



Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

**BUREAU OF AIR MANAGEMENT
NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

Owner/Operator	Thames Shipyard & Repair Company
Address	50 Farnsworth Street, New London, CT 06320
Equipment Location	50 Farnsworth Street, New London, CT 06320
Equipment Description	Small Floating Dry Dock
Town-Permit Numbers	128-0063
Premises Number	66
Stack Number	2
Permit Issue Date	
Expiration Date	None

Michael Sullivan
Deputy Commissioner

Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall comply with the terms and conditions stated herein within 180 days from the Permit Issuance Date.

PART I. DESIGN SPECIFICATIONS

A. General Description

Thames Shipyard & Repair Company (Thames Shipyard) provides various industrial and commercial services. Most of the marine services and ship repair are performed on the facility's land work areas, two floating dry docks, access structures and on floating ships that are moored pier side.

The primary activity involves the repair, refurbishment, and construction of ships, barges and ferries. Also included are repair and/or replacement of vessel power plants (usually large diesel engines), repair of vessel hulls and topsides, and abrasive blasting and painting of vessels. All of the vessel resurfacing work, including complete hull restoration projects, occurs on a variety of vessels but mainly ferries.

Bottom hull restoration involves the lifting of the vessel completely out of the water on one of the two floating dry docks. The floating dry docks can be raised and lowered under a vessel by transferring ballast water using powerful electric driven pumps to lift it completely out of the water. After the vessel is in the floating dry dock, the vessel's surface and vessel components are cleaned via abrasive blasting, pressure washing, hydroblasting or a combination of these techniques and repainted with primers and topcoats. Areas of the hull that have extensive wear or tear or corrosion are replaced with new steel.

Prior to painting, the vessel surfaces and vessel components may be cleaned via abrasive grit blasting, pressure washing (typically operating in the 3-10,000 psi range), or hydroblasting (typically operating in the 30-50,000 psi range), or through a combination of these techniques.

The surface coating operation consists of portable spray guns that are moved to different areas of the facility (i.e. on and off the floating dry docks). The surface coating operation is subject to the National Emission Standards for Shipbuilding and Ship Repair (Surface Coating MACT, 40 Code of Federal Regulation (CFR) Part 63 Subpart II). It is exempt from the requirements of RCSA §22a-174-20(s) pursuant to RCSA §22a-174-20(s)(7)(A)(v) because it is subject to the Surface Coating MACT. Thames Shipyard is subject to the disposal and evaporation of solvent limit in RCSA §22a-174-20(j) and the spray application equipment cleaning requirements of RCSA §22a-174-20(jj).

B. Equipment Design Specifications

1. Abrasive Blasting Equipment
 - a. Type of Gun: Marco® Blasting Unit with Nozzle Orifice Nos. 7 (7/16" diameter) and 8 (1/2" diameter)
 - b. Design Nozzle Pressure Range (psi): 50-140
 - c. Design Compressor Range (hp): 33-101
 - d. Type of Abrasive: Grit

2. Surface Coating Equipment
 - a. Type of Spray Gun: Portable Airless Spray Guns
 - b. Maximum Rated Spray Gun Throughput (gal/hr): 100

C. Control Equipment Design Specifications

1. The abrasive blasting enclosure shall have a stack height that is greater than or equal to the greater of:
 - a. 10 meters (32.8 feet); or
 - b. the lesser of 1.3 times the building height (including floating dry dock and abrasive blasting enclosure) or 1.3 times the building width.
2. Filtration Control Device
 - a. Make and Model: To Be Determined
 - b. Material: To Be Determined

PART II. OPERATIONAL CONDITIONS

A. Equipment

1. Abrasive Blasting Operation
 - a. Type of Abrasive: Grit
 - b. Maximum Abrasive Consumption Rate (tons/hr): 3
 - c. Maximum Annual Abrasive Consumption for Permit Nos. 128-0062 and 128-0063 combined (tons/yr): 800
 - d. The Permittee shall use abrasives that contain less than 10% (by weight) of fines that would pass through a No. 80 sieve.
2. Surface Coating Operation
 - a. Maximum Number of Spray Guns Operating Simultaneously: 4
 - b. Maximum VOC Content per Gallon of Coating, as Applied (lb/gal): 2.83
 - c. Maximum Annual Coating Usage for Permit Nos. 128-0062 and 128-0063 combined, as Applied (gallons): 22,615

The coating usage limits apply to any of the following components or mixtures of the following components: Paint, Enamel, Lacquer, Catalyst, Primer, Reducer, Sealer, Diluent, Additive, or other Coating Material or Preparation.

