

Statement of Basis for the Air Operating Permit—Final

Nordic Tugs, Inc.

Burlington, Washington

April 18, 2013



Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION
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EPA AFS: 53-057-00050

NWCAA ID: 1444-V-S

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1 INTRODUCTION

Nordic Tugs is required to have an air operating permit because the facility has the potential to emit greater than 10 tons per year of styrene, a regulated hazardous air pollutant listed in section 112(b) of the Federal Clean Air Act. Styrene is released during mixing, application (layup) and subsequent curing of polyester resins and gel coats applied at the plant.

The Northwest Clean Air Agency (NWCAA) issued the original air operating permit, 017, for the facility on December 14, 2006. Permit 017 expires on December 14, 2011.

The purpose of this Statement of Basis is to set forth the legal and factual evidence for the conditions in the Nordic Tugs air operating permit and to provide background information for permit review by interested parties. This Statement of Basis is not a legally enforceable document in accordance with WAC 173-401-700(8).

1.1 Permit Changes in the First Renewal

The Northwest Clean Air Agency (NWCAA) received an application for the renewal of the Nordic Tugs AOP on April 12, 2011.

For this AOP renewal, formatting throughout the AOP was updated to current NWCAA standards. Changes specific to each permit section are listed below.

1.1.1 General Information and Attest

- Dates were incremented generally by five years, except that the renewal application is now due one year, rather than six months, before permit expiration.

1.1.2 Section 2 Standard Terms and Conditions

Section 2 of the AOP was updated with the current NWCAA standard version, which includes new and modified applicable regulations and updated reference dates.

1.1.3 Section 3 Standard Terms and Conditions for NESHAP

Section 3 of the AOP was updated with the current NWCAA standard version, modified to reflect the actual conditions and requirements at Nordic Tugs.

1.1.4 Sections 4 and 5 Generally and Specifically Applicable Requirements

Changes made to the Generally and Specifically Applicable Requirements sections in the current AOP are summarized in the following list:

- The monitoring, recordkeeping, and reporting (MR&R) requirement for opacity compliance determination was clarified in Section 4. The Section 5 opacity term references the opacity MR&R in Section 4.
- General odor, nuisance, and fugitive emission terms now reference one set of updated MR&R requirements. These updates result in more stringent requirements for fugitive emissions and a consistent approach for addressing complaints.
- Compliance with the SO₂ emission limits has been removed. Nordic Tugs only burns natural gas at their facilities and it is not likely that they would exceed any SO₂ standards.
- Conditions from Order of Approval to Construct (OAC) 742b, issued on February 21, 2007, replaced conditions from OAC 742a.

1.2 Permit Changes in Modification 1 of the First Renewal

On January 18, 2013, the NWCAA received a request for an administrative modification to change the name and title of the responsible official identified on page ii of the Air Operating Permit. Nordic Tugs requested that Mr. George Armendariz, General Manager, be identified as the responsible official instead of Mr. Paul Johnson, Plant Manager. This change was made as requested on April 18, 2013.

2 FACILITY DESCRIPTION

2.1 General Facility Description

Nordic Tugs, Inc. operates a fiberglass reinforced plastic (FRP) boat manufacturing facility in Burlington, Washington. Fiberglass pleasure boats from 26' to 54' are manufactured at this facility and sent out as complete units to dealers.

Fiberglass boats traditionally are made by laminating successive layers of gel coat, resins and fiberglass materials inside female molds. Different molds are used to make hulls, decks and other small parts. The completed FRP parts, purchased items and components made in other areas of the plant are assembled into turnkey boats.

The various stages of construction are illustrated in Figure 1 in the form of a flow diagram and are described below.

- **Lamination:** Molds are cleaned and given a coat of releasing wax. Pigmented polyester resin (called gel coat) is sprayed onto the mold, followed by successive layers of resin and chop and/or rolled glass as necessary, according to engineering specifications. In the stiffening process wood and composite material bulkheads, stringers and machinery shelves are installed and laminated. The finished parts are then pulled from the molds, sent through the grinding booth for cleanup and then onto the assembly shop.
- **Wood Shop:** Raw stocks of plywood, teak, cedar, mahogany and composite materials are reworked for distribution. Stock is made into patterned shapes and assembled units for delivery to lamination, upholstery, and assembly.
- **Upholstery:** Upholstered seats, bunks, pads and cushions are manufactured on site. Roll stock of vinyl, fabric and canvas materials are cut into patterned pieces and sewn together to make skins. These skins are fitted with appropriate fillers and are attached to wood pieces and assemblies from the wood shop. Numerous side and overhead panels are cut in the wood shop, covered in the upholstery shop and sent to assembly for installation.
- **Pre-Assembly:** The pre-assembly shop rigs tanks and other components with fittings and hardware in preparation for final assembly. The wire shop makes up harnesses, dash panels, AC/DC panels, etc.
- **Assembly:** Decks, hulls, and other parts are moved in from lamination. While still in separate pieces they are fitted with steering, engines, generators, wire harnesses, hull and deck fittings, rails and any other parts that can be efficiently installed at this stage. The deck and hull are then bonded together and the rest of the boat is assembled.

