in Conditions 14, 15, and 16 .

20. During spray coating operations, all exhaust from each temporary enclosure shall be exhausted with 100% capture through a dry filter system that meets one of the following standards:

    a. A minimum initial overspray arrestance of 98 percent. Overspray arrestance must be determined using the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1 procedure and substituting the synthetic test dust feed with high solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non-HVLP) air-atomized spray gun operating at 40 pounds per square inch (psi) air pressure with a minimum air flow rate across the filter of 150 feet per minute. A system that complies with 40 CFR Part 63, Subpart HHHHHH meets this requirement.

    b. A system that meets a minimum initial efficiency reporting value (MERV) of 13 as determined by ASHRAE Method 52.2. The dust collector used for abrasive blasting operation meets this requirement.

    c. A system that meets a minimum initial filtration efficiency of 98 percent over the particle diameter range from 0.3 to 10 microns. The particle size dependent filtration efficiencies must be determined using either Environmental Protection Agency (EPA) Method 319 or an Agency approved method.

    Documentation demonstrating compliance with one of the filter standards listed above shall be available for inspection upon request.

21. A gauge (manometer or magnehelic) shall be installed and maintained that measures pressure drop across each dry filter system or portable dust collector. The acceptable pressure drop range shall be clearly marked on or near the gauge and documented in the facility Operation and Maintenance Plan.

22. All spray application of material must be applied with an air-assisted airless spray gun, electrostatic applicator, or high-volume low-pressure (HVLP) spray gun. Airless spray guns may be used for high viscosity high solids coatings for which airless application is recommended by the manufacturer. Alternative spray technology must meet a minimum transfer efficiency of 65 percent. The procedure used to demonstrate a spray technology's transfer efficiency must be equivalent to South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002." A plan describing the test procedure must be developed and submitted to the Agency 30 days prior to conducting any spray technology transfer efficiency test.

23. At least once each day when spray coating operations occur in the temporary containment system, the owner or operator shall inspect the system to verify the following conditions are met:

    a. The pressure drop across the exhaust filter system is within the acceptable range;

    b. The enclosure is free of rips, tears or gaps that may allow overspray to leave the enclosure; and

    c. There is no evidence of paint overspray from previous activities.

    If requirements described above are not met, the owner or operator shall take corrective action. The owner or operator shall only start spray coating operations after the requirements described above are met. The owner or operator shall document inspection findings and all corrective action taken.

24. Best management practices shall be used in all coating operations, including the collection of VOC containing materials used for cleanup of equipment to minimize evaporation to the atmosphere, keeping containers used for the storage and disposal of VOC containing materials closed except when these containers are being cleaned or when materials are being added, mixed or removed; and storing solvent rags and paper for disposal in closed containers.

Recordkeeping and Reporting Requirements

25. The following records shall be kept onsite and up-to-date, and be made readily available to Agency personnel upon request:

    a. The VOC (minus water and exempt compounds) content in lb/gallon of each material used and applied in order to demonstrate compliance with Conditions 14, 15, and 16. Safety Data Sheets (SDS), Environmental Data Sheets (EDS), Product Data Sheets (PDS) or manufacturer specific formulation data may be used to document the contents.

    b. Copies of SDS, EDS, PDS or manufacturer specific formulation data to demonstrate compliance with Condition 10.

    c. Documentation to demonstrate compliance with the abrasive blasting filter requirements of Condition 6.

    d. Documentation to demonstrate compliance with the spray coating filter requirements of Condition 20.

    e. Documentation to demonstrate compliance with the spray gun requirements of Condition 22.

    f. The Operation and Maintenance (O&M) plan. The O&M plan shall be developed and implemented per Agency's Regulation I. The O&M plan shall include filter maintenance, filter inspection procedures, and corrective action procedures for when the pressure drop falls outside of acceptable range.

26. The following records shall be kept onsite, updated within 30 days at the end of each month for at least two years from the date of generation, and be made readily available to Agency personnel upon request:

    a. Documentation of the total amount in gallons of all VOC-containing (minus water and exempt compounds) materials applied and used per month and during any consecutive 12-month period in order to demonstrate compliance with Condition 13. Order and purchase records may be used to estimate usage.

b. Documentation of the total amount in tons of all abrasive blasting media used per month and during any consecutive 12-month period in order to demonstrate compliance with Condition 5.
c. Documentation of the total amount of ethylbenzene applied or used in pounds for each month and the resulting 12-month rolling total. Order and purchase records may be used to estimate usage.
d. Documentation of the total amount of xylene applied or used in pounds for each month and the resulting 12-month rolling total. Order and purchase records may be used to estimate usage.
e. A written log documenting inspection findings and corrective action as required by Conditions 9 and 23.
f. Documentation verifying any corrective action taken to maintain compliance with this Order of Approval, if any, and the date and time it was conducted.

27. The Agency shall be notified, in writing, within 30 days of discovering an exceedance of any limitations identified in Conditions 5, 13, 17, or 18.

28. Upon approval, this permit shall cancel and supersede NOC 11922.

M. CORRESPONDENCE AND SUPPORTING DOCUMENTS

ESR Concentration Plots.pdf
ESR 2022.ADO
2022-09-15_SEPA Decision ESR Vessel A
Everette Ship Repair SEPA.msg
Re Puget Sound C.A.A. federal ship rep
Puget Sound C_A_A_ federal ship repair dry dock.msg
Emissions Calcs - ESR 2022-03 mep24.xlsx

N. REVIEWS

Reviews	Name	Date
Engineer:	Carl Slimp	10/13/2022
Inspector:	Rain Yates	10/14/2022
Second Review:	John Dawson	10/14/2022
Everett Ship Repair :	Jon Hie	10/21/2022