B. Controls

1. Filtration Control Device
 - a. PM Control Efficiency (%): 87%

PART III. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow the equipment listed in Permit Nos. 128-0062 and 128-0063 combined to exceed the emission limits stated herein at any time.

A. Criteria Pollutants

Pollutant	lb/hr	tpy
PM/ PM ₁₀ / PM _{2.5}	6.77	0.73
VOC	141.5	32.0

B. Compliance with the above emission limits may be demonstrated by calculating the emission rates using emission factors from the following sources:

- PM/PM₁₀/PM_{2.5}: Most recent stack test data. If stack test data is unavailable, manufacturer's data or engineering estimate.
- VOC: Material Balance

The commissioner may require other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

C. **Hazardous Air Pollutants:** This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCSA §22a-174-29. [STATE ONLY REQUIREMENT]

D. Visible Emission Standard

Opacity shall not exceed 10% during any six minute block average as measured by 40 CFR Part 60 Appendix A, Reference Method 9. [RCSA §22a-174-18(b)(1)]

PART IV. OPERATION AND MAINTENANCE REQUIREMENTS

- A. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and written recommendations.
- B. The Permittee shall on a daily basis inspect the abrasive blasting equipment (e.g., pots, hoses, valves, etc.) for any leaks.
- C. The Permittee shall adjust the abrasive blasting equipment in order to minimize abrasive use and maximize surface treatment.
- D. The Permittee shall use hydroblasting and ultra-high pressure hydroblasting, except when:
1. Cold weather conditions that lead to ice formation;
 2. Situations where a surface profile is needed for the vessel surface to be painted following the removal of paint and other materials from the vessel's surface;
 3. Operational constraints, such as accessibility issues for the hydroblasting equipment

- and resulting wastewater that may be generated in confined areas; or
4. Situations where hydroblasting equipment is not able to be maneuvered and used effectively due to structural configurations.
- E.** The Permittee shall enclose abrasive blasting operations and implement the following management practices:
1. The Permittee shall capture PM emissions and vent them to a filtration control device;
 2. The Permittee shall operate the filtration control device according to manufacturer's instructions;
 3. Each day the abrasive blasting process is in operation, the Permittee shall perform visual determinations of fugitive emissions at the primary vent, stack, exit, or opening from the building/enclosure containing the abrasive blasting operations.
- F.** If visible fugitive emissions are detected, the Permittee shall perform corrective actions until the visible fugitive emissions are eliminated, at which time the Permittee shall perform a follow-up inspection for visible fugitive emissions.
- G.** Visual determination of fugitive emissions shall be performed according to the procedures of EPA Method 22 of 40 CFR Part 60, Appendix A-7. The Permittee shall conduct the EPA Method 22 test, on each day the abrasive blasting process is in operation, while the abrasive blasting operation is operating under normal conditions. The duration of each EPA Method 22 test shall be at least 15 minutes and visible emissions will be considered to be present if they are detected for more than six minutes of the 15 minute period.
- H.** The Permittee shall collect loose PM prior to removing the enclosure from abrasive blasting operations and shall store them in a covered container.
- I.** The Permittee shall operate this source and premises at all times in a manner so as not to violate or significantly contribute to the violation of any applicable state requirements for the control of fugitive dust emissions, as set forth in RSCA §22a-174-18(c). Reasonable precautions shall be in accordance with good industrial practice as determined by the commissioner and shall include, but no be limited to: [RSCA §22a-174-18(c)(1)(A-F)]
1. The application of asphalt, water, suitable materials or covers to material stockpiles and other surfaces that can give rise to airborne particulate matter;
 2. The use of hoods, fans, fabric filters or other devices to enclose and vent the handling of materials that can give rise to airborne particulate matter;
 3. The covering, while in motion, of open-bodied trucks, open-bodied trailers and railroad cars transporting materials capable of giving rise to airborne particulate matter;
 4. The prompt removal of earth or other material deposited onto paved streets by trucking, earth moving equipment, erosion or other means; and
 5. The use of containment methods for sandblasting or similar operations.