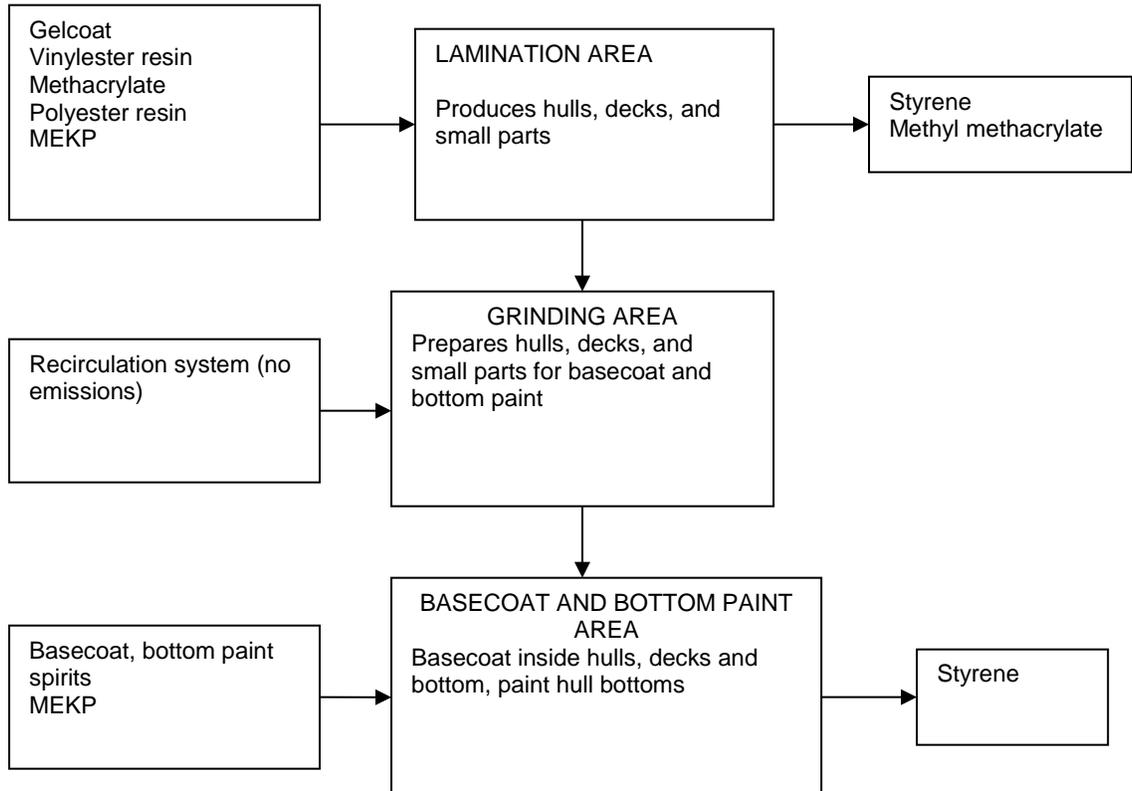


Figure 2-1 Nordic Tugs Process Flow Diagram

2.2 Emission Unit Description

The various emission points at the Nordic Tugs facilities are identified in Figure 2. Emission points 1-6 are in the lamination room and are equipped with 20 hp, 20,000 CFM, 30” vaneaxial fans. Emission points 7-9 are in the Assembly room and are equipped with 0.75 hp, 5,000 CFM 18” tubeaxial fans. The emission units are also described in Table 2-1.

Gaseous air contaminants may be released from resin storage, mixing, application and curing, and from solvent evaporation. Particulate is generated from resin application, and cutting and sanding the products and molds. Combustion emissions result from heating appliances. Numerous other activities at the plant emit air contaminants in small quantities (forklifts, parking lot dust, etc.). For purposes of organization, the operating permit program divides activities such as these into categories called emission units. Emission units are distinct activities or processes generating emissions that may be exhausted to the outside air. The air operating permit regulation, Washington Administrative Code (WAC) chapter 173-401, distinguishes small, generally inconsequential, emission units (insignificant) from emission units that generate notable amounts of air contaminants (significant). While all emission units at the facility are subject to the generally applicable requirements of the permit, insignificant emission units are not subject to monitoring and compliance certification provisions (WAC 173-401-530(2)(c) & (d)).

The various processes at Nordic Tugs emit primarily styrene, but emissions also include methyl methacrylate, dimethyl phthalate, toluene, hexane, and cyclohexane. Acetone is used as a solvent. A detailed emissions inventory as submitted by Nordic Tugs is shown in Table 2-2.

Table 2-1 Significant Emission Units at Nordic Tugs

Emission Unit Process Name	Emission Points	Control Device	Process Description
A) Lamination	Emission points 1-6 as identified in Figure 1. All are equipped with 20 hp, 20,000 CFM, 30" vaneaxial fans.	There are no control devices on any of these fans.	Boat molds are cleaned and coated with wax. Next, they are sprayed with gel coat. When gel coat cures, resins, catalysts, and fiberglass chop are added in many successive layers. The stiffing process follows whereby wood components are installed and laminated with resins to improve strength. The finished part is then taken to the grinding booth to smooth rough edges.
B) Pre-Assembly (Formerly Assembly)	Emission points 7-9 as identified in Figure 1. All are equipped with 0.75 hp, 5,000 CFM 18" tubaxial fans.	There are no control devices on any of these fans.	Decks, while still separate, are fitted with hard tops, wire harnesses, vinyl, windows and doors, exterior hardware and other parts that may be installed efficiently at this stage. Modules (large pre-built sections) are constructed at this stage for installation at a later time.
C) Woodshop (pre-assembly)	2 Eurovac dust collection systems; Woodshop proper [670 cfm]. Solid surface area [206 CFM]	There are no control devices on any of these fans.	Wood is reworked and prepared according to its final destination. For lamination, plywood and composite materials are prepared for use as stiffening in lamination. For cabinets and trim material; plywood and teak are used. Corian stock is fashioned into counter tops.
D) Upholstery (pre-assembly)			Seats, bunks, cushions, pads, side panels, dash pads, and floor hatches are manufactured on site and sent to Assembly for installation.
E) Assembly	Emission points 10 – 15 as identified in Figure 1. All are equipped with .5 hp, 3500 CFM fans.	There are no control devices on any of these fans.	This is where actual assembly of the boats takes place. Hulls, while still separated from the decks, are fitted with tanks, engines, wire harnesses and other parts that may be installed efficiently at this stage. The deck is then set in place and the rest of the parts (cabinets carpeting, etc.) are installed.
F) Start-up (Assembly)	Emission points 16 - 17 as identified in Figure 1. Both are equipped with 5 hp, 5000 CFM fans.	There are no control devices on any of these fans.	Boats are started up and all systems are checked at this stage. These fans route the diesel exhaust outdoors via ducting and stacks.

2.3 Emissions Inventory

Nordic Tugs qualifies as a major source subject to the requirements of the Clean Air Act (CAA) Title V program because it has the potential to emit more than 10 tons per year

of styrene, a hazardous air pollutant.

Table 2-2 below shows recent emissions history of the facility as identified in the annual emissions inventory submitted to NWCAA, in tons per year.

Table 2-2 Nordic Tugs Emissions Inventory, tons per year

	2005	2006	2007	2008	2009	2010
TSP	0	0	0	0	0	0
PM ₁₀	0	0	0	0	0	0
PM _{2.5}	0	0	0	0	0	0
SO ₂	0	0	0	0	0	0
NO _x	0	0	0	0	0	0
VOC	11	8	9.45	5	3	1.5
CO	0	0	0	0	0	0

2.4 Compliance History

Violations are resolved through a combination of penalty assessments and corrective action taken by the source. In most cases a summary of corrective action taken by the source was submitted to the NWCAA as a written response to the violation. Additional information about each violation can be obtained upon request to the NWCAA.

