



Serving Island, Skagit & Whatcom Counties

NORDIC TUGS BURLINGTON, WASHINGTON

STATEMENT OF BASIS

FINAL

14 December 2006

PERMIT INFORMATION PAGE

STATEMENT OF BASIS for AIR OPERATING PERMIT Prepared per Chapter 173-401-700(8) WAC

Nordic Tugs

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Burlington, WA 98233

SIC: 3088
EPA AFS NUMBER: 53-073-0041

NWCAA ID NUMBER: 636-V-W

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Air Operating Permit Number: 17	Issuance Date: December 14, 2006
Supersedes Permit Number:	Expiration Date: December 14, 2011
Original Application Date: 15 October 2004	Renewal Application Due: June 14, 2010

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Section 1 - Introduction

The purpose of this Statement of Basis is to set forth the legal and factual basis for the Air Operating Permit conditions and to provide background information to facilitate review of the permit by interested parties. This Statement of Basis is not a legally enforceable document.

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. Nordic Tugs operated under the provisions of OAC 742a as a synthetic minor, which limited emissions of styrene to 9 tons per 12 month rolling period. Business growth has necessitated the issue of the Air Operating Permit, which is the first for Nordic Tugs.

Section 2 - Plant Description

2.1 Identification

Nordic Tugs, Inc. operates a fiberglass reinforced plastic (FRP) boat manufacturing facility in Burlington, Washington. Fiberglass pleasure boats from 32' to 52' are manufactured at this facility and sent out as complete units to dealers.

Laminating successive layers of gelcoat, resins and fiberglass materials inside female molds traditionally make up fiberglass boats. 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 in. 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:** All 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.

