



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	Electric Boat Corporation
Address	75 Eastern Point Road, Groton, CT 06340
Equipment Location	75 Eastern Point Road, Groton, CT 06340
Equipment Description	Special Hull Treatment Process
Town-Permit Numbers	070-0094
Premises Number	05
Stack Number	29
Modification Issue Date	July 7, 2014
Prior Permit Issue Dates	August 13, 2008 May 30, 2001 July 21, 1995
Expiration Date	None

/s/Anne Gobin for
Robert J. Klee
Commissioner

July 7, 2014
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 at all times comply with the terms and conditions stated herein.

PART I. DESIGN SPECIFICATIONS

A. General Description

Electric Boat Corporation conducts a process called Special Hull Treatment (SHT). The SHT process consists of surface preparation, surface cleaning and coating operations of the submarine's exterior hull. This equipment may also be used for surface preparation, surface cleaning and coating operations on submarine support equipment. The surface preparation is performed by abrasive sand blasting. Both solvent/aqueous cleaning and adhesive/paint application are performed manually. The SHT materials are processed in an enclosed processor. The production of the SHT materials is conducted in up to 20 enclosures at a time. Each enclosure consists of a structure tower or other fixed framework that is assembled and attached to the exterior hull of the submarine or its support structures. Each enclosure is equipped with one of seven potential independent ventilation systems which is operated one at a time. Three of the seven ventilation systems consist of an exhaust fan capable of flowrates of 2,250, 4,500 or 9,000 acfm, depending upon the size of the enclosure. The fourth type of enclosure ventilation system consists of a baghouse with a 12,000 acfm integral fan mounted on top for use during abrasive blasting operations. The fifth system is also used during abrasive blasting operations and is comprised of a multi-unit baghouse capable of servicing four enclosures at a time. The multi-unit baghouse exhausts through one stack at a maximum flow rate of 45,000 acfm. The sixth and seventh system with flowrates of 6,000 and 10,000 acfm are also used during abrasive blasting operations.

B. Equipment Design Specifications

The special hull treatment (SHT) process includes but is not limit to surface cleaning using aqueous cleaners and solvent cleaners, surface coating using spray painting, application of adhesive and SHT materials and surface preparation using abrasive blasting.

C. Control Equipment Design Specifications

1. Unit C1-1

Baghouse Model: 100PJD10
Filter Material: Polyester Felt Media
Air to Cloth Ratio (ft/min): 9.75:1
Cleaning Method: Pulse Jet
Maximum Gas Flowrate (scfm): 12,000 (@ 68°F)
Maximum Grain Loading (grains/scf @ 68°F): Inlet 3.6 Outlet 0.036
Inlet Gas Temperature (°F): 65-85
Minimum Design Pressure Drop Across Unit (in H₂O): 3.0
Minimum Control Efficiency (%): 99.0%

2. Unit C1-2

Baghouse Model: Advanced Recycling Systems Model DC45E
Filter Material: Cartridge Filter

PART I. DESIGN SPECIFICATIONS, continued

- Air to Cloth Ratio (ft/min): 3.5:1
Cleaning Method: Pulse Jet
Maximum Gas Flowrate (acfm): 45,000
Maximum Grain Loading (grains/scf @ 68°F): Inlet: 5 Outlet: 0.005
Inlet Gas Temperature (°F): 65-85
Minimum Design Pressure Drop Across Unit (in H₂O): 6
Minimum Control Efficiency (%): 99.9%
3. Unit C1-3
- Baghouse Model: Industrial Vacuum Equipment Corporation
Filter Material: Cartridge Filter
Air to Cloth Ratio (ft/min): 2.4:1
Cleaning Method: Pulse Jet
Maximum Gas Flowrate (acfm): 6,000
Maximum Grain Loading (grains/scf @ 68°F): Inlet: 1.5 Outlet: 0.015
Inlet Gas Temperature (°F): 65-85
Minimum Design Pressure Drop Across Unit (in H₂O): 1.12
Minimum Control Efficiency (%): 99.9%
4. Unit C1-4
- Baghouse Model: ABS Blast
Filter Material: Cellulose/Polyester
Air to Cloth Ratio (ft/min): 2.5:1
Cleaning Method: Pulse Jet
Maximum Gas Flowrate (acfm): 10,000
Maximum Grain Loading (grains/scf @ 68°F): Inlet: 5 Outlet: 0.005
Inlet Gas Temperature (°F): 65-85
Minimum Design Pressure Drop Across Unit (in H₂O): 3
Minimum Control Efficiency (%): 99.8%

D. Stack Parameters

Stack Nos.: s1(a1)-s1(t1); s1(a2)-s1(t2); s1(a3)-s1(t3); s1(a4)-s1(t4); s1-2; s1-3; s1-4

One stack per baghouse

Maximum Exhaust Gas Flowrates (acfm):

Stack No. s1(a1)-s1(t1): 12,000
Stack No. s1(a2)-s1(t2): 2,250
Stack No. s1(a3)-s1(t3): 4,500
Stack No. s1(a4)-s1(t4): 9,000
Stack No. s1-2: 45,000
Stack No. s1-3: 6,000
Stack No. s1-4: 10,000

PART II. OPERATIONAL CONDITIONS

Notwithstanding the design specifications or description provided in Part I, above, the Permittee of the subject source shall comply with the following operating requirements.