Nordic Tugs was initially registered by the NWCAA on July 30, 1990. There were no Notices of Violation (NOV) issued between that initial registration and November, 2004. Since that time, the following NOV's have been issued:

- Notice of Violation #3449 Issued November 8, 2004

The facility was issued a Notice of Violation for violating OAC 742 conditions. Inspectors found a malfunctioning pressure gauge in the filter banks in the lamination room. Also, particulate filters in the lay-up building were found to be improperly mounted. A fine of \$250 was assessed.

- Notice of Violation #3500 Issued August 17, 2005

The facility was issued a warning related to conditions in OAC 742. The filter banks in the lamination building did not provide at least 98% efficiency.

- Notice of Violation #3562 Issued December 5, 2006

The facility was issued a Notice of Violation related to conditions in 40 CFR 63.5767 and 40 CFR 63.5770. They only kept the latest copy for the resin and gel coat MSDS in their records. Records should have been kept onsite for at least five years. A fine of \$1500 was assessed, reduced to \$800 provided that Nordic Tugs would reproduce the missing MSDS and commit no further violation of 40 CFR 63.5767 and 40 CFR 63.5770 for a period of five years. Nordic Tugs reproduced the missing MSDS. The facility has committed no further violations of 40 CFR 63.5767 and 40 CFR 5770 to date. The fine was paid on February 12, 2007.

- Notice of Violation #3561 Issued December 5, 2006

The facility was issued a Notice of Violation related to condition 4 of OAC 742a, which stipulates that containers with resin must be covered at all times when not in use. The pump on their resin tank was leaking resin, and an uncovered container was placed underneath the pump. The container was found with an amount of dried-up resin in it. A fine of \$2000 was assessed, reduced to \$750 provided that Nordic Tugs commits no further violation of condition 4 of OAC 742a for a period of five years. Nordic Tugs has committed no further violation of condition 4 of OAC 742a to date. The fine was paid on February 12, 2007.

- Notice of Violation #3805 Issued October 21, 2009

The facility was issued a warning related to condition 5.2 in their AOP. Even though they kept the appropriate MSDS on file, they did not use the appropriate styrene percent of their resins and gel coats in their spreadsheets. No emission limits were exceeded as a result.

2.5 Compliance Reports

The Nordic Tugs AOP requires semiannual and annual reports to be submitted to the NWCAA as part of the facility's ongoing compliance demonstration. Semiannual reports provide for the certification by the responsible corporate official of the truth, accuracy, and completeness of reports submitted during the previous six-month period. With the annual compliance certification the responsible corporate official also certifies compliance with all applicable requirements in the AOP term by term, noting the method with which compliance is determined, and whether the facility was fully or intermittently in compliance with each term.

2.6 NWCAA Regulatory Orders

Prior to becoming a Title V source, Nordic Tugs. was a synthetic minor source. On September 12, 2000, OAC 742 was issued by the NWCAA, which contained necessary emission limits in order for Nordic Tugs to stay out of the Title V program. These emission limits and other conditions in OAC 742 are summarized below:

1. Only non-atomizing application methods shall be used to apply paints, resin and gel coat.
2. Emissions discharged during periods of resin application and curing shall be captured and routed through an exhaust system that discharges vertically at least six feet above the roof-line. During periods of resin application all external openings in the lamination room, including doors and windows, shall remain dosed and the lamination room shall be kept at a negative pressure differential with respect to the outside atmosphere. A magnehelic gauge capable of demonstrating that the lamination room is under negative pressure shall be installed and operated.
3. Before discharge to the outside air, particulate from cutting, grinding, and sanding shall be routed through a filtration system designed to provide particulate abatement efficiency of at least 98%.
4. Paints, solvents and waste containers shall be kept covered at all times when not in use. Resin and gel coat application equipment shall be cleaned in the layup area.

5. Resin, gel coat, paint and solvent usage or purchase records shall be kept onsite and available for inspection by NWCAA staff for at least three years.
6. Emissions of all hazardous air pollutants listed pursuant to section 112(b) of the federal clean air act (HAPs) shall not exceed 24 tons per rolling 12 month period. Emissions of any single HAP shall not exceed 9 tons per rolling 12 month period. The owner or operator shall use material purchase or usage records and emission estimation techniques acceptable to the NWCAA to estimate annual facility-wide emissions from layup activities every calendar quarter. If emissions are greater than 50% of the above limits, the owner or operator shall report the emission estimation results to the NWCAA no later than 30 days after each calendar quarter.
7. Emissions from the facility shall not cause exceedance of acceptable source impact levels specified in WAC 173-460-150 and -160. The facility owner or operator shall demonstrate compliance with this term within 45 days after a written request by the NWCAA. The facility owner or operator shall notify the NWCAA if paint, solvent, resin or gel coat usage or composition significantly deviates from the usage profile specified in the information provided with the subject Notice of Construction and Application for Approval. Notification is only necessary if the change may increase emissions.
8. The facility owner or operator shall develop and follow a management and operating plan approved by the NWCAA within 90 days after commencement of operations. The plan shall be designed to assure compliance with the terms of this approval order.

OAC 742 was replaced by OAC 742a on February 8, 2006. OAC 742a, described in Section 2.7, removed the synthetic minor provision from OAC 742, thus paving the way for Nordic Tugs to become a Title V source.

2.7 NWCAA Orders of Approval to Construct

Nordic Tugs has received two amendments to OAC 742. Applicable requirements, reference test methods, and monitoring for continuing OAC requirements are addressed in Sections 3, 4 and 5 of the AOP.

NWCAA Order of Approval to Construct No. 742a

Version Date: February 8, 2006

- Condition 1 of OAC 742 was amended to allow gel coat application by atomized methods.
- Condition 2 of OAC 742 was amended to allow doors to be open for brief periods of time as needs dictate for ingress and egress of people and equipment.
- Condition 3 of OAC 742 was amended to reflect current working standards at the facility.
- Condition 4 of OAC 742 was amended to disallow use of chlorinated organic solvents at the facility and to reflect current work practice standards with respect to solvents and containers at the facility.