- J.** The Permittee shall not cause or allow the emission of visible particulate matter beyond the legal boundary of the property on which such emission occurs that either:
[RCSA §22a-174-18(c)(2)]
1. Remains near ground level beyond such property boundary; or
 2. Diminishes the health, safety or enjoyment of people using a building or structure located beyond the property boundary.
- K.** The Permittee shall not emit particulate matter into the ambient air in such a manner as to cause a nuisance. [RCSA §22a-174-18(c)(3)]
- L.** The Permittee shall not, during any one day, dispose of more than one and one half gallons of any VOC or of any material containing more than one and one half gallons of any VOC by any means which will permit the evaporation of such solvent into the atmosphere. [RCSA §22a-174-20(j)]
- M.** The Permittee shall clean spray application equipment in accordance with the requirements of one of the following: [RCSA §§22a-174-20(j)(4)(A-E)]
1. Using an enclosed gun cleaner that is maintained and operated in accordance with the manufacturer's recommendations and the following practices:
 - a. Operate using an automated cycle, if applicable,
 - b. Inspect hoses regularly for leaks,
 - c. If a leak is discovered, repair as soon as practicable but no later than 15 days after discovery, and
 - d. Ensure the cover is properly closed;
 2. Using only cleaning solvent with an as-applied VOC content that does not exceed 50 grams per liter (0.417 lb/gal) by placing cleaning solvent in the pressure pot and forcing the solvent through the gun with the atomizing cap in place, without the use of atomizing air. Used cleaning solvent shall be directed into a vat, drum or other waste container that is closed when not in use;
 3. Using only cleaning solvent with an as-applied VOC content that does not exceed 50 grams per liter (0.417 lb/gal) by disassembling the spray gun and cleaning the components and associated hoses and pumps by hand in a vat, which shall remain closed at all times except when in use. Components and associated hoses and pumps may be soaked in a vat with a capacity no greater than 20 liters. Such a soaking vat shall remain closed during the soaking period, except when inserting or removing items; or

4. Using only cleaning solvent with an as-applied VOC content that does not exceed 50 grams per liter (0.417 lb/gal) by forcing cleaning solvent through the spray gun and directing the atomized solvent spray into a waste container that is fitted with a device to capture the resulting emissions.

N. The Permittee shall use the following work practices for spray application equipment cleaning: [RCSA §§22a-174-20(jj)(5)(A-E)]

1. New and used cleaning solvent, including those mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;
2. Spills and leaks of cleaning solvent shall be minimized. Any leaked or spilled cleaning solvent shall be absorbed and removed immediately;
3. Absorbent applicators, such as cloth and paper that are moistened with cleaning solvent shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling;
4. Cleaning solvent shall be conveyed from one location to another in a closed container or pipe; and
5. Air pollution control equipment shall be operated and maintained in accordance with the manufacturer's recommendations.

PART V. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

A. Monitoring

1. The Permittee shall monitor the hourly, monthly, and consecutive 12-month period abrasive consumption.
2. The Permittee shall monitor the daily, monthly and consecutive 12-month period coating use.

B. Record Keeping

1. The Permittee shall keep records in tons of monthly and consecutive 12 month abrasive consumption. The consecutive 12 month abrasive consumption shall be determined by adding (for each abrasive) the current month's abrasive consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
2. The Permittee shall make and keep records of the weight percent of fines in abrasive material as determined from the grit supplier as supplied.
3. The Permittee shall make and keep records of the date and time for each collection of loose PM from the dry dock.
4. The Permittee shall make and keep a record of all visual determinations of fugitive

emissions along with any corrective action taken.

5. The Permittee shall make and keep a record of the following information for each visual determination made:
 - a. The date and results of every visual determination of fugitive emissions;
 - b. A description of any corrective action taken subsequent to the test; and
 - c. The date and results of any follow-up visual determination of fugitive emissions performed after the corrective actions.
6. The Permittee shall make and keep a record of the manufacturer's specifications, written recommendations for the filtration control devices and corresponding actual equipment operating data.
7. The Permittee shall keep daily records for each coating and diluent used, such records shall include:
 - a. Date coating used;
 - b. Description of coating, including name and density (lb/gal);
 - c. Volatile organic compound content by weight (lb VOC/gal);
 - d. Water and exempt VOC content by weight (lb/gal);
 - e. VOC content per amount of solids applied (lb VOC/ lb solids applied);
 - f. Quantity of coating used (gal/day); and
 - g. Quantity of diluent used for each coating (lb, gallons).
8. Daily records shall clearly display, at a minimum, compliance with all materials usage and emissions limitations set forth in this permit.
9. The Permittee shall calculate and record the monthly and consecutive 12 month coating consumption. The consecutive 12 month coating consumption shall be determined by adding the current month's coating consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
10. The Permittee shall keep daily records of the volume and type of VOC disposed and means of disposal.
11. The Permittee shall maintain daily records of all cleaning solvents used for spray application equipment cleaning, as follows: [RCSA §22a-174-20(ii)(6)(B)]
 - a. Name and description of each cleaning solvent,
 - b. VOC content of each cleaning solvent, as-applied, and the associated calculations,
 - c. VOC content of each cleaning solvent, as supplied,
 - d. The amount of each cleaning solvent,
 - e. A Material Safety Data Sheet for each cleaning solvent,
 - f. A description of the type of cleaning equipment and process,
 - g. Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