NORDIC TUGS PROCESS FLOW DIAGRAM

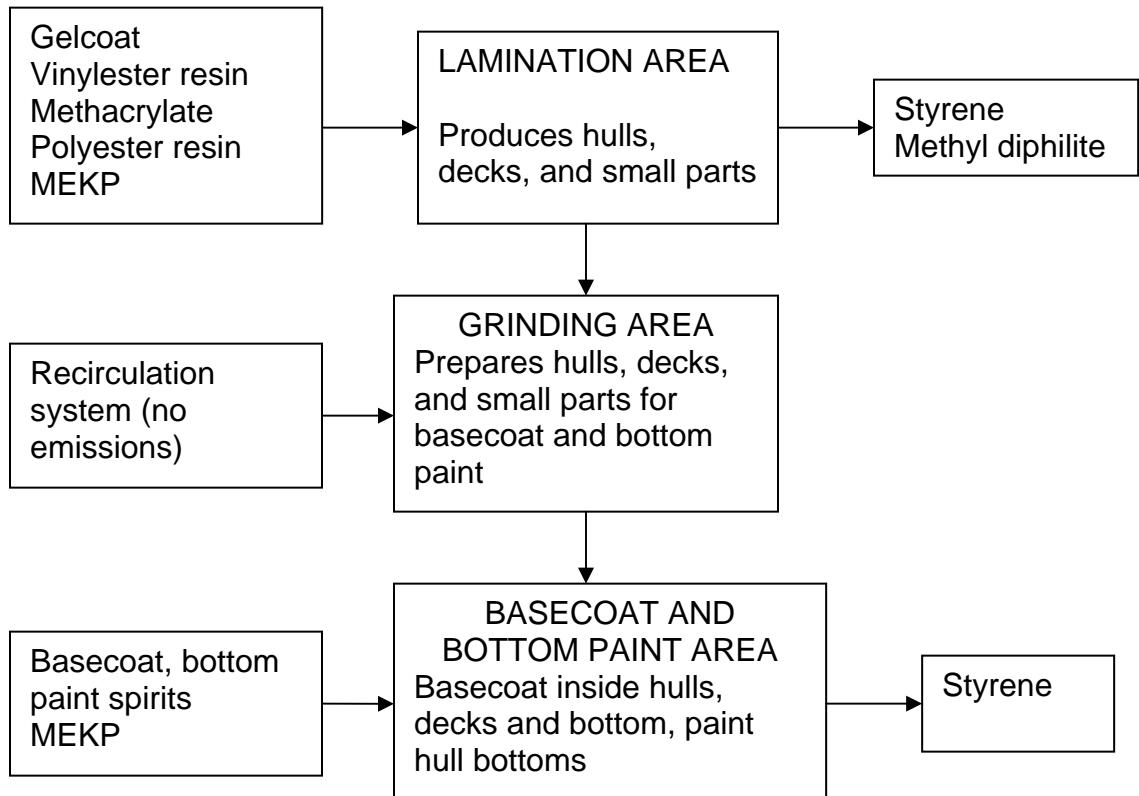


Figure 1: Nordic Tugs process flow diagram

2.2 Emission Units

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" tubaxial fans.

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)).