NWCAA Order of Approval to Construct No. 742b

Version Date: February 21, 2007

- The applicant has built a new assembly building as well as an addition to the old lamination building. Condition 2 was changed to specifically include the new addition to the lamination building.
- Conditions 8 and 9 were added to include testing of diesel engines of boats inside the new assembly room.

3 BASIS OF REGULATION APPLICABILITY

3.1 National Emission Standards for Hazardous Air Pollutants (NESHAP)

Nordic Tugs is subject to 40 CFR Part 63 Subpart VVVV- National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing. The final regulation, issued on 08/22/2001 and corrected on 10/03/2001, covers resin and gel coat operations at fiberglass boat manufacturers, paint and coating operations at aluminum boat manufacturers, and carpet and fabric adhesive operations at all boat manufacturers. Air toxics are released during application and curing from the resins, gel coats, adhesives, coatings, and solvents used in boat manufacturing.

Whenever a NESHAP applies to a facility, specific parts of Subpart A (General Provisions) to 40 CFR 63 apply. Such standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements.

3.2 Compliance Assurance Monitoring (CAM)

The requirements of Compliance Assurance Monitoring are contained in 40 CFR 64. They apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit provided the unit satisfies all criteria as delineated in 40 CFR 64.2(a)(1)-(3). In particular, 40 CFR 64.2(a)(2) stipulates that the emission unit uses a control device to achieve compliance. Nordic Tugs does not use any control devices, as these are defined in 40 CFR 64.1, to achieve compliance. Therefore, Nordic Tugs is not subject to the CAM rule.

3.3 Chemical Accident Prevention Provisions

The goal of 40 CFR 68 and the risk management program it requires is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that do occur. If a tank, drum, container, pipe, or other process at a facility contains any of the extremely hazardous toxic and flammable substances listed in Table 1 to 40 CFR 68.130 in an amount above the “threshold quantity” specified for that substance, the facility operator is required to develop and implement a risk management program.

Nordic Tugs does not have any of the substances in the threshold quantities listed in Table 1 to 40 CFR 68.130 and therefore it is not subject to the requirements of 40 CFR 98.

3.4 New Source Review (NSR)

3.4.1 Basic Information

New Source Review requires stationary sources of air pollution to acquire permits before they begin construction. NSR is also referred to as construction permitting or preconstruction permitting.

There are three types of NSR permits. A source may have to acquire one or more of these permits:

- Prevention of Significant Deterioration (PSD) permits, which are required for new major sources or a major source making a major modification in an attainmentⁱ area;
- Nonattainment NSR permits, which are required for new major sources or major sources making a major modification in a nonattainment area; and
- Minor source permits, which are required for sources that emit pollutants below the major source threshold but above the minor source threshold. It is generally the case that a major new or modified source will also require minor NSR permitting that covers a different subset of pollutants.

3.4.2 What are Permits?

Permits are legal documents that the source must follow. Permits specify what emission limits must not be exceeded and how the source is to demonstrate compliance with the set limits. Permits may contain conditions to ensure that the source is built according to the permit application upon which the permitting agency relies for air impact analysis. For example, the permit may specify a stack height that was used by the permitting agency to determine compliance with air pollutant limits. Some limits in the permit may be specified at the request of the source to keep them from being subject to other requirements. For example, the source may take limits in a minor NSR permit to keep the source out of PSD. To assure that sources follow permit requirements, permits also contain monitoring, recordkeeping, and reporting (MR&R) requirements.

3.4.3 Who Issues the Permits?

In Washington State most NSR permits are issued by the Washington State Department of Ecology (“Ecology”) or local air pollution control agencies. The EPA issues the permit in some cases. Ecology and local air pollution control agencies have their own permit programs that are approved by EPA in the State Implementation Plan (SIP). In general, in the NWCAA jurisdiction, which encompasses Island, Skagit, and Whatcom Counties, Ecology issues major NSR permits (PSD permits) and NWCAA issues minor NSR permits (Orders of Approval to Construct, or OACs).

3.4.4 Prevention of Significant Deterioration (PSD)

Before a major source can be constructed or modified in an area that meets all the health-based ambient air requirements (i.e. in an attainment area), the owner or operator must demonstrate that the project will not cause or contribute to violations of any ambient air quality standard or air quality increment. Also, the owner or operator must demonstrate that the project will not cause significant deterioration in nearby Class I Areas (parks and wilderness areas).

Nordic Tugs qualifies as a major source and is, therefore, an applicable source under the PSD program (40 CFR 52.21) since the facility is located in an attainment area. However, emissions of NO_x, CO, SO₂, PM, and PM₁₀ are well below PSD thresholds and therefore Nordic Tugs is not subject to the PSD program.

ⁱ An attainment area means a geographic area designated by EPA at 40 CFR 81 as having attained the National Ambient Air Quality Standard for a given criteria pollutant (Reference: WAC 173-400-030 (9)).

3.4.5 Minor NSR

New or modified sources of air pollution are required to obtain a permit from the NWCAA before beginning construction. Permits are referred to as Orders of Approval to Construct (OACs) and contain a wide range of local, state, and federal requirements to minimize air pollution impacts on the environment. The type of activity, the size of the operation, and the kinds of pollutants emitted determine permit conditions.

3.5 Greenhouse Gas (GHG) Regulation

3.5.1 40 CFR 98, Federal Mandatory Greenhouse Gas Emission Inventory Regulation

The requirements for the mandatory greenhouse gas reporting are contained in 40 CFR 98. In order for a facility to be subject to 40 CFR 98, it must meet the requirements of either 1, 2, or 3 below:

1. A facility that contains any source category that is listed in Table A-3 of 40 CFR 98 Subpart A.
2. A facility that contains any source category that is listed in Table A-4 of 40 CFR 98 Subpart A that emits 25,000 metric tons CO₂e or more per year in combined emissions from stationary fuel combustion units.
3. A facility that has stationary fuel combustion units with an aggregate maximum rated heat input of 30 mmBtu/hr or greater, and the facility emits 25,000 metric tons CO₂e or more per year in combined emissions from all stationary fuel combustion sources.

Nordic Tugs does not contain any source category that is listed in tables A-3 or A-4 to subpart A to 40 CFR 98, and has no fuel combustion sources with an aggregate maximum rated heat input of 30 mmBtu/hr.

As a result, Nordic Tugs is not subject to the requirements of 40 CFR 98.

