



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

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Ferraiolo Construction, Inc.
Knox County
Rockland, Maine
A-357-71-H-N

Departmental
Findings of Fact and Order
Air Emission License
After-the-Fact

FINDINGS OF FACT

After review of the air emission 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., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Air Emission License for Ferraiolo Constructio, Inc. (Ferraiolo) of Rockland, Maine expired on May 8, 2006. Ferraiolo has applied to renew their expired license permitting the operation of their concrete batch plant.

The main office is located at 28 Gordon Drive in Rockland.

B. Emission Equipment

Heating Equipment

<u>Equipment</u>	<u>Maximum Capacity</u>	<u>Fuel Type</u>	<u>Maximum Firing Rate</u>
Boiler #1	2.8 MMBtu/hr	#2 fuel oil, 0.5% S	20 gal/hr

Concrete Plant

<u>Equipment</u>	<u>Production Rate (cubic yards/hour)</u>	<u>Control Devices</u>
Concrete Batch Plant	60	baghouse

C. Application Classification

The previous air emission license for Ferraiolo expired on May 8, 2006. A complete application was not submitted prior to the expiration date, therefore Ferraiolo is considered to be an existing source applying for an after-the-fact renewal. The facility is determined to be a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended).

II. BEST PRACTICAL TREATMENT

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 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for an after-the-fact renewal requires an analysis similar to a Best Available Control Technology analysis per 06-096 CMR 115 (as amended).

B. Concrete Batch Plant

The concrete batch plant is rated at 60 cubic yards/hour.

To meet the requirements of BPT for control of particulate matter (PM) emissions from the cement silo, particulate emissions shall be vented through a baghouse maintained for 99% removal efficiency. Visible emissions from the cement silo baghouse is limited to no greater than 10% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity.

All components of the concrete batch plant shall be maintained so as to prevent PM leaks. Visible emissions from concrete batching operations shall not exceed 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

C. Boiler #1

Boiler #1 has a maximum capacity of 2.8 MMBtu/hr, firing #2 fuel oil.

Due to size, Boiler #1 is not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

1. BACT/BPT Findings

The BPT emission limits for the boiler were based on the following:

PM/PM₁₀ – 0.08 lb/MMBtu, 06-096 CMR 115, BPT
SO₂ – 0.5 lb/MMBtu, based on firing 0.5% sulfur fuel
NO_x – 0.14 lb/MMBtu, AP-42, Table 1.3-1 (dated 5/10)
CO – 5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10
VOC – 0.2 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10
Opacity – 06-096 CMR 101

<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>
Boiler #1	0.22	0.22	1.41	0.40	0.10	0.01

Boiler #1 shall not exceed a fuel use of 10,000 gal/year of #2 fuel oil on a calendar year basis. Prior to January 1, 2016, the fuel oil fired in Boiler #1 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight).

Per 38 MRSA §603-A(2)(A)(3), beginning January 1, 2016, the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm).

2. Periodic Monitoring

Periodic monitoring for the boiler shall include recordkeeping to document fuel use both on a monthly and 12 month rolling total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

3. 40 CFR Part 63 Subpart JJJJJ (*National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers*)

At present, Boiler #1 is not subject to this regulation.

40 CFR Part 63 Subpart JJJJJ, finalized on March 21, 2011, exempts boilers that meet the criteria of hot water heaters. The definition of a hot water heater is as follows:

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210 degrees Fahrenheit (99 degrees Celsius).

In December 2011, EPA proposed amendments to Subpart JJJJJ, including the following revised definition of hot water heater:

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous or liquid fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition.

Ferraiolo's boiler meets the hot water heater definition in the original rule as well as the definition in the proposed amendments, therefore this boiler is exempted from Subpart JJJJJ.

Changes to the exemption criteria and/or to the hot water heater definition provided for in the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ) may result in Ferraiolo's boiler becoming subject to this rule at a later date.

D. Stock Piles and Roadways

Visible emissions from a fugitive emission source shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

E. General Process Emissions

Visible emissions from any general process (bucket elevators, bagging operations, etc.) shall not exceed an opacity of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

F. Facility Emissions

1. Ferraiolo shall be restricted to the following annual emissions on a calendar year basis. The tons per year limits were calculated based on 10,000 gal/yr of #2 fuel oil combusted in Boiler #1.