A. Equipment

1. 7 stacks total with up to 20 enclosures
2. Minimum stack height above grade (ft): 0
3. Minimum distance to the nearest property line (ft): 204
4. Stack exit temperature (°F): Ambient
5. There are different limitations for different coatings that may be applied in graving dock #1. For the purposes of the Regulations of Connecticut State Agencies (hereinafter referred to as RCSA §22a-174-20(s) applicability, any miscellaneous metal parts and products must be separate and apart from the exterior surface of the assembled submarine when being coated. Any parts being coated that are connected to the exterior surface of the assembled submarine shall not be subject to the requirements of the RCSA §22a-174-20(s).
 - a. Pursuant to RCSA §22a-174-20(s)(3)(c), the Permittee may not apply any *extreme performance coating* to any miscellaneous metal part or product which emit volatile organic compounds in excess of :

0.42 kg/l (3.5 lb/gal) of coating, excluding water and exempt volatile organic compounds listed in RCSA 22a-174-1, Table 1(a)-1.
 - b. Pursuant to RCSA §22a-174-20(s)(3)(d), the Permittee may not apply any *adhesives, fillers, and sealants* to any miscellaneous metal part or product which emit volatile organic compounds in excess of :

0.36 kg/l (3.0 lb/gal) of coating, excluding water and exempt volatile organic compounds listed in RCSA §22a-174-1, Table 1(a)-1.

B. Control Equipment

1. Unit C1-1

Type: Baghouse (1 baghouse per environmental enclosure)
Maximum flowrate (acfm): 12,000 per baghouse
Minimum control efficiency: 99%

PART II. OPERATIONAL CONDITIONS, continued

2. Unit C1-2

Type: Multi-unit baghouse (servicing up to 4 enclosures at a time)

Maximum flowrate (acfm): 45,000

Minimum control efficiency: 99.9%

3. Unit C1-3

Type: Baghouse (servicing up to 5 enclosures at a time)

Maximum flowrate (acfm): 6,000

Minimum control efficiency: 99.9%

4. Unit C1-4

Type: Baghouse (servicing up to 4 enclosures at a time)

Maximum flowrate (acfm): 10,000

Minimum control efficiency: 99.8%

5. The Permittee shall properly operate the control equipment at all times that this equipment is in operation and emitting air pollutants.

PART III. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

A. Criteria Pollutants

Pollutant	lb/hr	tpy
PM ₁₀	52.6	0.38
VOC	515	21.0

Demonstration of compliance with the above emission limits shall be met by calculating the emission rates using emission factors from the following source:

- Particulate emissions are based on an emissions factor of 40 lbs/ton and 131.4 tons per hour potential usage of abrasive blast media, which are the maximum uncontrolled special hull treatment production rates from all 20 environmental enclosures operating simultaneously. A baghouse with a minimum particulate control efficiency of 99% is used to determine actual PM₁₀ emissions.

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.

- B. 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 Section 22a-174-29. [STATE ONLY REQUIREMENT]

PART IV. RECORD KEEPING REQUIREMENTS

A. Record Keeping

1. The Permittee shall record the daily, monthly and annual quantity of VOC-containing materials used at the facility.
2. The Permittee shall record the monthly and annual quantity of grit blast media usage.
3. The Permittee shall record the annual quantity of VOC-containing material used at the facility, based on any consecutive 12 month period. The annual usage shall be calculated by adding the current month's usage to that of the previous 11 months. The Permittee shall make these calculations monthly.
4. 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.

PART V. STACK EMISSION TEST REQUIREMENTS

Stack emission testing is not required at this time.

PART VI. 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 properly operate the control equipment at all times that this equipment is in operation and emitting air pollutants.
- C.** The Permittee shall operate this source and premises at all times in a manner so as not to violate or significantly contribute to a violation of any applicable state requirements for the control of fugitive dust emissions, as set forth in RCSA Section 22a-174-18(c).

PART VII. SPECIAL REQUIREMENTS

- A.** 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 Subparts II and A

Specifically, the Permittee shall comply with the applicable VOC/VOHAP limitations set forth therein. The limitations shall be implemented in accordance with 40 CFR §63.788, Table 2 for any marine coating defined in 40 CFR §63.782.

The Permittee shall be exempt from certain requirements of 40 CFR Part 63 Subpart II in accordance with 40 CFR §§63.781(B) through (D).

The Permittee shall maintain all records necessary to demonstrate compliance with all applicable standards for a period of five years. Records shall include any Method 24 tests,

PART VII. SPECIAL REQUIREMENTS, continued

VOC content certifications, VOHAP tests, VOHAP content certifications, calculations of allowable dilution solvent usage and actual paint and dilution solvent usage by month.

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

- B.** 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 Section 22a-174-23. [STATE ONLY REQUIREMENT]
- C.** 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 Sections 22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]
- D.** The Permittee shall operate in compliance with fugitive dust regulations in RCSA Section 22a-174-18.

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

PART VIII. ADDITIONAL TERMS AND CONDITIONS, continued

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.