3.5.2 WAC Chapter 173-441, Reporting of Emissions of Greenhouse Gases

Chapter 173-441 WAC, "Reporting of Emissions of Greenhouse Gases", is a mandatory greenhouse gas (GHG) reporting rule for:

- Suppliers that supply applicable fuels sold in Washington State of which the complete combustion or oxidation would result in at least 10,000 metric tons of carbon dioxide annually; or
- Any listed facility that emits at least 10,000 metric tons of CO₂-equivalents (CO₂e) of greenhouse gases annually in the state.

WAC 173-441 was adopted by Ecology on December 1, 2010 and became effective on January 1, 2011. This regulation does not apply to Nordic Tugs because the facility does not emit 10,000 metric tons or more of CO₂e of greenhouse gases per year.

4 GENERAL PERMIT ASSUMPTIONS

4.1 Permit Content

The permit contains (1) standard terms; (2) generally applicable conditions for the type of facility permitted; and (3) specifically applicable conditions. Applicable requirements that were satisfied by a single past action on the part of the source are not included in the permit but are discussed in the Statement of Basis. Regulations that require action by a regulatory agency, but not of the regulated source, are not included as permit conditions.

4.2 One Time Requirements

- Pursuant to 40 CFR 63.9(b)(2), initial notification that facility is subject to 40 CFR 63 Subpart WWWW. A letter submitted to the NWCAA to that effect is dated March 31, 2006 and is on file.
- Pursuant to 40 CFR 60.9(h), notification of compliance status with respect to 40 CFR 63 Subpart WWWW. A statement submitted to the NWCAA to that effect, sent with the semiannual compliance notification, is dated January 30, 2007 and is on file.

4.3 Federal Enforceability

Federally enforceable requirements are terms and conditions required under the Federal Clean Air Act or under any of its applicable requirements such as NESHAP. Local and state regulations may become federally enforceable by formal approval and incorporation into the State Implementation Plan (SIP) or through other delegation mechanisms. Federally enforceable requirements are enforceable by the EPA and citizens of the United States. All applicable requirements in the permit including Standard Terms and Conditions, Generally Applicable Requirements, and Specifically Applicable Requirements are federally enforceable unless identified in the permit as enforceable only by the state and labeled as “state only”.

Chapter 173-401 WAC is not federally enforceable although the requirements of this regulation are based on federal requirements for the air operating permit program. Upon issuance of the permit, the terms based on Chapter 173-401 WAC will become federally enforceable for the source.

Most rules and requirements are followed by a date in parentheses. Two different versions (identified by the date) of the same regulatory citation may apply to the source if federal approval/delegation lags behind changes made to the Washington Administrative Code (WAC) or the NWCAA Regulation. The date associated with a WAC regulation denotes the “State Effective Date” of the regulation. For SIP-approved WAC regulations (identified by the absence of the “state only” designation), the date represents the “State Effective Date” of the regulation version that was SIP-approved. For NWCAA regulations, the date represents the most recent Board of Directors adoption date, which is identified as the “Passed” or “Amended” date in the NWCAA Regulation. For SIP-approved NWCAA regulations (also identified by the absence of the “state only” designation), the parenthetical date represents the “Passed” or “Amended” date of the regulation version that was SIP-approved. The date associated with an OAC

or PSD permit represents the latest revision date of that order. For a federal rule, the date is the rule's most recent promulgation date.

4.4 Gap-Filling

Certain air pollution regulations and permit conditions do not specifically call out sufficient MR&R methods to adequately demonstrate compliance with the applicable requirement. In these cases, the permitting agency is obligated to develop site-specific MR&R requirements that the source must follow pursuant to WAC 173-401-615(1)(b) & (c) (10/17/02). The inclusion of the customized MR&R requirements is called "gap-filling". For instance, nuisance rules and opacity requirements have site-specific gap-filled obligations for the source. If gap-filling has been incorporated for a requirement of the AOP, the MR&R for that term will state "directly enforceable" above the gap-filled text.

4.5 Future Requirements

Applicable requirements promulgated with future effective compliance dates may be included as applicable requirements in the permit. Some requirements that are not applicable until triggered by an action, such as the requirement to file an application prior to constructing a new source, are addressed within the standard terms and conditions section of the permit.

There are presently no pending applications to construct or modify Nordic Tugs in such a way as to trigger New Source Review. Nordic Tugs has certified in the permit renewal application that the facility will meet any future applicable requirements on a timely basis.

4.6 Compliance Options

Nordic Tugs did not request emissions trading provisions or specify more than one operating scenario in the air operating permit application; therefore, the permit does not address these options as allowed under WAC 173-401-650. This permit does not condense overlapping applicable requirements (streamlining) nor does it provide any alternative emission limitations.

5 PERMIT ELEMENTS AND BASIS FOR TERMS AND CONDITIONS

5.1 Permit Organization

The Nordic Tugs Air Operating Permit (AOP) is divided into the following sections:

Permit Information

Attest

Table of Contents

Section 1 Emission Unit Identification

Section 2 Standard Terms and Conditions

Section 3 Standard Terms and Conditions for NESHAP

Section 4 Generally Applicable Requirements

Section 5 Specifically Applicable Requirements

Section 6 Inapplicable Requirements

5.2 Permit Information and Attest

5.2.1 Permit Information

The Permit Information page identifies the source and provides general information relevant to the permit such as the facility address, the responsible corporate official, the permit issuance date and the permit expiration date, and the agency personnel responsible for permit preparation, review, and issuance.

5.2.2 Attest

The Attest page provides authorization for the source to operate under the terms and conditions contained in the permit.

5.3 Section 1 Emission Unit Identification

The Emission Unit Identification section lists emission units, rated capacities, and air pollution control methods at the Nordic Tugs.

5.4 Section 2 Standard Terms and Conditions

The Standard Terms and Conditions section of the AOP (Section 2) specifies administrative requirements or prohibitions with no ongoing compliance monitoring requirements. The legal authority for the Standard Terms and Conditions is provided in the citations in Section 2 of the AOP. The description of the regulation in each of these conditions (with the exception of those labeled "Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02") is sometimes a paraphrase of the actual regulatory requirement. Where there is a difference between the actual requirement and the paraphrased description, the cited regulatory requirement takes precedence. In an effort to make the section more readable, the terms and conditions have been grouped by function. In some cases, similar requirements at the state and local authority level

have been grouped together.

