



DEPARTMENT ORDER

**Bath Iron Works Corporation
Sagadahoc County
Bath, Maine
A-333-77-5-M**

**Departmental
Findings of Fact and Order
New Source Review
NSR #5**

FINDINGS OF FACT

After review of the air emission license minor revision application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Bath Iron Works Corporation
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Revision
NAICS CODES	336611
NATURE OF BUSINESS	Shipbuilding and Repair
FACILITY LOCATION	Bath, Maine

B. NSR License Description

Bath Iron Works Corporation (BIW) has requested a New Source Review (NSR) license to install and operate a new 20 kW emergency generator at the South Gate Guard Shack.

C. Emission Equipment

The following equipment is addressed in this NSR license:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type	Mfr. Date	Install. Date
South Gate Guard Shack Generator	0.34	3.74	Propane	2020	2020

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application submitted by BIW does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The proposed revision will not result in an emissions increase of greater than 4 tons/year of a single pollutant or 8 tons/year total pollutants, both excluding greenhouse gases. Therefore, the NSR license is determined to be a minor revision under Minor and Major Source *Air Emission License Regulations* 06-096 Code of Maine Rules (C.M.R.) ch. 115. The procedures found in 06-096 C.M.R. ch. 115 can be utilized to process this application since the proposed revision is not prohibited by the Part 70 air emission license. An application to incorporate the requirements of this NSR license into the Part 70 air emission license has been submitted to the Department.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. South Gate Guard Shack Generator

BIW is proposing to install a new stationary 20 kW emergency generator to be located at the South Gate Guard Shack. The emergency generator is a propane fired Kohler 20RCA with a maximum heat input capacity of 0.34 MMBtu/hr. The emergency generator is to be manufactured in 2020 and shall be installed in the summer of 2020.

1. BACT Findings

The BACT emission limits for the generator are based on the following:

- PM/PM₁₀ - 0.05 lb/MMBtu from 06-096 C.M.R. ch. 115, BACT
- SO₂ - *0.000588 lb/MMBtu from AP-42 Table 3.2-3 dated 7/2000
- NO_x - 13.4 g/kW-hr based on EPA Cert. per Part 90 Phase 1
- CO - 519 g/kW-hr based on EPA Cert. per Part 90 Phase 1
- VOC - *0.03 lb/MMBtu from AP-42, Table 3.2-3
- Visible Emissions - 06-096 C.M.R. ch. 101

* There are no emission factors for propane fired engines; the SO₂ and VOC emission factors are based on the AP-42 values for natural gas fired 4-stroke rich burn engines.

The BACT emission limits for the South Gate Guard Shack Generator are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
South Gate Guard Shack Generator	0.02	0.02	0.01	0.59	22.88	0.01

Visible emissions from the South Gate Guard Shack Generator shall not exceed 10% opacity on a six-minute block average basis.

2. 40 C.F.R. Part 60, Subpart JJJJ

Standards of Performance for Spark Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart JJJJ is applicable to the South Gate Guard Shack Generator since the unit was ordered after June 12, 2006 and manufactured after January 1, 2009. [40 C.F.R. § 60.4230]

By meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ, the unit also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart JJJJ requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart JJJJ, a stationary reciprocating internal combustion engine (ICE) is considered an emergency stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine

to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart JJJJ, resulting in the engine being subject to requirements applicable to non-emergency engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

[40 C.F.R. §§ 60.4243(d) and 60.4248]

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

b. 40 C.F.R. Part 60, Subpart JJJJ Requirements

(1) Manufacturer Certification Requirement

The engine shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1. [40 C.F.R. § 60.4233]

(2) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237]

(3) Operation and Maintenance Requirement

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by BIW that are approved by the engine manufacturer. BIW may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

(4) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall be limited to 100 hours/year for maintenance and testing. The emergency engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are included in the 100 hours total allowed for maintenance and testing. The 50 hours for non-emergency use cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 C.F.R. § 60.4243(d)]

(5) Recordkeeping

BIW shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 60.4245(b)]

C. Incorporation Into the Part 70 Air Emission License

Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5.

D. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility’s annual air emission license fee. Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included. Maximum potential emissions were calculated based on the following assumptions:

1. Boilers #1, #2, #3, #4, North Boiler, and Building 71 – Boilers #1 and #2 emission limits were calculated based on a heat input limit of 392,200 MMBtu/year based on the sum of heat input from natural gas and fuel oil on a 12-month rolling total.
2. 100 hours per year of operation each for the North Stores Generator, Main Boiler Room Generator, Dry Dock Diesels #1 & #2, and South Gate Guard Shack Generator.
3. Painting operations VOC emissions of 99.9 tons per year.

Total Licensed Annual Emissions for the Facility
Tons/year

(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers	15.69	15.69	9.81	28.63	16.20	1.06
The North Store Generator	0.03	0.03	0.01	0.88	0.23	0.02
The Main Boiler Room Generator	0.02	0.02	0.01	0.85	0.18	0.07
Dry Dock Diesel #1	0.15	0.15	0.01	3.90	1.04	0.11
Dry Dock Diesel #2	0.15	0.15	0.01	3.90	1.04	0.11
South Gate Guard Shack Generator	0.01	0.01	0.01	0.03	1.14	0.01
Painting Operations	--	--	--	--	--	99.9
Total TPY	16.1	16.1	9.9	38.2	19.8	101.3

III. AMBIENT AIR QUALITY ANALYSIS

BIW previously submitted an ambient air quality impact analysis outlined in air emission license A-333-77-3-A (June 13, 2014) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (AAQS). An additional ambient air quality impact analysis is not required for this NSR license minor revision.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants New Source Review License Minor Revision A-333-77-5-M pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific conditions below.

Severability. The invalidity or unenforceability of any provision of this New Source Review License Minor Revision or part thereof shall not affect the remainder of the provision or any other provisions. This New Source Review License Minor Revision shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

(1) **South Gate Guard Shack Generator**

A. The South Gate Guard Shack Generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations.
[06-096 C.M.R. ch. 115, BACT]

B. Emissions shall not exceed the following: [06-096 C.M.R. ch. 115, BACT]:

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
South Gate Guard Shack Generator, (propane)	0.02	0.02	0.01	0.59	22.88	0.01

C. Visible Emissions

Visible emissions from the South Gate Guard Shack Generator shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101]

D. The South Gate Guard Shack Generator shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart JJJJ, including the following: [40 C.F.R. § 60.4230]

1. Manufacturer Certification

The engine shall be certified by the manufacturer to the Phase I standards found in 40 C.F.R. Part 90.

2. Non-Resetable Hour Meter

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237]

3. Annual Time Limit for Maintenance and Testing

a. As an emergency engine, the unit shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). The limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours.

[40 C.F.R. § 60.4243(d)]

b. BIW shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation each time.

[40 C.F.R. § 60.4245(b)]

4. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's written instructions. BIW may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

- (2) BIW shall submit an application to incorporate this NSR license minor revision into the facility's Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 C.M.R. ch. 140 § 1(C)(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 15th DAY OF JUNE, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for
GERALD D. REID, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 14, 2020

Date of application acceptance: April 17, 2020

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