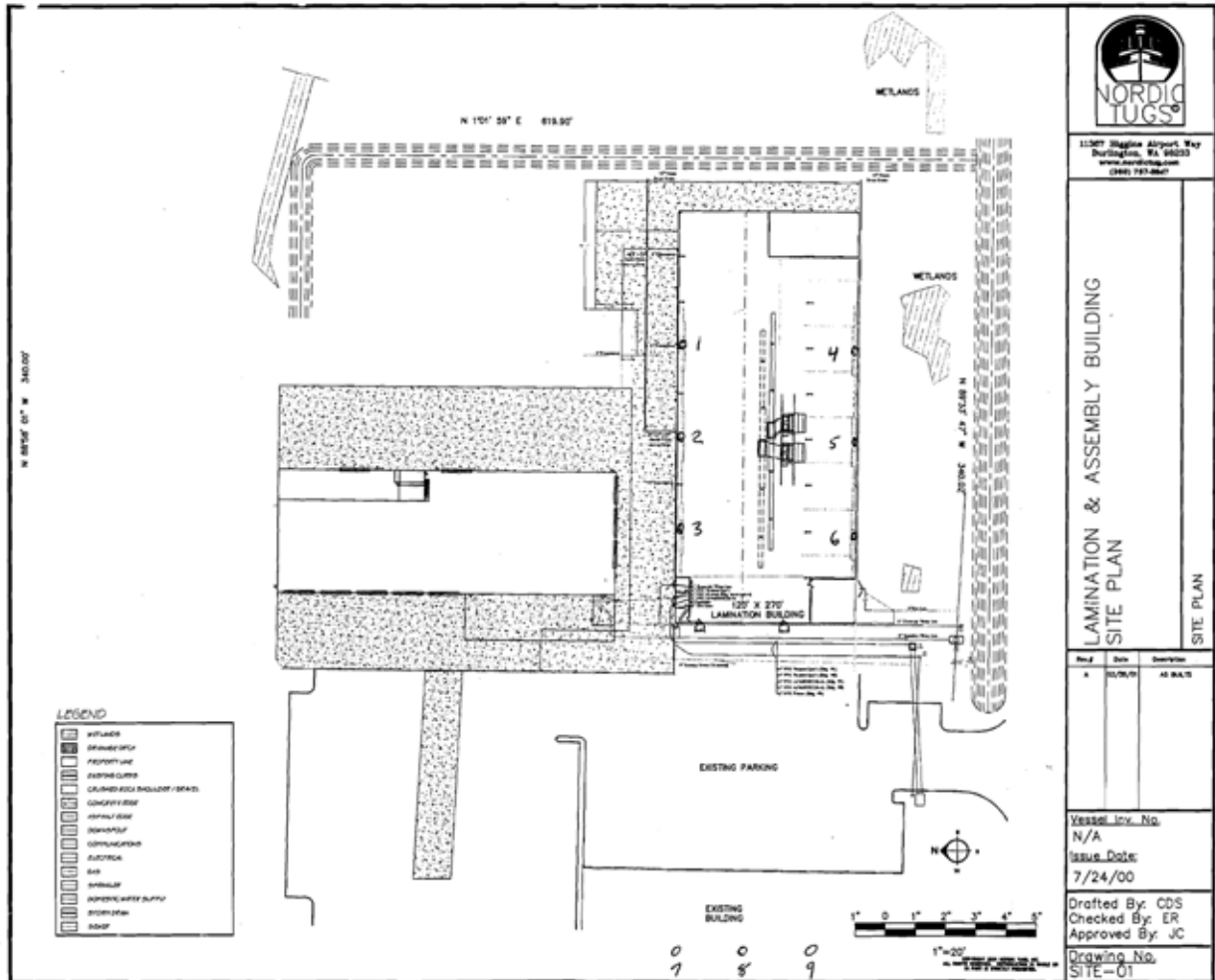


Figure 2: Site plan of the Nordic Tugs facility, showing the emission points

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. In 2005, Nordic Tugs emitted 7.80 tons of hazardous air pollutants. A detailed emissions inventory as submitted by Nordic Tugs may be found in Appendix A of this document.

2.3 Insignificant Emission Units for Nordic Tugs

Comfort heating from heaters/HVAC units, air make-up units and water heater units

- Units and activities defined as insignificant on the basis of size or production rate under WAC 173-401-533(2)(r): Space heaters and hot water using natural gas, propane or kerosene and generating less than 5 million Btu/hr

Units and activities defined as insignificant on the basis of size or production rate

Air conditioning

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(46): Comfort air conditioning or air cooling systems, not used to remove air contaminants from specific equipment

Maintenance shop, plant construction, repairs, and housekeeping

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(12): Welding, brazing and soldering
 - 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 173-401-532(77): Batteries and batteries charging

Office activities, personal care, and laundry

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(48): Natural and force air vents and stacks for bathroom/toilets facilities
 - 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

Lunch rooms and break areas

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(11): Recreational fireplaces including use of barbecues, campfires, and ceremonial fires

Assembly and warehouse operations

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(6): Storage of solid material, dust free handling
 - WAC 173-401-532(29): Plastic pipe welding
 - WAC 173-401-532(88): Air compressors, pneumatically operated equipment

Resin room

- Categorically exempt insignificant emission units:
 - 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
 - WAC 173-401-532(42): Portable drums and totes

Distillation operations

- Units and activities defined as insignificant on the basis of size or production rate:

- WAC 173-401-533(o): Batch solvent distillation, not greater than 55 gallon batch capacity

Final boat test operation

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(45): General vehicle maintenance, including vehicle exhaust from repair facilities
 - WAC 173-401-532(32): Wax application

Parking lots and yard traffic

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(10): Internal combustion engines for propelling or powering a vehicle
 - WAC 173-401-532(54): Fuel and exhaust emissions from vehicles in parking lots

Blue-print making

- Categorically exempt insignificant emission units:
 - 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

Fabric/vinyl hot knife cutting

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(55): Carving, cutting, routing... provided that
 - activity is performed indoors
 - 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

Instrument and equipment calibration

- Categorically exempt insignificant emission units:
 - WAC 173-401-532(3)(c): Chemical or physical analytical laboratory operations or equipment including fume hoods and vacuum pumps

Rag storage area, equipment blow down, shrink-wrap installation, and accidental fires

- Insignificant emission units:
 - 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

2.4 Compliance History

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 NOVs have been issued:

- Notice of Violation #3449 Issued November 8, 2004
The facility was issued with a Notice of Violation related to conditions in OAC 742 after an inspection. The pressure gauge installed in the filter banks in the lamination room was found to be malfunctioning. 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 with a warning related to conditions in OAC 742. The filter banks in the lamination building did not provide at least 98% efficiency.

