

Etheridge Foundry and Machine Co.)
Cumberland County)
Portland, Maine)
A-106-71-F-R)

DEPARTMENTAL
FINDINGS OF FACT AND ORDER
AIR EMISSION LICENSE
AFTER THE FACT

After review of the air emissions license 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:

Etheridge Foundry and Machine Co. (EFM) of Portland, Maine has applied to renew their Air Emission License, permitting the operation of emission sources associated with their iron foundry and machining facility.

B. Emission Equipment:

EFM is authorized to operate the following air emission units:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Fuel Type, %Sulfur	Maximum Firing Rate (i.e. gal/hr)	Stack #
Diesel Generator #6	6.90	Diesel, 0.05	50.4	6

Process Equipment

Equipment
2-Electric induction furnaces - 1 ton capacity, each
1-American Wheelabrator shot blasting unit

* EFM operates a 0.245 MMBtu/hr oil fired space heater, a cold asphalt paint dip tank and green sand preparation equipment for molds. The space heater has a capacity less than 1.0 MMBtu/hr, and the dip tank and preparation equipment have no emissions. Therefore, this equipment is noted for inventory purposes only.

C. Application Classification:

The previous air emission license for EFM expired on March 31, 2001. Therefore EFM is considered to be an existing source applying for an after-the-fact renewal. The Department has determined the facility is a minor source and the application has been processed through Chapter 115 of the Department's regulations.

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. BPT for an after-the-fact renewal requires an analysis similar to a Best Available Control Technology analysis per Chapter 115 of the Department's regulations.

BACT 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. Diesel Generator #6:

Diesel generator #6 is used primarily to produce electricity. Diesel generator #6 has a maximum design heat input capacity of 6.90 MMBtu/hr firing diesel fuel, with a maximum sulfur content not to exceed 0.05% by weight.

Based on the relatively small size of diesel generator #6, and the quantity of pollutants that could potentially be emitted, it is determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified. Therefore, BACT for diesel generator #6 shall be the following:

Firing of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.

Firing no more than 100,000 gallons of diesel fuel per calendar year.

The diesel generator shall vent to a stack of at least 32 feet AGL (Above Ground Level), which represents 60% of the GEP (Good Engineering Practice) stack height.

The diesel generator emissions shall not exceed an opacity of 20% based on a six minute block average.

The regulated pollutants emitted from diesel generator #6 are particulate matter (PM), particulate matter with a diameter smaller than ten microns (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC).

C. Electric Induction Furnaces:

EFM uses the 2 electric induction furnaces to melt iron for castings. Only clean material may be used safely in each electric induction furnace. Since there is only one electrical power supply for the two electric induction furnaces, only one electric induction furnace shall be operated at a time. While a furnace is in operation, a rotoclone shall be used to control Particulate Matter.

BACT for the electric induction furnaces shall be the operation of only one electric induction furnace at a time, and the use of a rotoclone at any time an electric induction furnace is in operation.

D. Shot Blasting Unit:

The shot blasting unit is used to further clean the raw material before reaching the electric induction furnaces. The shot blasting unit vents to a baghouse with fabric filters.

BACT for the shot blasting unit shall be the use of fabric filters for the control of particulate matter. Also, BACT shall be an opacity not to exceed 10% from the baghouse based on a six minute block average.

EFM shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance.

Etheridge Foundry and Machine Co.)
Cumberland County)
Portland, Maine)
A-106-71-F-R 4

**DEPARTMENTAL
FINDINGS OF FACT AND ORDER
AIR EMISSION LICENSE
AFTER THE FACT**

III. EMISSION STANDARDS

A. Diesel Generator #6:

Based on emission factors from AP-42 and Chapter 103, generator #6 shall not exceed the following:

Generator Emission Limits

Equipment		PM	PM₁₀	SO₂	NO_x	CO	VOC
Generator #6	lb/MMbtu	0.12	---	---	---	---	---
	lb/hour	0.83	0.83	0.35	30.43	6.56	2.42

B. Visible Emission Limits:

Visible emissions from diesel generator #6 shall not exceed 20% based on a 6 minute block average.

C. Facility Emissions and Fuel Use Caps:

The following total allowable annual emissions for the facility are calculated based on the diesel generator #6 firing no more than 100,000 gallons per year of diesel fuel oil with a maximum sulfur content not to exceed 0.05% by weight:

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

Pollutant	Tons/year
PM	0.55
PM ₁₀	0.55
SO ₂	0.34
NO _x	30.21
CO	6.51
VOC	2.40

Fuel use records and receipts displaying gallons and % sulfur content for Generator #6 shall be maintained for at least six years and available to the Department upon request.

IV. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by-case basis. Modeling and monitoring are not required of a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>TPY</u>
PM	50
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the above total facility emissions, EFM is below the emissions level required for modeling and monitoring.

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-106-71-F-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.

**Etheridge Foundry and Machine Co.)
Cumberland County)
Portland, Maine)
A-106-71-F-R 6**

**DEPARTMENTAL
FINDINGS OF FACT AND ORDER
AIR EMISSION LICENSE
AFTER THE FACT**

- (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:

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

- a. 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
- b. pursuant to any other requirement of this license to perform stack testing.

(ii) 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

(iii) 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:

(i) 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

(ii) 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

(iii) 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 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.

SPECIFIC CONDITIONS

- (16) Diesel generator #6
 - a. shall not exceed the following limits:

Generator Emission Limits

Equipment		PM	PM₁₀	SO₂	NO_x	CO	VOC
Generator #6	lb/MMbtu	0.08	---	---	---	---	---
	lb/hour	0.55	0.55	0.35	30.43	6.56	2.42

- b. Visible emissions shall not exceed 20% based on a six minute block average.
- c. Diesel generator #6 shall fire no more than 100,000 gallons per year of diesel fuel with a sulfur content not to exceed 0.05% by weight. Records showing the amount of diesel delivered and sulfur content shall also be kept.

Etheridge Foundry and Machine Co.)
Cumberland County)
Portland, Maine)
A-106-71-F-R 9

**DEPARTMENTAL
FINDINGS OF FACT AND ORDER
AIR EMISSION LICENSE
AFTER THE FACT**

- d. Diesel generator #6 shall vent to a stack at least 32 feet AGL, which represents 60% of the GEP stack height.
- e. Diesel generator #6 shall conduct routine maintenance as recommended by the manufacturer. Records of work performed and date of maintenance shall be kept.

(17) Electric Induction Furnaces

- a. Only one electric induction furnace shall operate at a time.
- b. At any time an electric induction furnace is in operation, it shall be vented to a rotoclone for the control of fugitive particulate emissions.

(18) Shot Blast Unit

- a. The shot blast unit shall vent to a baghouse with fabric filters.
- b. Visible emissions from the baghouse shall not exceed 10% based on a six minute block average.
- c. A log shall be maintained detailing maintenance and filter changes in the baghouse.

(19) Opacity from the 32 foot AGL stack shall not exceed 10% on a six minute block average basis.

(20) EFM shall pay the annual air emission license fee within 30 days of **March 31st** 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.

Etheridge Foundry and Machine Co.)
Cumberland County)
Portland, Maine)
A-106-71-F-R 10

DEPARTMENTAL
FINDINGS OF FACT AND ORDER
AIR EMISSION LICENSE
AFTER THE FACT

(21) 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: February 11, 2003

Date of application acceptance: March 3, 2003

Date filed with Board of Environmental Protection: _____

This order prepared by Jonathan Voisine, Bureau of Air Quality.