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boiler #1	0.06	0.06	0.35	0.10	0.03	0.01
Total TPY	0.06	0.06	0.35	0.10	0.03	0.01

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011 through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. "Greenhouse gases" as defined in 06-096 CMR 100 (as amended) means the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Greenhouse gases (GHG) for purposes of licensing are calculated and reported as carbon dioxide equivalents (CO₂ e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Ferraiolo is below the major source threshold of 100,000 tons of CO₂ e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling is not required for a renewal if the total emissions of any pollutant released do not exceed the following and there are no extenuating circumstances:

<u>Pollutant</u>	<u>Tons/Year</u>
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

Based on the total facility licensed emissions, Ferraiolo is below the emissions level required for modeling.

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-357-71-H-N, subject to the following conditions.

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

STANDARD 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. [06-096 CMR 115]

- (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. [06-096 CMR 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. [06-096 CMR 115]
- (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. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to 38 M.R.S.A. § 353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (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. [06-096 CMR 115]
- (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 a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (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. [06-096 CMR 115]

(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.

[06-096 CMR 115]

(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.

[06-096 CMR 115]

(13) Notwithstanding any other provisions 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. [06-096 CMR 115]

- (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 emission 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. [06-096 CMR 115]
- (15) Upon written request from 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 a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) **Concrete Batch Plant**

- A. Particulate emissions from the cement silo shall be vented through a baghouse and all components of the batch plant shall be maintained so as to prevent PM leaks. [06-096 CMR 115, BPT]
- B. To document maintenance of the cement silo baghouse, the licensee shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance. The maintenance log shall be kept on-site at the concrete batch plant location. [06-096 CMR 115, BPT]
- C. Opacity from the cement silo baghouse is limited to no greater than 10% on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. Ferraiolo shall take corrective action if visible emissions from the baghouse exceed 5% opacity. [06-096 CMR 101]
- D. PM emissions from the concrete batching operation shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(17) **Boiler #1**

A. Fuel Use

1. Boiler #1 shall fire #2 fuel oil. Annual fuel use shall not exceed 10,000 gal/yr on a calendar year basis. [06-096 CMR 115, BPT]
2. Prior to January 1, 2016, the fuel oil fired in the boiler shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning January 1, 2016, the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [06-096 CMR 115, BPT and 38 MRSA §603-A(2)(A)(3)]
3. Fuel compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. [06-096 CMR 115, BPT]

B. Emissions from the boiler shall not exceed the following [06-096 CMR 115, BPT]:

	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 (2.8 MMBtu/hr)	0.22	0.22	1.41	0.40	0.10	0.01

C. Visible emissions from Boiler #1 shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(18) **Stockpiles and Roadways**

Visible emissions from a fugitive emission source shall not exceed 20% opacity, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

(19) **General Process Sources**

Visible emissions from any general process (bucket elevators, bagging operations, etc.) shall not exceed 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 115, BPT]

(20) **Equipment Relocation** [06-096 CMR 115, BPT]

- A. Ferraiolo shall notify the Bureau of Air Quality, by a written notification, prior to relocation of any equipment carried on this license. Written notice may be sent by mail, facsimile (fax), or e-mail. Notification sent by mail shall be sent to the address below or to a Department Regional Office:

Attn: Relocation Notice
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Equipment relocation notification can also be submitted through the Department's on-line e-notice at:

www.maine.gov/dep/air/compliance/forms/relocation.

The notification shall include the address of the equipment's new location, an identification of the equipment and the license number pertaining to the relocated equipment.

- B. Written notification shall also be made to the municipality where the equipment will be relocated, except in the case of an unorganized territory where notification will be made to the respective county commissioners.
- (21) Ferraiolo shall keep a copy of this Order on site, and have the operator(s) be familiar with the terms of this Order. [06-096 CMR 115, BPT]

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- (22) Ferraiolo shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard [38 M.R.S.A. §605].

DONE AND DATED IN AUGUSTA, MAINE THIS 2 DAY OF April, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marie Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/9/06
Date of application acceptance: 5/24/07

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Poland, Bureau of Air Quality.