Several permit conditions in Section 2 of the AOP are labeled “Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02”. These conditions are a clarification of the regulatory requirements, as the NWCAA interprets those requirements. “Directly enforceable” conditions are legal requirements with which the permittee must comply and are directly enforceable through the permit per NWCAA’s gap-filling authority.

A number of requirements that would not be applicable until triggered have also been included in Section 2 of the AOP. An example of one such requirement is the requirement for a source to submit an application for new source review.

5.5 Section 3 Standard Terms and Conditions for NESHAP

Section 3 of the AOP includes the standard terms and conditions that are contained in Subpart A of 40 CFR 63. Such standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements.

Specified parts of Subpart A to 40 CFR 63 apply to Nordic Tugs, as indicated in Table 5-1 below. Section 3 in the AOP is designed to summarize Subpart A to 40 CFR 63. In the event of a conflict between Section 3 of the AOP and 40 CFR 63 Subpart A, the latter rules. The applicability table (Table 8 to Subpart VVVV to 40 CFR 63) is presented in full as Table 5-1 below.

Table 5-1 Applicability of Subpart A (General Provisions) to Subpart VVVV of Part 63

Citation	Requirement	Applies to subpart VVVV	Explanation
§63.1(a)	General Applicability	Yes.	
§63.1(b)	Initial Applicability Determination	Yes.	
§63.1(c)(1)	Applicability After Standard Established	Yes.	
§63.1(c)(2)		Yes	Area sources are not regulated by subpart VVVV.
§63.1(c)(3)		No	[Reserved]
§63.1(c)(4)-(5)		Yes.	
§63.1(d)		No	[Reserved]
§63.1(e)	Applicability of Permit Program	Yes.	
§63.2	Definitions	Yes	Additional definitions are found in §63.5779.
§63.3	Units and Abbreviations	Yes.	
§63.4(a)	Prohibited Activities	Yes.	

§63.4(b)-(c)	Circumvention/Severability	Yes.	
§63.5(a)	Construction/Reconstruction	Yes.	
§63.5(b)	Requirements for Existing, Newly Constructed, and Reconstructed Sources	Yes.	
§63.5(c)		No	[Reserved]
§63.5(d)	Application for Approval of Construction/Reconstruction	Yes.	
§63.5(e)	Approval of Construction/Reconstruction	Yes.	
§63.5(f)	Approval of Construction/Reconstruction Based on prior State Review	Yes.	
§63.6(a)	Compliance with Standards and Maintenance Requirements—Applicability	Yes.	
§63.6(b)	Compliance Dates for New and Reconstructed Sources	Yes	§63.695 specifies compliance dates, including the compliance date for new area sources that become major sources after the effective date of the rule.
§63.6(c)	Compliance Dates for Existing Sources	Yes	§63.5695 specifies compliance dates, including the compliance date for existing area sources that become major sources after the effective date of the rule.
§63.6(d)		No	[Reserved]
§63.6(e)(1)-(2)	Operation and Maintenance Requirements	No	Operating requirements for open molding operations with add-on controls are specified in §63.5725.
§63.6(e)(3)	Startup, Shut Down, and Malfunction Plans	Yes	Only sources with add-on controls must complete startup, shutdown, and malfunction plans.
§63.6(f)	Compliance with Nonopacity Emission Standards	Yes.	
§63.6(g)	Use of an Alternative Nonopacity Emission Standard	Yes.	
§63.6(h)	Compliance with Opacity/Visible Emissions Standards	No	Subpart VVVV does not specify opacity or visible emission standards.
§63.6(i)	Extension of Compliance with Emission Standards	Yes.	

§63.6(j)	Exemption from Compliance with Emission Standards	Yes.	
§63.7(a)(1)	Performance Test Requirements	Yes.	
§63.7(a)(2)	Dates for performance tests	No	§63.5716 specifies performance test dates.
§63.7(a)(3)	Performance testing at other times	Yes.	
§63.7(b)–(h)	Other performance testing requirements	Yes.	
§63.8(a)(1)–(2)	Monitoring Requirements—Applicability	Yes	All of §63.8 applies only to sources with add-on controls. Additional monitoring requirements for sources with add-on controls are found in §63.5725.
§63.8(a)(3)		No	[Reserved]
§63.8(a)(4)		No	Subpart VVVV does not refer directly or indirectly to §63.11.
§63.8(b)(1)	Conduct of Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Continuous Monitoring Systems (CMS)	Yes	Applies to sources that use a CMS on the control device stack.
§63.8(c)(1)–(4)	Continuous Monitoring System Operation and Maintenance	Yes.	
§63.8(c)(5)	Continuous Opacity Monitoring Systems (COMS)	No	Subpart VVVV does not have opacity or visible emission standards.
§63.8(c)(6)–(8)	Continuous Monitoring System Calibration Checks and Out-of-Control Periods	Yes.	
§63.8(d)	Quality Control Program	Yes.	
§63.8(e)	CMS Performance Evaluation	Yes.	
§63.8(f)(1)–(5)	Use of an Alternative Monitoring Method	Yes.	
§63.8(f)(6)	Alternative to Relative Accuracy Test	Yes	Applies only to sources that use continuous emission monitoring systems (CEMS).
§63.8(g)	Data Reduction	Yes	
§63.9(a)	Notification Requirements—Applicability	Yes.	
§63.9(b)	Initial Notifications	Yes	

§63.9(c)	Request for Compliance Extension	Yes.	
§63.9(d)	Notification That a New Source Is Subject to Special Compliance Requirements	Yes.	
§63.9(e)	Notification of Performance Test	Yes	Applies only to sources with add-on controls.
§63.9(f)	Notification of Visible Emissions/Opacity Test	No	Subpart VVVV does not have opacity or visible emission standards.
§63.9(g)(1)	Additional CMS Notifications—Date of CMS Performance Evaluation	Yes	Applies only to sources with add-on controls.
§63.9(g)(2)	Use of COMS Data	No	Subpart VVVV does not require the use of COMS.
§63.9(g)(3)	Alternative to Relative Accuracy Testing	Yes	Applies only to sources with CEMS.
§63.9(h)	Notification of Compliance Status	Yes.	
§63.9(i)	Adjustment of Deadlines	Yes.	
§63.9(j)	Change in Previous Information	Yes.	
§63.10(a)	Recordkeeping/Reporting—Applicability	Yes.	
§63.10(b)(1)	General Recordkeeping Requirements	Yes	§§63.567 and 63.5770 specify additional recordkeeping requirements.
§63.10(b)(2)(i)-(xi)	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods and CMS	Yes	Applies only to sources with add-on controls.
§63.10(b)(2)(xii)-(xiv)	General Recordkeeping Requirements	Yes.	
§63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations	Yes	§63.5686 specifies applicability determinations for non-major sources.
§63.10(c)	Additional Recordkeeping for Sources with CMS	Yes	Applies only to sources with add-on controls.
§63.10(d)(1)	General Reporting Requirements	Yes	§63.5764 specifies additional reporting requirements.
§63.10(d)(2)	Performance Test Results	Yes	§63.5764 specifies additional requirements for reporting performance test results.
§63.10(d)(3)	Opacity or Visible Emissions Observations	No	Subpart VVVV does not specify opacity or visible emission standards.

