Bath Iron Works Corporation,		
Hardings Facility	**)**	**Departmental**
Cumberland County	**)**	**Findings of Fact and Order**
Brunswick, Maine	**)**	**Air Emission License**
A-271-71-K-R	**)**	

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Bath Iron Works (BIW-Hardings) of Brunswick, Maine has applied to renew their Air Emission License, permitting the operation of emission sources associated with their shipbuilding prefabrication facility.

B. Emission Equipment

BIW-Hardings is authorized to operate the following air emission units:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Fuel Type, %Sulfur	Maximum Firing Rate	Date of Installation	Stack #
Boiler #1	9.0	#5 fuel oil, 0.5%	60 gph	1940	1
Boiler #2	9.0	#5 fuel oil, 0.5%	60 gph	1940	1
Boiler #3	25.1	#5 fuel oil, 0.5% Natural Gas	167.5 gph 406 scfm	1972	1
Heat Treat Furnace	5.0	#2 fuel oil, 0.5%	35.2 gph	1985	2
Natural Gas Heater (blast and paint building)	5.5	Natural Gas	90 scfm	1989	A.V.
Hot Air Furnace (Navy Warehouse)	1.25	#1 fuel oil, 0.15%	9.3 gph	unknown	A.V.

Fuel Burning Equipment (Continued)

Preheat Oven (powder coat room)	2.0	Natural Gas	32.4 scfm	1997	A.V.
Cure Oven (powder coat room)	3.0	Natural Gas	48.5 scfm	1997	A.V.
Batch Oven	2.5	Natural Gas	40.5 scfm	1997	A.V.

A.V. = Ambient Vent

Process Equipment

Equipment	**Max.Raw Material Process Rate**	**Max. Finished Material Process Rate**	**Pollution Control Equipment**	**Stack #**
Blast Line (building 0741)	252,000 lb/hr	7 ft/min (plate) 4.5 ft/min (shapes)	baghouse	A.V.
Paint Line (building 0741)	0.22 gal/min	7 ft/min (plate) 4.5 ft/min (shapes)	fabric filter	A.V.
Steel Shot Booth (powder coat room)	2,250 lb/hr	2 tables of parts/hr	dust collector	fugitive
Powder Coat Booth	1,500 lb/hr	90 parts/hr	filters	fugitive
Blast Barrel (powder coat room)	17,000 lb/hr	450 parts/hr	dust collector	fugitive
Spray Paint Booth (powder coat room)	0.22 gal/min	4 tables of parts/hr	fabric filter	A.V.
Batch Powder Coat Booth	500 lb/hr	4 tables of parts/hr	filter	fugitive
Aluminum Oxide Blast Cabinet	2,250 lb/hr	2 tables of parts/hr	dust collector	fugitive
Safety Kleen Tank (old maint. garage)	30 gallons	N/A	label w/operation control	fugitive
Safety Kleen Tank (new maint. garage)	30 gallons	N/A	label w/operation control	fugitive

BIW operates several fuel burning units which have heat input capacities less than 1.0 MMBtu/hr and are therefore noted for inventory purposes only.

C. Application Classification

The application for BIW does not include the licensing of increased emissions. There will be the installation of new equipment without the increase in facility emissions over those currently licensed, therefore the license is considered to be a renewal/amendment of current licensed emission limits only.

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 Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #1 and #2

Boilers #1 and #2 were manufactured in 1940, each with a heat input capacity of 9.0 MMBtu/hr. These boilers are therefore not subject to EPA's New Source Performance Standards, 40 CFR Part 60, Subpart Dc.

BPT for the boilers is the following:

- Use of 0.5% sulfur #5 fuel oil.
- SO_2 emission rates are based on all of the sulfur in the fuel converting to SO_2 (mass balance).
- PM and PM_{10} emission rates are based on MEDEP Chapter 103.
- NO_X, CO and VOC emission are based on AP-42 emission factors.
- Visible emissions from the stack serving Boilers 1 and 2 (Stack 1) shall not exceed an opacity of 30 percent on a six (6) minute block average basis, for more than three (3) six (6) minute block averages in a 3-hour period.

C. Boiler #3

Boiler 3 was manufactured in 1972 with a heat input capacity of 25.1 MMBtu/hr. The boiler is therefore not subject to EPA's New Source Performance Standards, 40 CFR Part 60, Subpart Dc.