2.5 National Emission Standards for Hazardous Air Pollutants

Nordic Tugs is subject to 40 CFR Part 63 Subpart VVVV - National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing. Nordic Tugs manufactures fiberglass boats and as such are under the provisions of subpart VVVV, which requires most existing major sources to incorporate pollution-prevention techniques in their production processes. These techniques include: using raw materials containing low amounts of air toxics; non-atomized resin application; and various work practice standards such as covering open resin baths and tanks. Compliance assurance is described in Section 5 of the permit.

2.6 Northwest Clean Air Agency Orders of Approval to Construct

Nordic Tugs were issued with OAC 742 on September 12, 2000. The provisions of OAC 742 include use of non-atomizing methods to apply paints, resin, and gelcoat, emissions from the lamination room to be captured and exhausted through a system that discharges vertically at least six feet above the roof line, and PM emissions from cutting, grinding and sanding to be controlled by a system capable of at least 98% efficiency. Also, the emissions of all HAPs were to be limited to 24 tons per rolling 12 month period, and emissions of a single HAP were not to exceed 9 tons per rolling 12 month period.

OAC 742 was revised on February 8, 2006 by OAC 742a. Nordic Tugs had never used non-atomized methods for the application of gel coats and the conditions of OAC 742 were changed to reflect that. Also the synthetic minor permit provision was removed so that Nordic Tugs would become a Title V facility.

Section 3 - General Permit Assumptions

3.1 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 by the source are not included in the permit but are discussed in the Statement of Basis. Regulations that require actions by a regulatory agency but not by the source are not included as permit conditions.

3.2 One Time Requirements

The only one time requirement is an initial notification that the facility is subject to 40 CFR 63 Subpart VVVV pursuant to 40 CFR 63.9(b)(2). A letter submitted to the NWCAA to that effect is dated March 31, 2006 and is on file.

3.3 Federal Enforceability

Federally enforceable requirements are terms and conditions required under the Federal Clean Air Act or under any of its applicable requirements. Local and state regulations may become federally enforceable by formal approval into the State Implementation Plan or through other delegation mechanisms. Federally enforceable requirements are enforceable by the EPA and United States citizens. All applicable requirements in the permit, including standard terms and conditions, generally applicable requirements, and specifically applicable requirements are federally enforceable unless they are identified in the permit as enforceable only by the state. If two different versions of the same regulatory citation apply to the source and one version is federally enforceable and the other version is enforceable only by the state, both are listed as separate applicable requirements. If a regulation has both federally enforceable and state-only enforceable versions and the text is the same, the citation is the most current version and is considered federally enforceable. The citation for each applicable requirement includes a date. This date may be the filing date (in the case of WACs) or it may be the approval date or the publication date for the NWCAA Regulation sections and federal regulations, respectively.

3.4 Future Requirements

There are no pending applicable requirements that apply to Nordic Tugs. 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 Section 3 of the permit. There is presently no pending application to construct a new source at the facility. Nordic Tugs officials have certified in their permit application that the facility will meet any future applicable requirements on a timely basis.

3.5 Compliance Options

Nordic Tugs specified that they will use the emissions averaging option based on point value calculations for complying with open molding operations as outlined in 40 CFR 63.5704. Accordingly, the operating permit does not address other compliance options nor does it condense overlapping applicable requirements (streamlining).

Section 4 - Permit Elements and Basis for Terms and Conditions

The Nordic Tugs permit is divided into the following sections:

- General Information
- Attest
- Emission Unit Group Identification
- Standard Terms and Conditions
- Standard Terms and Conditions for NSPS and NESHAP Requirements
- Generally Applicable Requirements
- 40 CFR 63 Subpart VVVV Requirements
- Inapplicable requirements

4.1 General Information, Attest, and Emission Unit Group Identification

The General Information section identifies the source and provides general information about the permit, the responsible corporate official, and the Agency personnel responsible for permit preparation, review and issuance. The Attest section provides the NWCAA Director and NWCAA Staff Engineer authorization for the source to operate under the terms and conditions contained in the permit.