§63.10(d)(4)	Progress Reports for Sources with Compliance Extensions	Yes.	
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Yes	Applies only to sources with add-on controls.
§63.10(e)(1)	Additional CMS Reports—General	Yes	Applies only to sources with add-on controls.
§63.10(e)(2)	Reporting Results of CMS Performance Evaluations	Yes	Applies only to sources with add-on controls.
§63.10(e)(3)	Excess Emissions/CMS Performance Reports	Yes	Applies only to sources with add-on controls.
§63.10(e)(4)	COMS Data Reports	No	Subpart VVVV does not specify opacity or visible emission standards.
§63.10(f)	Recordkeeping/Reporting Waiver	Yes.	
§63.11	Control Device Requirements—Applicability	No	Facilities subject to subpart VVVV do not use flares as control devices.
§63.12	State Authority and Delegations	Yes	§63.5776 lists those sections of subpart A that are not delegated.
§63.13	Addresses	Yes.	
§63.14	Incorporation by Reference	Yes.	
§63.15	Availability of Information/Confidentiality	Yes.	

5.6 Introduction to Sections 4 and 5: Generally and Specifically Applicable Requirements

Requirements that limit emissions and broadly apply to all sources within the jurisdiction of the NWCAA are identified in Section 4 - Generally Applicable Requirements. Requirements that limit emissions and apply specifically to emission units at Nordic Tugs are identified in Section 5 - Specifically Applicable Requirements. The tables in these sections are organized by pollutant type. The first column contains the term number followed by the pollutant type. The second column identifies the regulatory citation. The third column provides a brief description of the applicable requirements for informational purposes and is not itself enforceable. The fourth column identifies monitoring, recordkeeping and reporting requirements in accordance with WAC 173-401-605(1), -615(1) & (2). Test methods associated with an applicable requirement or in accordance with WAC 173-401-615(1)(a) are included in this column.

Many generally applicable requirements do not specify test and/or monitoring methods within the text of the regulation or statute. Since WAC 173-401-615 requires that the permit require monitoring and recordkeeping adequate to demonstrate compliance with requirements, legally enforceable site-specific monitoring methods were established

(“gap-filled”) based on the characteristics of the facility, the nature of the underlying requirement, the requirements of WAC 173-401-615, and EPA guidance on monitoring. The following discussion of permit terms provides some information on how the facility demonstrates compliance with these terms.

5.7 Section 4 Generally Applicable Requirements

5.7.1 Fugitive Emission Standards (Permit Terms 4.7 through 4.11)

Nordic Tugs does not conduct activities that typically generate fugitive emissions such as storage or transport of solid materials. Permit conditions require the facility to respond to and correct nuisance emissions as soon as possible. If emissions cannot be corrected within four hours, Nordic Tugs must stop all activities contributing to the problem until repairs can be made. Nordic Tugs will provide assurance of compliance with these requirements in the annual compliance certification and by maintaining a log of nuisance complaints and associated repairs and mitigation actions.

5.7.2 Opacity Standard (Permit Term 4.12)

The generally applicable opacity requirement limits any source at the facility to 20% opacity according to Ecology Method 9A. Nordic Tugs shall visually inspect particulate emission points monthly for visible emissions while the subject emission unit is in operation. Any visible emissions detected shall be reduced to none or monitored by Ecology Method 9A as soon as possible and no later than six hours after detection. Results of monthly inspections, any periods of visible emissions monitored by Nordic Tugs personnel, any related equipment or operational failure, the identification of the affected emissions unit and location, the dates of occurrence and the action taken to resolve the problem(s) shall be logged. A report shall be provided to the NWCAA every six months that summarizes the findings of visible emissions inspections conducted during the previous six months.

5.7.3 Particulate Matter Standards (Permit Terms 4.13 and 4.14)

Nordic Tugs shall inspect particulate emission points monthly for visible emissions by visual observation. Any visible emissions detected shall be reduced to zero opacity or monitored by Ecology Method 9A as soon as possible and no later than six hours after detection. Results of monthly inspections, any periods of opacity greater than zero, any related equipment or operational failure, the identification of the affected emissions unit and location, the dates of occurrence and the action taken to resolve the problem(s) shall be logged. Nordic Tugs shall report this information to the NWCAA every six months for the previous six month’s period.

5.8 Section 5 Specifically Applicable Requirements

This section lists applicable requirements that apply uniquely to a process unit or to a specific category of process unit. Typically, these requirements originate from an Order of Approval to Construct issued by NWCAA or from a federal regulation.

The most recent revision to the permit was addition of new terms required by promulgation of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for boat manufacturing. This rule is contained in Subpart VVVV of 40 CFR Part 63. The facility has chosen to demonstrate compliance using the MACT model point value averaging (emissions averaging) method.

In addition, Section 5 contains requirements from OAC 742b (dated 02/21/2007).

5.9 Section 6 Inapplicable Requirements

Washington Administrative Code 173-401-640(2) allows a determination regarding the applicability of requirements with which the source must comply. Section 6 of the permit lists requirements deemed inapplicable based on the applicability of the cited regulation. It is stated in the AOP that the permit shield applies to the specific, listed inapplicable requirements.

6 INSIGNIFICANT EMISSION UNITS

Washington Administrative Code 173-401-640 allows a determination regarding the applicability of requirements with which the source must comply. Section 6 of the permit lists requirements deemed inapplicable based on the applicability of the cited regulation.