This boiler has the capability of firing 0.5% sulfur #5 fuel oil as well as natural gas.

BPT for Boiler #3 is the following:

- Use of natural gas.

- Use of 0.5% sulfur #5 fuel oil in the event natural gas is not available or feasible.
- PM, PM_{10}, SO_2, NO_X, CO and VOC emission rates when firing natural gas are based on AP-42 emission factors.
- SO_2 emission rates when firing #5 fuel oil are based on all of the sulfur in the fuel converting to SO_2 (mass balance).
- PM, PM_{10} emission rates when firing fuel oil are based on MEDEP Chapter 103
- NO_X, CO and VOC emission rates when firing fuel oil are based on AP-42 emission factors.
- Visible emissions from Boiler #3 (Stack 1) shall not exceed an opacity of 30 percent on a six- (6) minute block average basis, for more than three (3) six (6) minute block averages in a 3-hour period.

D. Heat Treat Furnace

The Heat Treat Furnace has a heat input capacity of 5.0 MMBtu/hr. This boiler is therefore not subject to EPA's New Source Performance Standards, 40 CFR Part 60, Subpart Dc.

BPT for the Heat Treat Furnace is the following:

- SO_2 emission rates are based on all of the sulfur in the fuel converting to SO_2 (mass balance).
- PM and PM_{10} emission rates are based on MEDEP Chapter 103.
- Visible emissions from the stack serving the Heat Treat Furnace (Stack 2) shall not exceed an opacity of 20 percent on a six (6) minute block average basis, for more than one (1) six (6) minute block average in a 3-hour period.

E. Hot Air Furnace

The Hot Air Furnace has a heat input capacity of 1.25 MMBtu/hr. This boiler is therefore not subject to EPA's New Source Performance Standards, 40 CFR Part 60, Subpart Dc.

BPT for the Hot Air Furnace is the following:

- Firing #1 fuel oil (kerosene).
- SO_2 emission rates are based on all of the sulfur in the fuel converting to SO_2 (mass balance).
- PM and PM_{10} emission rates are based on the previously licensed limit of 0.12 #/MMBtu.
- Visible emissions from the ambient vent for the Heat Treat Furnace shall not exceed an opacity of 20 percent on a six (6) minute block average basis, for more than one (1) six (6) minute block average in a 3-hour period.

F. Blast and Paint Heater, the Preheat Oven, Cure Oven and Batch Oven

BPT for the Blast and Paint Heater, the Preheat Oven, Cure Oven and Batch Oven is the following:

- Use of natural Gas
- SO_2, NO_X, CO and VOC emission limits are based on AP-42 data dated 10/96 for natural gas boilers smaller than 100 MMBtu/hr.
- PM and PM_{10} emission limit of 0.05 lb/MMBtu.
- Visible emissions from the Blast and Paint Heater, the Preheat Oven, and Cure Oven each shall not exceed 10% opacity on a six- (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

G. Process Equipment

BIW also operates several pieces of process equipment. A powder coat line, a steel shot blast booth, a blast barrel and a smaller batch booth, also utilizing the powder coating. A smaller liquid spray line is used to paint areas such as footings and other pieces that must meet more stringent Navy requirements.

The steel shot blast booth is located outside the powder coating shop. The blast booth will operate 16 hours per day and utilize approximately 2,000 pounds of steel shot. The booth will be controlled by a Farr Dust Collection System with a rated efficiency of 99.5%. Particulate emissions will be controlled to no visible emissions.

The Nordson 400 Series powder spray booth is an automated, self-contained powder spray and recovery system with a manual application option. The system operates a closed loop recycling system rated at 99% material utilization. This equipment will be operated 8 hours per day, utilizing an average of 7,500 pounds of epoxy powder per year. The powder spray line will be controlled by a primary cartridge filter rated at 99.9% efficiency and a secondary panel filter rated at 95% efficiency. The emissions from this unit will vent inside the building.

A Pangborn Roto Blast Barrel will be used for hanger clamps and other miscellaneous small parts. The blast barrel will be operated 16 hours per day. The emissions will be controlled by a cartridge filter dust collector with a 99% efficiency rating and will vent inside the building. There will be no visible emissions from this equipment therefore meeting the requirements of BACT.