- h. Date and type of maintenance performed on air pollution control equipment, if applicable.
12. The Permittee shall keep material safety data sheets (MSDS) or technical data sheets for each paint and solvent used. Such material safety data sheets or technical data sheets must include the quantity and type of each hazardous air pollutant contained in the paint or solvent.
13. The Permittee shall calculate and record the monthly and consecutive 12 month PM, PM₁₀, PM_{2.5} and VOC emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
14. The Permittee shall calculate and record the premise wide monthly and consecutive 12 month NO_x emissions in units of tons. The consecutive 12 month emissions shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
15. The Permittee shall calculate and record the premise wide monthly and consecutive 12 month CO emissions in units of tons. The consecutive 12 month emissions shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
16. The Permittee shall calculate and record the premise wide monthly and consecutive 12 month single HAP emissions in units of tons. The consecutive 12 month emissions shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
17. The Permittee shall calculate and record the premise wide monthly and consecutive 12 month aggregate HAP emissions in units of tons. The consecutive 12 month emissions shall be determined by adding the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation. The Permittee shall make these calculations within 30 days of the end of the previous month. The Permittee shall make and keep these records for Permit Nos. 128-0062 and 128-0063 individually and combined.
18. The Permittee shall keep records of stack emission test results.
19. The Permittee shall keep all records required by this permit for a period of no less

than five years and shall submit such records to the commissioner upon request.

C. Reporting

1. The Permittee shall submit to the Department, reports of any exceedances of the material usage or emission limitations, set forth in this permit, in writing within 30 days of the date of such exceedance. Such report shall at a minimum include:
 - a. a description of the nature of the exceedance;
 - b. the duration and magnitude of the exceedance;
 - c. the steps taken to reestablish compliance;
 - d. the success of such steps; and
 - e. the steps taken to assure that compliance is maintained in the future.

PART VI. STACK EMISSION TEST REQUIREMENTS

Emission testing shall be performed in accordance with the [Emission Test Guidelines](#) available on the DEEP website.

Initial testing shall be required for the following pollutant(s):

PM PM₁₀ PM_{2.5} SO₂ NO_x CO
 VOC Opacity Other (HAPs):

The Permittee shall conduct testing within 60 days of the issue date of this permit. The Permittee shall submit test results within 60 days after completion of testing.

Stack test results shall be reported as follows: all pollutants in units of lb/hr and lb/ton abrasive used.

PART VII. SPECIAL REQUIREMENTS

- A. Premises wide NO_x emissions shall not exceed 25 tons per consecutive 12 month period.
- B. Premises wide CO emissions shall not exceed 50 tons per consecutive 12 month period.
- C. Premises wide single HAP emissions shall not exceed 5 tons per consecutive 12 month period.
- D. Premises wide aggregate HAP emissions shall not exceed 12.5 tons per consecutive 12 month period.
- E. The Permittee shall comply with all applicable sections of the following National Emission Standards for Hazardous Air Pollutants at all times.

Title 40 CFR Part 63 Subpart II, National Emission Standards for Shipbuilding and Ship Repair and 40 CFR Part 63 Subpart A, General Provisions

Copies of the CFR are available online at the U.S. Government Printing Office website.

- F. The Permittee shall not cause or permit the emission of any substance or combination of substances which creates or contributes to an odor beyond the property boundary of the premises that constitutes a nuisance as set forth in RCSA §22a-174-23. [STATE ONLY REQUIREMENT]
- G. The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA §§22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]

PART VIII. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B. Any representative of the DEEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D. This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons of municipalities who are not parties to this permit.
- E. Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under Section 22a-175 of the Connecticut General Statutes, under Section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."
- F. Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- G. Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate

or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.

- H. The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.
- I. Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.