The Emission Unit Group identification section of the permit states that the permit applies to all processes that emit air contaminants at the facility.

4.2 Standard Terms and Conditions

The Standard Terms and Conditions section of the permit specifies administrative and other requirements that apply to all air operating permit sources within the jurisdiction of the NWCAA. Standard Terms and Conditions have no ongoing monitoring requirements. The legal authority for the Standard Terms and Conditions are provided in the citations in Section 2 of the permit. Where there is a difference between the paraphrased term and the language of the cited regulation, the language of the cited regulation takes precedence. The terms and conditions have been grouped by function rather than numerically in an effort to make the section more readable. In some cases, similar requirements at the state and local authority level have been grouped together.

Applicable requirements that simply prohibit certain actions are included in the "Prohibitions" section of the Standard Terms and Conditions. A number of requirements that would not be applicable until triggered have also been included in this section. The requirement for a source to submit an application for new source review is an example of one such requirement. This section also includes references to broadly applicable prohibitions such as "Concealment and Masking," which are applicable requirements but have no ongoing monitoring.

4.3 Standard Terms and Conditions for NSPS and NESHAP Requirements

Section 3 of the permit includes terms that are contained in the NSPS in 40 CFR 60.2, and in the NESHAP in 40 CFR 63.2. Standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements.

4.4 Generally Applicable Requirements

The Generally Applicable Requirements section of the permit identifies requirements that apply broadly to the facility. With some exceptions, each of these requirements applies non-specifically to sources. For example, NWCAA Regulation Section 455.1 broadly prohibits particulate emissions that exceed 0.1 gr/dscf from any emissions unit. However, some requirements apply to only certain types of emissions units. For example, NWCAA Regulation Section 455.11 applies only to combustion equipment and WAC 173-400-060 applies only to general process units. Despite these differences in applicability, these requirements have been listed together in the Generally Applicable Requirements section of the permit.

The Generally Applicable Requirements are organized in Table 4 in the permit. The first column of Table 4 provides permit term numbers used to identify listed elements. The requirements specified in the second column are applicable plant-wide to all emission units at the source including insignificant emission units. The third column describes the applicable requirements for informational purposes only, and is not enforceable. The fourth column identifies monitoring the

permittee must perform to assure compliance with the applicable requirement as required by WAC 173-401-605(1) and 615(1) and (2). The fourth column is enforceable except that insignificant emission units are exempt from all monitoring, recordkeeping and reporting requirements.

Chapter 173-401 WAC requires the permit to include both a reference test method and a monitoring method. The Monitoring Recordkeeping and Reporting (MR&R) requirements in the fourth column indicate official methods that the NWCAA, the EPA, or the WDOE may use to determine compliance with applicable requirements. Where the applicable requirement fails to specifically state a test method, a method is added to the permit, as required by WAC 173-401-615(1)(a). The facility has no immediate obligation to perform these tests. If the NWCAA determines via the stated reference test method or other methods that the facility is not complying with the associated applicable requirement, then a violation of the applicable requirement has occurred.

4.5 40 CFR 63 Subpart VVVV Requirements

Nordic Tugs are subject to 40 CFR 63 Subpart VVVV, which discusses requirements for fiberglass boat manufacturers. Nordic Tugs specified that they will use the emissions averaging option based on point value calculations for complying with open molding operations. These provisions are detailed in Table 5 of the permit. Also, Table 5 contains work practice standards as specified in VVVV. Table 5 is formatted in the same way as Table 4 described in section 4.4 of this document.

In addition, requirements from OAC 742a were added as permit terms in Table 5. These requirements include work practice standards to prevent PM emissions and routing emissions from the lamination room through stacks.