A liquid spray booth is used to paint footings and other pieces that have more stringent Navy specifications. This booth will be operated 16 hours per day and use a minimal amount of preconstruction primer and epoxy finish. VOC emissions will not exceed 750 lb/year based on maximum VOC content and

proposed limited operation. The emissions from the liquid spray booth will be controlled by fabric filters and vented to the atmosphere.

The Nordson Versa-Coat Batch Booth is used to manually apply powder coatings to large and irregular parts. Using 2,500 pounds of epoxy powder per year, this booth will be operated 16 hours/day. As with the powder line, this booth will be controlled by a primary cartridge filter with a 99.9% efficiency and a secondary panel filter. Emissions from this unit will vent into the building.

H. Facility Emissions

BIW-Hardings has the following annual emissions, based on the following fuel uses and process emissions (all based on a 12 month rolling total):

- 400,000 gallons of #5 fuel oil with a maximum sulfur content not to exceed 0.5% by weight
- 75,000 gallons of #2 fuel oil with a maximum sulfur content not to exceed 0.5% by weight.
- 8,760 hours of #1 fuel oil (kerosene) use in the Hot Air Furnace with a sulfur content not to exceed 0.15% by weight.
- 8,760 hours of natural gas use in natural gas fired units.
- VOC emissions from the process equipment shall not exceed 35.0 tons/year.

Total Annual Emissions for the Facility
(used to calculate the annual license fee)

	PM	PM_{10}	SO_2	NO_x	CO	VOC	Single HAP	Total HAP
#5 fuel oil	6.10	6.10	15.66	13.51	0.90	0.30	--	--
Boiler #3 gas	5.50	5.50	0.06	10.67	8.22	0.59	--	--
Heat Treat Furnace	0.63	0.63	2.73	0.74	0.23	0.06	--	--
Hot Air Furnace	0.66	0.66	0.83	2.50	0.22	0.04	--	--
Blast Heater	1.20	1.20	0.01	2.34	1.80	0.13	--	--
Preheat Oven	0.44	0.44	0.01	0.85	0.65	0.05	--	--
Cure Oven	0.66	0.66	0.01	1.28	0.98	0.07	--	--
Batch Oven	0.55	0.55	0.01	1.06	0.82	0.06	--	--
Process Equipment	--	--	--	--	--	35.00	9.9	24.9
Total TPY	**15.7**	**15.7**	**19.3**	**32.9**	**13.8**	**36.3**	**9.9**	**24.9**

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor source shall be determined on a case-by-case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

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 Air Emission License A-271-71-K-R, subject to the following conditions:

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive

dust, and shall submit a description of the program to the Department upon request.

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 MRSA §353.

(6) The license does not convey any property rights of any sort, or any exclusive privilege.

(7) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.

(8) The licensee shall maintain sufficient records, to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a license or amendment shall not stay any condition of the license.

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

a. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
2. pursuant to any other requirement of this license to perform stack testing.

b. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
c. submit a written report to the Department within thirty (30) days from date of test completion.

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
a. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
b. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
c. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

(13) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.

(15) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods,

at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

(16) BIW-Hardings shall not exceed an annual fuel oil use limit of 400,000 gallons of #5 fuel oil with a maximum sulfur content not to exceed 0.5% by weight and 75,000 gallons of #2 fuel oil with a maximum sulfur content not to exceed 0.5% by weight. The maximum sulfur content of the kerosene used in the Hot Air Furnace shall not exceed 0.15%. Compliance shall be demonstrated using fuel use records maintained on a 12-month rolling total and the records shall include fuel percent sulfur by weight.

(17) Emissions from Boilers #1 and #2 shall each not exceed the following:

Pollutant	lb/MMBtu	lb/hr
PM	0.20	1.8
PM_{10}	n/a	1.8
SO_2	n/a	4.7
NO_x	n/a	4.1
CO	n/a	0.27
VOC	n/a	0.09

Emissions from Boiler #3 shall not exceed the following when firing #5 fuel oil:

Pollutant	lb/MMBtu	lb/hr
PM	0.20	5.1
PM_{10}	n/a	5.1
SO_2	n/a	13.1
NO_x	n/a	11.3
CO	n/a	0.75
VOC	n/a	0.25

Emissions from Boiler #3 shall not exceed the following when firing natural gas:

Pollutant	lb/MMBtu	lb/hr
PM	0.05	1.26
PM_{10}	n/a	1.26
SO_2	n/a	0.01
NO_x	n/a	2.44
CO	n/a	1.88
VOC	n/a	0.13

(18) Emissions from the Heat Treat Furnace shall not exceed the following:

Pollutant	lb/MMBtu	lb/hr
PM	0.12	0.6
PM_{10}	n/a	0.6
SO_2	n/a	2.5
NO_X	n/a	0.70
CO	n/a	0.21
VOC	n/a	0.05

(19) Emissions from the Hot Air Furnace shall not exceed the following:

Pollutant	lb/hr
PM	0.15
PM_{10}	0.15
SO_2	0.19
NO_X	0.57
CO	0.05
VOC	0.01

(20) Emissions from the natural gas fired heaters and ovens shall not exceed the following:

Equipment		**PM**	**PM_{10}**	**SO_2**	**NO_x**	**CO**	**VOC**
Natural Gas Heater	lb/MMBtu	0.05	n/a	n/a	n/a	n/a	n/a
	lb/hr	0.28	0.28	0.01	0.53	0.41	0.03
Cure Oven	lb/MMBtu	0.05	n/a	n/a	n/a	n/a	n/a
	lb/hr	0.15	0.15	0.01	0.29	0.22	0.02
Preheat Oven	lb/hr	0.10	0.10	0.01	0.19	0.15	0.01
Batch Oven	lb/hr	0.13	0.13	0.01	0.24	0.19	0.01

(21) Visible Emissions

A. Visible emissions from Boilers #1, #2 and #3 (Stack 1) shall not exceed an opacity of 30 percent on a six (6) minute block average basis, for more than three (3) six (6) minute block averages in a 3-hour period.

B. Visible emissions from and the Heat Treat Furnace (Stack 2) and the Hot Air Furnace (ambient vent) each shall not exceed an opacity of 20 percent on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a 3-hour period.

C. Visible emissions from all remaining fuel burning equipment and general process equipment shall not exceed an opacity of 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

(22) VOC emissions from the process equipment shall be limited to 35.0 tons per year, based on a 12 month rolling total. The record keeping documenting the limits for VOCs shall be based on MSDS or manufacturer information for the materials used in conjunction with usage and hours of operation, if necessary.

(23) BIW-Hardings shall be limited to 9.9 tons/year of any single HAP and 24.9 tons/year of total facility HAPs, based on a 12 month rolling total. Recordkeeping shall be performed on a monthly basis documenting compliance with the 12-month rolling limits. The monthly recordkeeping for HAPs may be directly correlated to the VOC recordkeeping. BIW-Hardings shall keep a 12-month rolling total for xylene emissions and total facility HAPs as demonstrated by the VOC report.

(24) For the liquid spray line, fabric filters shall be utilized and in good working order at all times the unit is in operation. There shall be no visible emissions from this unit.

(25) VOC emissions from the powder coating line and batch booth are negligible. The emissions shall be controlled by a primary and secondary filter system such that there are no visible emissions.

(26) All blast booth emissions shall be controlled by baghouses or dust collectors such that there are no visible emissions. All control equipment shall be operational at all times the blast booths are in operation.

(27) **A. Annual Emission Statement**

In accordance with MEDEP Chapter 137, the licensee shall annually report by September 1 (or 60 days counted from the date the forms are mailed from the Department, whichever is earlier), to the Department, the information necessary to accurately update the State's emission inventory by means of:

1) A computer program and accompanying instructions supplied by the Department;

or

2) A written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

B. **Toxic Air Pollutants Emission Statement**

In accordance with MEDEP Chapter 137, the licensee shall report, no later than September 1, every two years (2000, 2002, etc.) or in a timeframe designated by the Department, the information necessary to accurately update the State's toxic air pollutants emission inventory by means of a written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions on the Air Toxics emissions inventory portion should be directed to:

Attn: Toxics Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

(28) BIW-Hardings shall pay the annual air emission license fee within 30 days of **November 30th** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

(29) The term of this order shall be for five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 3, 2003
Date of application acceptance: March 4, 2003

Date filed with Board of Environmental Protection:_____

This order prepared by Mark E. Roberts, Bureau of Air Quality