Categorically exempt insignificant emissions units listed in WAC 173-401-532 are present at Nordic Tugs. These categorically exempt emissions units normally have extremely low emissions and are considered insignificant by regulation and not of sufficient importance to list in the permit. Other emission units or activities generate only fugitive emissions for which there are no specifically applicable requirements. These activities are categorized as insignificant by Chapter 173-401-530(1)(d) WAC. Categorically insignificant and fugitive emission units and activities are listed below.

Table 6-1 Insignificant Emission Units

WAC citation	Description	Process area
WAC 173-401-533(2)(r)	Comfort heating from heaters/HVAC units, air make-up units and water heater units	Space heaters and hot water using natural gas, propane or kerosene and generating less than 5 million Btu/hr
WAC 173-401-532(46)	Comfort air conditioning or air cooling systems, not used to remove air contaminants from specific equipment	Air conditioning
WAC 173-401-532(12)	Welding, brazing and soldering	Maintenance shop, plant construction, repairs, and housekeeping
WAC 173-401-532(33)	Plant up keeping including routine housekeeping, preparation for and painting of structures or equipment, retarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and paving or stripping parking lots	
WAC 173-401-532(35)	Cleaning and sweeping of paved surfaces	
WAC 173-401-532(37)	Steam cleaning operations	
WAC 173-401-532(43)	Lawn and landscaping activities	
WAC 173-401-532(67)	Structural changes not having air contaminant emissions	
WAC 173-401-532(74)	Repair and maintenance activities, not involving potential emissions of a regulated air pollutant	

WAC citation	Description	Process area
WAC 173-401-532(77)	Batteries and batteries charging	
WAC 173-401-532(48)	Natural and force air vents and stacks for bathroom/toilets facilities	Office activities, personal care, and laundry
WAC 173-401-532(49)	Office activities	
WAC 173-401-532(50)	Personal care activities	
WAC 173-401-532(38)	Laundering, dryers, extractors, tumblers for fabrics, using water solution of bleach and/or detergent	
WAC 173-401-532(11)	Recreational fireplaces including use of barbecues, campfires, and ceremonial fires	Lunch rooms and break areas
WAC 173-401-532(6)	Storage of solid material, dust free handling	Assembly and warehouse operations
WAC 173-401-532(29)	Plastic pipe welding	
WAC 173-401-532(88)	Air compressors, pneumatically operated equipment	
WAC 173-401-532(9)	Vents from rooms, building and enclosures that contain emission units or activities from which local ventilation, controls and separate exhaust are provided	Resin room
WAC 173-401-532(42)	Portable drums and totes	
WAC 173-401-533(o)	Batch solvent distillation, not greater than 55 gallon batch capacity	Distillation operations
WAC 173-401-532(45)	General vehicle maintenance, including vehicle exhaust from repair facilities	Final boat test operation
WAC 173-401-532(32)	Wax application	
WAC 173-401-532(10)	Internal combustion engines for propelling or powering a vehicle	Parking lots and yard traffic
WAC 173-401-532(54)	Fuel and exhaust emissions from vehicles in parking lots	
WAC 173-401-532(70)	Photographic process equipment by which an image is reproduced upon material sensitized to radiant energy, such as blueprint activity, photocopiers, mimeograph, telefax, photographic developing, and microfiche	Blue-print making
WAC 173-401-532(55)	Carving, cutting, routing... provided that <ul style="list-style-type: none"> • activity is performed 	Fabric/vinyl hot knife cutting

WAC citation	Description	Process area
	indoors <ul style="list-style-type: none"> • particulate emission control in the immediate vicinity of the activity • exhaust from the particulate control is within the building housing the activity • no fugitive particulate emissions enter the environment 	
WAC 173-401-532(3)(c)	Chemical or physical analytical laboratory operations or equipment including fume hoods and vacuum pumps	Instrument and equipment calibration
WAC 173-401-530(1)(d)	The emission units or activity generates only fugitive emissions which are subject to no applicable requirement other than generally applicable requirement of the state implementation plan	Rag storage area, equipment blow down, shrink-wrap installation, and accidental fires

7 DEFINITIONS AND ACRONYMS

Definitions are assumed to be those found in the underlying regulation. A short list of definitions applicable to this document is included here.

An "applicable requirement" is a provision, standard, condition, or requirement in any of the listed regulations or statutes as it applies to an emission unit or facility at a stationary source.

"Ecology" means the Washington State Department of Ecology.

An "emission unit" is any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant.

A "permit" means for the purposes of the air operating permit program an air operating permit issued pursuant to Title V of the 1990 Federal Clean Air Act.

"State" means for the purposes of the air operating permit program NWCAA or the Washington State Department of Ecology.

The following is a list of acronyms and abbreviations used in the Air Operating Permit and/or Statement of Basis:

ASIL	Acceptable source impact level
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CAM	Compliance Assurance Monitoring (40 CFR 64)
CEM	Continuous emission monitor
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
dsfc	Dry standard cubic foot
EPA	The United States Environmental Protection Agency
FCAA	Federal Clean Air Act
gr	grains (there are 7,000 grains in one pound)
ISO	International Organization for Standardization
MMBtu	Million British thermal units (units of energy)
MMBtu/hr	Million British thermal units per hour (units of power)
MR&R	Monitoring, recordkeeping and reporting requirements

NESHAP	National Emission Standards for Hazardous Air Pollutants
NOC	Notice of Construction
NO _x	Oxides of nitrogen
NSR	New Source Review
NWCAA	Northwest Clean Air Agency
O ₂	Oxygen
OAC	Order of Approval to Construct
PM	Particulate matter
PM ₁₀	Particulate matter less than 10 microns in diameter
ppmv	parts per million volume, dry
PSD	Prevention of Significant Deterioration (federally required program for pre-construction review of sources)
QA/QC	Quality assurance/quality control
RCW	Revised Code of Washington
scf	standard cubic feet
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
STP	Standard Temperature and Pressure: 20° C (68° F) and 760 mm Hg (29.92 in. Hg) per NWCAA Regulation (e.g. applies to fuel sulfur limit) 288 K (15° C, 59° F) and 101.3 kPa (1 atmosphere) per ISO (e.g. applies to natural gas volume measurement)
VE	Visible emissions
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

8 PUBLIC DOCKET

Copies of the Nordic Tugs Air Operating Permit, permit application, and any technical support documents are available online at www.nwcleanair.org or at the following location:

Northwest Clean Air Agency
1600 South Second Street
Mount Vernon, WA 98273-5202