4.6 Inapplicable Requirements

Chapter 173-401-640 WAC requires the permitting authority to issue a determination regarding the applicability of requirements with which the source must comply. Table 6 in the permit lists requirements deemed inapplicable to emission units or activities at the facility and provides the basis for each determination.

Section 5 - Public Docket

Copies of this permit as well as the permit application and any technical support documents are available at the following location:

Northwest Clean Air Agency
1600 South Second Street
Mount Vernon, WA 98273-5202
www.nwcleanair.org

APPENDIX A: 2005 Emission Inventory

NORDIC TUG EMISSION INVENTORY

YEAR 2005

NORDIC TUG

VOC/HAP

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL	TONS
STYRENE	449.6	2095.7	1696.1	421.8	1724.6	760.0	247.5	1867.4	1688.8	432.2	364.1	1832.7	13580.6	6.8
METHYL METHACRYLATE	170.5	257.6	144.8	140.0	48.2	237.6	96.6	188.3	123.8	145.6	162.1	143.5	1858.5	0.9
DIMETHYL PHTHALTE	0.9	1.1	1.0	1.1	1.0	0.9	0.8	0.0	0.6	1.2	0.7	0.9	10.1	0.0
TOLUNE	9.9	0.0	6.4	0.0	0.0	0.0	3.3	0.0	0.0	19.8	0.0	0.0	39.4	0.0
HEXANE	9.9	0.0	23.1	0.0	0.0	0.0	3.3	0.0	0.0	19.8	0.0	0.0	56.1	0.0
CYCLOHEXANE	9.9	0.0	23.1	0.0	0.0	0.0	3.3	0.0	0.0	19.8	0.0	0.0	56.1	0.0
TOTAL	650.6	2354.5	1894.4	562.8	1773.9	998.5	354.8	2055.7	1813.2	638.4	526.9	1977.0	15600.8	7.8

	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
STYRENE	4241.4	2906.5	3803.7	2629.0
VOC/HAP	4899.5	3335.2	4223.7	3142.4

													YEAR TOTAL	
NON VOC/HAP														
ACETONE	4092	363	3135	1815	2904	1452	1485	2178	2178	3102	1452	2541	26697	13.3485

APPENDIX B: Acronyms and Abbreviations

Definitions are assumed to be those found in the underlying regulation. A short list of definitions has been included to cover those not previously defined.

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

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

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 Amendments.

"Technology-Based Emission Standard" means a standard, the stringency of which is based on determinations of what is technologically feasible considering relevant factors.

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

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

AOP	Air Operating Permit
BACT	Best Available Control Technology
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFM	Cubic feet per minute
CFR	Code of Federal Regulations
CGA	Cylinder Gas Audit
CO	Carbon Monoxide
CMS	Continuous Monitoring System
dscf	dry standard cubic foot
EPA	Environmental Protection Agency
FCAAA	Federal Clean Air Act Amendments
HAP	Hazardous Air Pollutant
ISO	International Standards Organization
MACT	Maximum Achievable Control Technology
MPVE	Model Point Value Equation
MR&R	Monitoring, Recordkeeping and Reporting
NESHAP	National Emission Standards for hazardous Air Pollutants
NOC	Notice of Construction
NOx	Nitrogen Oxides
NSPS	New Source Performance Standards

NSR	New Source Review
NWCAA	Northwest Clean Air Agency
OAC	Order of Approval to Construct
OSHA	Occupational Safety and Health Administration
PEMS	Parametric Emissions Monitoring System
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 microns in diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in diameter
ppm _{vd}	parts per million by volume (dry basis)
PSD	Prevention of Significant Deterioration
QA	Quality Assurance
RAA	Relative Accuracy Audit
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RCW	Revised Code of Washington
SARA	Superfund Amendments and Reauthorization Act
SIP	State Implementation Plan
SSMP	Startup, Shutdown, and Malfunction Plan
STP	Standard temperature and pressure
SO ₂	Sulfur Dioxide
VP	vapor pressure
WAC	Washington Administration Code